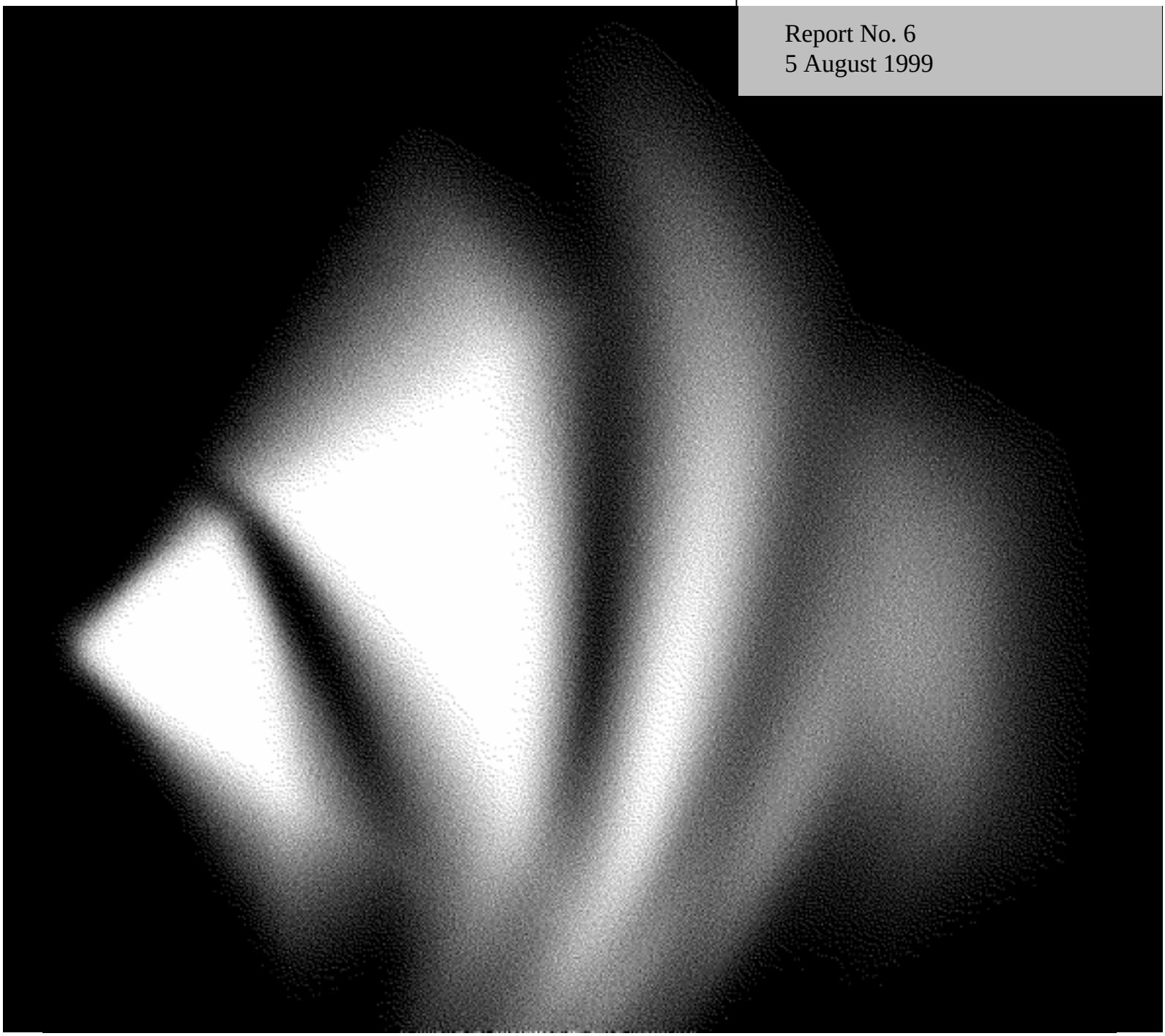
PRODUCTIVITY COMMISSION

# Progress in Rail Reform

## Inquiry Report

Report No. 6
5 August 1999



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**Publications Inquiries:**
Media and Publications
Productivity Commission
Locked Bag 2
Collins Street East
Melbourne VIC 8003

Tel: (03) 9653 2244
Fax: (03) 9653 2303
Email: maps@pc.gov.au

**General Inquiries:**
Tel: (03) 9653 2100 or (02) 6240 3200

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***The Productivity Commission***

The Productivity Commission, an independent Commonwealth agency, is the Government's principal review and advisory body on microeconomic policy and regulation. It conducts public inquiries and research into a broad range of economic and social issues affecting the welfare of Australians.

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# Abbreviations

## Abbreviations

| | |
|---|---|
| ABS | Australian Bureau of Statistics |
| ACCC | Australian Competition and Consumer Commission |
| ACT | Australian Capital Territory |
| AFFA | Department of Agriculture, Fisheries and Forestry |
| AN | Australian National |
| ANZSIC | Australian and New Zealand Standard Industrial Classification |
| ARA | Australasian Railway Association |
| ARSAA | Australian Rail Safety Accreditation Authorities |
| ARTC | Australian Rail Track Corporation |
| ASR | Australia Southern Railroad |
| ASU | Australian Services Union |
| ATAC | Australian Transport Advisory Council |
| ATC | Australian Transport Council |
| ATN | Australian Transport Network |
| AURDR | Australian Urban and Regional Development Review |
| AUSTRAC | Austrac Group and Capricorn Capital |
| AWB | Australian Wheat Board |
| BFA | Bicycle Federation of Australia |
| BIE | Bureau of Industry Economics |
| BNSF | Burlington Northern and Sante Fe Railway Company |
| BOO | Build-Own-Operate |
| BOOT | Build-Own-Operate-Transfer |
| BR | British Rail |
| BTCE | Bureau of Transport and Communications Economics |
| BTE | Bureau of Transport Economics |
| BTO | Build-Transfer-Operate |
| BV | Banverket |
| CASA | Civil Aviation Safety Authority Australia |
| CIPR | Competitive Imputation Pricing Rule |

| | |
|---|---|
| CN | Canadian National |
| COAG | Council of Australian Governments |
| CP | Canadian Pacific |
| CPA | Competition Principles Agreement |
| CPI | Consumer Price Index |
| CR | Consolidated Rail Corporation |
| CRS | Constant Returns to Scale |
| CSO | Community Service Obligation |
| CSX | CSX Transportation |
| CTC | Competitive Tendering and Contracting |
| DBAG | Deutsche Bahn Aktiengensellschaft |
| DEA | Data Envelopment Analysis |
| DORC | Depreciated Optimised Replacement Cost |
| DTRS | Department of Transport and Regional Services |
| EBA | Enterprise Bargaining Agreement |
| EBIT | Earnings Before Interest and Tax |
| EBR | Emu Bay Railway |
| EC | European Commission |
| ECMT | European Conference of Ministers of Transport |
| EWS | English Welsh Scottish Railways |
| FA | Ferrocarriles Argentinos |
| GNRS | Great Northern Rail Services |
| GSR | Great Southern Railway |
| GST | Goods and Services Tax |
| GTW | Grand Trunk Western Inc |
| HORSCCTMR | House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform |
| IC | Industry Commission |
| ICR | Illinois Central Railroad Company |
| IGA | Intergovernmental Agreement |
| IPART | Independent Pricing and Regulatory Tribunal of NSW |
| IRG | Industry Reference Group |
| JNR | Japanese National Railways |
| KCS | Kansas City Southern Railway Company |
| LAP | Labour Adjustment Package |
| NCC | National Competition Council |
| NCP | National Competition Policy |
| NEC | National Electricity Code |

| | |
|---|---|
| NECA | National Electricity Code Administrator |
| NEM | National Electricity Market |
| NEMMCO | National Electricity Market Management Company |
| NOHSC | National Occupational Health and Safety Commission |
| NRC | National Rail Corporation |
| NRR | Northern Rivers Railroad |
| NRTC | National Road Transport Commission |
| NS | Nederlandse Spoorwegen |
| NSC | Norfolk Southern Corporation |
| NSW | New South Wales |
| NSWLGSA | Local Government and Shires Associations of NSW |
| NSWTSB | New South Wales Transport Safety Bureau |
| NT | Northern Territory |
| ntkm | net tonne-kilometre |
| NTPT | National Transport Planning Taskforce |
| NZRC | New Zealand Rail Corporation |
| NZRL | New Zealand Rail Limited |
| OECD | Organisation for Economic Cooperation and Development |
| ORG | Office of the Regulator General (Victoria) |
| ORR | Office of Regulation Review |
| Patrick | Patrick The Australian Stevedore |
| PC | Productivity Commission |
| pkm | passenger-kilometre |
| PTB | Passenger Transport Board |
| PTC | Public Transport Corporation |
| QCA | Queensland Competition Authority |
| QMC | Queensland Mining Council |
| QR | Queensland Rail |
| RAC | Rail Access Corporation |
| RIS | Regulatory Impact Statement |
| ROA | Return On Assets |
| ROE | Return On Equity |
| ROSCOs | Rollingstock Companies |
| RSCA | Rail Safety Committee of Australia |
| RTBU | Rail Tram and Bus Union |
| SA | South Australia |
| SALGA | South Australian Local Government Association |
| SARCC | South African Rail Commuter Corporation |

| | |
|---|---|
| SCNPMGTE | Steering Committee on National Performance Monitoring of Government Trading Enterprises |
| SCOT | Standing Committee on Transport |
| SCT | Specialized Container Transport |
| SJ | Statens Jarnvagar |
| SOO | Soo Line Railroad Company |
| SRA | State Rail Authority of New South Wales |
| STA | State Transport Authority (South Australia) |
| TFP | Total Factor Productivity |
| TPA | *Trade Practices Act 1974* (Cwlth) |
| TOCs | Train Operating Companies |
| UIC | International Union of Railways |
| UP | Union Pacific |
| US | United States |
| VicTrack | Victorian Rail Track Access Corporation |
| VLF | V/Line Freight |
| VLP | V/Line Passenger |
| VRS | Variable Returns to Scale |
| WA | Western Australian |
| WCR | West Coast Railways |

# Glossary

| | |
|---|---|
| **Above track operations** | Train operations for freight and passengers using rollingstock. |
| **Access charge** | A fee paid by an operator of transport services for the use of infrastructure. |
| **Access regime** | Procedures to govern access to rail track. Includes setting an access pricing policy, criteria for permitting access, and operating conditions. |
| **Average length of haul** | Net tonne-kilometre divided by net tonne carried. This is a measure of the average distance that freight is carried. |
| **Average load per locomotive** | Net tonne carried divided by the number of locomotives. This is a measure of the average load hauled by a locomotive. |
| **Below track infrastructure** | Physically fixed infrastructure such as track, sleepers, signals, terminals and yards. |
| **Bulk freight** | Comprises commodities such as coal, iron ore, other minerals and grain. |
| **Catenary system** | Overhead power cables for electric trains. |
| **Competition for the market** | Competition between bidders tendering to provide a given service. |
| **Competition in the market** | Encompasses competition between train operators and other modes, between train operators for the same customers, and between train operators for train schedules. |
| **Competitive tendering** | The process of selecting a preferred supplier from a range of potential contractors by seeking offers (tenders) and evaluating these on the basis of one or more selection criteria. |

| | |
|---|---|
| **Commercialisation** | Embodies the same principles of **Corporatisation** but does not usually have an equivalent legislative basis. |
| **Community Service Obligation** | A community service obligation arises when a government requires a public enterprise to carry out activities (relating to outputs and inputs) which it would not elect to do so on a commercial basis or which it would only do commercially at higher prices. |
| **Competitive neutrality** | Refers to government and private enterprises competing on a similar footing regarding commercial incentives and disciplines, taxation and regulation. It also refers to different transport modes operating under similar or consistent investment, taxation, charging and regulatory frameworks. |
| **Contracting out** | An arrangement whereby a contracting agency enters into a contract with a supplier from outside that agency for the provision of goods and/or services which typically have previously been provided internally — not necessarily involving competitive bids. Also called 'outsourcing'. |
| **Corporatisation** | Corporatisation aims to replicate private sector commercial incentives and sanctions on public enterprises. Corporatised public enterprises are constituted as either a limited liability company or as a statutory authority under separate legislation. |
| **Data Envelopment Analysis** | A linear programming technique used to estimate the relative productivity of railways. |
| **Economies of density** | Where average unit costs fall as the number of passengers or volume of freight increases on a particular route or network. |
| **Economies of scale** | Where average unit costs fall as the size of the railway increases. |
| **Economies of scope** | Where average unit costs fall as the railway increases the range of services its provides. |
| **Externalities** | Where the activities of one party impose costs or benefits on another. |

| | |
|---|---|
| **Farebox revenue** | The revenue a public transport operator collects directly from fares. |
| **Franchising** | Involves the granting of a right or licence to operate a defined service and to receive associated revenues. The World Bank refers to this arrangement as concessioning. |
| **Harmonisation** | The process of aligning regulations across States so that they are compatible. |
| **Horizontal separation** | The separation of an organisation by product (freight and passenger services) or by geography (regional railways). |
| **Intermodal competition** | Competition between rail and other modes of transport. |
| **Jurisdictions** | Commonwealth, State and Territory Governments. |
| **Mutual recognition** | The acceptance by other jurisdictions of accreditation of a rail operator or owner in one State or Territory. |
| **Natural monopoly** | Where economies make it possible for one firm to supply the entire market more cheaply than a number of firms. |
| **Net tonne-kilometre** | Unit of measure representing the transport of one tonne of freight over a distance of one kilometre. |
| **Non-bulk freight** | General freight, comprising containerised freight, steel, motor vehicles, paper products and other general merchandise. |
| **Non-urban passenger** | The movement of passengers between cities and country towns. |
| **On time running** | Measures the proportion of train trips which arrive within a given time of the scheduled arrival time. |
| **Partial productivity indicators** | The ratio of the quantity of a single output to the quantity of a single input. |
| **Passenger-kilometre** | Unit of measure representing the transport of one passenger over a distance of one kilometre. |

| | |
|---|---|
| **Privatisation** | The transfer (sale) of a government enterprise to the private sector. |
| **Productivity** | The relationship between a rail system's total inputs and outputs. This relationship incorporates the effects of both scale efficiency and technical efficiency. |
| **Purchaser-provider model (framework)** | The separation of the responsibility for deciding what outputs should be produced from the responsibility for deciding how the output should be produced. |
| **Rail-on-rail competition** | Competition between train operators for the same customers on a given network. |
| **Regulation** | The Council of Australian Governments defines regulation to be the 'broad range of legally enforceable instruments which impose mandatory requirements upon business and the community as well as to those voluntary codes and advisory instruments … for which there is a reasonable expectation of widespread compliance.' (COAG 1997, p.2) |
| **Rollingstock** | A generic term for locomotives, passenger cars, multiple unit railcar sets and freight wagons. |
| **Scale efficiency** | Reflects the extent to which a railway is advantaged or disadvantaged, in terms of its productivity, by the scale (or size) of its operations. |
| **Structural separation** | The separation of an organisation into discrete legal entities. |
| **Technical efficiency** | Refers to the productivity (or efficiency) of a railway after netting out the estimated advantages or disadvantages arising from factors such as the scale of its operations. |
| **Total factor productivity** | The ratio of an aggregate index of outputs to an aggregate index of inputs. |
| **Track infrastructure** | See **Below track infrastructure**. |
| **Traffic density (freight)** | Net tonne-kilometre divided by route-kilometre. |

| | |
|---|---|
| **Train operations** | See **Above track operations**. |
| **Urban passenger** | Generally refers to the movement of passengers within a town, city or metropolitan area. |
| **Vertical separation** | The separation of an organisation by function (track infrastructure and train operations). |

# Terms of reference

I, PETER COSTELLO, Treasurer, pursuant to Part 3 of the *Productivity Commission Act* 1998, hereby refer progress in rail reform to the Commission for inquiry and report within twelve months of receipt of this reference. The Commission is to hold hearings for the purposes of the inquiry.

**Background**

2. Australia's rail network forms a crucial part of Australia's transport infrastructure. Past reforms have delivered significant improvements in the operation of Australia's rail systems. However, the pace and nature of the reforms vary between systems. Performances in some areas continue to be below world's best practice. There is a need to undertake a stocktake of progress in rail reform to identify areas, including both urban passengers and freight, where further action is most needed. The Industry Commission last undertook a stocktake of progress in rail reform in 1991.

**Scope of Inquiry**

3. In undertaking this inquiry, the Commission should identify progress made in rail reform as well as areas which could be subject to further reforms and the benefits of pursuing further reforms. The Commission should also clearly differentiate its analysis of interstate rail operations from intrastate and urban rail operations.
4. The Commission should report on:
   (a) recent reform initiatives and their implications;
   (b) the current structure of the rail industry, including the regulatory environment;
   (c) structural and operational rigidities and impediments which constrain the efficiency and development of the rail industry;
   (d) the strengths and weaknesses of the Australian rail industry, drawing on international and intermodal comparisons where appropriate;
   (e) the operation of third party access regimes for the interstate and intrastate rail freight networks;
   (f) the implications of the changing role of the Commonwealth, the States and the private sector in rail operations and ownership;
   (g) the implications for rail transport services and the economy generally of regulations, charges and arrangements affecting competing and complementary modes of transport; and
   (h) international best practice in rail and impediments to achieving best practice in Australia.
5. The Commission should also:
   (a) report on implementation strategies for any measures recommended by the Commission;
   (b) take account of any recent studies undertaken; and
   (c) have regard to the established economic, social, regional development and environmental objectives of governments.
6. The Commission's recommendations will be considered by the Government and the Government's response shall be announced as soon as possible after the receipt of the Commission's report.

PETER COSTELLO
5 August 1998

# Overview

**Key messages**

- Reforms in the 1990s have transformed the structure and operations of Australia's railways;
  - there is now greater competition between railways and more private sector participation in some corridors.
- The productivity of Australia's railways has increased significantly;
  - but is still significantly less than in North America, even allowing for differences in scale and other factors.
- Most government-owned railways are still not viable:
  - they face increasing competition from other transport modes;
  - suffer from inadequate investment; and
  - require significant government subsidies.
- Greater commercial focus is needed, which is best achieved by:
  - contracting out, franchising or privatising existing government-owned railways;
  - the entry of new owners and further investment in the industry; and
  - rigorous application of contracts between governments and railways to meet non-commercial objectives.
- Subsidisation of track in regional areas is an inappropriate way of meeting social objectives.
- Different mixes of structural, access and ownership arrangements are required for different networks.
- The Commonwealth has an important role in:
  - developing a national transport policy framework;
  - facilitating ongoing harmonisation of regulatory arrangements;
  - establishing a single manager for the interstate network; and
  - ensuring a more commercial approach to road provision.
- The Commonwealth also has a role in financing freight bypass lines in Sydney;
  - subject to agreement by NSW to the interstate network manager.
- The suggested reforms have greatest relevance to Queensland, NSW and WA.
- Further reform is essential for the survival of most Australian railways.

## Significance of railways in Australia

*Railways are important to the economy.*

Railways are an important part of Australia's transport system and make a significant contribution to the Australian economy. They play a major role in hauling bulk commodities to ports, transporting general freight along major transport corridors and carrying passengers, particularly in urban areas.

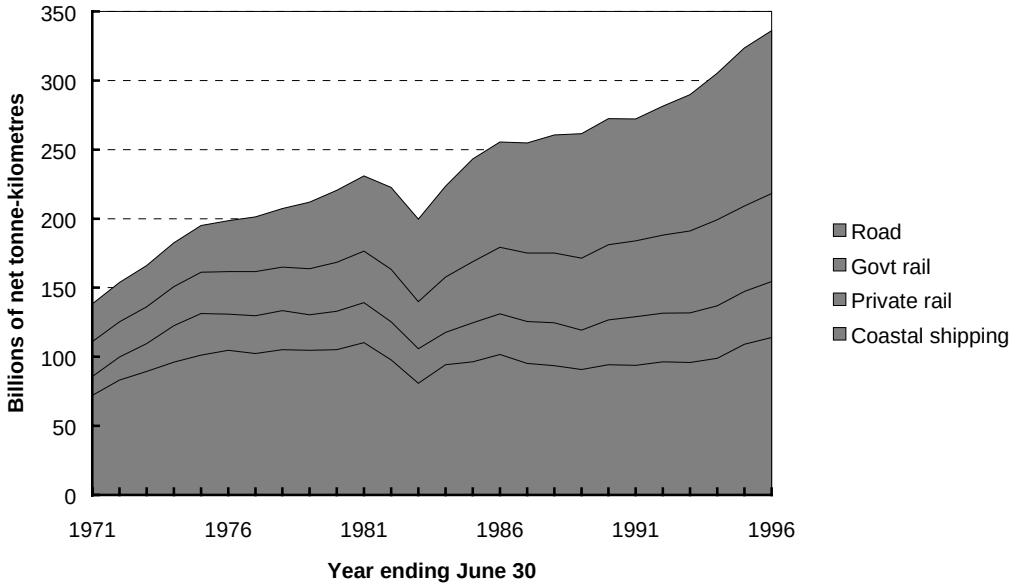
### Some facts and figures

- Rail transport contributed 0.5 per cent of GDP and 8 per cent of transport value-added in 1997-98.
- Employment is around 36 500, down from nearly 90 000 in 1986, with a large proportion of the reduction occurring outside capital cities.
- The number of private railways has increased from six in 1991 to 19 in 1999.
- Rail has carried around one third of all domestic freight over the past 25 years:
  - with a fourfold increase in the tonnage of coal and minerals;
  - but a steady decline in market share in non-bulk interstate freight (down from 45 per cent to 32 per cent) and in agricultural products.
- Rail carries around half of all freight on the East-West corridor, but less than one quarter on the North-South corridor.
- States invested $1.6 billion in rail in 1997-98, compared with $151 million by the Commonwealth.
- State subsidies to rail exceeded $2.3 billion in 1997-98.

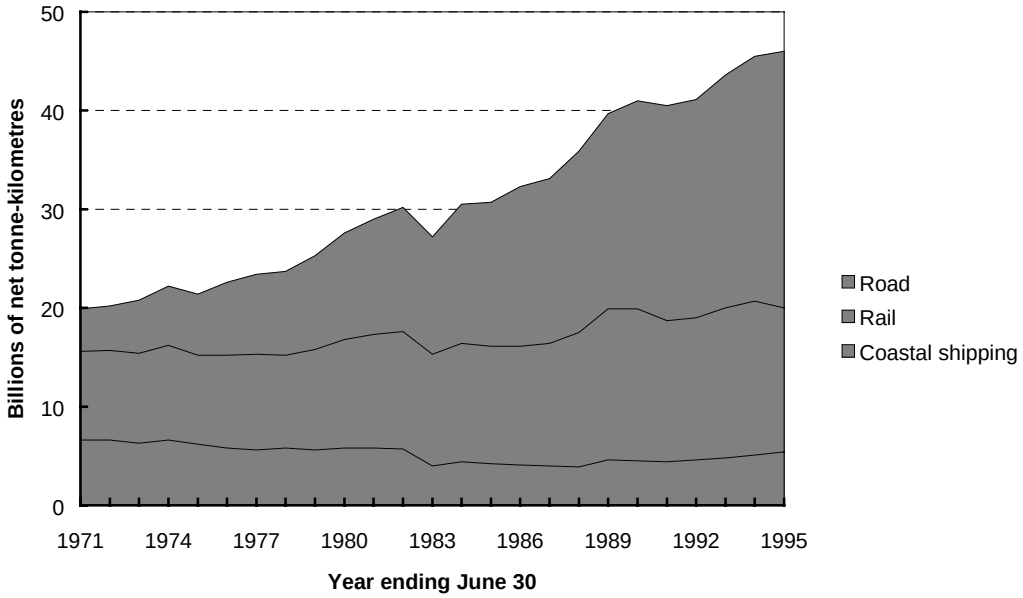
*Significant changes have taken place in the composition of rail freight...*

At the national level, rail has maintained its share of freight during the last 25 years because of strong growth in Australia's mineral, ores and coal sectors. But it has lost market share to road in the interstate transport of non-bulk commodities, more so on the North-South corridor compared with the East-West. The loss is mainly due to improvements in truck technology and road infrastructure.

## Australian domestic freight (excluding pipelines)



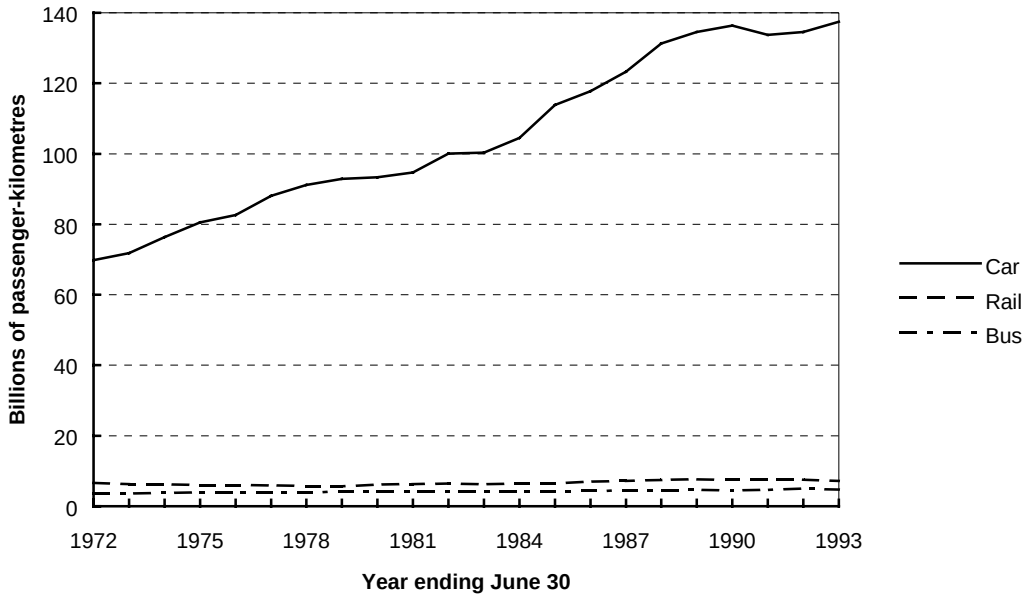

## Non-bulk interstate freight



*and cities are increasingly car dependent,...*

A major trend in Australia's urban passenger transport is the growth in the use of cars and the relatively static contribution of public transport (both bus and rail). The primary explanation is that the rail network is geared to providing transport along corridors to and from central business districts, while employment, retail and other activities have decentralised into suburban areas.

**Urban (motorised) passenger transport**




*as are regional areas.*

There has also been a decrease in non-urban passenger travel by rail, even though total travel by all modes (rail, bus, air and car) has increased.

## Reforms since 1991

*Since 1991, jurisdictions have introduced a variety of reforms relating to:...*

Australian governments have long recognised the need to improve the performance of Australia's rail systems. Since the Industry Commission's 1991 inquiry into rail, all governments have implemented reforms. Although railways face similar problems, governments have adopted different solutions.

– *structure;...*

A wide spectrum of structural arrangements is now in place across jurisdictions. Some States (such as Queensland) have

retained a single integrated railway that provides all services, including freight, non-urban and urban passenger services and maintenance of rollingstock, as well as track infrastructure. NSW, on the other hand, has separated the former State Rail Authority into four businesses.

Similarly, there is a range of ownership and governance arrangements. In WA, Westrail currently operates as a commercialised (rather than corporatised) railway, with plans to privatise its freight operations by the end of 1999. In NSW, the Rail Access Corporation, FreightCorp and Rail Services Australia have been corporatised. In Victoria, V/Line Freight has been privatised as Freight Victoria, and Bayside and Hillside Trains (urban passenger) have been franchised to private operators. The Commonwealth has privatised parts of the former Australian National Railways (Tasrail, GSR and ASR).

– *ownership;...*

Several joint initiatives between governments and industry have been undertaken to improve consistency of safety regulation and operating procedures and standards. Initiatives include simplification of safety accreditation processes and the development of codes of practice for operating procedures and standards.

– *safety regulation and operating procedures; and...*

A variety of access regimes has been implemented across jurisdictions. Currently, access to the Commonwealth's track is covered under Part IIIA of the Trade Practices Act and administered by the Australian Rail Track Corporation. All mainland States have introduced access regimes, although none has yet been recommended for certification by the National Competition Council or accepted as an undertaking by the Australian Competition and Consumer Commission.

– *access regimes.*

Recent reforms have led to greater participation by the private sector through the franchising and privatisation of some government-owned railways. In some instances, particularly on the East-West corridor, new private operators compete directly with existing government operators in niche markets.

*Private sector participation is now greater.*

## Performance

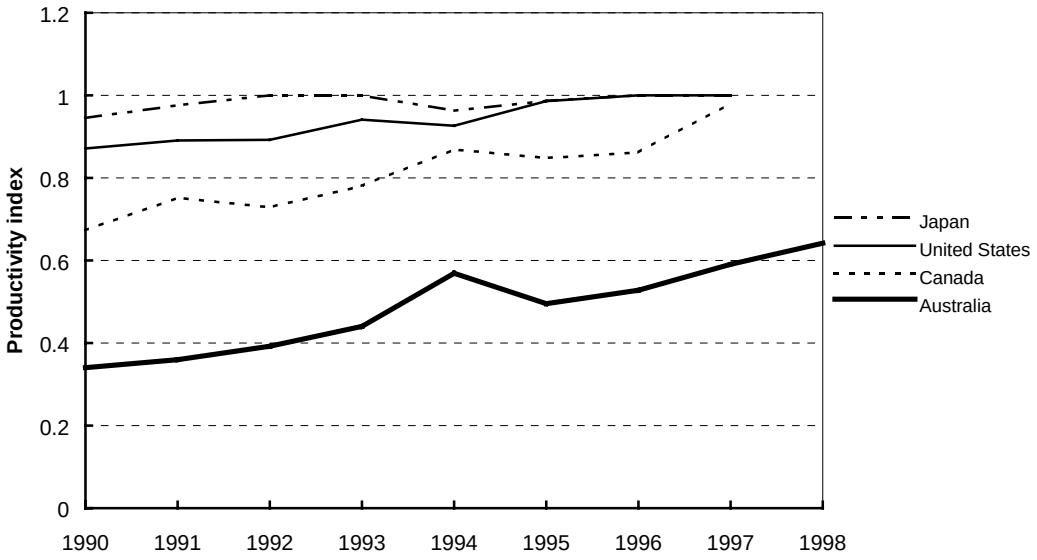
*The productivity of Australian railways has improved substantially,...*

There have been significant improvements in the productivity of government-owned railways in providing freight and passenger services in Australia over the period 1989-90 to 1997-98. The average annual growth in (total factor) productivity of around 8 per cent was greater than that of Canada, Japan and the United States.

*but there is still a significant gap and...*

While Australia has narrowed the productivity gap with these countries, there remains a significant difference. Australia's level of productivity in 1998 was about two thirds of the best performing countries (in 1997).

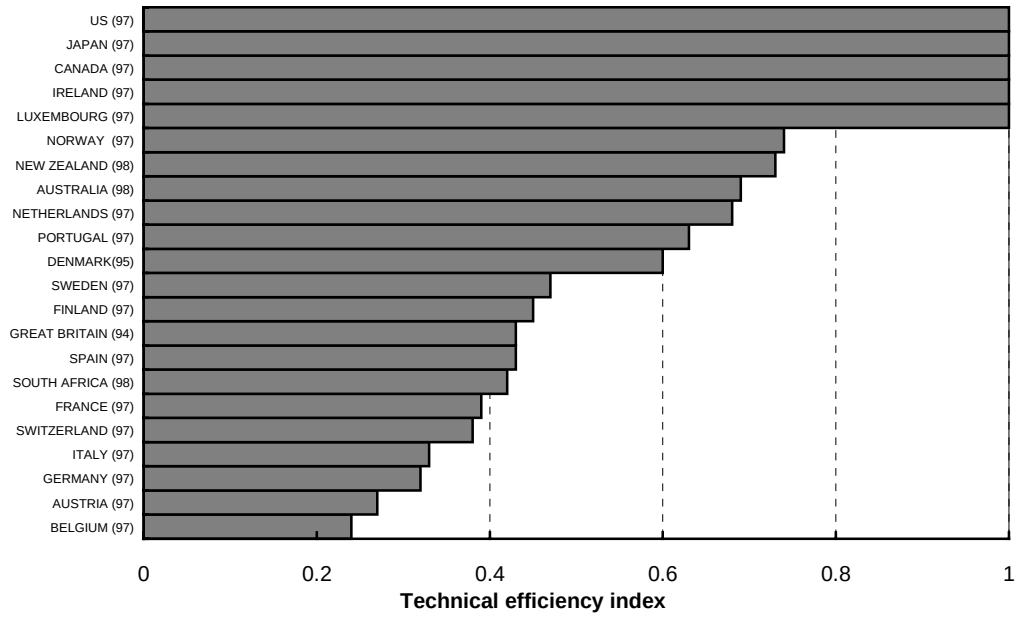
**Productivity levels of freight and passenger systems**




*scope for further improvement.*

Some of the difference is due to factors which inherently disadvantage Australia, such as scale of operation. However, technical efficiency (productivity adjusted for the effect of scale) remains 30 per cent below the best performing countries.

**Technical efficiency levels of freight and passenger systems**



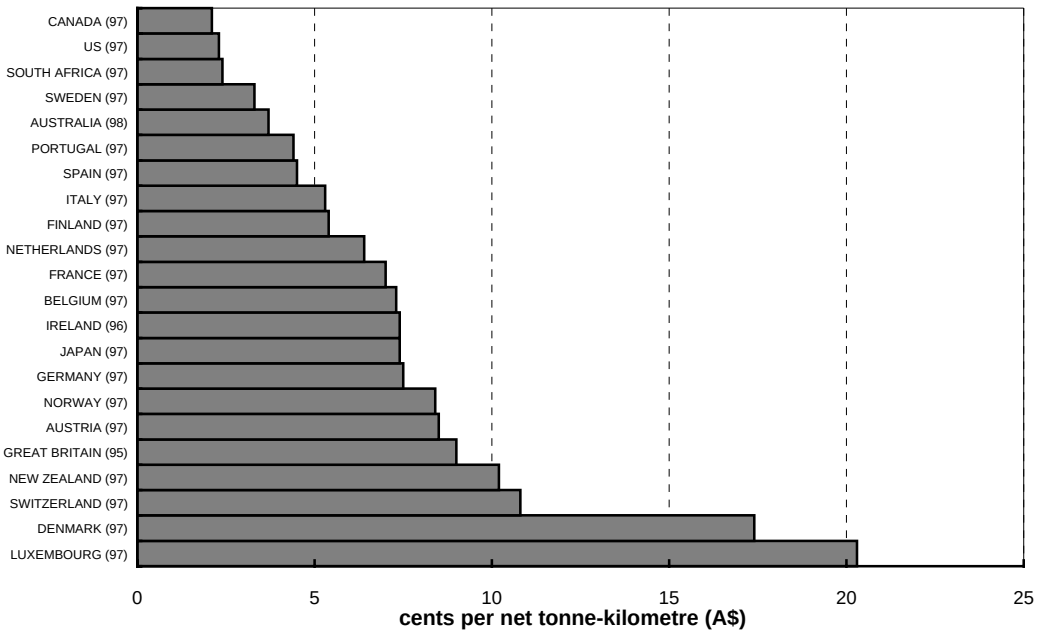

Freight customers in Australia have benefited from the improvement in productivity. Real freight rates decreased by 30 per cent between 1990 and 1998. This is comparable with decreases in Canada and the United States of 33 and 26 per cent respectively between 1990 and 1997.

*Real freight rates have decreased by around 30 per cent…*

On average, freight rates in 1998 were still higher in Australia (3.8 cents per net tonne-kilometre) than in Canada (2.1) and the United States (2.3) in 1997, although lower than most European countries and Japan. These differences partly reflect the underlying differences in productivity between the countries.

*but are still significantly higher than those in North America.*

**Real freight rates by country**




## Despite progress, impediments remain

*Despite reforms, problems still exist, including:...*

Despite the reforms implemented since 1991 and higher productivity and lower freight rates, progress in some areas has been slow and impediments remain. The problems facing the industry have not been fully addressed by the reforms and new problems have emerged.

– *commercial unsustainability;...*

Many government-owned railways are losing money, even after the inclusion of payments by governments for non-commercial activities, or are barely viable.

– *inadequate investment in infrastructure;...*

Inadequate investment in infrastructure has been a particular problem (leading to speed restrictions on some sections of the interstate track), resulting in calls for significant government funds to improve existing networks and build new ones.

– *lack of commercial focus;...*

Despite corporatisation, government-owned railways are still insufficiently commercially focused. Governments, as shareholders, have not demanded nor enforced the same degree of commercial discipline as that placed on private sector operators.

Current arrangements do not ensure competitive neutrality between government and private railways, nor between transport modes.

– *lack of competitive neutrality;…*

The introduction of access regimes has been slow and the complexity of existing arrangements in some jurisdictions is hindering industry performance. There are deficiencies in the processes for pricing and allocating train schedules, such as grandfathering schedules to incumbents. These can act as barriers to entry.

– *complex and inadequate access regimes; and...*

There are still inconsistencies in safety accreditation fees and operating procedures and standards. These act as impediments to the entry of train operators, both on interstate and intrastate networks, and inhibit efficient operation in some markets.

– *inconsistent regulatory arrangements.*

## Increased commercial focus is the key

Increasing the commercial focus of railways is the key to further productivity gains and to facilitating the investment required for rail to make its best contribution to Australian transport.

*A greater commercial focus is required.*

While most government railways are corporatised, the remaining problems may reflect the way the corporatisation model has been implemented.

*Corporatisation has limitations, such as:...*

Governments still subject their rail operators to multiple and often conflicting objectives relating to social welfare, employment and regional development.

– *conflicting objectives;...*

In addition, governments as shareholders facing budget constraints (and observing poor returns in rail) are often reluctant to provide adequate equity funding or allow railways to borrow on their own behalf, even if justified commercially.

– *inadequate access to capital; and...*

Limitations may also apply to the corporatisation model itself. In particular, governments are often unable to maintain an arm's length relationship from their railway boards

– *a lack of commercial discipline.*

because of political and community pressures. Public ownership also subjects governments and taxpayers to considerable commercial risks.

*The private sector has a role through:...* Private sector alternatives to government provision have an important role to play in overcoming these problems.

– *contracting out;...* If contracts are well specified and competitively tendered, contracting out offers potential benefits.

– *franchising; and...* Franchising can generate further gains because franchisees usually bear revenue risk, so strengthening their incentives to improve service quality and expand the size of the market.

– *privatisation.* The experience with recent rail privatisation in Australia is encouraging and supports privatising freight railways operating in competitive markets. Special arrangements would be required for rollingstock used by private franchisees on the main coal lines.

**Recent experience with privatised railways**

**Tasrail**

- Purchased by Australian Transport Network in 1997 for $22 million.
- Revenue has increased since by around 50 per cent.
- Achieved an operating profit of $1.2 million in its first seven months of business — the first profit in 130 years of Tasmanian railways.
- Plans to invest $40 million over four years in rollingstock and infrastructure.
- Purchased the Emu Bay Railway — a minerals railway — from Pasminco for $7.8 million in 1998.

**Australia Southern Railroad**

- Purchased Australian National Railways' freight and maintenance business in South Australia for $57 million in 1997.
- Plans to invest $62 million over five years.

**Freight Victoria**

- Purchased V/Line Freight (VLF) for $163 million in 1999 despite VLF losing over $15 million in 1997-98.
- Plans to invest $36 million in rail infrastructure and rollingstock over two years.

## Competition has a role to play

*Competition can take many forms.*

Where effective, competition can be relied upon to improve performance. There are a number of forms which competition can take, both 'in' the market, and 'for' the market. Much of the rail network is already subject to competition from road, air and coastal shipping and/or competition in downstream markets.

*Promoting competition 'in' the market has been the focus...*

The emphasis in rail reform has been on introducing competition between train operators on the same track and for train schedules by implementing access regimes and reforming the structure of railways. Separating train operations from track (vertical separation) is designed to increase the effectiveness of an access regime by removing the conflict of interest an integrated railway has over allowing competitors access to its track.

*but this is less effective in some markets.*

But, access regulation and vertical separation may be less effective in markets where there is limited scope for more than one train operator, effective competition from other modes of transport, and/or competition in downstream markets.

*Structural reform is not limited to vertical separation.*

Railways can also be separated by function or geography (horizontal separation). Horizontal separation allows:

- specific regulatory regimes to be put in place for different rail businesses;
- contractual arrangements to be implemented more effectively to provide non-commercial services; and
- services to be franchised — a means of addressing market power by introducing competition 'for' the market through periodic competitive bidding.

*Separation may involve costs and...*

The benefits of structural separation need to be balanced against the costs, which can include a loss of economies of scope, coordination costs, a loss of commercial sustainability and adjustment costs. No single structure or access regime is appropriate for all networks.

*not generate adequate investment.*

Structural reform to enhance competition in the market will not necessarily address problems of inadequate investment in track infrastructure.

## Other reforms are also important

It is important also to improve other aspects of the rail operating environment. This includes improving the operation of the interstate network, achieving competitive neutrality, harmonising operating procedures and standards, and facilitating market-based access.

### *Management of the interstate network*

*Current arrangements for the interstate track are complex and inefficient.*

Across the interstate network there are four authorities responsible for access and five for allocating train schedules and investment. In some parts, the network is owned by a train operator (WA), while in others the train ownership is separated from track ownership (NSW). The multiplicity of network managers imposes costs on train operators in negotiating train schedules and access charges. Also it impedes the efficient allocation of train schedules, the overall use of the network and efficient investment.

*The ARTC only partially solves the problems.*

The Australian Rail Track Corporation's 'one stop shop' model goes some way to reducing the costs to operators. But deficiencies in train schedule allocation on the interstate network and coordinating investment across jurisdictions still exist.

*A single network manager is required to...*

To overcome these deficiencies, a single network manager (broadly based on those already operating in the electricity and gas industries) is required. It would manage competitive access to the interstate network and facilitate planning and investment.

*administer a competitive interstate rail market.*

Administration of the access regime should be flexible, pricing principles transparent, and appeal processes independent.

### *Competitive neutrality within the rail industry*

*Competitive neutrality may not exist between government-owned and private railways...*

While corporatisation has the potential to place government-owned railways on a commercial footing, in practice it appears insufficient to achieve competitive neutrality in the rail transport market.

There are concerns that government-owned railways are able to offer lower freight rates than their private sector counterparts because the requirement to make a commercial return is not binding. There are also concerns about the retention of surplus assets by public rail operators.

Such practices could place existing private operators at a disadvantage relative to their government-owned competitors and deter new private sector entrants and investment. These concerns could be raised through competitive neutrality complaints mechanisms under the Competition Principles Agreement. A more effective approach could be to facilitate private sector participation through the appropriate use of contracting out, franchising or privatisation.

### *Competitive neutrality between rail and road*

*or between road and rail.*

Government decisions relating to investment, taxes and charges, access regimes and safety regulations affect competitive neutrality between road and rail transport.

*Investment in rail has been inadequate,...*

There are still concerns over the different funding criteria applied to road and rail and the comparative levels of government investment in each. The differences in funding have decreased significantly over the past 30 years. Nevertheless, evidence suggests there has been inadequate investment in some parts of the rail network.

*while heavy vehicle charges under recover costs.*

Notwithstanding recent reforms, heavy vehicle charges do not cover the full costs of road usage, including road and bridge wear, pollution, accidents and congestion.

These factors disadvantage rail compared to road. But large subsidies also are provided to rail and the 1999 taxation legislation has partly addressed concerns relating to the diesel fuel excise.

*A commercial approach, not subsidies, is required.*

Adopting a more commercial approach to the provision of both rail and road would overcome competitive neutrality concerns. Further subsidies to the rail sector or a complex integrated approach to planning and funding would be less effective.

### *Safety regulation and operating procedures and standards*

*Accreditation fees are still duplicated.*

Although progress has been made by Commonwealth, State and Territory Governments, and industry, to reduce inconsistent regulation in railways, the outcomes are uncertain. Accreditation fees are still duplicated across jurisdictions. If mutual recognition does not work, consideration could be given to establishing a single national safety regulator.

*A permanent mechanism is required to facilitate harmonisation.*

Codes of practice for operating procedures and standards are still being developed and are yet to be implemented. The process of ongoing harmonisation can be improved by establishing a permanent mechanism to facilitate change. Best practice regulation involving the assessment of the impact of proposals and industry consultation would be part of this process.

### *Access arrangements*

*Market mechanisms are required for access.*

Access regimes should incorporate market-based mechanisms, such as auctions, for allocating and transferring train schedules. Prices would then reflect the value users place on access to the track.

## What should governments do?

*The objective of reform is an efficient transport system.*

The overall objective of reform is to have an efficient transport system delivering Australian freight and transport needs.

A more commercial approach should be applied to all modes of transport. Reflecting this, the Commonwealth should develop an overarching national transport policy framework. A commercial approach for roads should be addressed by

adjusting current user charges for heavy vehicles and instituting a public inquiry into all aspects of road provision.

To fulfil its role in the transport system, rail needs to meet the challenge of increasing competition from other transport modes. In some markets, the future of rail without government subsidies is uncertain unless rail improves its performance and competitiveness significantly.

Improvements in efficiency can come from three sources:

- making better use of the existing infrastructure, rollingstock and technology;
- introducing appropriate infrastructure and equipment; and
- optimising the use of rail in the transport logistics chain.

*Government investment should be conditional on reform.*

Simply investing more government money without other reforms — particularly to loss-making railways — is not the answer. Rather, it is the role of governments to create a sound and stable operating environment to provide greater certainty for the industry.

There are grounds for the Commonwealth Government investing further in freight lines to alleviate bottlenecks in Sydney's rail system, given its national importance to the interstate freight network. This should be conditional upon acceptance by NSW of a single market manager for the interstate network.

### *Commonwealth Government*

*The Commonwealth has an important role,...*

The Commonwealth Government has a significant role in leading the reform process, both in areas where it has direct responsibility and where a national approach is required. Priorities include:

- developing an overarching national transport policy framework;
- establishing a permanent mechanism to ensure ongoing harmonisation of rail operating procedures and standards;
- establishing a market manager for the interstate network, in conjunction with the States;

- investigating the feasibility of developing a market approach to access;
- contributing funds to alleviate congestion in Sydney, conditional upon further reform;
- promoting competitive neutrality between rail and other transport modes by adopting a more commercial approach in all modes; and
- establishing a public inquiry to examine the current institutional arrangements for road provision, including planning, funding, investment and road charging.

*Individual jurisdictions*

*as have individual jurisdictions.*

Individual jurisdictions should concentrate on introducing greater commercial discipline through appropriate ownership, structural and access arrangements, tailored to each broad class of railway (summarised below for interstate, regional, coal and urban passenger networks). Ultimately, under these arrangements the private sector would operate most railways.

**Interstate freight network**

**Characteristics**

- Standard gauge mainline (eg Brisbane to Perth); strong intermodal competition (road, sea); some rail-on-rail competition; multiple owners and network managers; market segmentation; potential for competition in access.

**Appropriate policy package**

- Single network manager, which does not own trains or track.
- Vertical separation of train operations and track infrastructure.
- An access regime embedded in a market code of conduct, approved by the ACCC.

**Expected outcomes**

- Coordinated management of access charges and train schedules; facilitation of planning and investment; more niche operators; increased market share; commercial viability.

## Regional freight networks (without market power)

**Characteristics**

- Mainly intrastate (eg Tasrail); low volume; strong competition from road; limited rail-on-rail competition.

**Appropriate policy package**

- Horizontal separation from other freight and urban passenger networks.
- Vertical integration.
- 'Light handed' access regime.
- Privatisation of railway operations including track (or with a long term lease on track).

**Expected outcomes**

- Improved quality and cost of service; integration into the logistics chain; commercial viability.

## Main coal networks (with market power)

**Characteristics**

- Main coal lines in Queensland and NSW; high volumes; geographically (intrastate) based; significant market power (little competition from road or rail-on-rail competition).

**Appropriate policy package**

- Horizontal separation from other freight and urban passenger networks.
- Vertical integration.
- Franchise the operation using competitive bidding for lowest freight rates.
- Lease track and rollingstock to franchisee.
- Access incorporated into franchise agreements.
- Private railway operators.

**Expected outcomes**

- Operational and commercial independence; increased transparency; market power addressed; competition 'for' the market; yardstick competition between coal networks; promotes integration into the logistics chain.

**Urban passenger networks**

**Characteristics**

- Non-commercial; no rail-on-rail competition; strong intermodal competition.

**Appropriate policy package**

- Horizontal separation from regional and interstate networks (and within metropolitan areas).
- Vertical integration.
- Contracting out or franchising through competition for lowest subsidies.
- Access incorporated into contracts or franchise agreements.
- Private railway operators.

**Expected outcomes**

- Increased effectiveness of purchaser-provider arrangements; competition for the market; more efficient urban transport system; lower subsidies.

### *Social issues*

*Governments can still pursue social objectives.*

A commercial approach eliminates the need to subsidise rail for economic reasons, such as achieving competitive neutrality, but does not preclude governments from using rail services to achieve social objectives.

However, subsidisation of track infrastructure is a costly and indirect way of assisting people in regional areas. If governments wish to provide such assistance it is best done directly through contractual arrangements with regional railways, as in urban areas.

*But the purchaser-provider framework should be applied rigorously.*

More generally, governments need to address the existing deficiencies in the implementation of the purchaser-provider framework for such arrangements.

They should specify clearly their non-commercial objectives — social, regional or environmental — and the basis for the level of subsidy to be provided.

*Employment in railways has declined significantly...*

Railway workers have already faced significant job losses over the past 12

years. Employment has fallen by almost 60 per cent since 1986, two thirds of which was in regional areas. Changes in technology and increased competitive pressure from alternative transport modes, as well as past reforms, have contributed to this decline.

*but specific assistance is not always appropriate.*

Concern about further job losses is natural and reform has to be handled sensitively. General assistance available to all displaced workers, such as training programs, have advantages. However, where job losses are regionally concentrated, a case for specific assistance to particular areas can be made if these areas have substantially greater difficulty than others in adjusting to structural change.

*Slowing reform is not the answer…*

There have been calls to abandon or slow down the reform process. But slowing reform of Australia's rail industry would disadvantage rail users and not necessarily lead to increased job security within the industry. Maintaining inappropriate employment levels would adversely affect the competitive position of railways in some of their major markets, such as coal, minerals, grain, and interstate freight, thus jeopardising future employment in rail.

*and may jeopardise the future of the rail industry.*

If reform of railways is not pursued, the industry may not survive long into the 21st century, other than as a carrier of coal and other bulk products.

*Further rail reform will benefit the Australian community.*

Further reform of rail will yield significant benefits to consumers of rail services. Passengers will benefit from better services. Rail is also an important input into many industries, especially the export-oriented mineral and grain sectors. Reductions in freight costs and improved service quality will result in significant benefits, not only to Australian industry, but also to the economy more widely.

# Recommendations

RECOMMENDATION 6.1

***Urban rail networks should be vertically integrated and horizontally separated from other rail networks.***

RECOMMENDATION 6.2

***Train operations should be vertically separated from track infrastructure on the entire interstate network. The infrastructure should be managed by a single network manager.***

***A process involving the Commonwealth and affected States should be established to determine the roles and functions of the network manager and develop a code of conduct.***

RECOMMENDATION 6.3

***Regional rail networks without market power should be horizontally separated from other networks and vertically integrated.***

RECOMMENDATION 6.4

***Regional rail networks with market power (the main coal lines) should be horizontally separated from other networks.***

RECOMMENDATION 7.1

***Governments which own railways should pursue further private sector involvement (through contracting out, BOOT-type arrangements, franchising or privatisation) as an integral part of their approach to rail reform.***

RECOMMENDATION 7.2

***All remaining government-owned freight operations should be privatised, with special arrangements for the rollingstock used on the main coal lines.***

RECOMMENDATION 8.1

***The pricing and allocation of train schedules should reflect the value that users place on the track. To encourage this, the Commonwealth Government should establish a process to investigate the feasibility of developing a market approach for allocating schedules or transferring capacity on the interstate network.***

RECOMMENDATION 9.1

***A national approach should be developed for charging rail safety accreditation fees, with a single annual fee for accreditation and mutual recognition.***

RECOMMENDATION 9.2

***The principles of best practice regulation, as endorsed by the Council of Australian Governments, should be applied to the development and implementation of railway codes of practice.***

RECOMMENDATION 9.3

***The Commonwealth Government should establish a permanent mechanism to ensure the ongoing harmonisation or uniformity of railway operating procedures and standards.***

RECOMMENDATION 10.1

***The National Road Transport Commission should prepare — and recommend to the Ministerial Council for Road Transport for adoption — a revised schedule of heavy vehicle charges which ensures that each class of vehicle pays the full cost of its road use.***

RECOMMENDATION 10.2

***Governments should adopt a more commercial approach to railways and road provision. This will involve:***

- ***the Commonwealth Government introducing an overarching policy framework for national transport;***
- ***applying competitive contracting out, franchising or full privatisation to railways;***
- ***establishing a network manager for the interstate track to manage competitive access and facilitate planning;***
- ***applying the purchaser-provider model rigorously where non-commercial objectives are being pursued; and***
- ***evaluating major road and rail projects using cost-benefit analysis where the projects are expected to have significant external effects.***

RECOMMENDATION 10.3

***The Commonwealth Government should — as a matter of national priority — allocate additional funds to projects which would alleviate route congestion in the Sydney metropolitan area, subject to the adoption of a network manager for the interstate track.***

RECOMMENDATION 10.4

***The Commonwealth Government should establish a public inquiry into road provision in Australia. This inquiry should examine:***

- ***road transport planning processes;***
- ***methods of investment appraisal (including the evaluation and allocation of costs and benefits);***
- ***funding arrangements (including taxation, charges and grants);***
- ***the scope to improve road pricing; and***
- ***current institutional arrangements and alternatives.***

RECOMMENDATION 11.1

***Governments need to address the deficiencies in the application of the purchaser-provider framework to rail and should enter into transparent contractual arrangements with clearly specified non-commercial objectives.***

# 1 Introduction

Australia's first railways began operation in the 1850s. At that time the only viable alternatives were bullocks, horses and in a few instances, steamships. The new found technology seemed set to change the face of Australia:

> When the first steam train ran in Australia, the puffs of smoke were like the opening of a magician's act. In a land where settlers had wandered far from the coast and navigable rivers were few … steam locomotives seemed likely to transform the country. (Blainey 1983, p. 227)

In many respects railways *did* transform transport in Australia. They became vital in linking Australia's cities and ports to the rural hinterland, facilitating the expansion of Australia's exports as well as allowing governments to pursue social and political objectives.

However, a lot has changed since then for both Australia and its railways. Today, travellers and Australian industry enjoy the flexibility of a range of transport options — on land, sea and in the air. Although railways play a significant role in the intrastate carriage of bulk commodities and in urban public transport, they are not faring so well in other transport markets. The Victorian Government commented:

> We are overdependent on air for many purposes, and on road freight for many other purposes, just because of the disgraceful lack of productivity of the maritime trades and of the rail industry. So we have a sparse continent, the tyranny of distance … in which our two most prospective long-term modes are disabled by history… (trans., p. 949)

Railways must now look to the future — but that future is uncertain. What the industry and governments do in the next few years will determine whether rail is an important part of the transport system in the 21st century. As Hearsch commented:

> Australia's rail industry is at an important crossroads … Rail can make a very much larger contribution to Australia's economic development and provide substantially greater benefits for Australia as a whole. (Hearsch 1998, p. 28)

This inquiry is about giving the Australian rail industry an opportunity to secure its future.

## 1.1 This inquiry

The then Industry Commission conducted an inquiry into rail transport in 1991 (IC 1991b). The report examined factors leading to inefficient resource use in Australian railways and recommended action to remove such inefficiencies.

In recent years there has been increasing public focus on improving the performance of Australia's railways. With this focus, Commonwealth, State and Territory Governments, and the rail industry, have implemented substantial reforms to Australian railways since the Commission's 1991 inquiry. However, these changes have varied, both in nature and pace, across Australia.

The Commonwealth Government has asked the Productivity Commission to inquire into progress in rail reform since 1991. The terms of reference direct the Commission to undertake a stocktake of reforms already made within Australian railways, identify areas where further reform may be warranted and any resulting benefits and costs. Specific matters on which the Commission was asked to report include:

- the current structure of the railways and associated industries in Australia;
- the nature of recent reforms affecting railways, including access arrangements and their implications;
- strengths and weaknesses of the Australian rail industry, drawing on international and intermodal comparisons as appropriate;
- impediments which constrain the efficiency and performance of rail transport;
- the implications for rail and the economy generally of regulations, charges and arrangements affecting competing and complementary modes of transport;
- the changing roles of the Commonwealth, States and the private sector; and
- implementation strategies for measures that could be taken to remove impediments to improved efficiency and performance.

The terms of reference for the inquiry are set out in full on page XVIII.

The inquiry is broad ranging, covering freight and passenger rail systems, and interstate, intrastate and urban rail operations. A key focus is on rail freight activities. For the purposes of this inquiry the infrastructure of railway networks, the operation of trains on these networks and associated industries (such as railway workshops) are defined as the 'rail industry'.

The Commission has not examined in any detail:

- the technical aspects or merits of specific private sector (or joint private sector/government) rail infrastructure investment proposals;
- other modes of transport, including light rail. The inquiry has covered aspects of road freight and other transport only insofar as they are competitors with, or complementary to, rail transport;
- intermodal transport issues, such as the efficient movement of containers from ports on to the rail network; and
- issues relating to environmental costs (such as greenhouse gas emissions and atmospheric pollution) and congestion costs. These are examined only in the context of the relative performance of rail and road transport.

In examining the issues raised by this inquiry and formulating its recommendations, the Commission in accordance with its Act has considered the interests of the community as a whole. The Commission has had regard to the overall performance of the economy, taking into account the social, regional development, economic growth, employment and environmental objectives of government.

The Commission has sought to offer solutions to the remaining problems in the rail industry that will encourage it to fulfil its various roles in the economy. The rail industry consists of diverse sectors — ranging from urban passenger transport to interstate freight transport — which differ in terms of their characteristics and the impediments constraining their performance. The Commission's approach has been to tailor its recommendations to each sector.

There is often more than one policy option to improve the performance of each sector. The Commission has tried to identify the options and then formulate a reform package for each sector which it believes will provide the greatest benefits.

## 1.2 Other inquiries and reports

The Commission has taken into account previous inquiries and reports which discuss the rail industry. In particular, two recent reports have been complementary to the Commission's inquiry: House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform, *Tracking Australia, an Inquiry into the Role of Rail in the National Transport Network* (HORSCCTMR 1998b); and Rail Projects Taskforce, *Revitalising Rail: the Private Sector Solution* (RPT 1999).

Other reports which have been drawn upon in this inquiry, in addition to the 1991 Industry Commission inquiry on rail, include:

- Hilmer et al. (1993) *National Competition Policy*;
- Industry Commission (IC 1994b) *Urban Transport*;
- National Transport Planning Taskforce (NTPT 1994) *Building for the Job: A Strategy for Australia's Transport Network*;
- Steering Committee on National Performance Monitoring of Government Trading Enterprises (SCNPMGTE 1998) *Government Trading Enterprises Performance Indicators, 1992-93 to 1996-97*; and
- Productivity Commission (PC 1998a) *The Australian Black Coal Industry*.

## 1.3 This report

In preparing this report the Commission has drawn on evidence from a wide range of sources, seeking input from those with an interest in, and knowledge of, the rail industry. On 30 March 1999 the Commission released the Draft Report, and invited comment on the draft recommendations contained in the report.

Over the life of the inquiry, the Commission received 128 submissions from individuals and organisations, including public and private rail operators, users of rail services, industry associations, freight forwarders, community groups, and Commonwealth, State and Local Governments and agencies. The Commission also held two sets of public hearings before and after the release of the Draft Report (appendix A).

The Commission has benefited from visiting many interested parties around Australia for discussions (appendix A). These included tours of various terminals, signalling facilities and stations, and inspections of the track (Melbourne-Adelaide and Sydney-Cootamundra-Parkes-Bathurst-Sydney) in order to gain a greater understanding of rail operations. In addition, the Commission travelled on various freight, urban and interstate passenger trains. It also visited organisations in New Zealand and Europe to obtain knowledge of rail reform in those countries.

The Commission held two technical workshops and a public workshop to discuss the analysis of railway performance presented in chapter 4.

The Commission was encouraged by the participation in this inquiry from groups across the rail industry and other transport sectors, and from governments and agencies. The Commission thanks participants for the effort, thoroughness and thoughtfulness of their submissions.

The structure of this report reflects the approach described in section 1.1. The rail industry is described, and key reforms summarised in chapters 2 and 3. The performance of Australian railways is analysed and compared to that of other countries in chapter 4. Chapter 5 outlines the Commission's approach to assessing the best policies to overcome impediments to improved rail performance. The following six chapters, 6 to 11, each cover a major issue for this inquiry. The objectives of, and gains from reform of industry structure and ownership are assessed in chapters 6 and 7 respectively. Chapters 8 and 9 discuss regulation relating to access arrangements, safety and operating procedures and standards. Competitive neutrality between rail and other modes of transport, particularly road, is the focus of chapter 10, while chapter 11 discusses a framework for government implementation of broader social objectives, such as employment and regional development. These chapters are drawn together in chapter 12 which outlines the priorities for further reform and the role of government and the private sector in this process.

# 2 Railways in Australia

**Australia's railways have become increasingly specialised in the transport of bulk commodities, such as coal and iron ore. Competition from road transport has eroded the previous dominance of railways over the transport of primary products and non-bulk freight. All Australian mainland state capital cities have urban rail passenger networks. Railways only undertake a small proportion of non-urban passenger movements.**

**Broad categories of railway networks are identified which can be distinguished by their economic characteristics and the nature of the market in which they operate.**

The terms of reference ask the Commission to report on the current structure of the industry, to 'differentiate its analysis of Australian interstate rail operations from intrastate and urban operations', and to include discussion of freight and urban passenger services.

This chapter addresses these terms of reference by describing the role of rail in transporting freight and passengers in Australia (section 2.1). The different characteristics of Australia's rail networks are then identified (section 2.2).

There are currently limitations on the quantity and quality of transport data in Australia. In a number of instances the most recent statistics are four or five years old. Hence, as noted by the Commonwealth Department of Transport and Regional Services (DTRS) reforms that have been effected in the last three years may have altered the modal trends presented in this chapter (sub. DR125).

Participants to the inquiry were critical of the availability of quality transport data in Australia. The National Rail Corporation (NRC) argued:

> A general point that could be made is that it will become increasingly difficult to formulate rational transport policy in this country as the data available to assess what's going on now and to assess the effects of possible changes becomes more and more scarce. (trans., p. 1008)

And Laird noted:

> I'd suggest that these data limitations are very severe and they're probably costing the country heaps and heaps because it means that treasuries, both state and federal, are not having adequate data to justify budget outlays. (trans., pp. 711-712)

The Australasian Railway Association argued that the privatisation of railways was impeding the ability to obtain rail transport data:

> It's something that we at the association are now having increasing difficulty as the privatisation process occurs when a lot more information now is very much commercially sensitive … (trans., p. 1040)

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

## 2.1 Rail transport in Australia

In Australia, rail transport represents around 0.5 per cent of gross domestic product and 8 per cent of total transport value added (ABS 1998a).[1] In 1998 there were at least 36 500 full-time workers employed by the railways.[2]

There is around 43 100 km of broad (1600 mm), standard (1435 mm), narrow (1067 mm) and dual gauge track in Australia (ARA 1998b). Most of Australia's railways are centred on capital cities or ports, extending to rural areas and mining regions. The standard gauge network links all the mainland state capital cities and Alice Springs in the Northern Territory (appendix B).

### Rail service providers

In 1991, Australia's rail industry was characterised by integrated State-owned railways providing passenger and freight services in their respective jurisdictions with private operators (BHP, Hamersley Iron and Robe River Railroad) hauling iron ore in Western Australia (table 2.1). In addition, Australian National provided long distance non-urban passenger services on the Australian mainland, freight services across jurisdictions, and intrastate freight services in Tasmania and South Australia (chapter 3).

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[1] Estimates of the contribution rail transport makes to Australia's gross domestic product differ depending on how the industry is defined. The Australian Bureau of Statistics (ABS) definition of the rail transport industry is based on the Australian and New Zealand Standard Industrial Classification (ANZSIC) (class 6200).

[2] Estimate based on full-time employment in the ANZSIC (class 6200).

Since 1991, the number of public and private sector rail service providers has grown considerably (table 2.2). This growth has occurred primarily through the dismantling of Commonwealth and State-owned railways into passenger, freight and 'below track' infrastructure providers.

In addition, a number of new private operators have entered the industry. These include interstate freight operators (Specialized Container Transport (SCT), Toll Rail and Patrick) and smaller private operators providing a range of services including crews, locomotives and short haul operations (Northern Rivers Railroad and Great Northern Rail Services).

Table 2.1 **Rail service providers[a], 1991**

| *Provider* | *Urban passenger* | *Non-urban passenger* | *Freight* |
|---|---|---|---|
| **Public providers** | | | |
| Australian National (Cwlth) | | ✓ | ✓ |
| State Rail Authority (NSW) | ✓ | ✓ | ✓ |
| Public Transport Corporation (Vic) | ✓ | ✓ | ✓ |
| Queensland Rail (Qld) | ✓ | ✓ | ✓ |
| Westrail (WA) | ✓ | ✓ | ✓ |
| State Transport Authority (SA) | ✓ | | |
| **Private providers** | | | |
| BHP (NSW, WA, SA) | | | ✓ |
| Emu Bay Railway (Tas) | | | ✓ |
| Hamersley Iron (WA) | | | ✓ |
| Robe River Railroad (WA) | | | ✓ |
| Silverton Tramway (NSW) | | | ✓ |
| Skitube (NSW) | | ✓ | |

**a** Excludes separate maintenance and construction providers and tourist train operators.

Table 2.2 **Rail service providers[a], 1999**

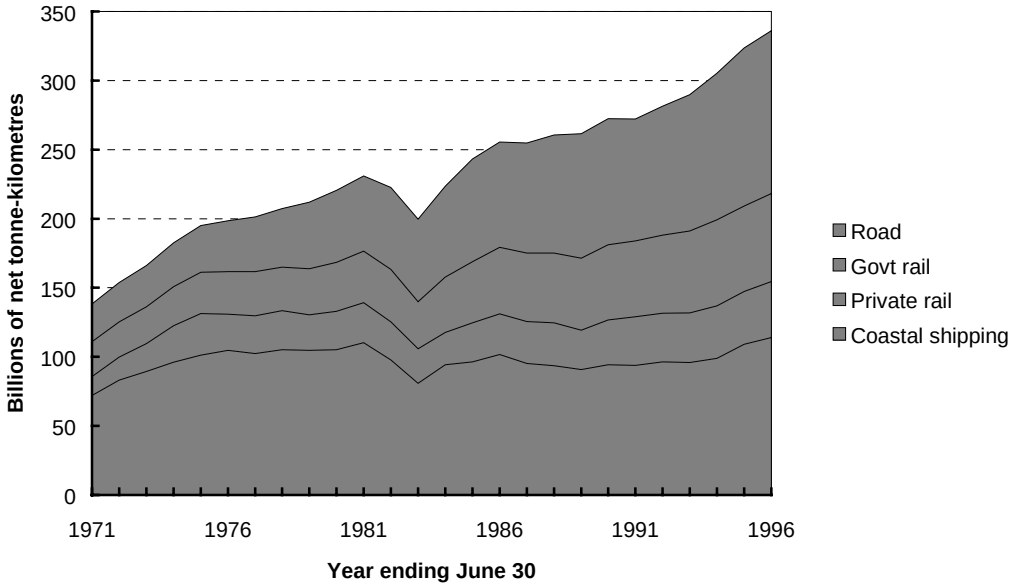
| *Provider* | *Urban passenger* | *Non-urban passenger* | *Freight* | *Track [b]* | *Principal area of operation* |
|---|---|---|---|---|---|
| **Public providers** | | | | | |
| National Rail Corporation | | | ✓ | | Interstate freight |
| Australian Rail Track Corp. | | | | ✓ | Interstate track |
| State Rail Authority | ✓ | ✓ | | | NSW |
| FreightCorp | | | ✓ | | NSW |
| Rail Access Corporation | | | | ✓ | NSW |
| Queensland Rail | ✓ | ✓ | ✓ | ✓ | Qld |
| Westrail | ✓ | ✓ | ✓ | ✓ | WA |
| TransAdelaide | ✓ | | | ✓ | Adelaide |
| **Private providers** | | | | | |
| Australia Southern Railroad | | | ✓ | ✓ | SA |
| Austrac | | | ✓ | | NSW |
| Bayside Trains[c] | ✓ | | | ✓ | Melbourne |
| BHP | | | ✓ | ✓ | WA,SA,NSW |
| Freight Victoria[d] | | | ✓ | ✓ | Vic |
| Great Northern Rail Services | | | ✓ | | Vic |
| Great Southern Railway | | ✓ | | | Interstate passenger |
| Hamersley Iron | | | ✓ | ✓ | WA |
| Hillside Trains[c] | ✓ | | | ✓ | Melbourne |
| Northern Rivers Railroad | | | ✓ | | NSW |
| Patrick | | | ✓ | | Interstate freight |
| Robe River Railroad | | | ✓ | ✓ | WA |
| Silverton Tramway | | | ✓ | | NSW |
| Skitube | | ✓ | | ✓ | NSW |
| Specialized Container Trans. | | | ✓ | | Interstate freight |
| Tasrail | | | ✓ | ✓ | Tas |
| Toll Rail | | | ✓ | | Interstate freight |
| V/Line Passenger[c] | | ✓ | | | Vic |
| West Coast Railway | | ✓ | | | Vic |

**a** Excludes separate maintenance and construction providers and tourist train operators. **b** Refers to the owners of mainline tracks, and does not include ownership of sidings, terminals and other 'below track' infrastructure. **c** Private provider under franchise agreement with the Victorian Government. **d** Freight Victoria has a 15 year lease with VicTrack over the intrastate non-urban track.

## Domestic freight

Australia's domestic freight (excluding pipelines) was around 340 billion net tonne-kilometres (ntkm) in 1995-96,[3] with rail and road transport and coastal shipping each undertaking around one third (figure 2.1).[4] Since 1970-71, road transport has continued to increase its share of domestic freight activity. The contribution from coastal shipping has remained relatively static, thereby reducing its share. Throughout the period shown, rail transport (government and private) has continued to account for around one third of domestic freight.

Figure 2.1 **Australian domestic freight (excluding pipelines), 1970-71 to 1995-96[a,b]**




**a** Figures for 1995-96 are provisional estimates. **b** Most recent data available.

*Data sources:* Bureau of Transport Economics estimates based on BTCE 1995; Apelbaum 1997 (*The Australian Transport Task, Energy Consumed and Greenhouse Gas Emissions);* ABS (*Survey of Motor Vehicle Use,* Cat. no. 9202.0).

3 Australia's transport activities can be measured in various ways — different measures are appropriate for different purposes. Tonnes and number of passengers measure the amount of freight and people using transport services in a given period. Tonne-kilometres and passenger-kilometres take into account the distance travelled but provide no indication of loading and unloading activity or the intensity at which the transport system is being used at particular times.

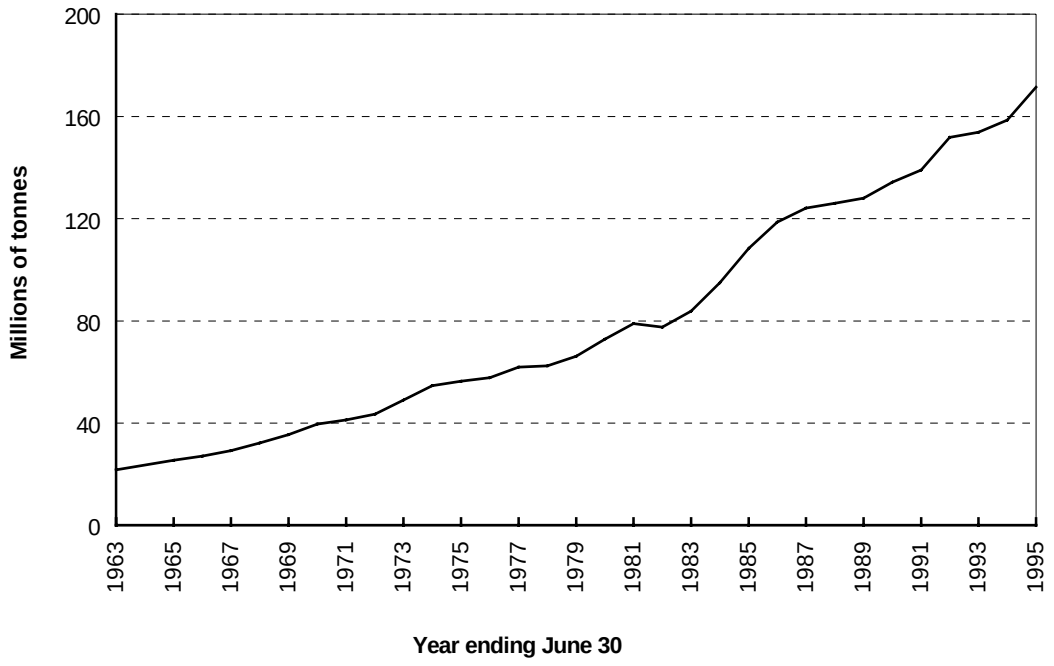
4 There are difficulties in obtaining accurate estimates of freight output from the road transport industry as often the information sought from vehicle owners is not readily available (ABS 1998d).

### *Coal and minerals*

Railways have maintained their share of domestic freight largely through the growth in Australia's minerals sector (appendix C). In particular, the tonnage of coal and minerals transported by rail (primarily from mines to ports) has increased almost eight fold from 1962-63 to 1994-95 (figure 2.2).

The growth in the transport of coal and minerals by the railways has allowed rail to maintain a significant share in the transport of bulk freight commodities, including coal, minerals, grains and sugar. In 1994-95, government and private railways accounted for just over one third of the 210 billion ntkm of bulk freight transported in Australia (figure 2.3).

Figure 2.2 **Coal and minerals transported by rail, 1962-63 to 1994-95**



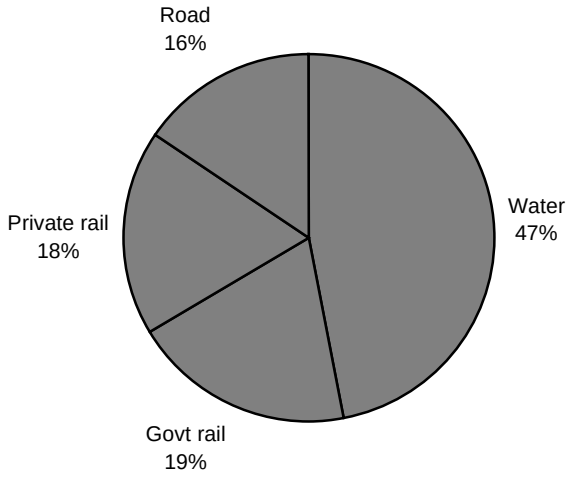

*Data source:* BTE 1998.

### *Primary products*

In 1962-63, over 80 per cent of Australia's agricultural produce (a combination of bulk and non-bulk freight including grains, sugar and fruit and vegetables) and about two thirds of livestock output was transported by rail. However, since then there has been a steady decline in the proportion of agricultural produce and livestock output transported by rail (figure 2.4). This is primarily due to the growth in competition from road transport. By 1994-95, the proportion of agricultural

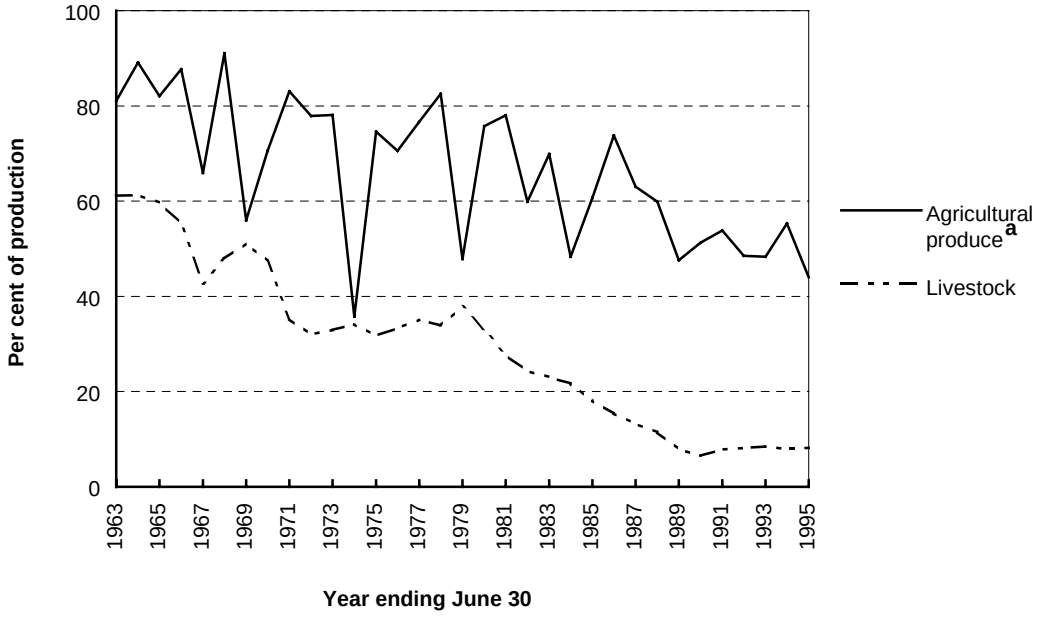
produce transported by rail had fallen by about half and less than 10 per cent of livestock output was transported by rail.

Figure 2.3 **Bulk freight transport, percentage shares of net tonne-kilometres, by mode, 1994-95**




*Data source:* Unpublished BTE estimates.

Figure 2.4 **Proportion of agricultural produce and livestock output (tonnes) transported by rail, 1962-63 to 1994-95**




**a** Includes grains, sugar and fruit and vegetables.

*Data source:* BTE 1998.

### *Non-bulk freight*

Non-bulk (or general) freight comprises a diverse range of commodities including steel products, meat and fish, wool, plastic resins, paints, livestock and some agricultural produce.[5] In 1994-95, approximately 110 billion ntkm of non-bulk freight was transported in Australia. Road transport accounted for three quarters of the non-bulk freight while rail transport and coastal shipping accounted for less than one fifth and one tenth respectively.

Available evidence relating to interstate freight indicates that rail has lost considerable market share to road in the transport of non-bulk freight.

### *Interstate freight*

In 1994-95, Australia's interstate freight was some 118 billion ntkm or around 35 per cent of domestic freight (table 2.3).

The interstate transport of bulk commodities is dominated by coastal shipping, accounting for around 95 per cent of the market in 1994-95. Rail and road each transported less than 3 per cent of interstate bulk freight.

Table 2.3 **Long distance freight, 1994-95**

| *Mode* [a] | *Interstate* | | | *Intercapital* |
|---|---|---|---|---|
| | *Bulk* | *Non-bulk* | *Total* | |
| | billion ntkm | billion ntkm | billion ntkm | billion ntkm |
| Road | 2.0 | 26.0 | 28.0 | 16.9 |
| Rail | 1.9 | 14.6 | 16.5 | 6.7 |
| Coastal shipping | 68.3 | 5.4 | 73.7 | 8.3 |
| **Total** | **72.2** | **46.0** | **118.2** | **31.9** |

**a** A small proportion of interstate and intercapital freight is undertaken by air transport.

*Sources:* Bureau of Transport Economics estimates based on BTE 1998 (*Coastal Freight In Australia, 1995-96, Information* Paper 42); ABS (*Survey of Motor Vehicle Use,* Cat. no. 9202.0 and *Experimental Estimates of Freight Movements,* Cat. no. 9217.0); DoTR (*Aviation Statistics Database*).

In contrast, road dominates the interstate transport of non-bulk commodities, accounting for over half the ntkm in 1994-95. Rail accounted for just under one third and coastal shipping just over one tenth of non-bulk ntkm.

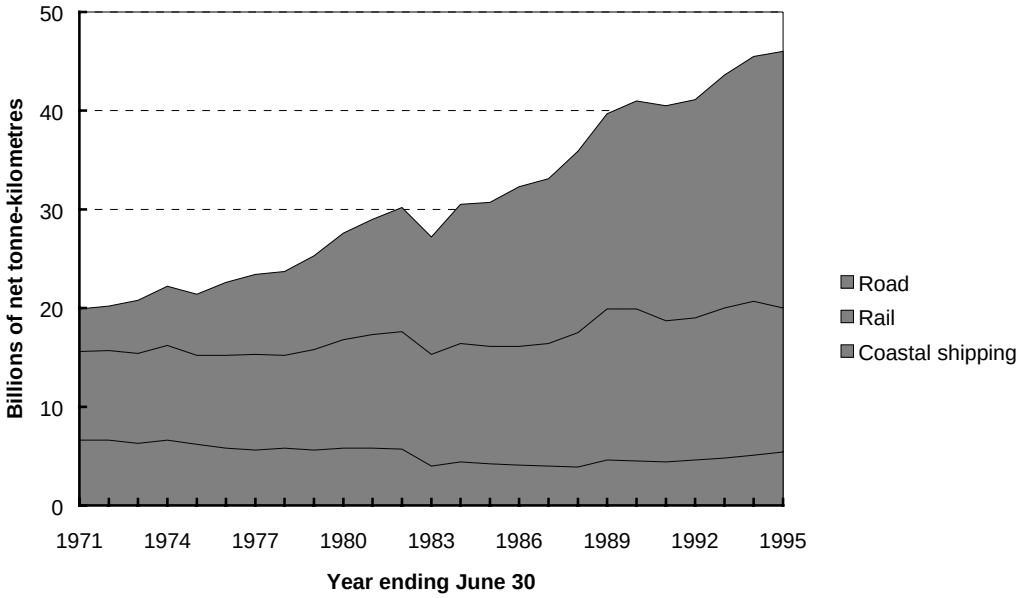
[5] There are problems in creating clear definitions for bulk and non-bulk commodities. For example, commodities such as timber, cement and fertilisers can, in some instances, be classified as either bulk or non-bulk freight.

Available evidence indicates that since the early 1970s, rail has lost considerable market share to road in the interstate transport of non-bulk commodities (figure 2.5). In 1970-71, railways accounted for around 45 per cent of non-bulk interstate freight compared to around one third for coastal shipping and one fifth for road. Since 1970-71, road transport has accounted for most of the growth in the interstate transport of non-bulk commodities, resulting in it having the largest share by 1994-95. However, NRC claimed that these trends are currently changing:

> There has been a significant change in the competitive position of interstate rail freight since 1997, when the quality of assets and cost structure of rail began to improve … The effect has been especially marked on the East Coast. (sub. DR117, p. 5)

Data on the market shares for road, rail and coastal shipping for interstate freight transport are not yet available to substantiate this claim.

Figure 2.5 **Non-bulk interstate freight, 1970-71 to 1994-95**




*Data source:* Perry and Gargett 1998.

A component of interstate freight is freight transported between capital cities. In 1994-95, intercapital freight transport represented around one quarter of total interstate freight.

Rail's market share of freight transported (measured in tonnes) by land between capital cities generally increases with the length of haul. In 1994-95, on the North-South corridor, defined as freight flows between Brisbane, Sydney and Melbourne, rail accounted for 28 per cent of the tonnes of freight transported.

However, Norley (1999) suggested that on the Sydney to Melbourne link, rail's market share may now be less than 10 per cent. It was also suggested that some rail operators (and rail based freight forwarders) had conceded the transport of freight on this corridor to road. On the other hand, DTRS argued that the total interstate non-bulk freight market is growing rapidly and that 'rail has the potential to increase its market share and profitability considerably' (sub. DR125, p. 1).

In contrast to the North-South corridor, on the East-West corridor (that is, west of Sydney and Melbourne) rail accounted for almost one half of the freight transported, and close to 80 per cent on the Perth to Adelaide link (MM Starrs Pty Ltd and Ian Wright & Associates 1999).

### *Importance of rail to selected commodities*

Table 2.4 presents the amount and proportion of rail costs to the value of selected commodities. In 1993-94, the commodity category of coal, oil and gas used the greatest amount of rail services (public and private) in absolute terms — at around $1.4 billion. Iron ore had the highest proportion of rail costs to value at 11 per cent.

However, the importance of rail transport to the coal industry is understated in table 2.4. This is due to its aggregation with oil and gas in the commodity classification. In particular, the NSW Minerals Council has indicated that rail freight charges comprise 15 to 30 per cent of the free on board cost of New South Wales coal exports (PC 1998a).

Table 2.4 **Rail costs as a proportion of value, selected commodities, 1993-94**

| *Commodity* [a] | *Value of commodity* | *Rail costs* | *Rail costs as a proportion of commodity value* |
|---|---|---|---|
| | $m | $m | per cent |
| Sheep | 3 841 | 72 | 1.9 |
| Grains | 6 197 | 352 | 5.7 |
| Coal, oil and gas | 20 659 | 1 383 | 6.7 |
| Iron ores | 3 772 | 416 | 11.0 |
| Non-ferrous metal ores | 9 334 | 128 | 1.4 |
| Petroleum and coal products | 25 113 | 51 | 0.2 |
| Iron and steel | 11 320 | 73 | 0.6 |
| Basic non-ferrous metals | 11 771 | 97 | 0.8 |

[a] A commodity has been included if rail costs exceed $50 million or 5 per cent of commodity value.

*Data source:* ABS (*Australian National Accounts: Input-Output Tables,* Cat. no. 5209.0).

## Passengers

Passenger transport involves the movement of people within and between Australia's towns and cities. It is undertaken by a variety of modes including cars, motor cycles, bicycles, trams, ferries, aircraft and railways. The use of private cars and other light vehicles dominates passenger transport in Australia, in both urban and non-urban areas.

### *Urban passenger transport*

In Australia, urban transport systems consist of road networks, together with the private car and other vehicles that use them, public transport modes and paths for cycling and walking. There are currently urban rail networks in all mainland state capital cities. The largest network, in Sydney, extends across the greater metropolitan area from north of Newcastle to south of Wollongong.

Urban rail systems in Australia are usually radial to the central business district of the city and a high proportion of urban rail travel is undertaken for work or education during peak times. The State Rail Authority of New South Wales (SRA) commented on the importance of rail transport to Sydney:

> The suburban rail network represents the life blood of Sydney. CityRail provides approximately 2,300 train services, carrying about 900,000 per week day ... At its busiest time, the morning peak between about 6.30 a.m. and 9.30 a.m., CityRail carries about 300,000 passengers. (sub. 67, p. 2)

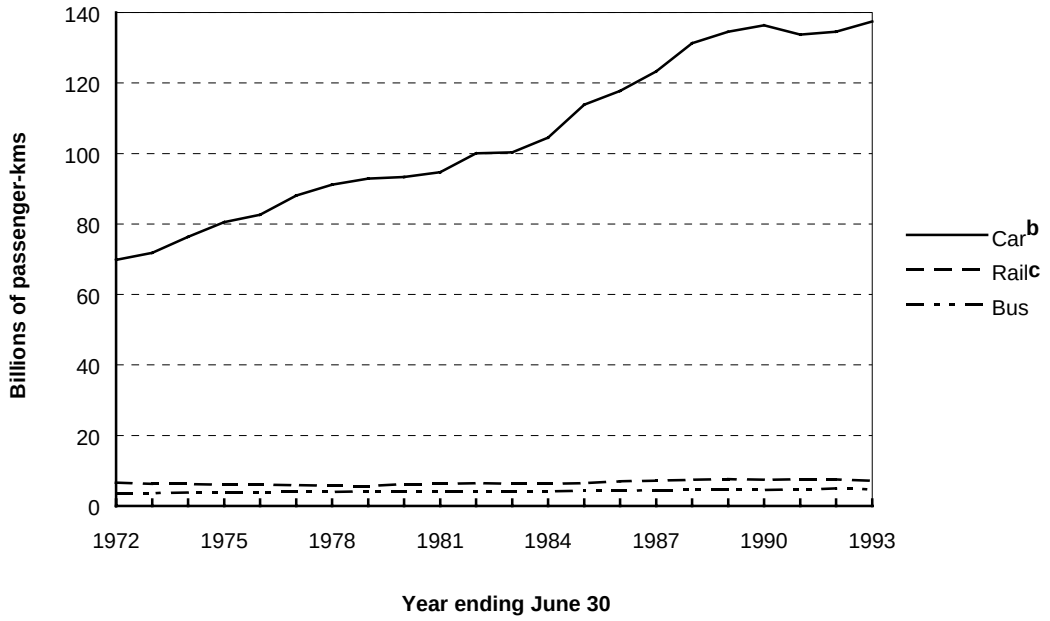
A major trend in passenger transport in Australia has been the growth in the use of the private car and the relatively static contribution from public transport modes (figure 2.6). A primary explanation for this situation is that public transport modes, including rail, continued to provide transport services to and from the central business district, while employment, retail and other activities decentralised into Australia's expanding residential areas. As noted by the Bureau of Transport and Communications Economics:

> This type of development, which frequently involves large distances between residential and work locations, has resulted in considerable dependence being placed on private cars for urban commuting, and correspondingly limited reliance on public transit systems. (BTCE 1995, p. 151)

A similar explanation for the static contribution by public transport to the transport of passengers is given by Hearsch:

> Australia's urban population mostly lives in relatively low density housing with the only exceptions being medium density residential areas in some inner suburbs in both Sydney and Melbourne. Low density lifestyles generally militate against the effective use of public transport and help to entrench car ownership. (Hearsch 1998, p. 9)

Figure 2.6 **Urban (motorised) passenger transport, 1970-71 to 1992-93[a]**



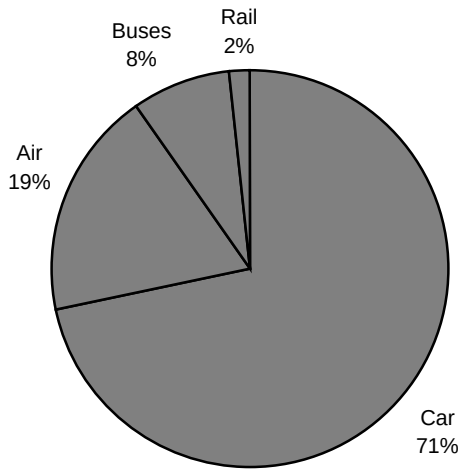

**a** Represents the latest published estimates available on urban passenger movements across all transport modes in Australia. **b** Includes taxis. In 1990-91, taxis comprised around 1.7 per cent of urban car pkm. **c** Includes trams. Between 1970-71 and 1992-93 tram pkm were 8 per cent of urban rail pkm.

*Data source:* BTCE 1995.

### *Non-urban passenger transport*

In 1970-71, rail provided about 6 billion non-urban passenger-kilometres (pkm) or approximately 10 per cent of total non-urban passenger transport. However, there has been a dramatic decline in the number of non-urban pkm undertaken by rail despite growth in this market. By 1994-95, the non-urban pkm of railways had declined to approximately 2.2 billion pkm (less than 2 per cent of total non-urban pkm), while the car dominated (figure 2.7).

Figure 2.7 **Non-urban passenger transport, percentage share of passenger-kilometres, by mode, 1994-95**




*Data source:* Estimates provided by the BTE.

Hearsch (1998) categorised non-urban passenger transport as follows:

- long distance, ranging from 1000 km to 4000 km in length (mainly interstate);
- medium distance, typically covering routes between cities and major regional centres between 200 km and 700 km apart; and
- short distance, intercity services covering routes beyond the defined suburban area.

Long distance passenger services are dominated by car and air transport. Rail's role is generally limited to tourist trains such as the Ghan and Indian-Pacific (Hearsch 1998).

Medium and short distance trips are also dominated by the private car. However, rail (and coach) services are offered in most jurisdictions through providers such as Traveltrain (Queensland Rail) and Countrylink (SRA).

In 1994-95, there were around 47.5 million interstate passenger journeys. Railways provided transport services to less than 2 per cent of interstate passengers (table 2.5).

Table 2.5 **Interstate (including intercapital) passenger transport, 1994-95**

| *Mode* | *Interstate* | *Intercapital (component of interstate)* |
|---|---|---|
| | '000 of passengers | '000 of passengers |
| Car | 33 650 | 3 092 |
| Bus | 1 770 | 496 |
| Rail | 610 | 278 |
| Air | 11 422 | 6 632 |
| **Total** | **47 452** | **10 498** |

*Source:* BTE estimates based on Bureau of Tourism Research 1996 (*Domestic Tourism Monitor).*

Interstate rail passenger operations are only a small element of the total rail passenger market. There were 610 000 interstate rail passenger journeys in 1994-95 compared to around 270 million provided each year by CityRail in New South Wales.

A component of interstate passenger journeys is passenger trips between capital cities. There were around 10.5 million intercapital passenger journeys in 1994-95, representing just under one quarter of the total interstate passenger journeys. The movement of passengers between capital cities is dominated by air transport which carried almost two thirds of the total intercapital passengers.

## Investment

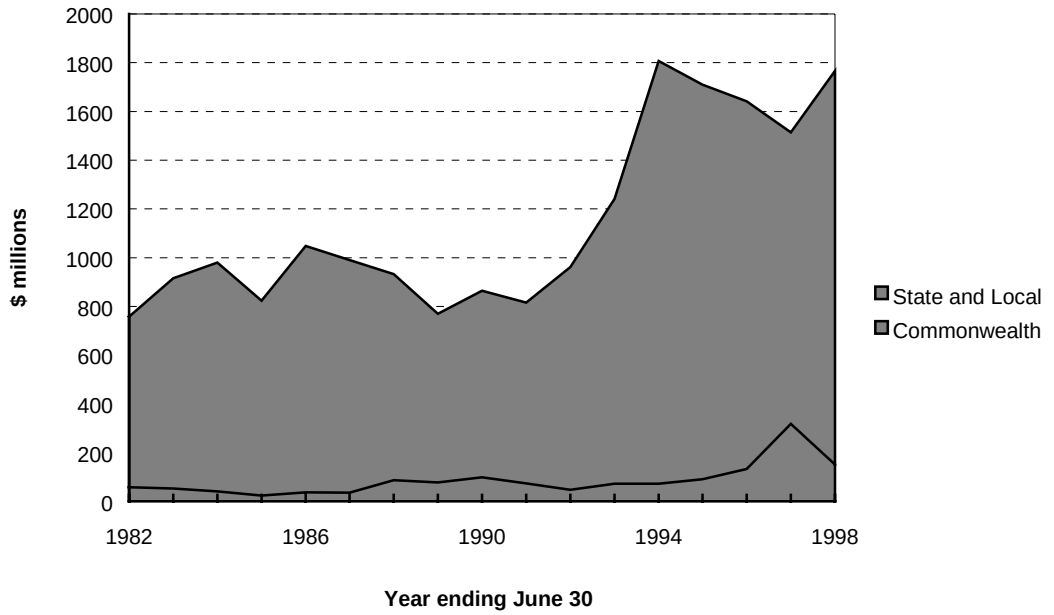
Most public sector investment in railways is undertaken by State Governments. In 1997-98, investment by state and local governments (the local government component is small) was $1.6 billion compared to $151 million by the Commonwealth Government (figure 2.8).

From 1981-82 to 1991-92, public sector investment in railways averaged around $840 million per year. Since 1991-92, however, the level of investment in railways has increased sharply, largely due to increased investment by the NSW, Queensland and WA Governments and the Commonwealth Government's *One Nation Program* (HORSCCTMR 1998b).

State government-owned railways provide a range of rail services in both passenger and freight markets. Accordingly, investment in track and rollingstock by these railways is equally diverse, funded from borrowings, internal equity and capital grants from government. Examples of investment by State Governments through the 1990s include the ongoing acquisition of new coal wagons and bogies in New South Wales (costing $125 million) and the Queensland Mainline Upgrade Project (costing $526 million) (box 2.1).

As part of the *One Nation* program, the Commonwealth Government allocated $443 million for track upgrades between June 1992 and June 1995. The *One Nation* program culminated in the completion of the standard gauge link between Melbourne and Adelaide (HORSCCTMR 1998a). Appendix C provides some further detail on major gauge standardisation initiatives since the 1950s.

Figure 2.8 **Government investment in new fixed rail assets, 1981-82 to 1997-98[a]**




**a** Estimates for 1996-97 are preliminary estimates as at November 1997. Figures for 1997-98 are based on forward estimates.

*Data source:* HORSCCTMR 1998a.

Box 2.1 **The Queensland Mainline Upgrade Project**

The Queensland Mainline Upgrade Project allocated $526 million over five years to upgrade track, bridges and rollingstock. The project commenced in 1992 and was completed in 1997. Investment projects undertaken included:

- the purchase of 40 new generation diesel-electric locomotives;
- the purchase of 250 new container wagons;
- the replacement of 673 timber bridges; and
- the construction of 118 km of new alignment on the main North Coast Line from Brisbane to Cairns and selected routes in south-west Queensland.

*Source:* QR 1996.

The extent of private sector investment in railways since 1991 is unclear. In terms of track and other fixed infrastructure, there is little evidence of significant private sector investment, especially compared to public sector investment. However, some limited evidence of investment by the private sector is available. SCT commented:

> SCT is presently investing tens of millions of dollars into rail terminals and rollingstock … (sub. 80, p. 2)

And, Patrick noted:

> Patrick has invested several million dollars in the rail terminals and connections to the main line in order to provide a modern 'on dock' rail terminal with dual gauge access. (sub. 63, p. 5)

It appears that, in most circumstances, private train operators are leasing locomotives and rollingstock and are not purchasing new equipment. Private providers of locomotives (such as Great Northern Rail Services) have indicated that they are not purchasing new locomotives but rather refurbishing existing assets.

## Employment

There have been large reductions in employment in railways (chapter 11 and appendix J). Evidence from the ABS *Labour Force Survey* indicates that between 1986 and 1998 full-time employment in railways declined from 88 500 to 36 500 (figure 2.9).[6]

Up until the mid-1990s most railway workers were employed in government-owned railways.[7] For these railways, from 1972-73 to 1996-97 employment decreased substantially by around 70 500 employees, or 60 per cent of the workforce (figure 2.10). The rate of decrease in employment increased after 1985-86 — mainly attributable to reductions in employment by the former SRA.

Reduced demand for labour by railways has occurred despite increasing output from the industry. Freight output, as measured by ntkm, increased by around 158 per cent over the period shown (figure 2.10).[8]

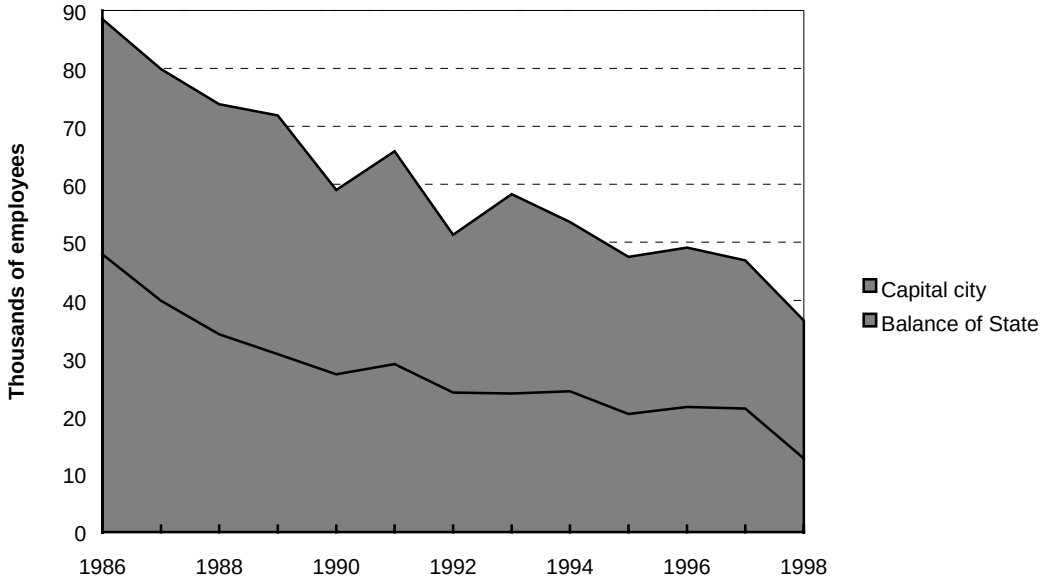
---

[6] Employment estimates from the ABS *Labour Force Survey* are not comparable with data on employment in government-owned railways (appendix J).

[7] Reliable information on private sector employment in railways is not available.

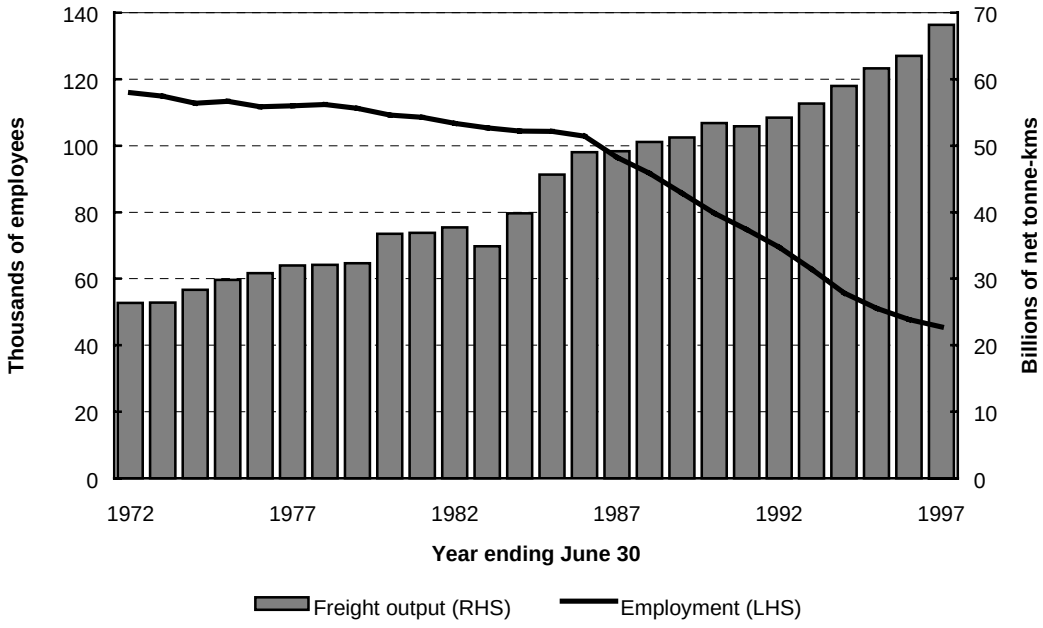
[8] However, there has been a decline in non-urban rail passenger-kilometres (which is only a small element of total industry output).

Figure 2.9 **Full-time employment in the rail industry, capital city and balance of State, 1986 to 1998**




*Data source:* ABS (*Labour Force, Australia,* Cat. no. 6203.0, unpublished, various years).

Figure 2.10 **Employment and freight output in government-owned railways, 1971-72 to 1996-97**




*Data sources:* Hensher, Daniels and DeMellow 1992; SCNPMGTE 1998; Rail Access Corporation, unpublished data; Rail Services Australia, unpublished data; BTE, unpublished data.

However, figure 2.10 overstates the decrease in demand for labour by government railways, especially in the 10 year period to 1996-97. This is due to the contracting out of many activities by railways and the transfer of functions (such as regulatory functions) to other bodies.

Railways have traditionally been an important source of employment in regional Australia. However, evidence indicates that railway employment outside Australia's capital cities has fallen more rapidly than within capital cities. In 1986 over half of the full-time railway employment (48 000 employees) occurred outside Australia's capital cities (figure 2.9). However, by 1998 regional employment had fallen by three quarters to around 13 000 — one third of total railway employment. The largest reductions in regional employment occurred in New South Wales and Queensland, though reductions have occurred in all jurisdictions (appendix J).

## 2.2 Railway characteristics

The terms of reference recognise that railway networks in Australia are not all the same. They have different economic characteristics and markets, face different issues, and require different policy approaches.

The Draft Report identified four types of rail networks in Australia. They were:

- urban passenger networks;
- high volume regional networks;
- low volume regional networks; and
- the interstate network.

The inquiry received many submissions commenting on the appropriateness of the framework adopted by the Commission in the Draft Report and the accuracy of the characteristics for each network. In addition, some participants (McKillop, NSW Minerals Council and NRC) provided details on the sections of rail track which could be regarded as one of the networks identified by the Commission.

With regards to the Commission's framework, McKillop argued:

> One of the most useful contributions of the Draft Report is the framework for analysing railways by their characteristics. (sub. DR90, p. 2)

However, the Rail Access Corporation (RAC) was critical of the Commission's approach:

> The fundamental shortcoming of the categorisation approach used in the Report is that important detail is lost in attempting to generalise across market types. …
>
> … RAC believes that the categorisation approach and errors of fact have contributed to the Commission drawing inappropriate conclusions from its analysis of market structures in Chapter 5 of the Report. (sub. DR102, pp.1, 2)

In response to comments made by participants, the Commission has refined the categorisation and incorporated information from participants, published sources and discussions with railways.

The discussion of each network below is not intended to be a rigid taxonomy of rail operations in Australia. It highlights the *predominant features* of rail networks in Australia, while recognising that differences and exceptions do exist within and between networks across states.

## Australia's rail networks

To facilitate discussion and identification of the issues associated with different railways in Australia, the Commission has redefined rail networks into three broad categories. They are:

- urban passenger networks;
- the interstate network; and
- regional networks (including the main coal lines in New South Wales and Queensland).

These networks can be differentiated according to a number of economic characteristics relating to:

- interface issues, which occur when there are competing demands for train schedules by trains from different networks, for example, freight trains traversing urban passenger networks.
- rail competition:
  - 'for' the market — competition between bidders tendering to provide a given service; or
  - 'in' the market — competition between train operators for the same customers. Chapter 5 discusses further, different forms of competition that can occur within railways.
- intermodal competition, particularly from road and shipping.

- level of viability:
  - loss making — requiring continual government funding to either the track or train operations; or
  - earning a reasonable rate of return that can support future investment and maintenance; or
  - achieving sustainable monopoly profits.

The characteristics of the different networks are summarised in table 2.6 and discussed briefly below.

Table 2.6 **Characteristics of Australian rail networks**

| *Network* | | *Rail competition* | | | |
|---|---|---|---|---|---|
| | *Interface issues* | *For the market* | *Between train operators* | *Intermodal competition* | *Level of viability* |
| Urban | Yes, especially Sydney | Some | No | Yes | No |
| Interstate | Yes | Limited | Yes | Yes | Uncertain |
| Regional | Yes | Limited | Limited | Most freight | Uncertain |
| – Main coal lines | Yes | No | No | No | Yes |

## Urban passenger networks

Urban passenger networks exist in Sydney, Melbourne, Brisbane, Perth and Adelaide. The providers of urban passenger transport services include SRA, Bayside Trains, Hillside Trains, Queensland Rail, Westrail and TransAdelaide.

### *Interface issues*

The potential for interface issues to arise varies considerably across states. Interface issues are of particular concern in Sydney where there is congestion on the urban passenger network restricting the passage of freight trains. This is due to the complexity of the network and the intensity of use by passenger trains at peak periods. Each day around 100 freight trains are scheduled in conjunction with 2300 passenger trains. As noted by SRA:

> The level of train services generated in the CityMet area is quite dense and operates over a somewhat complicated commuter passenger network. Other operators mainly of freight services have to traverse the CityMet network to get into their terminals. (sub. 67, p. 2)

A number of participants commented on the complexity of the urban passenger network in Sydney and the problems it creates in introducing structural reforms and improving the productivity of rail freight. Chapters 6 and 10 discuss further reform options in the context of the interface issues relating to the Sydney urban network.

Perth and Adelaide on the other hand, have urban passenger networks that are largely independent of other networks, so that interface issues are less important.

In Perth, only around three freight trains per week traverse the urban passenger network (Westrail, Perth, pers. comm., 9 June 1999). As noted by the WA Government:

> The metropolitan network is largely confined to suburban rail passenger services with few points of interaction between passenger and freight services. (sub. 60, p. 3)

In Adelaide, few broad gauge intrastate freight trains traverse TransAdelaide's urban network. Following the Melbourne to Adelaide standardisation in 1994-95, there is also little interface between standard gauge interstate trains and the broad gauge urban network.

Melbourne and Brisbane lie between these extremes. In Melbourne, there is some potential for interface issues to arise due to the increasing number of freight trains that now traverse the urban passenger network. On lines carrying both passengers and freight, the proportion of intrastate freight trains generally averages between 5 and 10 per cent of total train numbers. In Brisbane, around 15 per cent of total train kilometres over the urban passenger network are accounted for by freight trains (Queensland Rail, Brisbane, pers. comm., 3 June 1999).

Due to the differences in gauges, there is only limited interaction between interstate trains and the urban passenger networks in Melbourne and Brisbane.

### *Rail competition*

With the exception of Melbourne, there is no rail competition on urban passenger networks.

In Melbourne, there is competition for the market in providing urban passenger services. National Express and Melbourne Transport Enterprise have secured the franchises to operate Melbourne's Bayside and Hillside Trains respectively. However, the successful franchisees do not compete over the same tracks for passengers. Instead, the franchises are based on geographic service groups (sub. 82).

### *Intermodal competition*

Urban passenger networks are subject to strong intermodal competition from the private car and other transport modes. The private car has been cited as the greatest threat to public transport, undertaking around 95 per cent of all urban trips (Cox 1997).

Other public transport modes also provide strong intermodal competition. The majority of bus, tram and ferry services move people from the suburbs to the central business district, sometimes providing commuters with more than one public transport option. As noted by the Industry Commission:

> Aggregate figures [on private car and public transport mode shares for urban transport] do, however, conceal the importance of public transport for some types of journeys. For example, 52 per cent of commuter trips to Melbourne's central area are by public transport and 80 per cent of workers in Sydney's central city use public transport to get to work. (IC 1994b, p. 62)

### *Level of viability*

Urban passenger networks in Australia are loss making, requiring continual government funding. In New South Wales, the Government allocated around $1 billion in recurrent and capital funding for SRA in 1997-98. In Queensland, the average government payment (subsidy) per urban rail passenger journey is over five times the average fare paid by passengers (chapter 11).

## The interstate network

There has never been a declared interstate network (sometimes referred to as the 'national track'). The interstate network can be (and has been) defined in various ways based on features such as track gauge, past investments by the Commonwealth Government (especially investments made under the *One Nation* program) and those lines used by interstate trains.

For the purposes of this inquiry, the Commission has defined the interstate network as that presented by NRC (sub. DR117): the standard gauge track linking all mainland State capital cities; the lines linking Sydney, Broken Hill and Crystal Brook; and the branches to Whyalla, Western Port, Port Kembla and Alice Springs (appendix B).

### *Interface issues*

As described earlier, with the exception of Sydney, interstate trains (freight and passenger) generally have limited interface with urban passenger networks. This situation is primarily due to the differences in track gauges. However, as described later in this chapter, there are interfaces between the interstate and regional networks.

### *Rail competition*

There is competition between train operators on the interstate network. In June 1995, SCT commenced interstate rail freight operations in competition with NRC. TNT (now Toll Rail) followed one year later (sub. DR100).

There is only limited evidence of competition for the market on the interstate network. RAC noted that competition for the market has occurred on the interstate network in regard to the BHP billet/slab traffic (sub. DR102).

### *Intermodal competition*

There is vigorous intermodal competition on the interstate network, especially from road transport. As argued by NRC:

> Road transport is the most powerful competitor for rail general freight services. B-Doubles are a continuing threat to the viability of rail transport. (sub. 53, p. 10)

Apart from competition from road transport, coastal shipping also dominates the interstate transport of bulk commodities (table 2.3).

### *Level of viability*

The Commission received no evidence of railways extracting monopoly profits from customers on the interstate network. Indeed, there is no conclusive evidence of the ability for railways to achieve viability, at least at this stage. In terms of train operations, NRC continues to run at a loss. The Australian Rail Track Corporation illustrated the challenges facing rail by reference to NRC:

> … NR's financial profitability was stated at $4.8m (loss) in 1996-97. The most recent annual report, released late last year, shows that NR's operating loss has deteriorated to $9m (after-tax) … This deterioration continues a trend starting in 1995-96 (with the introduction of private rail competitors) and starkly illustrates the challenge NR faces in a competitive interstate environment. (sub. DR97, p. 3)

However, NRC argued:

> As a corporation under the Corporations Law, National Rail can trade only while it remains solvent. Since it ceased to receive any financial support from its shareholders some 15 months ago, its Directors must have an expectation of commercial returns, backed by shareholder-approved strategic plans. (sub. DR117, p. 5)

As noted earlier, there are now private sector operators on the interstate network. As private firms, SCT and Toll Rail would be expected to only remain in the market if they earn, or expect to earn, commercial returns (at least on train operations).

Evidence on the viability of the interstate track is limited due to the multiple owners of the network. However, in New South Wales the Government provides subsidy payments to RAC towards track upkeep and maintenance.

## Regional networks

The Draft Report identified two types of regional networks — high and low volume. This categorisation tended to create some confusion over what tracks could be considered high or low volume. This was especially evident in New South Wales where some tracks were used by trains carrying freight with different economic characteristics (coal, grain and containers), as well as non-urban passenger trains.

Nevertheless, most of the tracks within regional networks[9] share similar economic characteristics. The freight transported is often subject to strong intermodal competition and there is no evidence of railways extracting monopoly profits.

Only certain lines, namely the main coal lines in New South Wales and Queensland, display distinctly different characteristics to the rest of the regional network.[10] The NSW Minerals Council defined the Hunter Valley coal network as:

> … that part of the NSW network bounded by Ulan, Gunnedah, Stratford (Craven) and Eraring. (sub. DR104, p. 1)

Tonnages of coal carried over the Hunter Valley coal lines exceed 50 million tonnes (Mt) per year (PC 1998a).

In Queensland, the two main coal lines are those centred on the Oaky Creek and North Goonyella regions (around 49 Mt per year) and Gregory and South Blackwater regions (around 24 Mt per year) (PC 1998a).

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9 Regional networks are defined as those lines extending out from capital cities and regional ports to inland areas, excluding the defined interstate network and private railways in the Pilbara.

10 A detailed discussion of Australia's coal industry, including the transport of coal by rail, is presented in PC 1998a.

The transport of coal and minerals in Australia (excluding the Pilbara) is not restricted to those lines identified above. However, the main coal lines are distinguished from the remainder of the regional network by the tonnages of freight that are transported over the lines and, as discussed later in this section, the ability of railways to extract monopoly rents from mining companies.

Trains transporting grains, general freight and non-urban passengers also travel on the main coal lines. Despite this overlap, the main coal lines have different economic characteristics and specific issues not associated with the remainder of the regional networks in New South Wales and Queensland. Policies required to improve the outcomes for users (primarily mining companies) on the main coal lines are therefore identified separately.

### *Interface issues*

Trains commencing on a regional network carrying minerals, grain or general freight often traverse both the interstate and urban networks. There are also interfaces between the main coal lines and the remainder of the regional network. As noted by the NSW Minerals Council:

> In hauling coal from Gunnedah or Ulan to Newcastle, the coal is first hauled on a low volume regional network, then on a high volume regional network, then on track that is used by and influenced by interstate freight and urban passenger traffic. (sub. DR104, p. 1)

### *Rail competition*

With the exception of New South Wales, there is limited evidence of rail competition either for the market or between train operators on regional networks. An example of competition for the market in New South Wales is the contract won by NRC to carry coal to Macquarie Generation's Bayswater and Liddell power stations. Another example of competition for the market (outside New South Wales) was the competitively tendered contract to haul coal from Leigh Creek to Port Augusta won by FreightCorp in November 1998.

A number of participants argued that rail competition between operators was beginning to emerge under the vertical separation model adopted in New South Wales. RAC argued:

> … approximately two-thirds of freight in New South Wales on a gross tonne-kilometre basis has been subject to competition between operators … (trans., p. 642)

A similar view was shared by NRC:

> It is not correct that "There is little or no competition either for the market or between train operators on low volume regional railways". Instances of competition on low-volume lines are very few as the possibility of competition on regional lines is very recent; the NSW Rail Access Corporation has provided successfully for genuine competition, and in NSW there are several examples where real competition has occurred. (sub. DR117, p. 4)

However, any competition between train operators in New South Wales will largely occur on subsidised track. The merits of competition between train operators on subsidised track are discussed in chapter 11.

### *Intermodal competition*

In Victoria, Western Australia (excluding the Pilbara region), South Australia and Tasmania, the majority of freight carried by rail on most regional networks is subject to strong intermodal competition. In terms of grain transport in Victoria, Vicgrain noted that it has:

> ... the option of increasing the road component of its grain movement operations. Vicgrain envisages that this would occur should freight rates increase or should there not be a suitable level of cooperation between the storage and rail sectors. (sub. 24, p. 5)

Westrail argued that the majority of the commodities it transported by rail was subject to competition from road transport, with the exception of bauxite, where road transport was a less feasible alternative (trans., p. 752). Both FreightCorp and Queensland Rail have indicated that they face significant competition from heavy road vehicles in the general freight market (QR 1998; FreightCorp 1998).

However, RAC argued that the transport of a number of commodities by rail on the regional network in New South Wales was not subject to intermodal competition:

> There are some traffics on low volume regional lines, particularly minerals and to a lesser extent grain, that are not subject to significant intermodal competition. (sub. DR102, p. 1)

Similarly, the main coal lines in New South Wales and Queensland face little or no intermodal competition in the transport of coal.

### *Level of viability*

Excluding the main coal lines, the Commission received no evidence of railways extracting monopoly profits from customers on regional networks.

In New South Wales and Queensland, the regional networks can be considered loss making, requiring subsidy payments in excess of $150 million per year (chapter 11). Despite the lack of intermodal competition highlighted by RAC, there is no evidence of railways extracting monopoly profits from customers in New South Wales. An important fact underpinning this position is the high level of competition in the final markets of these commodities. Commodities such as export grain face strong competition from alternative suppliers on international markets. Thus there are no monopoly profits to be earned by grain farmers in final markets to be extracted by the providers of inputs, including transport.

This conclusion is reinforced by the fact that the rail transport of commodities such as grain in New South Wales receives government subsidies. If grain farmers require government subsidies to cover transport costs, it is unlikely that monopoly profits are simultaneously being extracted by the railways.

In Victoria, Western Australia, South Australia and Tasmania there is some evidence to suggest the regional networks can earn a reasonable rate of return. With the exception of Western Australia, new (vertically integrated) private sector railways have begun operation (Freight Victoria, Australia Southern Railroad and Tasrail). These private sector companies operate without government subsidies and would only enter and remain in the market if they earn, or expect to earn, a commercial return.[11] With regards to the viability of rail freight operations in Tasmania, the Australian Transport Network (owners of Tasrail) stated:

> ... since acquiring Tasrail, its revenue has increased by approximately 50 per cent and the company has been returned to profitability. (sub. 25, p. 1)

In Western Australia, Westrail receives no subsidies for freight operations. However, Westrail does require subsidy payments for non-urban rail passenger services (some $13.7 million 1997-98) (Westrail 1998).

The main coal lines in New South Wales and Queensland are the most profitable components of each State's network. The extraction of monopoly rents from the transport of coal by the government-owned railways provides indirect evidence of the profitability of these lines.

[11] In Victoria the State Government provides some limited subsidy payments for the 'Fast Track' service (less than container load freight) (sub. 82).

## Overall appraisal of Australia's rail networks

Australia's railways provide transport services to a diverse range of passenger and freight markets. However, the discussion above has highlighted some distinct characteristics that exist between States with regard to urban and regional networks.

No urban passenger service in Australia is viable. Participants highlighted the problem of congestion between freight and passenger trains on the urban passenger network in Sydney due to its complexity and the intensity of use by passenger trains at peak periods. On the other hand, in Western Australia and South Australia, the urban passenger networks have limited interface with other networks.

Notwithstanding some possible exceptions, regional networks (excluding main coal lines) are characterised by strong intermodal competition, especially from road transport. Where intermodal competition is absent, there is usually competitive pressure in downstream markets limiting the ability of railways to extract monopoly profits.

The regional networks in New South Wales and Queensland are distinguished from the other States by the considerable government subsidies required to ensure their continued viability. While some competition between train operators is emerging in New South Wales, these operators do not cover the full cost of providing track infrastructure.

Yet the New South Wales and Queensland regional networks also contain the identified main coal lines that are distinguished by their profitability. Issues surrounding the extraction of monopoly profits by State Governments from the transport of coal over these lines are discussed in chapters 3, 6 and 12.

The following chapter describes past and present problems facing the industry. The reforms initiated by government are also outlined. The characteristics of rail networks, combined with the current problems facing the industry, provide a basis for examining the various issues concerning the industry including structure, governance and access arrangements, and competitive neutrality.

# 3 Rail reform in Australia

**The Industry Commission's 1991 inquiry identified a number of problems which were impeding the performance of Australia's rail industry. These included monopoly pricing in coal freight, inappropriate government intervention and conflicting objectives, and a lack of competitive neutrality between transport modes.**

**Since 1991, Australian Governments have taken different approaches to reforming the railways. Areas of difference include industry structure, governance arrangements (including the current or intended level of private sector participation) and access arrangements.**

**Some of the problems raised in 1991 have again been identified as concerns in 1999. In addition, new problems have emerged, particularly in arrangements for access to rail infrastructure and inconsistent safety regulation and operating standards.**

The terms of reference for this inquiry direct the Commission to undertake a stocktake of reforms within Australian railways since the Industry Commission's (IC) 1991 inquiry into rail transport. The Commission received a number of submissions from participants providing details of progress made in reforming railways. These included the Australasian Railway Association (ARA), Commonwealth Department of Transport and Regional Services, NSW Government and Queensland Transport.

This chapter describes briefly some of the problems encountered when the IC last reviewed the industry. It also reviews the key reforms initiated since 1991 in the areas of industry structure, governance arrangements, access to rail infrastructure, safety regulation and operating requirements, and heavy road vehicle charging. A full list of key reforms is provided in appendix D.

Investment in railways, while critical to their performance, is not considered a reform in this chapter. Investment is not a reform *per se*, but rather one of the *outcomes* of reform and associated change in the industry. Chapter 2 contains a brief discussion of investment in railways since 1991.

## 3.1 The 1991 inquiry

In May 1990, the IC commenced an inquiry into Australia's railways. The inquiry examined the institutional, regulatory and other arrangements subject to government influence which led to inefficient resource use, and advised on courses of action to reduce or remove such inefficiencies. The IC released its final report, *Rail Transport*, in August 1991.

### Problems and recommendations

Participants to that inquiry identified a wide range of problems with railways in 1991. These included the pricing of rail services (especially the extraction of monopoly rents), service quality, government intervention, investment deficiencies and competitive neutrality between transport modes. These problems are summarised briefly below.

#### *Pricing and monopoly rents*

Coal and mineral producers expressed concern about the monopoly of the State railways in hauling bulk commodities and the excessive freight rates imposed. They also expressed the view that the monopoly rents were being used to cross subsidise other rail services. The NSW Coal Association noted:

> The coal industry in New South Wales has genuinely been concerned for some time regarding the lack of a commercial approach to the setting of coal freight rates. The SRA [State Rail Authority] has generally used an ad-hoc approach, often imposing 'across-the-board' increases on the industry to meet revenue targets, rather than formulating freight rates in accordance with the cost of providing services. The industry is firmly of the view that this has resulted in freight rates being set well above the level of costs incurred and allowed the SRA, in previous years, to offset or subsidise the loss of other sectors. (NSW Coal Association submission to Industry Commission Rail Transport inquiry, sub. 31, p. 4)

In addition, coal producers highlighted difficulties in establishing the existence and extent of overcharging because of the lack of disclosure of railway costs.

### *Service quality*

Participants were critical of the quality of service provided by government-owned railways. In relation to interstate rail freight services, BHP Transport commented that:

> It is the relatively poor level of interstate rail service which is of concern and results in a general preference for the direct, reliable and efficient services provided by road transport. (BHP Transport submission to Industry Commission Rail Transport inquiry, sub. 32, p. 8)

Criticism of service quality was not restricted to freight but applied also to rail passenger services.

### *Government intervention*

The IC argued that many of the problems experienced by rail users were a consequence of government ownership and intervention. In particular, government-owned railways lacked a commercial focus or clearly defined objectives. Governments frequently used railways to promote political outcomes. According to the State Rail Authority of New South Wales (SRA):

> … in the past its general level of efficiency, particularly in passenger and [general] freight areas, has been constrained by government intervention and constraints on its employment and investment policies. (State Rail submission to Industry Commission Rail Transport inquiry, sub. 98, p. 21)

In 1991, a number of regulations were in place that restricted the movement of certain commodities to rail (appendix C). Combined with these regulations, governments retained a monopoly position on the provision of rail services, thereby eliminating any competition within railways. Participants were critical of these arrangements claiming that they resulted in inefficiencies and price distortions.

### *Investment in rail infrastructure*

Participants argued that urgent investment was needed in railways, including rollingstock, track and signalling equipment. The condition of these was seen as an impediment to improving the efficiency of the industry.

The IC recognised that deficiencies in the quality of railway infrastructure were present. However, this did not mean that aggregate investment in railways was insufficient:

> The Commission is aware of tangible evidence of inadequate capital expenditure in parts of railway systems such as signalling equipment so old as to be unreliable and railway track in need of realignment consistent with modern operating capacities. However, given the total capital expenditure in railways appears to have been at a tenable level, the suggestion is that railways may have suffered from a misallocation of capital expenditure between different segments such as passengers and freight, rollingstock and infrastructure.
>
> For the State-owned rail systems, political considerations seem to play the dominant role in determining the magnitude and nature of railway capital expenditure. (IC 1991b, p. 126)

### *Competitive neutrality between transport modes*

A number of participants argued that road users were not paying the full cost of providing road infrastructure. Local councils also highlighted problems regarding the damage heavy road vehicles were causing to local roads, combined with noise and pollution costs incurred by local residents. However, it was also recognised that subsidies were not restricted to road transport. Some participants argued that both road and rail infrastructure were heavily subsidised by government.

### *Industry Commission recommendations*

In response to the problems facing Australia's railways, the IC made 27 recommendations covering areas including governance arrangements, price setting, community service obligations, labour arrangements, traffic regulation, road user charging and open access to railway infrastructure. Some of the key recommendations of relevance to the Productivity Commission's current inquiry are presented in box 3.1.[1]

[1]The Commission has not detailed the progress achieved on all of the former IC's 1991 recommendations. Instead, it has focused on those key recommendations of direct relevance to its current terms of reference (chapter 1).

Box 3.1 **Key recommendations of the Industry Commission's 1991 inquiry**

Some key recommendations of the 1991 inquiry into rail transport included:

- railways be fully commercialised through corporatisation, including incorporation under corporations law;
- if governments require railways to provide community services, the conditions of provision should be set out in contracts, the details of which are made public, and include the pre-defined fees to be paid to railways;
- super-normal profits, whether described as 'royalties' or otherwise, should not be obtained via rail freight rates;
- the introduction of road user charges which reflect more accurately the amount of road use and pavement damage caused by all classes of vehicles;
- the removal of all restrictions on the contracting of tasks so that railways can take every opportunity to attain maximum efficiency;
- railways not be subject to government policy constraints that are more restrictive than those applying to private sector enterprises in managing labour resources;
- State Governments eliminate all regulation of traffics to rail, with the possible exception of dangerous goods; and
- owners of railway tracks (whether they be governments, rail authorities or private owners) be required to allow access by other organisations (whether public or private) to operate on their tracks, subject only to capacity being available and negotiation of a commercial agreement which sets the prices and conditions for access.

*Source:* IC 1991b.

## 3.2 Factors driving reform in the 1990s

Apart from the IC's inquiry into rail transport, related inquiries and research by other organisations and committees (chapter 1), there have been other factors driving change in the 1990s. They include:

- the continued and increasing competition from road transport;
- the continued pressure on State Government budgets in providing goods and services to the community;
- the pressure on railway freight rates from increasing competition in downstream markets, such as Australia's black coal industry; and
- the implementation of the National Competition Policy (NCP).

Since the early 1950s railways have been subject to increasing competition in freight and passenger markets from road, sea and air transport. In the transport of non-bulk and some bulk commodities, railways suffered substantial losses of traffic to road transport (appendix C). Many of the reforms initiated by Australian Governments are in response to rail's decreasing market share in both freight and passenger markets.

State Governments pay considerable subsidies for non-commercial rail services (chapter 10). They face increasing pressure to achieve the twin objectives of improving services to the community while lowering the level of taxation. One way in which both these objectives can be met simultaneously is to improve the efficiency of service delivery.

Railways and their Government owners have benefited greatly from the growth of Australia's mineral sector. Apart from the increase in bulk traffic providing a renewed life for railways in Australia, Governments have used their monopoly position in rail transport to extract rents from mining companies. However, as described in the Commission's report, *The Australian Black Coal Industry,* Australian coal mines now face increased competition from overseas suppliers (PC 1998a). This, in turn, places pressure on Australian coal mines to improve productivity and lower production costs. As a consequence, the ability of Australian coal companies to absorb excessive freight rates has diminished. The coal industry is seeking further efficiency gains from railways to allow it to be more competitive in its new trading environment.

The forces driving change in railways have been given further impetus by the introduction of NCP. The key elements of NCP are summarised in box 3.2. The NCP package incorporated pre-existing intergovernmental agreements on industry-specific reforms in electricity, gas, water and road transport (NCC 1996a). Although the rail industry is subject to the general provisions of NCP, it is not part of the specific Intergovernmental Agreement (IGA) to implement the NCP-related reforms.[2] As noted by the National Competition Council (NCC):

> Without a national rail reform agreement, the business community, in its attempts to obtain improved service quality and lower prices, has had to rely on the general provisions of the CPA [Competition Principles Agreement] and, in particular, the National Access Regime. (NCC 1997a, p. 142)

These factors driving rail reform in Australia provide a context for examining the reforms initiated across jurisdictions as outlined below.

[2] An IGA was signed in 1996 which set out principles for achieving a nationally consistent approach to rail safety.

Box 3.2 **The National Competition Policy package**

In April 1995, the Council of Australian Governments agreed to implement a package of measures to extend competition policies to previously exempt sectors of the economy.

The Commonwealth's *Competition Policy Reform Act 1995:*

- amended the competitive conduct rules (Part IV) of the *Trade Practices Act 1974* (TPA) and extended their coverage to State and local government business enterprises and unincorporated businesses;
- created a new section (Part IIIA) of the TPA establishing a national regime for access to services provided by 'nationally significant' infrastructure facilities;
- amended the Prices Surveillance Act to extend prices oversight to State- and Territory-owned business enterprises; and
- created two new institutions — the Australian Competition and Consumer Commission and the National Competition Council — responsible for overseeing and providing advice on implementation of the policy package.

There were three intergovernmental agreements in the package:

- the *Conduct Code Agreement* sets out the basis for extending the coverage of the TPA.
- the *Competition Principles Agreement* established principles on: structural reform of public monopolies; competitive neutrality between the public and private sectors; prices oversight of government business enterprises; a regime to provide access to essential facilities; a review program for legislation restricting competition; and consultative processes for appointments to the National Competition Council.
- under the *Agreement to Implement the National Competition Policy* and *Related Reforms*, the Commonwealth provided payments to States and Territories which gave effect to the intergovernmental agreements, and met reform commitments in electricity, gas, water and road transport.

*Source:* PC 1996.

## 3.3 Reform initiatives

Railway reforms implemented in Australia since 1991 are described below. They are based on evidence provided by participants and other published sources. Box 3.3 provides a snapshot of some key rail reforms in Australia, while a more detailed list is provided in appendix D. Reforms regarding the deregulation of commodity traffics, the contracting out of activities and provision of non-commercial rail services are discussed in appendix C and chapters 7 and 10, respectively.

Box 3.3 **A snapshot of key rail reforms in the 1990s**

Reforms initiated by the Commonwealth and State Governments during the 1990s have significantly altered the operating and institutional environment in which rail freight and passenger services are provided in Australia. Some of the key reforms are listed below.

**Industry structure:**

- formation of the National Rail Corporation and Australian Rail Track Corporation;
- separation of the interstate long distance passenger and intrastate freight services of Australian National;
- separation of the former State Rail Authority of New South Wales into four new entities: FreightCorp, Rail Access Corporation, Rail Services Australia and a new State Rail Authority; and
- separation of the former Public Transport Corporation of Victoria into V/Line Freight, V/Line Passenger, Bayside and Hillside Trains (and Swanston and Yarra Trams).

**Governance arrangements:**

- commercialisation or corporatisation of almost all government-owned railways;
- privatisation of interstate long distance passenger and intrastate freight services of Australian National (Great Southern Railway, Australia Southern Railroad and Tasrail);
- privatisation of V/Line Freight; and
- franchising of V/Line Passenger and Bayside and Hillside Trains.

**Access to rail infrastructure services:**

- introduction of Part IIIA of the *Trade Practices Act* establishing a national regime for access to services provided by 'nationally significant' infrastructure facilities; and
- introduction of rail access regimes in most jurisdictions.

**Safety regulation and operating procedures and standards:**

- Intergovernmental Agreement, signed in July 1996, to achieve consistent national rail safety regulation based on agreed aims and principles; and
- signing of the Heads of Agreement on Interstate Rail Reform at the National Rail Summit in 1997.

## Industry structure

Most jurisdictions have significantly altered the structure of their railways by horizontally or vertically separating their former integrated rail authorities.[3]

### *The Commonwealth*

In 1991, the Commonwealth Government owned the Australian National Railways Commission, trading as Australian National (AN). AN owned and maintained track in New South Wales, Western Australia, South Australia, Tasmania and the Northern Territory, and provided the following rail services:

- intrastate freight in South Australia and Tasmania;
- interstate freight in the Northern Territory, South Australia, Western Australia and New South Wales; and
- passenger travel on the Indian Pacific, Ghan and Overland trains.

Since 1991, the Commonwealth Government has both horizontally and vertically separated AN.

In 1991-92, the National Rail Corporation (NRC) was formed under the *National Rail Agreement 1991* to operate interstate freight operations in Australia. NRC's shareholders are the Commonwealth, NSW and Victorian Governments. NRC commenced commercial operations in April 1993.

The formation of NRC took considerably longer than originally anticipated. The NSW Government noted a range of internal and external factors which caused these delays (box 3.4).

Specialized Container Transport (SCT) commenced interstate rail freight operations in competition with NRC in June 1995. TNT (now Toll) followed one year later (sub. DR100).

In 1997-98, the Commonwealth Government horizontally separated and privatised AN's intrastate freight operations in Tasmania and South Australia and interstate passenger services (Indian Pacific, Ghan and Overland passenger trains) (see section below on governance arrangements).

[3] Horizontal separation occurs either by product (freight and passenger services) or by geographic area (interstate and regional railways). Vertical separation occurs in railways when track infrastructure and train operations are separated.

AN's mainline interstate track was vertically separated and transferred to the Australian Rail Track Corporation (ARTC). The ARTC commenced operations on 1 July 1998. It has responsibility for management of access and infrastructure maintenance in South Australia as track owner and in Victoria as track manager via a lease agreement. In other jurisdictions its function is restricted to interstate access issues (sub. 74).

Box 3.4 **Formation of the National Rail Corporation**

The National Rail Corporation (NRC) was formed under the *National Rail Corporation Agreement 1991* (the Agreement) together with Commonwealth and State Government legislation. The formation of NRC was to be achieved in two phases — a transition period and an establishment period.

By the end of the five year establishment period (1 February 1998), NRC was to have been equipped with all relevant assets and operate as a stand-alone entity. However, implementation of the Agreement took significantly longer than anticipated. As stated by the NSW Government:

> ... implementation of the *National Rail Agreement* has taken considerably longer than expected ... The main reasons for this appear to be the substantial broadening of the rail reform agenda since the company commenced operations. (sub. DR128, pp.23, 24)

Specific factors identified included:

- the moves towards vertical separation of track and train operations, which was not anticipated at the time of formation of NRC;
- some technical difficulties with the identification and transfer of assets; and
- prolonged consideration by shareholders of their obligations to provide the company with compensation payments and railway assets.

While these issues have now been largely resolved, in the interim NRC has also had to contend with competition from other train operators as well as continued competition from road transport.

*Source:* NSW Government sub. DR128.

### *New South Wales*

The major reform in New South Wales has been the horizontal and vertical separation of the former SRA in July 1996. Previously, all passenger and freight services were provided by the vertically integrated SRA. In July 1996, SRA was separated into the following four agencies:

- Rail Access Corporation (RAC);
- FreightCorp;
- Rail Services Authority (RSA); and

- a new SRA.

RAC is vertically separated from train operations and owns the NSW intrastate and interstate rail network.

FreightCorp undertakes freight train operations in New South Wales. Recently, FreightCorp expanded operations into South Australia, carrying coal from Leigh Creek to Port Augusta and NRC won a contract to haul coal in New South Wales.

RSA provides maintenance services to RAC, FreightCorp, SRA and other business clients. In 1997-98, RSA was corporatised and renamed Rail Services Australia. As part of the restructure of the former SRA, it was initially intended that track maintenance services would be made fully contestable by June 2000. However, the NSW Government placed a moratorium on contestable contracting out of rail track maintenance services until July 1999 (chapter 10). The Government has since partially lifted the moratorium by allowing competition for the provision of maintenance services on the Bondi Junction to Waterfall line in Sydney and the Hunter Valley coal lines (some $65 million in maintenance contracts).

The new SRA provides city and country passenger rail services, and train control to RAC (under contract).

### *Victoria*

In 1991, rail freight and passenger operations in Victoria were provided by the vertically integrated PTC. In 1995-96, the Victorian Government began a process of dismantling the PTC with a view to franchising and privatising different elements of the industry (box 3.5).

In 1995-96 the *Rail Corporations Act 1996* was passed which allowed for the establishment of V/Line Freight and the Victorian Rail Track Access Corporation (VicTrack) as body corporates. V/Line Freight was separated from the PTC in 1996-97 and VicTrack one year later.

VicTrack was initially given responsibility for train control, maintenance and access to Victoria's non-electrified intrastate track (excluding metropolitan tram and train operations). However, part of the privatisation of V/Line Freight involved a 15 year lease over the non-metropolitan intrastate track. As such, VicTrack now only retains landlord responsibilities over this track.

In 1998, the PTC's urban passenger trains and trams, and non-urban rail passenger operations were horizontally separated into five corporatised businesses. They were V/Line Passenger, Bayside and Hillside Trains and Swanston and Yarra Trams.

## Box 3.5 Structural reform in Victoria

In 1995-96 the State Government commenced a program to reform the provision of rail services in Victoria. This involved the horizontal separation of freight, urban and non-urban rail passenger services formerly provided by the Public Transport Corporation. The new rail organisations created were V/Line Freight, V/Line Passenger (non-urban), Bayside Trains and Hillside Trains.

Associated with this restructure, the Government privatised freight operations while passenger services were franchised to the private sector through a process of competitive tendering.

### Freight

The Government privatised V/Line Freight in February 1999. Freight Victoria, a consortium headed by RailAmerica, was the successful bidder, agreeing to pay $163 million for the freight business. Freight Victoria purchased rollingstock and other assets, and entered into a 15 year lease over the non-metropolitan intrastate track (with certain rights of renewal) (sub. 82).

### Passengers

The Government has franchised all passenger services. National Express was the successful bidder to operate Bayside Trains and V/Line Passenger. Melbourne Transport Enterprises was the successful bidder to operate Hillside Trains.

These franchisees have bought rollingstock and have a lease over the track infrastructure. The franchise agreements specify, among other things: passenger service levels; maximum fares at current levels, adjusted for inflation; minimum service levels; and operational performance (including punctuality and reliability, capacity, quality of service and journey times). Contract length, subsidy payments and investment commitments of the franchisees are shown below.

**Contract details for rail passenger franchises**

| *Franchise* | *Contract length* | *Subsidy in 2000-01* | *Subsidy in final year* | *Investment* |
|---|---|---|---|---|
| | Years | $m | $m | $m |
| Bayside Trains | 15 | 83 | (19) | 640 |
| Hillside Trains | 15 | 91 | 25 | 490 |
| V/Line Passenger | 10 | 78 | 46 | 165 |

*Source*: Victorian Department of Treasury and Finance, pers. comm., 23 July 1999.

### *Queensland*

Queensland Rail (QR) remains horizontally and vertically integrated in providing passenger and freight services in Queensland. Reform of QR has focused on improving the financial arrangements between QR and its Government owners, internal restructuring of QR's operations as well as allowing for access to the QR track network.

In 1997-98, the Network Access Group was established in QR to deal with access issues.

### *Western Australia*

Westrail currently remains horizontally and vertically integrated in providing passenger and freight services in Western Australia.

However, as discussed in the next section, the Government is intending to privatise the freight operations of Westrail. If the privatisation occurs as is currently intended, then the freight operations of Westrail will remain vertically integrated but horizontally separated from the provider of urban passenger services.

### *South Australia*

In 1991, the SA Government provided urban passenger services through the State Transport Authority (STA), while intrastate and interstate freight operations were undertaken by AN.

In 1994-95, the STA was restructured into:

- TransAdelaide, which assumed the operating functions of the former STA; and
- Passenger Transport Board, which undertakes the planning, regulatory and purchasing functions for public transport in Adelaide.

Currently, TransAdelaide provides urban rail passenger services under contract to the Passenger Transport Board (there is no tendering for the service).

### *Tasmania*

In 1991 freight services were provided by AN (no rail passenger services were provided). In addition, Emu Bay Railway (owned by Pasminco) transported zinc. In 1997-98, the Commonwealth Government horizontally separated the freight services provided by AN as part of the privatisation of Tasrail (see below).

## Governance arrangements

Since 1991, a number of reforms introduced by governments have focused on making railways more commercially focused. In some instances railways have been privatised or the provision of the rail services required by government has been franchised to the private sector. For railways that remain in government ownership, commercialisation or corporatisation models have been adopted aimed at replicating many of the commercial incentives which apply to private firms.

The Commonwealth Government sold AN's intrastate freight and interstate passenger services to three separate operators in 1997-98. Australia Southern Railroad and Australian Transport Network (Tasrail) purchased the intrastate freight operations in South Australia and Tasmania respectively. Great Southern Railways now provides long distance passenger services linking Perth, Adelaide, Alice Springs, Sydney and Melbourne.

The NRC and ARTC were corporatised on establishment and incorporated under the Corporations Law (table 3.1). The Commonwealth Government has also announced its intention to sell its share of NRC.

Table 3.1 **Governance arrangements of government-owned railways**

| *Railway* | *Statutory Authority* | *Commercialised* | *Corporatised* | *Incorporated under Corporations Law* |
|---|---|---|---|---|
| National Rail Corporation | | | ✓ | ✓ |
| Australian Rail Track Corp. | | | ✓ | ✓ |
| State Rail Authority (NSW) | ✓ | | | |
| FreightCorp (NSW) | | | ✓ | |
| Rail Access Corp. (NSW) | | | ✓ | |
| Queensland Rail (Qld) | | | ✓ | |
| Westrail (WA) | | ✓ | | |
| TransAdelaide (SA) | | | ✓ | |

In New South Wales the Government has corporatised FreightCorp and RAC. However, the Government did not corporatise SRA which remains a statutory authority with its objectives specified in the *Transport Administration Amendment (Rail Corporatisation and Restructuring) Act 1996.*

The Victorian Government has privatised its intrastate freight operations and is the first Australian Government to franchise the provision of passenger services (box 3.5).

The Queensland Government corporatised QR in 1995-96.

Westrail was not corporatised. Instead, the WA Government decided upon a commercialisation program that included many of the principles of corporatisation. However, the Government has announced its intention to privatise the freight operations of Westrail as a vertically integrated entity. The proposed legislation allowing for the privatisation of the freight operations of Westrail was being debated in the Western Australian Parliament in mid-1999. The Government is yet to announce a decision regarding passenger services (sub. 60).

## Access to rail infrastructure services

In April 1995 the Commonwealth, State and Territory Governments agreed to establish a national competition policy, and to work cooperatively on competition issues within their jurisdictions. As part of these reforms the *Competition Policy Reform Act 1995* introduced Part IIIA into the *Trade Practices Act 1974* creating the National Access Regime (box 3.2 and appendix F). This established an overarching national regime through which businesses can seek access to nationally significant infrastructure services that are not covered by another regime (such as state-based rail access regimes).

Since then there have been significant changes in the institutional arrangements with regard to access to a range of important railway infrastructure services.

Four applications from governments (NSW, Queensland, South Australia/Northern Territory and WA) have been made to the NCC to consider the effectiveness of their regimes and recommend it be 'certified' as effective under the national regime (appendix F). The NSW, SA/NT and WA applications are still under consideration. Queensland withdrew its application in February 1999 and subsequently applied to the Queensland Competition Authority to have it deemed effective.

In several instances train operators and track owners have reached commercially negotiated agreements, without recourse to formal mechanisms. According to the Tasmanian Government the privately-owned, vertically integrated Tasrail and a number of other operators have reached commercially negotiated access agreements even though no formal access arrangements exist in Tasmania (sub. 81, p. 2).

Other operators have negotiated access agreements under state-based regimes. In New South Wales, Austrac is providing agricultural freight services in the Riverina region and NRC is providing coal freight services in the Hunter Valley. New private operators (SCT, Toll Rail and Patrick) are providing services on the interstate network.

In some cases, potential operators have been unable to gain access under suitable terms and conditions and have consequently sought access through the declaration provisions of the National Access Regime (chapter 7).

The Australian Competition and Consumer Commission (ACCC) has not received any undertakings for rail. However, the ARTC is developing an industry code to take to the ACCC covering access to that part of the interstate network it owns (trans., p. 570).

## Safety regulation and operating procedures and standards

Since the IC's 1991 inquiry, the Commonwealth, State and Northern Territory Governments, and industry have undertaken several joint initiatives to improve rail safety regulations and operating requirements (appendices D and G and chapter 9).

The first major step occurred in 1993 when the Australian Transport Council (ATC), comprising Commonwealth, State and Territory Ministers, endorsed a report, *A National Approach to Rail Safety Regulation* (ATC 1993). The report concluded that consistent rail safety regulation was required, particularly for interstate operations.

An IGA was signed in July 1996 by Commonwealth, State and Northern Territory Ministers setting out guidelines for the establishment of a safety accreditation system for interstate operations and stating that all parties would make legislative provision for accreditation and mutual recognition.

The next significant initiative took place in September 1997, when Commonwealth and State Ministers signed the Heads of Agreement on Interstate Rail Reform at a National Rail Summit. Among other things, the parties agreed that there was an urgent need to reform interstate rail.

By the end of 1997 the issues had been prioritised and the principles for reform agreed on. The Standing Committee on Transport (SCOT), as the main advisory body to the ATC, established a Rail Group to facilitate rail reform and advance uniformity of regulations and operating procedures and standards. The Maunsell report (Maunsell 1998) provided a detailed assessment of the safety and operational issues that needed to be addressed and implementation options.

The SCOT Rail Group established a number of Working Groups to address the priority tasks for action identified in the Maunsell report. The Rail Safety Committee of Australia (RSCA) was formed in 1998 specifically to address safety

issues and an Industry Reference Group (IRG) was established to develop nationally consistent standards and operational requirements.

In April 1999, the ATC agreed to SCOT establishing an independent review of safety arrangements and the establishment of a national non-statutory body to facilitate and coordinate implementation of uniform operational requirements (ATC 1999).

### Relevant reform in the road industry

An important element in rail's ability to compete for business with road transport is the level of heavy road vehicle charges (chapter 10). Since 1991, road charges for heavy vehicles[4] has been addressed primarily through the activities of the National Road Transport Commission (NRTC).

A key objective of the NRTC is to introduce nationally uniform or consistent road transport policies, laws and standards. Reforms implemented include a national registration scheme for all heavy vehicles, uniform technical and operating standards, and nationally consistent road charges for heavy vehicles.

Between July 1995 and October 1996, Commonwealth, State and Territory Governments introduced national heavy vehicle charges based on the First Charges Determination prepared by the NRTC in 1992. In 1998, the NRTC proposed a revised set of charges for heavy road vehicles.

## 3.4 Problems identified in 1999

Although the rail industry and governments have undertaken a range of reform initiatives aimed at improving the efficiency of railways, a number of problems identified in 1991 still remain. In addition, new problems have emerged.

### Problems remaining from 1991

Several problems identified in 1991 have been raised by participants to this current inquiry. In particular:

- the need to improve the commercial focus of government-owned railways further, removing remaining impediments to achieving this objective;
- inadequate investment in rail infrastructure;

[4] Road vehicles heavier than 4.5 tonnes.

- the lack of competitive neutrality between train operators and between transport modes, particularly road and rail; and
- whether railways still extract monopoly rents from coal companies through coal freight rates.

### *Commercial focus and government involvement*

For government-owned railways to fully realise their potential in Australia's transport system they need to have an appropriate commercial focus. This requires that railways:

- pursue only purely commercial objectives (including the commercial provision of services to governments); and
- be responsive to market opportunities and requirements.

To achieve a commercial focus, it is important that railways have:

- the flexibility to make timely decisions (investment and operational);
- the ability to form strategic alliances, mergers or joint ventures;
- access to capital; and
- no undue restrictions on input choice.

Underpinning this approach, railway management should be subject to performance-based systems of rewards and sanctions similar to those prevailing in the private sector.

The Commission received considerable evidence indicating that government-owned railways have not achieved an appropriate level of commercial focus. This situation was largely seen as a consequence of the objectives and restrictions placed upon railways by governments.

Participants indicated that governments did not set purely commercial objectives for their rail authorities. As argued by Australian Transport Network:

> Governments give more weight to non-economic factors, they are risk adverse owners limiting the business' growth potential, and they lack in-depth knowledge of the business. (sub. 25, p. 2)

Some argued that government-owned railways could be more responsive to market opportunities and customer needs. Great Northern Rail Services stated:

> When GNR is approached by existing rail clients looking to change providers, it is often not the cost that is the compelling reason. The reasons put forward are:
>
> - attitude;
> - lack of flexibility; [and]
> - lack of concern for client needs. (sub. 46, p. 6)

With regards to interstate freight operations, the CRT Group argued:

> ... NRC adopted an autocratic attitude towards customers in terms of what they would carry, freight rates and attitudes to the other rail systems. In short they were not customer service orientated. (sub. 20, p. 4)

The need for stronger commercial focus was summarised by the Department of Agriculture, Fisheries and Forestry:

> The rail industry needs to put more focus and energy into identifying new freight opportunities, meeting market and customer needs, and developing themselves as part of the total logistics chain. (sub. 84, p. 3)

The Commission also received evidence that government-owned railways are unable to achieve a stronger commercial focus due to the restrictions placed on them by governments. NRC raised issues relating to flexibility in decision making and the ability to form strategic alliances, mergers or joint ventures:

> Under public ownership all of those sort of changes in the corporate boundaries and structures are extremely difficult. If, for example, one — as a company like ours — were to attempt to purchase a freight forwarder or enter into some tight alliance with a freight forwarder, that would require shareholder approval and that shareholder approval could take months to get. In the meantime, the moves that we wanted to take would be all over town and they would be effectively blocked by all those people whose interests were adversely affected by it. (trans., p. 1002)

The Victorian Government raised problems of access to capital:

> Across Australia, potential rail investors face an industry which is characterised by the problems highlighted in the draft report, including:
>
> - inadequate investment where it is needed (that is, it should be directed by market forces and not driven by supply), and
> - lack of commercial discipline. (sub. 118, p. 4)

The problems associated with government ownership and involvement were summarised by the NSW Minerals Council:

> The reality is that Governments do interfere with the operation of Government-owned railways, often to the detriment of their economic and operational efficiency … (sub. 39, p. 29)

In addition to the issues surrounding government ownership, NRC (sub. 117) also highlighted problems regarding complex and inconsistent regulatory regimes, a lack of competitive neutrality (especially between road and rail) and limited competition in some markets served by government-owned railways as further impediments to a stronger commercial focus.

The need to improve the governance arrangements between governments and their commercial entities has been highlighted in various reports and inquiries. The IC's (1994b) report, *Urban Transport*, recommended that moves to corporatise government rail authorities be continued and extended. Chapter 7 discusses further government and private sector participation in railways.

### *Investment in rail infrastructure*

Many participants argued that the rail industry cannot achieve its full output and employment potential due to a lack of investment in the industry. ARA stated:

> Progress in rail reform has been severely hampered by inadequate infrastructure investment. (sub. 51, p. 13)

And NRC:

> The poor quality of infrastructure used for interstate rail operations increases the cost of rail operations and affects service quality. (sub. 53, p. 12)

Investment in transport infrastructure has also been examined in a number of other reports since 1991. In 1994, the National Transport Planning Taskforce found, among other things, insufficient evidence to support a case for a substantial increase in the current overall level of transport infrastructure spending. However, the Taskforce did find that infrastructure investment decision-making and funding was highly segmented by mode and by level of administration and was not considered on a nationally consistent basis (NTPT 1994).

The House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform undertook an inquiry into the role of rail in the national transport framework in 1998. Its report, *Tracking Australia: An Inquiry into the Role of Rail in the National Transport Network,* recommended that the Commonwealth Government invest $750 million to address the worst deficiencies

on the national track within the next three years and spend a further $2 billion over ten years from 2001 (HORSCCTMR 1998b).

A Rail Projects Taskforce was established in August 1998 to evaluate how governments could better facilitate viable major rail investment proposals developed by the private sector. The report from the Taskforce, *Revitalising Rail: The Private Sector Solution*, recommended, among other things, that the Commonwealth Government accelerate the existing planned capital expenditure of $250 million and spend an additional $470 million on the national track by June 2002. However, the Taskforce also recommended that this funding should be conditional on State Governments achieving identified reform measures (RPT 1999).

Chapters 7 and 10 discuss investment issues in railways.

### *Competitive neutrality*

A number of participants considered that government-owned railways do not compete for business on a competitively neutral basis with private operators. In addition, debate and complaints by both rail and road operators regarding competitive neutrality between them indicates that this is still an issue.

Many submissions from the rail industry argued that heavy freight vehicles are not paying the full cost of providing road infrastructure. Conversely, other participants argued that rail is heavily subsidised compared to the road industry.

Chapter 10 discusses the main reforms needed to promote competitive neutrality between train operators and between transport modes.

### *Monopoly rents*

The NSW and Queensland Governments have begun phasing out identified monopoly rents on coal freight charges. However, mining companies still appear unconvinced that governments have (or will have by the end of the planned removal period) removed the entire monopoly rent component on coal freight charges. Rio Tinto noted:

> While reductions or potential reductions in rail charges are significant, although offset to a degree by royalty rate increases at least in Queensland, there is concern that the new charges still contain a monopoly rent component. This concern has been aggravated by the manner in which the methodology for calculating the charges has been introduced. (sub. 58, pp. 6-7)

And NSW Minerals Council commented:

> There has been a reduction in the explicit monopoly rent paid for access for coal haulage as it is phased out in four equal steps (in $/tonne terms) to zero on 1 July 2000. There is no indication that all monopoly rent is being phased out, as the calculation of monopoly rent was not transparent. (sub. 39, p. 25)

The issue of monopoly rents on coal freight was addressed in the Commission's (1998a) report, *The Australian Black Coal Industry*. The Commission found that while the phased removal of identified monopoly rents had improved the efficiency of rail pricing and encouraged improved performance by railways, the pace of change had been slow. In addition, the Commission found that the setting of freight rates for coal by government enterprises in New South Wales and Queensland was not transparent. A set of principles and practices need to be developed in each State which generate efficient prices and provide the coal industry with confidence in the fairness of prices (PC 1998a).

In investigating access pricing for the Hunter Valley coal network, the Independent Pricing and Regulatory Tribunal has recommended the asset valuation methodology be changed and that the pre-tax real return on these assets be reduced to 8 per cent (1999c).

Chapter 8 discusses the pricing of rail services further.

## Problems emerging since 1991

In addition to the problems raised in 1991, new problems have arisen with regard to access, and safety regulation and operating requirements.

### *Access to rail infrastructure*

Train operators and mining companies are critical of current access arrangements being implemented by governments. Problems identified include a lack of transparency, complexity and inappropriate implementation. The criticism of access arrangements extends to both intrastate and interstate networks.

With regards to the interstate network and operations of the ARTC, SCT commented that:

> The original concept of the ARTC appeared to be a vast improvement on what was in place at the time but in reality what we now have is nothing more than a token gesture of reform in this area. (sub. 37, p. 1)

The NSW Minerals Council was highly critical of the development of the NSW rail access regime:[5]

> The Regime was developed with no public consultation whatsoever. The Regime does not comply with the Competition Principles Agreement. (sub. 39, p. 7)

A similar view was also presented by the Queensland Mining Council in the course of the black coal inquiry.

The need for governments to introduce seamless and effective access to rail infrastructure was reported in the Commission's *Stocktake in Progress in Microeconomic Reform* (PC 1996).

Chapter 8 considers the role of access in promoting efficiency improvements within Australia's railways.

### *Safety regulation and operating procedures and standards*

The establishment of the NRC and entry of private operators has highlighted the fact that each jurisdiction had developed (historically) its own safety regulations and operating procedures and standards. These inconsistencies can be an impediment to efficient interstate rail operations and to entering rail markets in different jurisdictions. While progress has been made in improving the situation, many in the industry have indicated that more needs to be done.

Chapter 9 and appendix G discuss the processes currently being undertaken to address the remaining problems and suggest further reform measures.

## Overall assessment of reform to date

A number of important reform initiatives have transformed the structure and operation of railways since 1991. There is greater participation by the private sector through the privatisation of some government-owned railways and the entry of new private operators. Both government and non-government train operators now specialise in the delivery of rail services in particular freight and passenger markets. In some instances, particularly on the East-West corridor, private and government operators directly compete with each other.

[5] The NSW Government (sub. DR128) strongly refuted the claims by the NSW Minerals Council arguing that the regime, or an aspect of it, was subject to extensive public consultation on seven occasions.

In response to these reforms, participants acknowledged that prices have fallen and the quality of services improved.

However, some reforms have taken several years to be implemented fully and do not appear to have been as effective as initially envisaged. As a consequence, many of the problems raised in 1991 have yet to be fully resolved, while new issues have arisen.

The NSW Government (sub. DR128) noted a range of transitional issues, relating in particular to the establishment of access arrangements, harmonisation of safety regulation, the formation of the NRC and the NSW structural reform program. These slowed the process both in New South Wales and nationally.

The reasons for the apparent lack of progress are diverse and in part reflect Australia's complex system of government. Commonwealth, State, Territory and Local Governments all influence the development and operation of railways. In railways, perhaps the greatest influence continues to be exercised by State Governments through their ownership of railways and policy responsibilities.

***Reforms in the 1990s have transformed the structure and operations of Australia's railways but progress in some areas has been slow.***

The following chapter examines the performance of the Australian rail industry in the 1990s and in comparison with railways in other countries. This information provides a context for evaluating the effectiveness of the changes since 1991 and considering further reforms that may be implemented in future.

# 4 Performance of rail

**The productivity of Australia's government-owned railways has improved significantly during the 1990s. The gap between Australian railways and those of best practice countries is narrowing, but productivity remains below that achieved in these countries. Some of the gap is due to factors which inherently disadvantage Australia, such as scale of operation, but a substantial proportion is also due to inefficiency.**

**Australian freight customers have benefited significantly from improved productivity through reductions in freight rates. On the other hand, moves to greater cost recovery mean that rail passengers have not, on average, experienced lower prices. While employment in Australian railways has declined, remaining workers have benefited through increased wages and salaries. Shareholders have experienced highly variable and often negative returns.**

The inquiry's terms of reference require the Commission to undertake a stocktake of progress in rail reform and to report on international best practice in rail.[1] Chapter 3 reviews some of the key reforms implemented across jurisdictions since 1991. This chapter contains an assessment of performance of Australian railways and compares overall rail system performance with that of other countries. The Commission's approach to undertaking this performance assessment is outlined (section 4.1), followed by a summary of the rail productivity results (section 4.2) and performance outcomes for rail stakeholders (section 4.3). The performance of Australia's railways is summarised in section 4.4.

The assessment of performance presented in this chapter is supported by a detailed analysis of performance, contained in *An Assessment of the Performance of Australian Railways* (PC forthcoming).

## 4.1 The Commission's approach

An important objective of reform is to improve the performance of the rail industry by creating an operating environment which encourages efficiency and the adoption

[1] Although referred to in the inquiry's terms of reference, intermodal comparisons were not included in the assessment of rail performance. Significant differences between the road and rail sectors make 'like with like' comparisons difficult, if not impossible, particularly in the area of road and rail infrastructure charges. Intermodal issues are dealt with in chapter 10.

of best practice. The purpose of this chapter is to assess the performance of the rail industry in Australia since the Industry Commission (IC) released its report on rail transport in 1991 (IC 1991b).

## Limitations of performance assessment

There are limitations on the extent to which assessments of rail performance can be used to make judgements about the effect of rail reform and the achievement of best practice.

In particular, the attribution of changes in performance to specific rail reforms is difficult. There are many factors, in addition to rail reform, affecting the performance of railways simultaneously. These include the demand for rail services, mix of freight traffic and passenger services, technology, managerial decision making, input markets and competition from other transport modes. This issue is particularly important when the number of railways in a sample is small. In many cases, the attribution of specific reforms to changes in performance is speculative.

The degree of comparability between railways can affect how differences in performance are interpreted, particularly in international comparisons. Railways operating in different environments often face different constraints affecting the level of efficiency achievable. Broader policy parameters such as labour market regulation or competition policy, the price of inputs, population size and density, a country's resource base and geography, and the technical characteristics of infrastructure and production, can all affect performance. International comparisons are also confounded by exchange rate changes over time.

Further, the availability and quality of data limit the number of comparators used and the depth of analysis conducted. Rail data are not uniformly collected among railways in Australia nor among railways overseas. There exists a degree of uniformity, but often only at a highly aggregated level. Data on the use of many intermediate inputs to production are not widely reported or disaggregated into urban passenger, non-urban passenger and freight services. Even where such data are available, confidentiality concerns may prevent railways making them public.

Performance comparisons need to be treated as broadly indicative rather than precise indicators of relative performance. The apparent links between performance and reform should be interpreted cautiously.

## The framework adopted in this report

The approach taken to performance assessment in this report:

- focuses on rail system performance rather than the performance of individual railways; and
- defines performance to include rail system productivity and performance outcomes for rail stakeholders.

Several studies of performance advocate a broad approach to performance assessment, such as that adopted here (Freebairn (1986), Salerian (1993) and Waters (1998)).[2] McKillop expressed a concern that 'the focus of attention for performance assessment tends to be on measuring efficiency ... of individual operators' rather than measuring the performance of rail systems using a broad set of performance indicators (sub. 29, p. 1).

From a policy perspective, analysing rail system performance is more informative about the impact of reform in Australia than concentrating on individual rail organisations. A rail system combines both above and below track operations to provide rail services. It may also comprise several railways, depending on the structure and coverage of the system. The aggregation of performance across a number of railways within a system nets out the commercial successes and failures of individual operators, revealing the underlying performance of the system. It is the performance of the system which government policy seeks to influence.

Until recently, all state-based rail systems within Australia consisted of one rail entity. For this reason, state-based rail systems are referred to in this chapter as 'railways'. The term 'national rail system' is used to refer to railways aggregated at the country level.

Analysis of both productivity and performance outcomes provides a more comprehensive picture of the impacts of reform, than productivity analysis alone. Productivity indicators have been used to measure the efficiency of rail systems. Price and quality indicators have been used to reflect changes in performance outcomes for rail customers, employees and shareholders.

The performance of Australian railways is measured and compared:

- over time;
- relative to each other; and

[2] Several other studies have been conducted on railway performance both in Australia and overseas, for example SCNPMGTE (1998), BIE (1995b), Hensher et al. (1995), Oum and Yu (1995), IC (1994b), IC (1991b) and BTCE (1991).

- with rail systems in other countries.

The assessment is conducted at the railway and national system (or country) level for the three major types of rail service: freight, urban passenger and non-urban passenger service. However, due to a lack of data, a complete analysis of productivity and performance outcomes was not possible for all services at both the railway and national system level. The productivity analysis covers the freight services of railways in Australia and North America, and freight, urban and non-urban passenger services combined at the national system level for 22 countries. The analysis of performance outcomes covers freight, urban and non-urban passenger services separately, for railways in Australia and at the national system level for 22 countries.

The period of assessment is 1989-90 to 1997-98 for Australia's government-owned railways and 1990 up to 1998 for national rail systems in other countries. This period follows on from the 1991 review of performance undertaken by the IC (IC 1991b). There are a number of weaknesses in this approach.

First, owing to data limitations the assessment of performance does not include changes to the structure and ownership of government-owned railways after 1997-98. Some participants expressed concern in regard to this limitation. FreightCorp stated:

> The Productivity Commission has developed its analysis and thinking based on the rail systems in place in 1991. At this time the country was dominated by the State-based vertically integrated railway systems ... by 1998 the nature of the railway industry had significantly altered. (sub. DR123, p. 7)

Second, the effect of any changes occurring within the period may not be fully captured, given the expected time lags between policy changes and performance. Finally, the assessment does not include private sector involvement in the rail industry for any part of the period.

In order to capture these effects, ongoing analysis would be required as appropriate data become available.

## Performance data and comparators

Data were collected from various sources to form a single database. Data sources include *The Performance of Government Trading Enterprises 1991-92 to 1996-97* (SCNPMGTE 1998), various International Union of Railways (UIC) publications, the Association of American Railroads and Statistics Canada, information sought directly from government-owned Australian railways and railways overseas, and railway annual reports. Although not all data requested from railways were available

in a consistent and ideally disaggregated form, a substantial amount of data were finally made available and used in the assessment.

All government-owned Australian railways provided data. For most of the period of analysis, Australian railways were made up of a single rail organisation managing both above and below track operations to provide a combination of freight, urban passenger and non-urban passenger services in their jurisdiction. However, changes in structure and ownership over the period have resulted in three main exceptions.[3]

- In 1993 the National Rail Corporation (NRC) commenced a progressive take-up of interstate freight business from Australian National (AN), State Rail Authority of New South Wales (SRA), the Public Transport Corporation (PTC), Queensland Rail (QR) and Westrail. This transfer of freight business to NRC caused a discontinuity in the data series of these railways between 1994-95 and 1995-96.[4]
- In 1996-97 SRA was separated into four rail organisations, the Rail Access Corporation, FreightCorp, Rail Services Authority and a new SRA. Data for SRA include the operations of these four organisations in 1996-97 and 1997-98.
- In 1996-97 V/Line Freight was separated from the PTC, followed by the Victorian Rail Track Access Corporation (VicTrack) in 1997-98. Data for PTC include the operations of these organisations in 1996-97 and 1997-98.

International data were available for major rail systems in the United States, Canada, Japan, South Africa, New Zealand, and 16 European countries (appendix E). Some of these rail systems are made up of more than one rail organisation. Some organisations provide a single rail service (that is, only freight services or only passenger services) and some manage a single rail function (that is, a below track or above track operation). The national rail systems in this study represent the major freight and passenger operations in each country. Data were not available for Class II freight railways in the United States and only available at the system level for Canada (aggregated for all Canadian Class II railways).

Table 4.1 provides a list of rail systems included in the assessment of performance.

[3] Chapter 3 contains a detailed description of the structure of government-owned railways in Australia.

[4] Australian National and the National Rail Corporation (AN-NRC) have been assessed jointly in this study as the main interstate provider of rail services over the period.

Table 4.1 **Rail systems included in performance assessment** [a]

| *Rail systems* | *No. of rail organisations* [b] |
|---|---|
| ***Australian railways*** | |
| Australian National Railways Commission & National Rail Corporation (AN–NRC) [c] | 1 |
| Queensland Rail (QR) | 1 |
| TransAdelaide (TA) | 1 |
| Westrail (WR) | 1 |
| Victorian Public Transport Corporation (PTC) [d] | 3 |
| State Rail Authority of New South Wales (SRA) [e] | 4 |
| **International rail systems comprised of one rail organisation** | |
| Austria (Osterreichische Bundesbahnen) | 1 |
| Belgium (Societe Nationale des Chemins de fer Belges) | 1 |
| Canada (VIA Rail Canada Inc) | 1 |
| Denmark (Danske Statsbaner) | 1 |
| Finland (VR-Yhtyma Oy) | 1 |
| Germany (Deutsche Bahn AG) | 1 |
| Ireland (Iarnrod Eireann) | 1 |
| Italy (Ferrovie dello Stato) | 1 |
| Luxembourg (Societe Nationale des Chemins de fer Luxembourgeois) | 1 |
| Netherlands (NV Nederlandse Spoorwegen) | 1 |
| New Zealand (Tranz Rail) | 1 |
| Norway (Norges Statsbaner BA) | 1 |
| Spain (Red Nacional de los Ferrocarriles Espanoles) | 1 |
| United States (Amtrak) | 1 |
| **International rail systems comprised of more than one rail organisation** | |
| France (Societe Nationale des Chemins de fer Francais & Reseau Ferre de France) | 2 |
| Great Britain (British Rail & Railtrack) | 2 |
| Portugal (Rede Ferroviaria Nacional, E.P. & Caminhos de Ferro Portugueses, E.P.) | 2 |
| South Africa (Spoornet & South African Rail Commuter Corporation) | 2 |
| Sweden (Statens Jarnvagar & Banverket) | 2 |
| Switzerland (BLS Lotschbergbahn AG & Schweizerische Bundesbahnen) | 2 |
| Japan (JR Passenger Services & JR Freight) | 7 |
| United States (Class I freight) | 9 |
| Canada (Class I, II, III freight) | 36 |

[a] The Australian railways included were all government-owned during the period of analysis; private railways were not included. International rail systems represent the major freight and passenger railways in each country. [b] The number of rail organisations (below and above track) which comprised the system at the end of the sample period: 1997-98 for Australia and 1997 for international systems (except for Britain and Denmark for which data were only available until 1994 and 1995 respectively, and New Zealand and South Africa where data were available until 1998). [c] AN provided Tasmania and South Australia with intrastate freight rail services until November 1997. The NRC was established in 1991 to take over interstate freight business from AN, SRA, PTC, QR and Westrail. By 1997-98 all remaining AN operations had been privatised. Chapter 3 contains a detailed description of the structure of government-owned rail systems in Australia. [d] In 1996-97 V/Line Freight was separated from the PTC followed by VicTrack the following year. [e] Until July 1997, all rail passenger and freight services were provided by the vertically integrated SRA, after which time SRA was separated into the Rail Access Corporation, FreightCorp, Rail Services Authority and a new SRA.

*Source:* PC forthcoming.

## Measuring productivity

Productivity refers to the relationship between inputs and outputs. Productivity growth implies an increase in the ratio of outputs relative to inputs. This assessment adopts a total factor productivity (TFP) approach to measuring rail system productivity.[5]

There are any number of potential partial measures of productivity which compare a single input with a single output. They can be used to shed light on the possible sources of total productivity changes, revealing the extent to which the use of particular inputs might be driving productivity changes. However, partial productivity measures can be misleading about overall performance and a more comprehensive measure of productivity has been used for this analysis.

Data Envelopment Analysis (DEA) measures TFP by comparing the ratio of aggregate outputs with aggregated inputs. It enables each railway to be ranked in terms of its productivity performance relative to the best performing railway(s). The change in productivity levels over time can also be measured using this technique.

Differences in productivity are driven by many factors apart from differences in technical efficiency. Other factors generally relate to differing characteristics of individual rail systems. Of particular significance are differences in the scale of rail operations, both within Australia and overseas. Measurement inconsistencies may also influence 'measured' productivity, particularly if the quality or capacity of inputs used by individual rail systems varies. Box 4.1 provides a brief description of how factors affecting productivity, unrelated to technical efficiency, have been controlled for in this study.

The productivity analysis has been conducted at two levels:

- comparing government-owned railways in Australia with each other and with selected railways in the United States and Canada, in providing freight services; and
- comparing national rail systems — that is, Australia's rail system with rail systems in the United States, Canada, Japan, New Zealand, South Africa and 16 European countries, in providing freight and passenger services combined.[6]

[5] Productivity, as measured by TFP, is a measure of gross or overall productivity, capturing all sources of productivity.

[6] 'Passenger services' includes all major urban and non-urban passenger services provided in these countries.

## Box 4.1 Explaining differences in productivity

DEA is used to measure the productivity of railways. Productivity captures all sources of productivity, including those arising from the scale of a rail operation, factors related to various other railway characteristics and the technical efficiency of a railway. DEA also captures any measurement inconsistencies which may occur, particularly if the quality or capacity of inputs used by railways varies.

### Technical efficiency

Technical efficiency refers to the ability of railway management to produce outputs with a given set of inputs. In practical terms technical efficiency is calculated by accounting, where possible, for all factors affecting productivity. To the extent that all factors are not accounted for, technical efficiency may be biased.

### The scale of rail operations

'Scale' refers to the size of a railway's output and is a factor which is largely out of the control of railway management. Rail operations of a larger scale may have high productivity because of scale economies. It may not be technically possible for smaller scale operations to attain the same levels of productivity as larger railways. DEA can be used to determine the contribution of scale and technical efficiency to productivity. Using DEA, productivity is assumed to be a product of scale efficiency and technical efficiency only.

### Other railway characteristics

Traffic density, average length of haul and locomotive load are three factors which may also contribute to differences in productivity. Greater traffic density indicates that a railway can transport a greater volume of output on a given length of track. Longer haul length indicates that a railway can transport a greater volume of output per train operation. A greater locomotive load indicates that a railway can transport a greater load of output per locomotive. These factors, like scale, are also sources of economies in the production of rail services and are to a large extent out of the control of railway management. Statistical analysis is used to estimate the contribution of these factors to productivity.

### Locomotive power differences

Railways which use different inputs — such as locomotives of different power levels — may be advantaged or disadvantaged in terms of their measured productivity. The power of individual locomotives varies across railways, particularly between Australian and US railways (which tend to adopt higher powered locomotives earlier than government-owned railways in Australia). An adjustment for differences in locomotive power was made to the input data for Australian, US and Canadian railways, for the purpose of freight productivity comparisons.

*Source:* PC forthcoming.

Several sets of productivity results were generated using a number of different models (box 4.2). Overall, the results indicate that relative productivity levels tend to vary according to the model used. Productivity growth rates are more robust, varying less between the different models.

Box 4.2 **Models used in the productivity analysis**

Five models were used to compare the productivity of Australian and North American railways in providing freight services. Two models were used to compare the productivity of Australia's and 21 other countries' national rail systems in providing freight and passenger services combined:

- model A compares the productivity of Australian, US and Canadian railways in providing freight services, using DEA;
- model B identifies the contribution of scale to the productivity levels of Australian, US and Canadian railways in providing freight services, using DEA (by accounting for differences in output size in model A);
- model C estimates the contribution of other railway characteristics to the productivity levels of Australian, US and Canadian railways in providing freight services, using statistical analysis (by accounting for differences in traffic density, haul length and locomotive load in model A);
- model D standardises model A for locomotive power differences and then compares the productivity of Australian, US and Canadian railways in providing freight services, using DEA;
- model E standardises model B for locomotive power differences and then compares the scale adjusted productivity of Australian, US and Canadian railways in providing freight services, using DEA;
- model F compares the productivity of Australia's and 21 other countries' national systems in providing freight and passenger services combined, using DEA; and
- model G identifies the contribution of scale to the productivity levels of Australia's and 21 other countries' national systems in providing freight and passenger services combined, using DEA.

*Source:* PC forthcoming.

## 4.2 Productivity performance since 1990

### Railway comparisons for freight services

The productivity of government-owned Australian railways in providing freight services is compared with that of a sample of North American railways. Table 4.2 shows levels of productivity, productivity adjusted for scale, productivity adjusted

for differences in operating environments and productivity adjusted for locomotive power differences. Table 4.3 shows the corresponding growth rates for each set of productivity levels, from 1989-90 to 1997-98, for Australian railways and from 1990 to 1997 for North American railways.

### *Productivity levels*

Burlington Northern and Santa Fe Railway Company (BNSF) and Canadian National (CN) achieved best practice productivity levels. North American railways had an average productivity level of 84 per cent of best practice, ranging from best practice itself (achieved by BNSF and CN) to 48 per cent of best practice (achieved by Grand Trunk Western Inc (GTW)). Australian railways had an average productivity level of 47 per cent of best practice, ranging from 63 per cent of best practice for AN-NRC to 22 per cent of best practice for PTC.

### *Technical efficiency — accounting for differences in scale*

After accounting for the effect of scale, the technical efficiency of railways was significantly different from productivity, with all railways in the sample moving closer to best practice.

PTC, Westrail, GTW, BNSF and CN all achieved best practice levels of technical efficiency.[7] North American railways had an average level of technical efficiency of 89 per cent of best practice (compared to 84 per cent for productivity). Australian railways had an average technical efficiency level of 70 per cent of best practice (compared to 47 per cent for productivity). Their efficiency levels ranged from best practice for PTC and Westrail to 50 per cent of best practice for QR.

[7] Railways which achieved best practice technical efficiency, but which did not achieve best practice productivity, may have done so because of a lack of similar sized railways in the sample. That is, they achieved 'best practice' using DEA because they were being compared to themselves (PC forthcoming).

Table 4.2 **Estimates of productivity levels for freight services in Australia, the United States and Canada**

| | *Productivity* | *Adjustment for differences in railway characteristics* | | *Adjustment for locomotive power differences* | |
|---|---|---|---|---|---|
| *Railway* | *Model A* | *Scale adjusted productivity (DEA) Model B* | *Productivity adjusted for railway characteristics (statistical) Model C* | *Productivity Model D* | *Scale adjusted productivity Model E* |
| **Australia (1998)** | | | | | |
| AN-NRC | 0.63 | 0.99 | 0.81 | 0.63 | 0.99 |
| Westrail | 0.56 | 1.00 | 0.77 | 0.65 | 1.00 |
| QR | 0.43 | 0.50 | 0.61 | 0.52 | 0.58 |
| SRA | 0.35 | 0.57 | 0.70 | 0.35 | 0.57 |
| PTC | 0.22 | 1.00 | 0.53 | 0.29 | 1.00 |
| **Average[a]** | **0.47** | **0.70** | **0.69** | **0.52** | **0.73** |
| **North America (1997)[b]** | | | | | |
| BNSF | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| CN | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| UP | 0.88 | 0.99 | 0.90 | 0.88 | 0.99 |
| CP | 0.83 | 0.85 | 0.83 | 0.73 | 0.74 |
| ICR | 0.80 | 0.96 | 0.88 | 0.83 | 0.96 |
| KCS | 0.77 | 0.94 | 1.00 | 0.77 | 0.94 |
| SOO | 0.70 | 0.87 | 0.78 | 0.77 | 0.90 |
| NSC | 0.67 | 0.68 | 0.73 | 0.62 | 0.63 |
| CSX | 0.65 | 0.66 | 0.72 | 0.62 | 0.62 |
| Canadian Class II & III | 0.62 | 0.72 | 0.73 | na | na |
| CR | 0.54 | 0.55 | 0.69 | 0.54 | 0.56 |
| GTW | 0.48 | 1.00 | 0.69 | 0.60 | 1.00 |
| **Average[a]** | **0.84** | **0.89** | **0.88** | **0.83** | **0.88** |

**a** Weighted by ntkm. **b** The Burlington Northern and Santa Fe Railway Company (BNSF), Canadian National Railway (CN), Union Pacific Railroad Company (UP), Canadian Pacific Railway Company (CP), Illinois Central Railroad Company (ICR), Kansas City Southern Corporation (KCS), Soo Line Railroad Company (SOO), Norfolk Southern Corporation (NSC), CSX Transportation (CSX), Consolidated Rail Corporation (CR), Grand Trunk Western Inc (GTW). **na** Not available.

*Data source:* PC forthcoming.

### *Technical efficiency — accounting for other differences in railway characteristics*

After accounting for other differences in railway characteristics the technical efficiency of railways was significantly different from productivity, with all railways in the sample being closer to best practice (compared to model A).

BNSF, CN and Kansas City Southern Railway Company (KCS) all achieved best practice levels of technical efficiency. North American railways had an average level of technical efficiency of 88 per cent of best practice (compared to 84 per cent for productivity). Australian railways had an average technical efficiency level of

69 per cent of best practice (compared to 47 per cent for productivity). Their efficiency levels ranged from 81 per cent of best practice for AN-NRC to 53 per cent of best practice for PTC.

*Adjusting for locomotive power differences*

After accounting for differences in locomotive power, on average, productivity levels and technical efficiency levels for Australian railways were higher than unadjusted levels (52 per cent compared to 47 per cent for productivity, and 73 per cent compared to 70 per cent for technical efficiency).

The ranking of Australian railways by their productivity and technical efficiency levels did not alter substantially. For productivity, Westrail went from second to first place and AN-NRC from first to second place. For technical efficiency, QR went from fifth to fourth place and SRA from fourth to fifth place.

On average, for the North American railways, adjusted productivity and technical efficiency levels were largely unchanged because of the dominance of best practice railways (which remained the same before and after the adjustment).

*Productivity growth rates*

Table 4.3 indicates that productivity growth rates were substantially higher for Australian railways on average, than for North American railways (8 per cent compared to 4 per cent). This was also the case for technical efficiency growth rates and locomotive power adjusted productivity growth rates (compared with US railways).

Productivity growth rates for North American railways ranged from a high of 12 per cent per year for GTW to a low of 2 per cent for Soo Line Railroad Company (SOO). Those for Australian railways ranged from a high of 12 per cent per year for AN-NRC to a low of 4 per cent for PTC and SRA.

A number of participants argued that inter-jurisdictional comparisons could be distorted by changes in the mix of freight carried by Australian railways. In particular, NRC (sub. DR117) and FreightCorp (sub. DR123) referred to the transfer of interstate freight business from State railways to AN-NRC between 1994-95 and 1995-96.

Table 4.3 **Estimates of productivity growth rates for freight services in Australia, the United States and Canada, 1990 to 1997[a]**

| | *Productivity* | *Adjustment for differences in railway characteristics* | | *Adjustment for locomotive power differences* | |
|---|---|---|---|---|---|
| *Railway* | *Model A* | *Scale adjusted productivity (DEA) Model B* | *Productivity adjusted for railway characteristics (statistical) Model C* | *Productivity Model D* | *Scale adjusted productivity Model E* |
| **Australia** | | | | | |
| AN-NRC | 11.9 | 11.2 | 5.5 | 4.8 | 5.7 |
| Westrail | 11.6 | 8.9 | 5.0 | 9.0 | 6.7 |
| QR | 6.1 | 5.5 | 2.5 | 4.7 | 4.4 |
| SRA[b] | 4.3 | 4.8 | 3.0 | 0.1 | 3.4 |
| PTC[b] | 4.4 | 9.5 | 3.3 | 2.4 | 8.0 |
| **Average[c]** | **8.2** | **7.6** | **3.7** | **4.8** | **5.4** |
| **North America** | | | | | |
| BNSF | 2.5 | 2.5 | 2.5 | 1.8 | 1.8 |
| CN | 7.3 | 7.1 | 4.3 | 5.2 | 5.1 |
| UP | 6.7 | 8.5 | 3.6 | 6.1 | 7.8 |
| CP | 3.4 | 3.4 | -0.3 | na | na |
| ICR | 4.8 | 4.0 | 0.1 | 4.5 | 4.0 |
| KCS | 4.0 | 0.3 | 3.6 | 3.9 | 0.3 |
| SOO | 1.8 | 2.8 | 0.2 | 1.0 | 1.7 |
| NSC | 3.1 | 3.1 | 1.1 | 1.3 | 1.4 |
| CSX | 3.3 | 3.4 | 1.2 | 1.9 | 1.9 |
| Canadian Class II & III | 2.6 | 1.9 | 1.3 | na | na |
| CR | 4.3 | 4.2 | 1.3 | 2.4 | 2.5 |
| GTW | 12.1 | 3.1 | 5.8 | 10.6 | 3.1 |
| **Average[c]** | **4.4** | **4.8** | **2.5** | **3.4** | **3.9** |

**a** Growth rates are calculated on an average annual basis. The period for Australian railways is 1989-90 to 1997-98 and the period for North American railways is 1990 to 1997. **b** A discontinuity in the series of productivity levels occurring between 1994-95 and 1995-96 has lowered the productivity growth rate for SRA and PTC over the period, by shifting a significant part of these railways' long haul general freight. Under Model A the average growth rate for SRA was 7.5 per cent from 1989-90 to 1994-95 and 17.7 per cent from 1995-96 to 1997-98 (an average of 11.7 per cent for the two periods). Under Model A the average growth rate for PTC was 16.8 per cent from 1989-90 to 1994-95 and 14.3 per cent from 1995-96 to 1997-98 (an average of 15.8 per cent for the two periods). The growth rates of the other models are affected in a similar way. **c** Weighted by ntkm. **na** Not available.

*Data source:* PC forthcoming.

Potentially, interstate freight is a more productive business than intrastate freight because of the often longer average haul lengths. It would be expected that such transfers (and subsequent discontinuity in the data series) would significantly reduce productivity growth rates for PTC and SRA.

In order to adjust for this discontinuity, growth rates for SRA and PTC were assessed separately for the periods before and after the transfer occurred. An

average of the growth rates in each of these periods is a better measure of productivity growth over the entire period (around 12 per cent for SRA and 16 per cent for PTC). The discontinuity affects technical efficiency growth rates in the same way.

## National rail system comparisons for freight and passenger services

The productivity of Australia's national government-owned system in providing both freight and passenger services is compared with that of a sample of national rail systems in other countries. Table 4.4 shows levels of productivity and technical efficiency for 22 national rail systems. It also shows the corresponding growth rates for productivity levels and technical efficiency levels, from 1989-90 to 1997-98, for Australia's national rail system and from 1990 up to 1998 for other countries.

### *Productivity levels*

Australia's government-owned railways assessed at the national system level (for passenger and freight combined) achieved a productivity level 64 per cent of that achieved in the United States, Japan and Canada — the three highest productivity performers in 1997. Other countries in the sample had productivity levels ranging between 52 per cent (the Netherlands) and 18 per cent (New Zealand) of best practice levels.

### *Technical efficiency — accounting for differences in scale*

The level of technical efficiency achieved in Australia was 69 per cent of best practice (compared to 64 per cent for productivity). The United States, Canada and Japan — all of which achieved the highest productivity levels — also achieved the highest levels of technical efficiency.

However, the levels of technical efficiency for some countries were substantially higher than their productivity levels. In particular, Ireland and Luxembourg achieved best practice levels of technical efficiency (compared to 41 per cent and 20 per cent for productivity respectively).

### *Productivity growth rates*

Australia had the highest average rate of productivity growth over the period (8 per cent per year). This was 51 per cent higher than the next highest growth rate

(achieved in Canada).[8] Growth rates achieved for other countries ranged between minus 5 per cent for Portugal to 5 per cent for Norway and South Africa.

Australia's technical efficiency growth rate was only marginally lower than its productivity growth rate over the period (both around 8 per cent per year). For some countries technical efficiency growth rates were substantially higher than productivity growth rates. For example, Norway achieved technical efficiency growth of 8 per cent, compared to under 5 per cent for productivity.

Table 4.4 **Estimates of productivity levels and growth rates for freight and passenger systems in selected countries**

| *System* | *Productivity Model F* | *Technical efficiency Model G* | *Productivity growth rate (%)*[a] *Model F* | *Technical efficiency growth rate (%)*[a] *Model G* |
|---|---|---|---|---|
| United States (97) | 1.00 | 1.00 | 2.0 | 1.8 |
| Japan (97) | 1.00 | 1.00 | 0.8 | 0.8 |
| Canada (97) | 0.98 | 1.00 | 5.5 | 5.5 |
| **Australia (98)** | **0.64** | **0.69** | **8.3** | **7.9** |
| Netherlands (97) | 0.52 | 0.68 | 1.4 | 3.6 |
| Ireland (97) | 0.41 | 1.00 | 1.0 | 0.5 |
| South Africa (98) | 0.39 | 0.42 | 4.5 | 4.7 |
| Sweden (97) | 0.38 | 0.47 | 1.7 | 2.9 |
| France (97) | 0.38 | 0.39 | -0.4 | -0.5 |
| Spain (97) | 0.38 | 0.43 | -0.5 | 0.7 |
| Finland (97) | 0.35 | 0.45 | 0.2 | 1.1 |
| Great Britain (94) | 0.34 | 0.43 | 7.1 | 12.9 |
| Portugal (97) | 0.33 | 0.63 | -4.5 | 1.6 |
| Italy (97) | 0.32 | 0.33 | 0.3 | 0.6 |
| Switzerland (97) | 0.32 | 0.38 | 3.1 | 3.7 |
| Germany (97) | 0.31 | 0.32 | 3.5 | 3.5 |
| Norway (97) | 0.31 | 0.74 | 4.5 | 7.6 |
| Denmark(95) | 0.28 | 0.60 | -1.4 | 3.4 |
| Austria (97) | 0.25 | 0.27 | 1.2 | 1.3 |
| Belgium (97) | 0.20 | 0.24 | 0.6 | 1.3 |
| Luxembourg (97) | 0.20 | 1.00 | 1.5 | 0.0 |
| New Zealand (98) | 0.18 | 0.73 | 3.9 | 3.6 |

[a] Growth rates are calculated on an average annual basis. The period for the Australian national system is 1989-90 to 1997-98. The period for all other national systems is 1990 to the calendar year indicated.

*Data source:* PC forthcoming.

[8] The growth rate for Great Britain (7.1 per cent), relating only to the 1990 to 1994 period, was higher than for Canada (5.5 per cent).

## 4.3 Stakeholder outcomes since 1990

Although improvements in productivity are important, the outcomes for stakeholders are equally important in assessing overall performance. There are three main groups of stakeholders:

- consumers — users of freight, urban passenger and non-urban passenger services;
- shareholders — government and private owners of railways; and
- labour — people employed in the rail industry.

Outcomes for stakeholders are determined by the prices and quality of rail inputs and outputs. Consumers are affected by the prices and quality of rail services, shareholders are affected by the returns earned from rail services and labour is affected by the wages and salaries paid for employment in the rail industry.

Improvement or deterioration in rail productivity is likely to alter these outcomes. An increase in productivity could be appropriated by shareholders in the form of higher dividends, or it could be distributed to consumers in the form of lower prices, or to labour in the form of wage increases.

Equally, these outcomes can alter without a change in productivity, amounting to a redistribution between stakeholders — where changes in prices for one group are directly offset by changes in prices for another group. For instance, dividends to shareholders can be increased by raising the prices of rail services or reducing wages to labour.

### Consumers

Consumers of rail services are directly affected by the price and quality of rail services. Consumers benefit when prices fall and/or quality improves. Consumers of other goods and services are also affected to the extent that prices and quality of rail freight services are reflected in their final prices.

#### *Freight rates*

Freight rates are influenced by many factors which may vary substantially across countries.[9] Not all of these factors are related to railway efficiency and some are

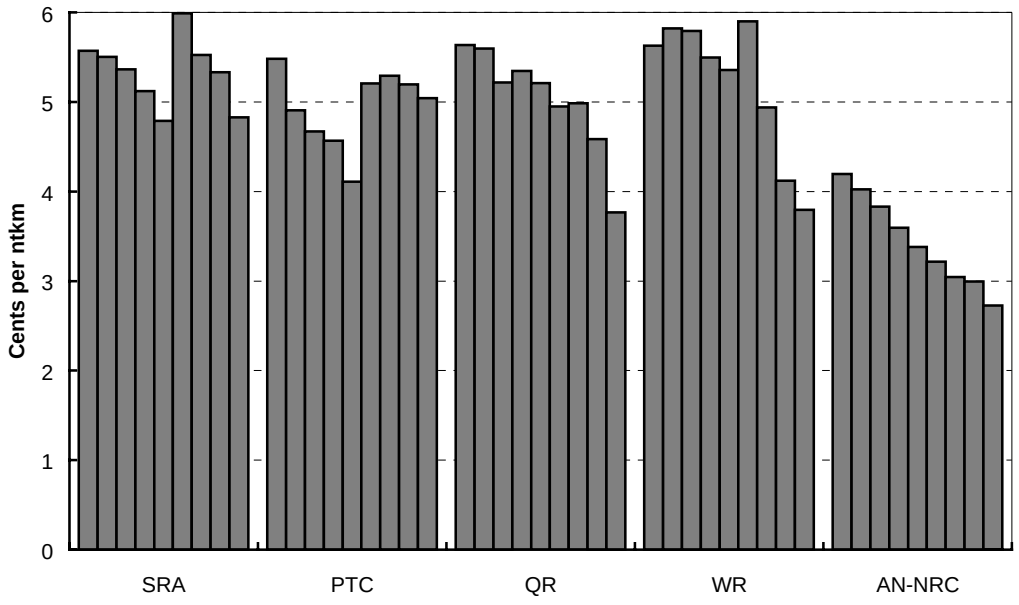
[9] Freight rates are measured as the average selling price of freight services — total freight revenue divided by ntkm. All rates have been converted into Australian dollars and deflated by the Australian Consumer Price Index (CPI).

non-controllable, at least from the perspective of railway operators. Factors of particular relevance to freight rates include the size of the freight market, average haul length, mix of freight traffic[10], axle loads and locomotive power.

*Australian freight rates*

Real national freight rates have declined by 18 per cent over the period (from 5.4 cents per net tonne-kilometre (ntkm) in 1990 to 4.4 cents in 1997) (table 4.5).[11] Freight rate declines occurred in all jurisdictions, although the rate of decline varied over time and across jurisdictions (figure 4.1).

Figure 4.1 **Real freight rates by jurisdiction[a,b,c], 1989-90 to 1997-98**




**a** Real freight rates were constructed using total revenue from freight divided by total ntkm in each year and deflated by the national Consumer Price Index (CPI). **b** AN provided intrastate rail services for Tasmania and South Australia until November 1997. **c** The steep rise in freight rates for SRA, PTC and Westrail in the middle of the period coincided with the transfer of their interstate freight to NRC. This shifted the composition of freight carried by SRA, PTC and Westrail to relatively higher priced commodities.

*Data source:* PC forthcoming.

10 Movements in freight rates measured as average selling prices do not necessarily indicate an actual change in the schedule of rates charged to freight customers. A change in the composition of freight over the period may alter the average selling price.

11 The Australian real freight rate declined further to 3.8 cents in 1997-98, for a total decline of 30 per cent over the period 1989-90 to 1997-98. Due to a lack of international data, the period for international comparisons ends at 1997.

In addition to the factors listed above, the level of competition is likely to be an important factor affecting freight rates. Reform in the rail industry has increased, to varying degrees across jurisdictions, the level of competition both within rail and between rail and other modes of transport.

*International freight rates*

Freight rates varied considerably across countries and within countries over time. In 1997 Australia had the fifth lowest freight rate (4.4 cents per ntkm) across 22 countries. Luxembourg had the highest freight rate (20.3 cents per ntkm) and Canada had the lowest (2.1 cents per ntkm) (table 4.5).

Table 4.5 **Real international freight rates (A$ cents per net tonne-kilometre)[a], 1990 to 1997**

| *Country* | *1990* | *1991* | *1992* | *1993* | *1994* | *1995* | *1996* | *1997* | *Growth rate (%)*[b] |
|---|---|---|---|---|---|---|---|---|---|
| **Australia** | **5.4** | **5.3** | **5.1** | **5.0** | **4.9** | **4.9** | **4.7** | **4.4** | **-18.0** |
| United States | 3.0 | 2.8 | 2.8 | 3.0 | 2.9 | 2.5 | 2.3 | 2.3 | -25.9 |
| Canada | 3.2 | 3.0 | 2.9 | 2.9 | 2.7 | 2.3 | 2.2 | 2.1 | -32.7 |
| Japan | na | 7.8 | 8.3 | 9.8 | 10.8 | 10.7 | 8.8 | 7.4 | -4.4 |
| New Zealand | 13.2 | 12.2 | 11.2 | 11.5 | 11.5 | 11.8 | 11.5 | 10.2 | -22.6 |
| South Africa | 2.5 | 2.9 | 3.2 | 2.6 | 2.6 | 2.7 | 2.8 | 2.4 | -4.3 |
| Austria | 12.5 | 13.4 | 14.5 | 12.2 | 10.8 | 10.8 | 10.2 | 8.5 | -32.0 |
| Belgium | 8.2 | 8.5 | 8.4 | 9.5 | 8.3 | 9.3 | 8.3 | 7.3 | -10.2 |
| Denmark | 14.8 | 14.5 | 14.0 | 16.9 | 13.3 | 14.4 | 15.1 | 17.4 | 17.9 |
| Finland | 10.2 | 10.3 | 8.5 | 7.0 | 6.1 | na | na | 5.4 | -47.0 |
| France | 9.4 | 9.6 | 9.4 | 10.6 | 9.3 | 9.0 | 8.3 | 7.0 | -25.7 |
| Germany | 7.1 | 12.5 | 11.5 | 12.2 | 10.7 | 10.8 | 9.6 | 7.5 | 6.8 |
| Great Britain | 12.4 | 13.6 | 12.1 | 11.9 | 10.4 | 9.0 | na | na | -27.9 |
| Ireland | 8.4 | 8.1 | 7.9 | 8.0 | 8.7 | 7.8 | 7.4 | na | -12.0 |
| Italy | 10.5 | 9.9 | 8.3 | 8.7 | 7.0 | 6.5 | 5.9 | 5.3 | -49.4 |
| Luxembourg | na | na | na | na | 23.6 | 25.3 | 22.2 | 20.3 | -13.7 |
| Netherlands | 7.2 | 7.4 | 8.1 | 8.9 | 8.0 | 9.7 | 8.2 | 6.4 | -9.9 |
| Norway | 11.2 | 10.9 | 11.6 | 8.8 | 9.5 | 10.7 | na | 8.4 | -24.6 |
| Portugal | 4.4 | 5.1 | 5.5 | 5.8 | 4.8 | 4.9 | 4.8 | 4.4 | 0.0 |
| Spain | 7.3 | 7.9 | 8.3 | 8.3 | 6.2 | 5.9 | 5.3 | 4.5 | -38.8 |
| Sweden | 5.3 | 5.3 | 4.9 | 4.7 | 5.1 | 4.6 | 3.8 | 3.3 | -37.6 |
| Switzerland | 15.3 | 16.7 | 16.5 | 17.6 | 15.3 | 13.9 | 13.4 | 10.8 | -29.5 |

**a** Freight rates are measured as the average selling price of rail services. In order to compare price levels between countries, all overseas rates have been converted into Australian dollars and then deflated by the Australian CPI. Therefore some of the change in rates may be due to exchange rate fluctuations. **b** Total percentage change in freight rates over the period. **na** Not available.

*Source:* PC forthcoming.

Productivity differences across countries only partially explain the differences in freight rates. Differences in freight mix and length of haul are also likely to be an important factor. Unlike most European countries, Australia's freight is dominated by bulk commodities and long haul freight which would tend to decrease the average freight rate. For this reason, Australian freight rates are more appropriately compared to countries with similar freight characteristics. Australia's freight rate was around double that of Canada, the United States and South Africa.

In growth rate terms, most countries experienced a steady decline in freight rates over the period. Growth rates ranged from minus 49 per cent for Italy to 7 per cent for Germany. The decline in Australia's freight rate was relatively small at 18 per cent.

Government policy changes and the resulting effect on the level of competition in many countries partially explains the general decline in freight rates internationally. An important objective of government policy in many countries over the last decade has been to improve the efficiency of their rail systems (appendix E). The greater the degree of competition within rail and between rail and other modes of transport, the greater the incentive for railway managers to reduce their costs and rates.

The US rail freight industry has undergone substantial deregulation since the enactment of the Staggers Rail Act 1980. Among its many provisions, the Act allowed rationalisation to occur, which intensified competition in the industry. Several mergers have occurred since 1992, reducing the number of Class I railways from 15 in 1989, to nine in 1997. In addition, competition from road transport has increased, resulting in a declining share of the freight market for rail.

The Canadian rail freight industry has undergone substantial reform since the enactment of the National Transportation Act 1987. The Act aimed to remove transport market distortions in an effort to introduce greater competition. In recent years Canadian railways have been streamlining their operations, resulting in the privatisation of CN and the rationalisation of uneconomic services (appendix E). Competition between rail and road has intensified as each competes for a greater share of the north-south market resulting from free trade agreements in the region (Statistics Canada 1994b).

### *Passenger rates*

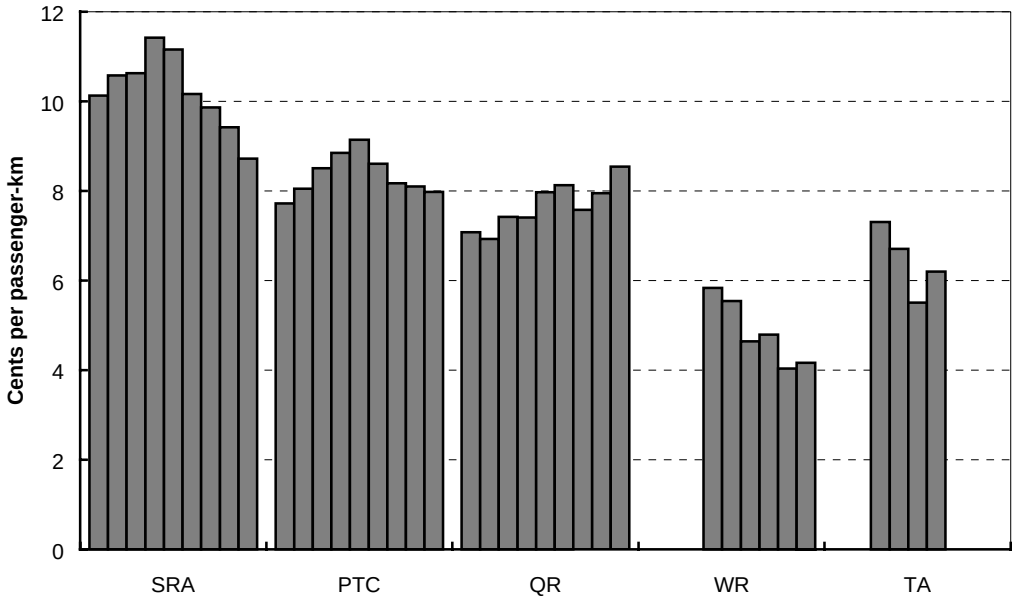
Passenger rates are influenced by many factors which may vary substantially across countries. Not all of these factors are related to passenger rail system efficiency and, as with freight rates, some are non-controllable from the perspective of rail system

managers. Factors of particular relevance to passenger rates include the level of government subsidy, size of the passenger market and mix of passenger services.[12]

*Australian passenger rates*

Real national urban passenger rates increased by 9 per cent towards the middle of the period and then fell, to settle 10 per cent lower (from 9.2 cents per passenger-kilometre in 1989-90 to 10 cents in 1992-93 and down to 8.6 cents in 1996-97).[13] Urban passenger rates increased in some jurisdictions and declined in others (figure 4.2).

Figure 4.2 **Real urban passenger rates [a,b,c], 1989-90 to 1997-98**




**a** Real urban passenger rates were constructed using farebox revenue from urban passengers divided by total urban passenger-km in each year and deflated by the national CPI. **b** Urban passenger-km data could not be provided by Westrail. Passenger-km were estimated by extrapolating numbers based on boarding statistics in Westrail's annual reports. Data were only available for Westrail from 1992-93. **c** Data for TransAdelaide were only available from 1991-92 to 1994-95.

*Data source:* PC forthcoming.

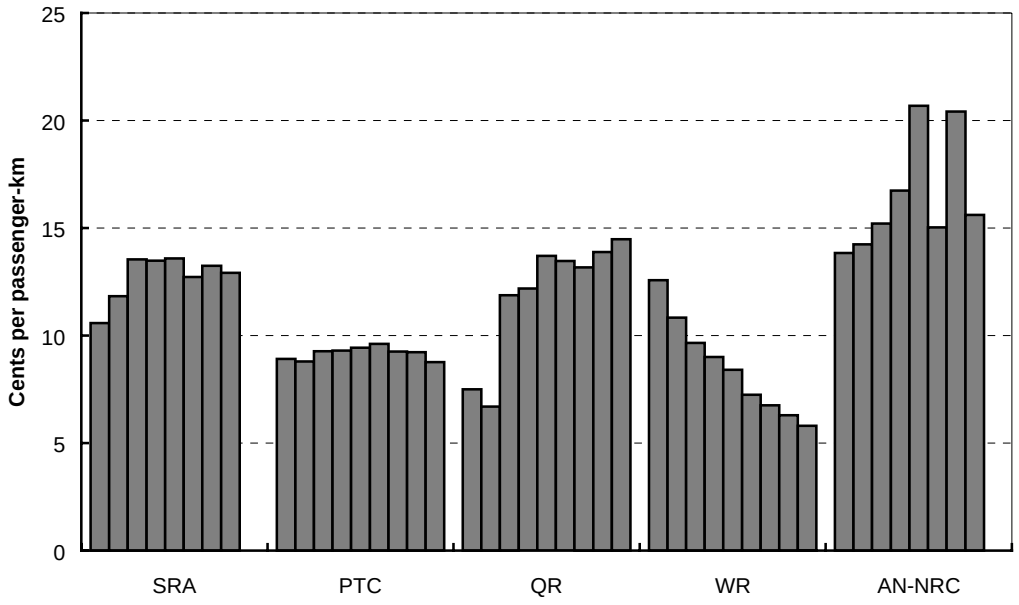
12 Movements in passenger rates measured as average selling prices do not necessarily indicate an actual change in the schedule of rates charged to customers. A change in the composition of the type of passenger service provided over the period will alter the average selling price.

13 The Australian urban passenger rate declined further to 8.2 cents in 1997-98, for a total decline of 10.9 per cent over the period 1989-90 to 1997-98. Due to a lack of international data, the period for international comparisons ends at 1997.

In contrast with freight rates, government policy, rather than competition, is the dominant factor affecting urban passenger rates. The general trend of increased urban passenger rates towards the middle of the period may reflect moves by State Governments to introduce more commercial pricing policies to ensure greater cost recovery. In 1993-94 the Victorian Government approved a general fare increase of 10 per cent and the Queensland Government allowed a fare increase and the removal of half price weekend fares. The 1996 Independent Pricing and Regulatory Tribunal review of the pricing of urban passenger transport services for New South Wales was also followed by an increase in some fares.

Real national non-urban passenger rates increased by 21 per cent over the period (from 10.2 cents per passenger-km in 1989-90 to 12.4 cents in 1996-97). Only non-urban passengers in Western Australia and Victoria experienced a decline in rates (figure 4.3).

Figure 4.3 **Real non-urban passenger rates by jurisdiction[a,b,c,d,e,f,g], 1989-90 to 1997-98**




**a** Real non-urban passenger rates were constructed using total revenue from non-urban passengers divided by total non-urban passenger-km in each year and deflated by the national CPI. **b** NRC did not provide passenger services. **c** The sharp decline in AN's rates in 1994-95 was the result of a disruption to its Indian Pacific service for six weeks due to flooding on the Nullarbor Plain, causing a downturn in passenger service revenue. **d** The sharp increase in QR's rates in 1992-93 was due to strong growth in Queensland's tourist industry and the subsequent expansion of its tourist services. **e** For Westrail non-urban rail passenger revenue could only be provided from 1993-94. From 1989-90 to 1992-93, non-urban rail passenger revenue was estimated by taking the proportion of rail passenger-km to total passenger-km (including buses) and applying the same factor to total revenue. **f** From 1994-95, non-urban passenger-km for PTC were estimated using boarding statistics. **g** Data for SRA and AN were not available for 1997-98.

*Data source:* PC forthcoming.

Competition from other modes has been more relevant in determining non-urban passenger rates than urban passenger rates. Deregulation of the interstate airline and road coach industries over the period led to intense price cutting and competition for regular travel patronage in these industries. In response, most non-urban passenger rail systems have invested heavily in improving the quality of existing regular services and in the creation of new services aimed at the tourist market, rather than cut prices. As a result, towards the end of the period, SRA, QR and AN managed to reverse the initial loss of revenue resulting from the loss of patronage to road and air transport.

*International passenger rates*

Passenger rates varied greatly across and within countries over time (table 4.6).

In 1997 urban passenger rates for Australia were 8.6 cents per passenger-kilometre, compared to a low of 2 cents for South Africa and a high of 17.2 cents for New Zealand. Urban passenger rates increased dramatically (by 43 per cent) in South Africa over the period.

In 1997 non-urban passenger rates were 12.4 cents per passenger-kilometre for Australia, compared to a low of 3.6 cents for South Africa and a high of 18.8 cents for Japan. Non-urban rates increased by 21 per cent for Australia and 11 per cent for New Zealand but declined by 25 per cent for South Africa.

A separate analysis of urban and non-urban passengers was not possible for all the countries in the sample. For the European countries, passenger rates in 1997 (urban and non-urban) ranged from a low of 4 cents per passenger-kilometre for Portugal to a high of 21.6 cents for Germany. Growth in passenger rates ranged from minus 53 per cent for Italy to 60 per cent for Germany over the period examined.

Table 4.6 **Real international passenger rates (A$ cents per passenger-kilometre)[a], 1990 to 1997**

| *Country* | *1990* | *1991* | *1992* | *1993* | *1994* | *1995* | *1996* | *1997* | *Growth rate(%)*[b] |
|---|---|---|---|---|---|---|---|---|---|
| **Urban passenger rates** | | | | | | | | | |
| Australia | 9.2 | 9.7 | 9.8 | 10.0 | 9.9 | 9.2 | 8.9 | 8.6 | -10.4 |
| Japan[c] | na | na | 12.3 | 14.7 | 16.1 | 16.5 | 14.0 | 12.0 | -2.4 |
| New Zealand[d] | na | na | na | na | 15.7 | 17.9 | 17.3 | 17.2 | 9.7 |
| South Africa | 1.4 | 1.9 | 2.0 | 2.0 | 2.0 | 2.2 | 2.2 | 2.0 | 42.7 |
| **Non-urban passenger rates** | | | | | | | | | |
| Australia | 10.2 | 10.4 | 11.8 | 12.0 | 12.8 | 12.1 | 12.8 | 12.4 | 21.4 |
| United States | 15.1 | 14.1 | 14.1 | 15.4 | 15.0 | 14.5 | 15.7 | 15.9 | 5.5 |
| Canada | 13.9 | 13.1 | 13.2 | 14.7 | 14.1 | 12.1 | 11.4 | 11.7 | -15.4 |
| Japan[c] | na | na | 19.2 | 22.9 | 25.2 | 25.7 | 21.8 | 18.8 | -2.4 |
| New Zealand[d] | na | na | na | na | 10.3 | 11.2 | 11.3 | 11.4 | 10.6 |
| South Africa | 4.8 | 6.0 | 6.4 | 6.3 | 4.1 | 4.8 | 4.7 | 3.6 | -24.7 |
| **All passenger services** | | | | | | | | | |
| Japan | na | 16.4 | 17.2 | 20.5 | 22.7 | 23.2 | 19.9 | 17.2 | 4.3 |
| Austria | 11.5 | 12.5 | 12.0 | 8.7 | 8.3 | 8.3 | 7.8 | 9.9 | -14.5 |
| Belgium | 7.6 | 8.7 | 8.9 | 10.7 | 9.7 | 10.4 | 10.3 | 9.3 | 21.7 |
| Denmark | 10.7 | 11.9 | 12.8 | 14.2 | na | 13.5 | 13.1 | 15.5 | 44.9 |
| Finland | 14.8 | 16.4 | 15.7 | 13.9 | 12.3 | na | na | 10.3 | -30.4 |
| France | 12.2 | 13.3 | 10.7 | 12.8 | 11.3 | 11.9 | 11.6 | 10.6 | -13.1 |
| Germany | 13.5 | 21.3 | 15.7 | 18.9 | 23.8 | 24.9 | 23.7 | 21.6 | 60.1 |
| Great Britain | 15.8 | 18.5 | 17.9 | 18.9 | 17.8 | 18.2 | na | na | 14.7 |
| Ireland | 22.9 | 23.2 | 24.7 | 26.8 | 23.4 | 24.7 | 23.0 | na | 0.4 |
| Italy | 12.1 | 12.8 | 10.8 | 12.5 | 10.9 | 10.6 | 10.3 | 5.7 | -52.9 |
| Luxembourg | na | na | na | na | 13.7 | 15.5 | 15.1 | na | 9.7 |
| Netherlands | 10.0 | 8.4 | 8.7 | 10.4 | 10.8 | 12.8 | 12.3 | 11.1 | 11.1 |
| Norway | 15.2 | 16.0 | 15.9 | 17.6 | 15.7 | 16.4 | na | 15.1 | -0.3 |
| Portugal | 3.2 | 3.9 | 4.1 | 4.6 | 3.9 | 4.2 | 4.3 | 4.0 | 24.1 |
| Spain | 10.2 | 11.5 | 8.7 | 8.7 | 7.2 | 7.5 | 7.4 | 6.5 | -35.7 |
| Sweden | 20.3 | 21.1 | 22.4 | 19.1 | 17.6 | 17.0 | 16.5 | 14.7 | -27.6 |
| Switzerland | 12.5 | 13.1 | 13.4 | 15.8 | 15.6 | 14.9 | 14.5 | 12.2 | -2.8 |

**a** Real passenger rates are measured as the average selling price of rail services. In order to compare price levels between countries, all overseas rates have been converted into Australian dollars and then deflated by the Australian CPI. Therefore, some of the change in prices may be due to exchange rate fluctuations. **b** Total percentage change in passenger rates over the period. **c** The urban and non-urban passenger rates for Japan are for the East Japan Railway Company. **d** The passenger-km data required to calculate rates were only available for New Zealand from 1996. Data for 1994 and 1995 were estimated using boarding statistics. **na** Not available.

*Source:* PC forthcoming.

### *Quality of freight services*

The quality of rail freight services can be examined through a variety of

indicators.[14] On time running is one measure of the punctuality of services. It measures the proportion of trips which arrive within a given time of the scheduled arrival time.

Participants expressed reservations about using on time running as a measure of freight service quality (box 4.3). In particular, some would prefer to use freight availability, which measures the percentage of occasions when customers receive delivery of their freight at the time they were promised by the rail operator.

Box 4.3 **Problems with on time running as a measure of service quality**

For freight services, on time running measures the proportion of trains which arrive within thirty minutes of the scheduled arrival time. Some of the perceived deficiencies of this indicator are:

- it is not equally important for all freight traffics. Westrail noted:

  We accept in intermodal (and particularly interstate) freight that it is critical that freight is delivered on time but it is not the most important and best measure especially in bulk traffics. (sub. DR107, p. 3)

  … to most of our bulk customers on-time running is somewhat of an irrelevancy and our principal measure for them is tons delivered as against programmed tons. (trans., p. 747)

- it is more important for 'internal management control' than as a measure of customer service. As NRC noted:

  The arrival time of trains can vary substantially from these [scheduled] times, eg when freight is promised to be available at 6 am, and owing to timepath allocations a train is due to arrive in the terminal at 3 am. If the train arrives late at, say, 4.30 am, this will not normally affect on-time availability of the freight on the train. (sub. DR117, p. 11)

- expected arrival times can be adjusted to allow for (deteriorating) track conditions, thus improving on time running although service may be deteriorating. According to the Australian Rail Track Corporation:

  … it is a practice in some railways to declare long standing temporary speed restrictions as permanent and incorporate resultant delays into the train timetable … result[ing] in trains meeting a timetable more regularly … A comparison of service quality considering on-time arrival (or availability) should be accompanied by … trends in transit times. (sub. DR97, p. 7)

*Source:* sub. DR97; sub. DR107; sub. DR117.

On time and availability statistics can provide different indications of service quality (BTCE 1997a). Unfortunately, availability statistics are not consistently reported by railways. While recognising the limitations of on time running as an indicator of

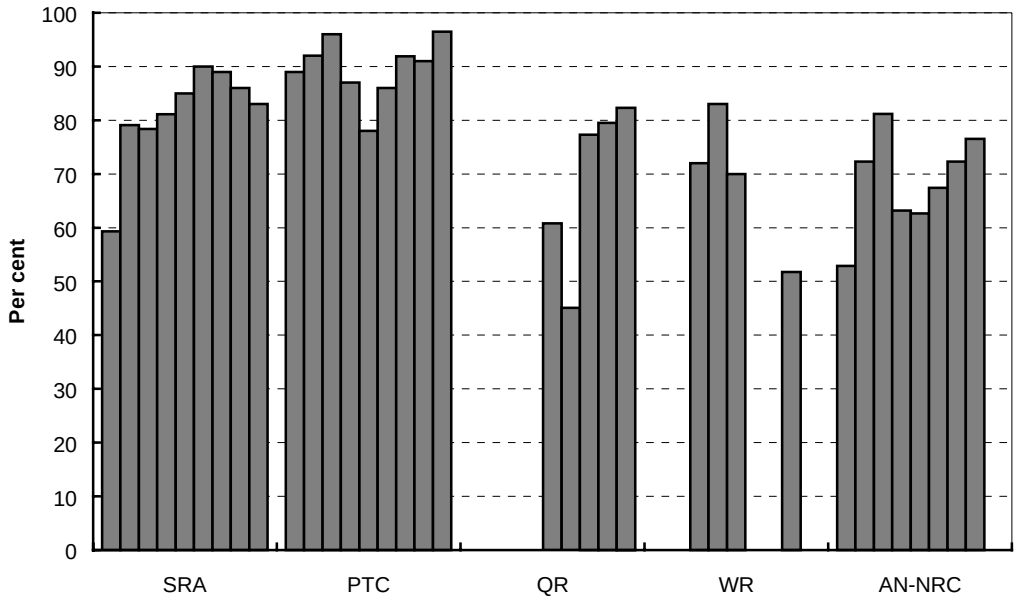
[14] BTCE (1997a) found that the service characteristics most highly valued by freight forwarders were punctuality of trains, care of cargo and containers, rail terminal efficiency, wagon capacity availability and staff quality.

quality, it is used to give some indication of the comparative reliability of freight services across jurisdictions.[15]

On time running of freight services is influenced by a number of factors, including average haul length, mix of freight traffic, track quality, track work and maintenance, traffic congestion and availability of rollingstock.

All jurisdictions, apart from Victoria, experienced on time running rates below 90 per cent in 1997-98. However, freight customers in both New South Wales and Queensland experienced significant improvements over the period, although they started from a relatively low base and remained well below Victoria. Western Australian customers have experienced a decline in on time running, while Victorian and AN-NRC customers have experienced fluctuating service over the period (figure 4.4).

Figure 4.4 **On time running for freight services by jurisdiction[a,b,c,d,e], 1989-90 to 1997-98**




**a** On time running for freight services measures the proportion of trips arriving within thirty minutes of the scheduled arrival time. **b** Data were only available for QR from 1993-94. QR's service in 1994-95 was affected by the Mainline Upgrade Project which began in 1993. This involved major track and bridge upgrading works which created short term service disruptions. **c** Data were only available for Westrail from 1991-92 to 1993-94 and 1996-97. **d** On time running for AN-NRC relates only to AN between 1989-90 and 1992-93. From 1993-94, AN-NRC on time running is a weighted average of AN and NRC measures (weighted by the share of ntkm). **e** Data for AN-NRC were not available for 1997-98.

*Data source:* PC forthcoming.

15 International comparisons of rail service quality are not included due to a lack of data.

The generally higher on time running for PTC may partly reflect the shorter freight trips in Victoria. Shorter trips may make it easier to reach a destination within a scheduled time although, as noted by the Australian Rail Track Corporation, 'a late train also has less opportunity to recover over a short journey' (sub. DR97, p. 7).

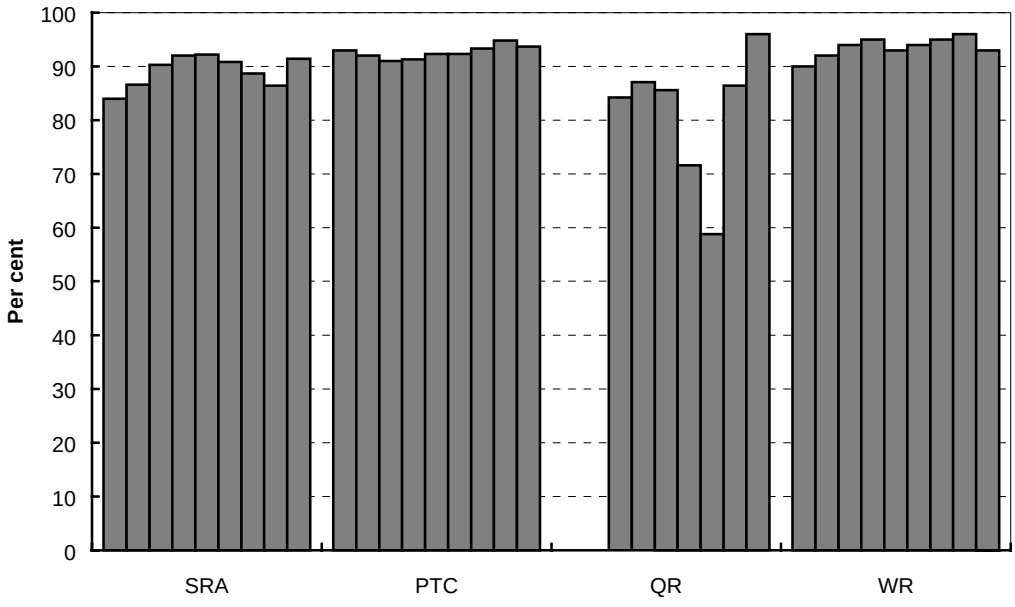
### *Quality of passenger services*

As with freight services, there are a number of indicators of the quality of passenger services, in addition to on time running. Among these indicators are the number of services run, the proportion of services which are cancelled and the capacity of services. On time running is the indicator reported most consistently by railways.

The factors which influence passenger on time running rates are similar to some of those which affect freight on time running, including track quality and traffic congestion.

In all jurisdictions, there has been a slight improvement in the on time running performance of urban passenger trains during the period examined (figure 4.5). Urban passengers in Victoria and Western Australia have consistently experienced the most timely urban passenger services, with on time rates above 90 per cent.

Figure 4.5 **On time running for urban passenger services[a,b,c], 1989-90 to 1997-98**




**a** On time running for urban passenger services measures the proportion of trips arriving within three minutes of the scheduled arrival time. **b** Data were only available for QR from 1991-92. TransAdelaide data were not available. **c** On time running for QR in 1994-95 was affected by network track upgrading and lower rollingstock availability due to the extension of rail services to the Gold Coast.

*Data source:* PC forthcoming.

Non-urban passenger on time running rates are presented in PC (forthcoming).

## Shareholders

Shareholders are generally interested in the financial returns generated by their investments. Where Governments are shareholders, returns of a purely financial nature may not be the only consideration, as social and environmental objectives are also likely to be important (chapter 11). Although suggested by the NSW Government (sub. DR128), the costs and benefits of these other objectives have not been included due to difficulties in measuring them.

### *Returns to shareholders*

Return on assets (ROA) is one measure of financial returns and is affected by a number of factors which may vary substantially across countries.[16] These factors include the type of service provided (passenger services tend to provide lower financial returns than freight services), scale and density of operations, level of government funding, and other government policies (for example, those affecting competitive neutrality between road and rail (chapter 10)).

In addition, reported returns may be influenced by abnormal (accounting) items and differences (or changes) in asset valuation techniques. These factors make it difficult to compare ROA consistently over time.

### *Australian return on assets*

Australian government-owned railways, apart from SRA, have displayed an upward trend in ROA over the period. ROA was positive for QR, Westrail and TransAdelaide, but tended to be negative for SRA and PTC (figure 4.6). The returns of AN-NRC fluctuated substantially. Fluctuations in returns for all railways tended to be due to the impact of abnormal items on profits.

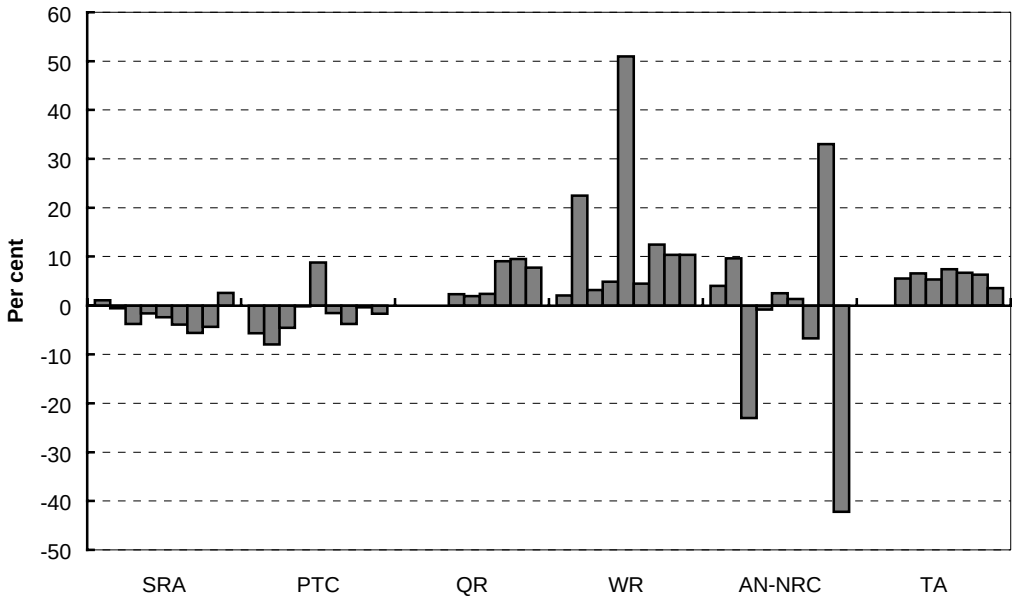
Comparisons of financial performance over time are made difficult by differing government funding policies across jurisdictions. For instance, towards the end of the period, community service obligations (CSOs) for QR and Westrail were explicitly funded. However, according to QR, ‘acceptance of lower rates of return

[16] Return on equity (ROE) is the ideal measure of shareholder returns. However, where shares are not publicly traded, equity must be treated as the residual of total assets and liabilities and may be negative. Where equity is negative, ROE cannot be used. Hence, ROA (measured as earnings before interest and tax divided by total assets) has been used instead.

[as a type of CSO] remains endemic and would directly affect return on assets' (sub. DR122, p. 2). QR argued further:

> Until … transparency is achieved it remains very difficult to evaluate the financial performance of the rail sector. (sub. DR122, p. 2)

Figure 4.6 **Return on assets by jurisdiction[a,b,c,d], 1989-90 to 1997-98**




**a** Return on assets is calculated as the ratio of earnings before interest and tax (EBIT) to total assets. Profit includes CSOs and other government payments. Return on assets cannot be calculated on a strictly comparable basis because of revaluations and abnormal items during the period. **b** SRA includes FreightCorp, RSA and RAC for 1996-97 and 1997-98. **c** PTC and TransAdelaide include all operations, including buses and trams, in addition to rail. The results presented here probably overestimate the returns to rail. **d** The large rise in ROA of AN-NRC in 1996-97 and the subsequent fall in 1997-98 are due to large abnormal revenues and expenses for AN in the respective years.

*Data source:* PC forthcoming.

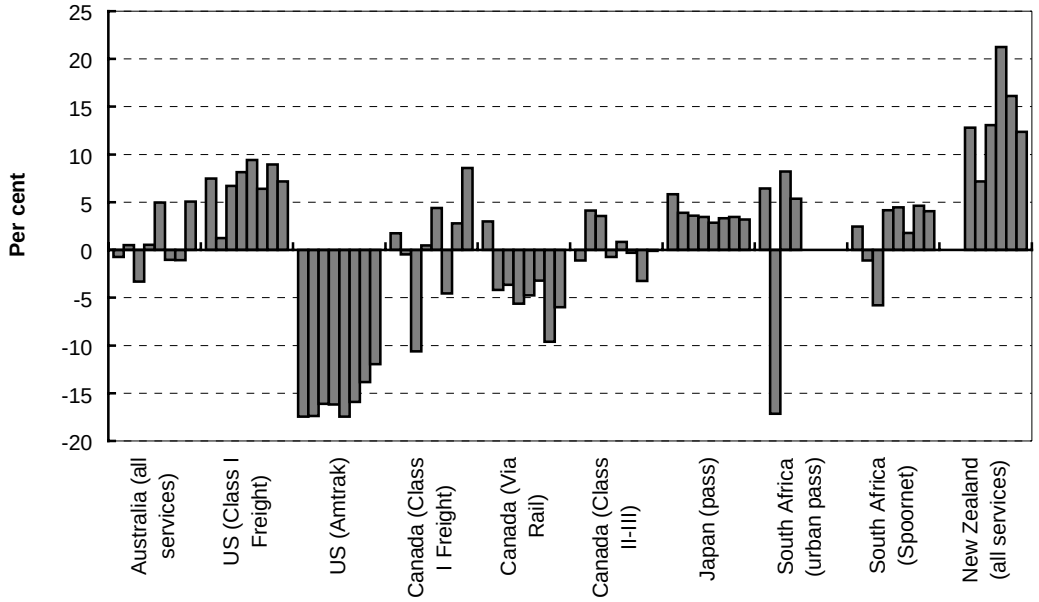
### *International return on assets*

Return on assets was highly variable both between countries and within countries during the period examined (figure 4.7).

Australia's rail system experienced fluctuating but generally negative or low returns for most of the period monitored. This is in contrast to the positive returns earned by US Class I freight railways and in New Zealand, Japan and South Africa. The non-urban passenger services in the United States and Canada consistently provided negative returns, while the positive returns to South Africa's urban passenger system were highly dependent on government subsidies.

Abnormal items, such as restructuring costs, account for much of the variability within countries over time.

Figure 4.7 **Return on assets by country disaggregated by type of service[a,b,c,d,e f], 1990 to 1997**




[a] Return on assets is calculated as the ratio of earnings before interest and tax (EBIT) to total assets. Profit includes revenue from government subsidies. [b] Japan only includes (urban and non-urban) passenger services. [c] South Africa (urban pass) refers to the South African Rail Commuter Corporation (SARCC). South Africa (Spoornet) includes non-urban passengers and freight. [d] The lower ROA figures for Japan after 1990 were caused by an increase in the asset base of JR Central and JR West as the Japanese Government transferred ownership of Shinkansen railway assets. [e] The large fall in ROA of South Africa (urban pass) was due to a large fall in subsidies in 1990. SARCC data were only available from 1990 to 1993. [f] The large rise in ROA of New Zealand in 1995 was due to a large abnormal revenue item.

*Data source:* PC forthcoming.

## Labour

The interests of employees in an industry can be defined at a number of levels including numbers employed, wages and other financial benefits (remuneration), and non-financial considerations such as conditions of employment, job security, training and professional development, and work safety issues. The most easily quantifiable is remuneration.

### *Remuneration*

Employee remuneration includes wages and salaries as well as non-wage components such as superannuation. Due to difficulties in obtaining this information, a proxy for remuneration has been used. The most readily available proxy was labour costs (including on-costs).[17] In order to gain an insight into how payments to workers, on average, may have changed, labour costs per employee[18] (average labour costs) are examined.[19]

Changes in average labour costs may not be indicative of the actual changes in the direct remuneration of workers for several reasons:

- labour costs include payments such as workers compensation premiums and payroll tax which workers do not directly receive. However, wages and salaries account for a large proportion of labour costs;
- the composition of labour costs varies between railways and, in some cases, over time within the same railway. Thus, care must be taken in comparing levels across railways, as well as rates of change; and
- a number of factors, in addition to changes in wages and salaries, may influence movements in average labour costs, for example, changes in staff composition.

### *Remuneration of Australian employees*

Real average labour costs have risen to varying degrees in all jurisdictions (figure 4.8). AN-NRC experienced the largest rise in real average labour costs of about 65 per cent over the period. Only SRA and PTC, which have experienced the most volatility in their real average labour costs, have not shown a clear upward trend. The Rail Tram and Bus Union (RTBU) noted:

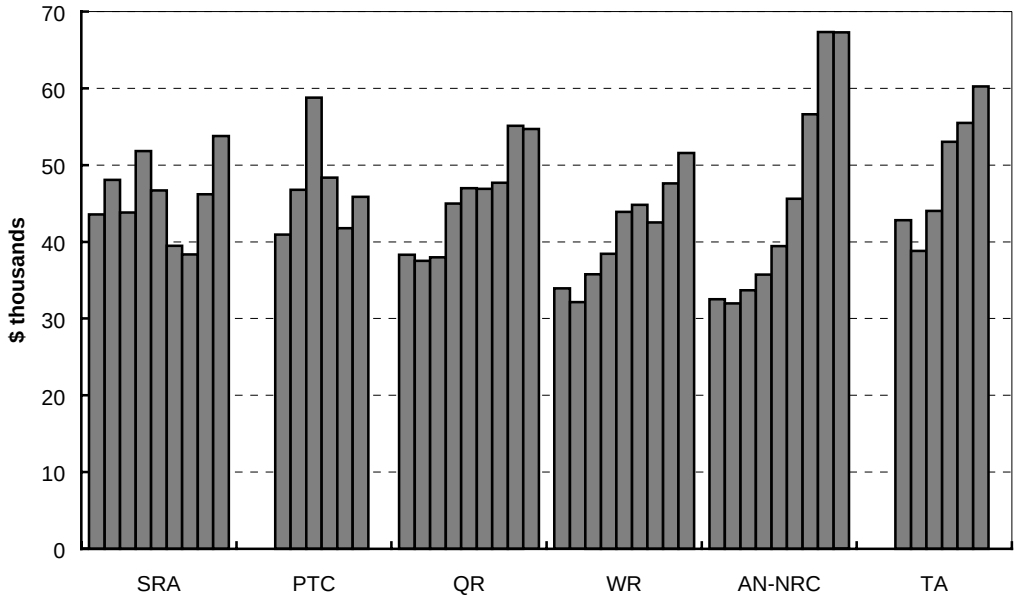
> the large rise in … average labour costs, is quite different to an analysis as to how the workforce has fared over the period of the 1990s. (trans., p. 867)

[17] On-costs generally include payments such as superannuation, payroll tax, annual leave entitlements, workers' compensation premiums and redundancy payments.

[18] The average number of employees rather than the number of employees at the end of the year has been used to calculate average labour costs. Using end of year figures would tend to overestimate average labour costs when large reductions in staff occur during the year.

[19] The purpose of this is to measure outcomes for employees. The NSW Government (sub. 128) suggested using labour costs per unit of output. However, while instructive for measuring outcomes from a railway's perspective, this does not reflect outcomes for workers.

Figure 4.8 **Real average annual labour costs by jurisdiction[a,b,c,d,e], 1989-90 to 1997-98**




**a** Real average labour costs were calculated by dividing real total labour costs (including on-costs) by average employee numbers. Real labour costs are nominal costs deflated by the national CPI. **b** QR moved from cash to accrual accounting in 1992-93. **c** NRC is only included in the AN-NRC data from 1995-96. AN is only included until 1996-97. The sharp rise in average labour costs of AN-NRC since 1995-96 can be attributed partially to the different composition of the NRC labour force compared with AN. **d** PTC data were only available from 1991-92 to 1996-97. **e** TransAdelaide data were only available from 1990-91 until 1996-97.

*Data source:* PC forthcoming.

Information provided by the RTBU shows that a rise in average labour costs may overstate pay outcomes for workers under Enterprise Bargaining Agreements (EBAs) in some jurisdictions (sub. DR114). EBAs for SRA resulted in a total pay increase of 20 per cent between 1992 and 1998 (compared to an increase in real average labour costs of 23 per cent). However, real average labour costs for TransAdelaide rose by 41 per cent but salaries rose only 9 per cent during this period.

The apparent divergence between outcomes represented by real average labour costs and EBAs might in part be explained by the effect of changes in the composition of workers.[20] In the case of TransAdelaide, this may not only have been the result of contracting out of jobs performed by lower paid workers but also the reallocation of

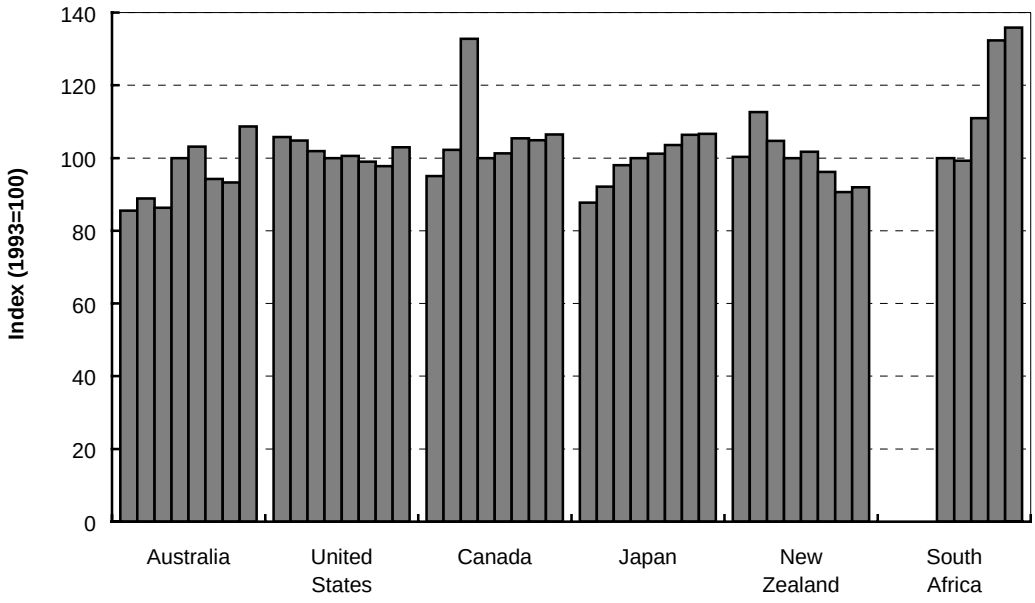
[20] For those Australian railways which provided a detailed breakdown of their labour costs, the divergence is unlikely to be attributable to changes in the components of labour costs, such as workers' compensation payments or payroll tax.

higher paid workers from the bus to the train business of TransAdelaide. Changes in reporting methods may also have been a factor.

*International remuneration*[21]

Real average labour costs in Australia fluctuated during the period studied, as they did to a lesser extent in both Canada and New Zealand. Fluctuations were smaller in Japan and the United States (figure 4.9). The overall increase in Australia of 27 per cent was lower than the 36 per cent increase experienced in South Africa, but greater than that experienced in the other countries examined.

Figure 4.9 **Index of real average labour costs by country[a,b,c,d,e], 1990 to 1997**




**a** Index constructed on the basis of real average labour costs valued in the currency of the country in question. Real average labour costs are calculated by dividing real total labour costs (including on-costs) by average employee numbers. Real labour costs are nominal costs deflated by national CPI. **b** The Australian total does not include TransAdelaide in 1989-90 or 1990-91 when data were not available. NRC is only included from 1995-96. **c** A large rise in real average labour costs in Canada in 1992 was due to a large rise in payments classified as employee benefits due to labour force restructuring. **d** Japanese real average labour costs include those of two companies for which labour cost data were available: East Japan Railway Co. and Hokkaido Railway Company, which account for 53 per cent of employees hired by the six Japanese passenger rail companies. **e** The results for New Zealand before and after 1993 are not comparable due to changes in accounting policy which occurred in 1993.

*Data source:* PC forthcoming.

21 An index is used to compare trends, rather than levels, across countries. The index is based on average labour costs valued in the currency of the country concerned. This avoids variations caused by exchange rate fluctuations.

Apart from the sharp rise in Canada in 1992 (caused by labour force restructuring), there was a slight rise in real average labour costs of around 10 per cent over the period. The wages component rose by about 12 per cent in real terms between 1991 and 1996.

In contrast, real average labour costs in the United States have been fairly constant. Only in New Zealand have real average labour costs fallen, but mainly towards the end of the period. This is likely to reflect partially a redefinition of labour costs.

## 4.4 Summary of performance

All government-owned railways in Australia experienced substantial productivity improvements in providing freight services over the period. They improved at greater rates than their counterparts in North America, but were only half as productive. After allowing for differences in scale and other railway characteristics, which generally advantage North American railways, the technical efficiency level of Australian railways was around two thirds that of the most technically efficient North American systems.

Assessed at the national level, Australia's rail system also experienced substantial productivity improvements in providing freight and passenger services, and at greater rates than in other countries. The productivity level of Australia's rail system was around two thirds that of the best performing countries in the study in 1997. Some of the difference is due to factors which inherently disadvantage Australia, such as scale of operation. However, in 1997 technical efficiency (productivity adjusted for the effect of scale) remained 30 per cent below the best performing countries in the study.

Consistent with the improvement in Australia's productivity performance, freight rates in Australia have declined by 18 per cent from 1990 to 1997. This decline was less than that experienced in some other countries, but rates in 1997 were among the lowest of the countries studied. Differences in productivity, level of competition and inherent railway characteristics are among the factors likely to explain differences between countries. Measures of freight service quality indicate that in some Australian jurisdictions on time running remains poor, although it improved in New South Wales and Queensland.

Australia's rail passengers have not benefited significantly in terms of passenger rate reductions. After initial price rises, urban passenger rates finished 10 per cent below their initial levels, while non-urban rates rose 21 per cent. In most countries studied, passengers have not experienced rate reductions to the same extent as freight customers.

Despite productivity improvements, many government-owned railways in Australia are either making a loss or are barely viable. Returns to government shareholders were often negative and highly variable over the period. However, there did appear to be some improvement in return on assets in most jurisdictions. Returns in other countries also tended to be variable, with freight systems usually earning higher returns in purely financial terms than passenger services.

It appears that labour employed by government-owned railways in Australia has gained to some extent from improvements in productivity. Real average labour costs, as proxy for remuneration, increased by 27 per cent over the period. However, only some of this would have benefited employees through wage rises granted as a result of enterprise bargaining agreements. Some of the increase in average labour costs was due to a reduction in the proportion of lower paid workers employed by railways and an increase in redundancy payments. Real average labour costs per employee remained relatively stable in the United States and Canada, increased in Japan and South Africa, and declined in New Zealand.

# 5 The Commission's approach

Jurisdictions have undertaken a range of reforms intended to improve the efficiency and performance of their railways (chapter 3). The experience to date indicates there has been improvement in performance as discussed in the previous chapter (chapter 4). However, there are also indications that there is scope for further improvement with a number of impediments remaining, as outlined in chapter 3. This chapter outlines the Commission's framework for analysing and identifying the best policy responses likely to overcome these impediments.

## 5.1 Objectives of reform

The overall objective of reform is to move towards an efficient transport system, which meets Australia's freight and passenger transport needs. Along with technological development, future reform will determine the extent to which rail is an integral part of the transport system in the 21st century.

In such a system, customers will be able to choose which transport mode best meets their needs on the basis of price, service quality and a range of other characteristics. Rail will simultaneously compete with other modes for business, and complement them in providing a seamless transport service for customers.

Governments and the community are likely to continue to have non-commercial objectives, both social and environmental. The Commission's proposed policy framework also takes these objectives into consideration.

### Sources of efficiency improvements

In order to take its place in an efficient transport system, railways must continue to improve their performance. Improvements in the efficiency of railways — and ultimately the transport system as a whole — can occur in three broad areas:

- making better use of the existing equipment and infrastructure;
- introducing the most appropriate infrastructure, rollingstock, and technology; and
- optimising the use of rail in the transport logistics chain.

This is consistent with the view expressed by National Rail Corporation:

> ... there is a phase, which I think we have almost got all the way through ... which is about the inefficient use of resources within the present production function. There is too much fuel consumed, there are too many wagons in use, too many locomotives, too many people and so forth ... The second area of change is changes in the production function, which is what I've concentrated on in my comments — by changing things like axle load limits, train length limits, train height limits for double stacking and so on ... The third stage of productivity improvement is where the railway system starts to integrate itself very much more thoroughly into the total logistics chain. (trans., pp. 1001, 1002)

To some extent, the 'easy gains' have been realised by the reforms undertaken to date. There is scope to improve the performance of railways further by implementing an appropriate mix of other policy reforms.

It is considered that most of the improvements in performance achieved since 1991 have come from the first source. Realising efficiency gains from the second and third sources will be more difficult than those generated by improving the efficiency of the existing rail system. These additional gains will take longer to achieve and will rely on adopting a package of reforms.

Achieving the more difficult efficiency gains will require working through a logical framework of analysis in order to implement the most appropriate combination of reforms to deal with impediments to performance (box 5.1).

Box 5.1 **Impediments to improved performance**

Impediments to improved railway performance identified by participants include:

- a lack of commercial focus and government involvement which interferes in the operation of some government-owned railways;
- inadequate investment in rail infrastructure;
- a lack of competitive neutrality between transport modes and between government and privately-owned railways;
- the extraction of monopoly rents from the coal networks;
- complex and multiple arrangements for access to rail infrastructure; and
- inconsistent and complex safety regulation and operating requirements.

## 5.2 Areas of potential reform

Some of these impediments have been addressed by governments to varying degrees, particularly those relating to monopoly rents, safety regulation and taxation

arrangements affecting competitive neutrality. However, the potential exists to undertake further reform across a range of areas to deal with those that remain:

- railway structure — including consideration of vertically separating track and train operations and horizontally separating railways geographically or by function;
- ownership — exploring a spectrum of options from commercialised or corporatised government-owned railways through to franchising and full privatisation;
- access arrangements — examining whether they should be light-handed or strong and prescriptive;
- operating procedures and standards — removing remaining inconsistencies and duplication to improve the efficiency of rail operations; and
- competitive neutrality — addressing a range of outstanding issues both within the rail industry and across transport modes.

## 5.3 Railway networks

The Commission has identified three broad types of rail networks in Australia, interstate, regional and urban passenger (chapter 2). The identification of these network types is important because the nature of the businesses and impediments to improved performance differ between these networks.

Differences between networks can be characterised by the extent of interface problems, actual or potential rail competition (both for the market or between train operators), intermodal competition, and by their commercial sustainability (chapter 2).

The nature of the problems and impediments to improved performance will also differ between networks (chapter 3).

Thus a range of reforms will be required to achieve the overall objective of an efficient transport system. Reform in a single area (eg structure or ownership) is unlikely to achieve this objective.

### Reform packages

The Commission's approach is to target reforms to specific problems and performance impediments facing each rail network. This can be achieved by developing a reform package for each network, selecting the most appropriate

reforms from the available options. While some elements of each package may be similar — reflecting a broad systemwide approach — it is likely that the package for each network will not be uniform across railways because of differences in markets, network characteristics and the differing nature of impediments to improvement.

In developing each package, the Commission intends to identify those reform elements which are most likely to create an environment that will yield the greatest gain (box 5.2).

Box 5.2 **Getting the environment right**

The reform packages should contribute to an environment within which commercially focused railways are able to compete with, and/or complement, other modes of transport. Important elements of this environment are:

- Competition — which can take several forms including competition for the market and competition in the market. Intermodal competition can also influence rail performance;
- Commercial focus — a spectrum of approaches from commercialisation and corporatisation to privatisation can improve performance and provide railways with the freedom to make timely business and investment decisions;
- Community service obligations — can be accommodated within a commercial environment through the rigorous implementation of a purchaser-provider framework;
- Consistency in access and safety regulation — to reduce costs, increase certainty and promote innovative and competitive behaviour; and
- Competitive neutrality — both within the rail industry and between rail and road transport so that railways are free to compete on the basis of price and service quality.

## 5.4 Subsequent chapters

The following chapters consider the appropriate reforms for each of the three railway networks, and where appropriate, the systemwide reforms. Each of the potential reform areas are discussed in turn:

- structure (chapter 6);
- ownership (chapter 7);
- access arrangements (chapter 8);
- safety regulation and operating procedures (chapter 9); and
- competitive neutrality (chapter 10).

The social dimensions of railways, including consideration of appropriate mechanisms for pursuing non-commercial objectives are considered in chapter 11. Finally, chapter 12 draws the preceding discussion together to outline the reform packages for each of the three networks.

# 6 Structural reform

**In an effort to encourage better performance, many governments are re-examining the structure of their railways. In general, differences in the characteristics of networks, transport markets, and impediments to performance confronting the industry mean that different structures are appropriate for interstate, regional and urban passenger rail networks.**

A number of governments have examined the scope for using structural reforms to address the diverse problems confronting railways and impeding their performance. In essence, structural reform involves breaking-up established railways into separate trading entities, with separation occurring on a geographic, functional (track, rollingstock and maintenance) or product (passengers and freight) basis. Although there are numerous ways in which railways can be (and have been) restructured, there are some important threshold issues.

A critical question for governments to consider is the type of structural separation which would deliver the greatest gains to the community. Answers to this question depend upon the characteristics of the railway network, the markets in which railways operate and the nature of the problems confronting the industry.

Structural separation is not a panacea for the problems facing railways. Indeed structural reform is likely to be only part of the solution to improving the performance of rail and the efficiency of transport more generally. It is more appropriate to view structural separation as part of a broader package of reforms, such as changes in ownership arrangements (chapter 7) or the application of the purchaser-provider framework to fund non-commercial services (chapter 11).

In line with the terms of reference, this chapter examines:

- how structural reform may help address the problems facing railways;
- options for restructuring; and
- the appropriate structure of different rail networks.

Section 6.1 defines structural separation and describes the major structural models applied to rail in Australia and internationally. Section 6.2 then describes how structural separation may be used to improve performance. Section 6.3 discusses the costs of introducing structural separation. Drawing on the networks outlined in

chapter 2, section 6.4 identifies the preferred structure for urban passenger, interstate and regional rail networks. Section 6.5 concludes the chapter.

## 6.1 Structure of rail authorities

Historically, Australia's government-owned railways were integrated both vertically and horizontally. This meant a single government agency controlled activities such as train operations, track provision, maintenance, signalling and train timetabling. During the 1990s, several railways in Australia and other countries were structurally separated (box 6.1). Chapter 3 and appendix D discuss these reforms in more detail.

Box 6.1 **Definitions relating to structural separation**

**Structural separation**: businesses are separated into discrete legal entities.

**Horizontal separation**: occurs either by product (freight and passenger services) or by geographic area (interstate, regional and urban railways).

**Vertical separation**: functional levels are separated (track infrastructure and train operations).

**Above track** or **train operations**: the provision of rail freight and passenger transport services involving locomotives and other rollingstock.

**Below track** or **track infrastructure**: physically fixed rail facilities such as track, sleepers, signals, terminals and yards.

### Australian experience

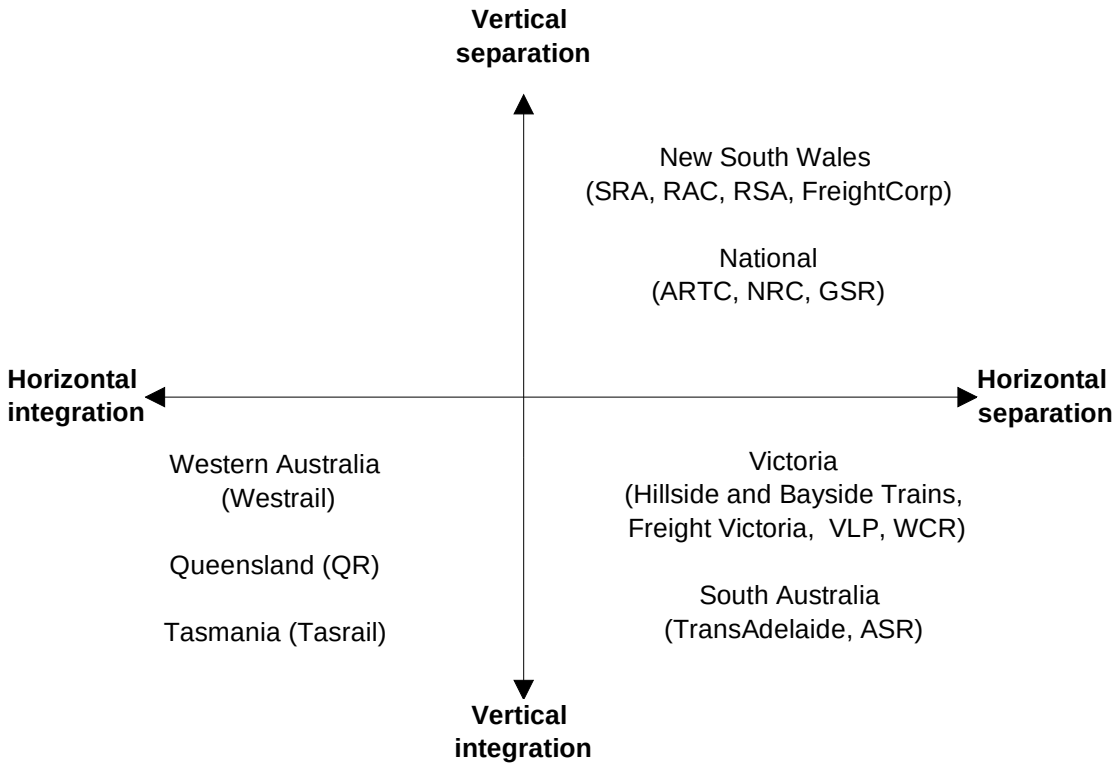
Currently, Australia's railways are structured in one of three broad ways (figure 6.1). The Commonwealth and NSW Governments are positioned at one end of the structural spectrum. The Commonwealth has created a separate track infrastructure provider, the Australian Rail Track Corporation (ARTC) to own and manage key elements of the interstate network. A separate body, the National Rail Corporation (NRC), provides interstate and intrastate freight services and is jointly owned by the Commonwealth, NSW and Victorian Governments.

New South Wales has separated the former State Rail Authority (SRA) into four businesses:

- Rail Access Corporation (RAC) — track infrastructure provider;
- FreightCorp — primarily an intrastate freight train operator;
- Rail Services Australia (RSA) — the maintenance business; and
- State Rail Authority (SRA) — urban and country passenger train operator.

At the other end of the spectrum, Queensland Rail (QR), Westrail and Tasrail are horizontally and vertically integrated businesses. Western Australia plans to horizontally separate Westrail into freight and urban passenger businesses by the end of 1999, with the freight business to be sold as a vertically integrated railway.

Figure 6.1 **The structure of rail authorities in Australia[a, b] July 1999**




**a** States have been classified as vertically integrated if one of the train operators on a network also has control of the network, through ownership or leasing. **b** Private railways are included where they are the result of government railways being restructured and privatised.

Victoria and South Australia have applied an intermediate approach whereby the intrastate railways have been horizontally separated but remain vertically integrated. In South Australia, separate entities provide urban passenger transport (TransAdelaide) and the intrastate freight services (Australia Southern Railroad (ASR)). In Victoria, freight services (Freight Victoria) and urban passenger services (Bayside and Hillside Trains) are operated by separate vertically integrated organisations.[1] Non-urban rail passenger services are provided by V/Line Passenger (VLP) and West Coast Railway (WCR).

[1] The franchises for Bayside Trains and V/Line Passenger were awarded to National Express in June 1999. The franchise for Hillside Trains was awarded to Melbourne Transport Enterprises in July 1999.

### International experience

A variety of structural configurations also exist in other countries. For instance, some European railways (Netherlands, Sweden and Britain) have been separated horizontally and vertically. Also, directives from the European Commission (EC Directives 91/440/EEC, 95/18/EC and 95/19/EC) require member countries at least to undertake separation of accounts for all rail enterprises. Germany has applied this approach. Railways in the United States, Canada and New Zealand operate as vertically integrated businesses. A mixed model, combining horizontal separation (by geography and function) and vertical integration has been applied in Japan and Argentina (appendix E).

## 6.2 Why consider structural separation?

Structural separation may contribute to improving the performance of railways by:

- promoting competition:
  - 'in' the market; or
  - 'for' the market;
- facilitating the regulation of the natural monopoly elements of railways; and
- implementing appropriate policies in different markets.

### Promoting competition

Structural separation has been used by governments to promote competition. Under National Competition Policy, governments have agreed to review structural arrangements where they are considering introducing competition (chapter 3, box 3.2). The Victorian Government argued that the:

> ... introduction of competition wherever possible will secure the largest gains in terms of efficiency. (sub. DR118, p. 3)

However, the notion of competition is more complex than the widely accepted view that it relates to competition between train operators within a certain market. It may also involve operators competing to get access to the market as a monopoly provider or operators competing with other modes of transport.

### *Promoting competition 'in' the transport market*

Competition in the transport market may contribute to the improved performance of railways. Structural separation may be used to facilitate greater competition:

- between train operators and other modes;
- between train operators for the same customers; and
- between train operators for train schedules.

#### *Between train operators and other modes*

The transport sector provides a diverse set of services, reflecting different customer requirements in terms of time sensitivity, technology and the logistics of production and distribution. Vertical separation may promote greater differentiation of services by train operators than might occur from introducing open access alone. The ARTC commented that:

> In essence, the separation of above and below rail activities combined with the introduction of an open and robust access pricing regime has encouraged competition on the East West corridor; the consequence of this has been some segmentation of the market, a fall in prices and an increase in quality of service. The evidence would therefore suggest that the reforms introduced to date have been successful in altering the fundamental dynamics of the industry. (sub. 74, p. 5)

There is evidence that market segmentation and product differentiation have occurred in the interstate market following structural separation. Such segmentation may facilitate opportunities for competition between rail and other transport modes such as road and sea (NCC 1998a, subs. 3, 25 and 80). For instance, NRC Trailerail bimodal service competes with road on the East-West corridor. Rail 2000 argued that the:

> ... greatest benefit (from competition policy) is from competition between modes. Competition within rail (vertical separation) will lead to efficiency but not grow the business. (Rail 2000 Newsletter, No. 51, May 1999, p. 5)

However, Patrick provides an example of how rail can also integrate into the transport chain and complement other transport modes. Patrick is using rail services between Adelaide and Melbourne to provide its Adelaide clients with seamless service through the Port of Melbourne. The Local Government and Shires Associations of New South Wales supported the complementary nature of road and rail transport:

> The two modes should not be viewed as separate and competing forms of transport but complementary in delivering transport services for industry and regional communities. (sub. 71, p. 2)

*Between train operators for the same customers*

Vertical separation of train operations from track infrastructure may facilitate competition between train operators for the same customers.

Although a vertically integrated railway may provide some access, vertical separation may be considered necessary to remove the favourable position of the operator who has control of the infrastructure (chapter 8). This concern was echoed by several participants (ARTC, Shell, Queensland Mining Council, National Competition Council, Rio Tinto, Tourism Council of Australia and the Commonwealth Department of Agriculture, Forestry and Fisheries). For instance, the Tourism Council of Australia noted:

> Some argue that access regulation and vertical separation increase effectiveness by removing the conflict of interest an integrated railway has over allowing competitors access to its track ... (sub. DR121, p. 3)

There is evidence that vertical separation of rail authorities into train operations and track infrastructure may promote competition in some markets. However, this is not always the most appropriate strategy (box 6.2).

*Between train operators for train schedules*

In order for competition between operators to be effective in terms of the range of services operating over the network, there also should be competition between train operators for train schedules. There may be greater competition for train schedules with vertical separation than under vertical integration and open access alone. Some suggested methods of introducing competition for the allocation of train schedules are outlined in chapter 8.

### *Promoting competition 'for' the market*

Allowing competition for the market may be possible in situations where the nature of the market is such that sustainable competition between train operators is unlikely. Competition for the market occurs where the provision of rail services is subject to a competitive process, such as competitive tendering and contracting or franchising (chapter 7). Demsetz described the competitive effects of franchising as follows:

> Even though but one firm would survive this competition in a given market, competition for the field [market] should dissipate monopoly rent through price cutting, yielding a competitive outcome for the one-firm industry that emerges. (Demsetz 1989, p. 87)

Box 6.2 **When to introduce vertical separation to promote competition**

The economic efficiency of railways is enhanced by introducing competition through vertical separation when:

- rail networks possess natural monopoly characteristics such as economies of scale and have effective market power (the network can earn monopoly profit);
- train operators are able to compete on a commercially sustainable basis; and
- track infrastructure and train operations are relatively independent so that the costs of separation are small in relation to the gains from competition and efficient economic regulation.

Effective market power is determined by the ability of the rail operator to receive revenues significantly greater than the total (stand alone) cost. In relation to access charges, the OECD observed:

> The incumbent should not be able to charge less than the incremental cost of providing the access service and should not be allowed to charge more than the stand alone cost of providing that service. (p. 156)

Market power is unlikely to eventuate when there is intermodal competition or competition in the downstream markets. The OECD argued:

> If it is true that rail faces significant intermodal competition, the opportunities for profitable competitive entry will be relatively limited. Viewed in this light, the policy option of vertical separation is a relatively significant regulatory intervention for relatively little gain. (pp. 157-158)

Vertical separation may complicate the application of efficient Ramsey pricing and cause a network to be commercially unsustainable.[2] The OECD stated:

> ... in most instances, the recovery of the roadbed costs will require price discrimination, ie it will require some type of Ramsey efficient pricing. The separation of track from services will make the application of the Ramsey efficient pricing very difficult, if not actually impossible. (p. 176)

Consequently, there may be a trade-off between commercial sustainability and competition. The OECD noted:

> The challenge then, is to make sure that there is sufficient competition in the market to ensure that there is efficiency without there being wasteful competition. Open access is not likely to be appropriate where there is an unsustainable natural monopoly, that is, one that is vulnerable to cream-skimming. (p. 183)

*Source:* OECD 1999.

2 Ramsey pricing involves setting prices above marginal cost inversely proportional to the price elasticity of demand of different buyers. This would enable full cost recovery.

A competitive tendering process may be used to promote competition by awarding contracts for the right to supply rail services. Tenders may be awarded on the basis of selection criteria that may differ depending on whether the railway is commercial or non-commercial.

- For commercial railways, the criteria may include the lowest total cost of service provision over a relevant period at an acceptable level of risk. This approach was adopted by Flinders Power in South Australia in awarding a coal haulage contract to FreightCorp.
- For non-commercial railways, the criteria may include the lowest subsidy required. This approach was applied by the Victorian Government when franchising urban passenger services.

Promoting competition for the market may deliver added benefits through, for instance, facilitating yardstick competition.[3] The Victorian Government intends to compare the performance of Bayside Trains, Hillside Trains and trams and buses in Melbourne (sub. 82). Such comparisons put pressure on the individual franchisees to improve their performance.

## Regulating natural monopoly elements

Structural separation may assist governments in regulating the natural monopoly elements of railways. Rail track has been considered a natural monopoly as customers are served at least cost by one firm providing the service (IC 1991b).

Regulation of some form is likely to be required where the rail businesses possess significant market power which they are able to use to extract monopoly rents (excess profits). For instance, if intermodal competition is limited and there is limited competition in downstream markets, the train operators and/or track infrastructure providers may have the potential to charge excessive prices resulting in revenue exceeding stand alone cost. RAC argued:

> Under a vertically integrated model, an incumbent owner-operator could have stifled such access by unfairly leveraging its infrastructure ownership as a barrier to entry. Access charges could be set at an oppressive rate for competitors and restrictions on conditions of access could be set; any or all of these factors would effectively stifle competition in market segments. (sub. DR102, p. 3)

[3] Yardstick competition involves comparing the performance of organisations with similar objectives operating in separate markets.

Structural separation may reduce the regulatory burden by isolating (via horizontal separation) the monopoly network from the rest of the network, or through vertically separating the (natural monopoly) track, from the rest of the system.

### Implementing different policies in different markets

The rail industry encompasses a number of businesses that may be separate in terms of geography, function and type of service. Governments may choose to apply different packages of reforms to different parts of the rail network. For instance, they may introduce a purchaser-provider framework and competition for the market for urban passenger services, while promoting competition in the market for the interstate network.

The horizontal separation of the interstate, regional and urban passenger rail networks may improve the monitoring of performance and increase the transparency of outcomes in each market. The vertical separation of track infrastructure and train operations may improve the administration of subsidies, while promoting competition between train operators. For instance, vertical separation allows subsidies to be directed to track infrastructure (Sweden) or train operations (Great Britain).

## 6.3 The costs of structural separation

Even when structural separation is well designed and implemented, it may still involve costs. Participants (such as Australian Transport Network, CRT Group and Rio Tinto) argued that structural separation imposes large costs. Australian Transport Network submitted that:

> ... heavy transaction costs of separation, both in setting up an infrastructure company, organising and formalising its myriad interactions with operating companies, and in its everyday running, also penalises rail in relation to its main competitors. The heavy cost of setting up Railtrack in the United Kingdom, for example, is effectively borne (where there are not subsidies) by the railway operators and their customers. (sub. 25, p. 4)

The potential costs of structural separation in the rail sector have been discussed widely. It has been suggested that costs may arise from:

- a lack of coordination between separated rail entities, both in terms of above and below track businesses and between geographically separated entities. This may result in inappropriate investment decisions;
- 'interface issues', such as difficulties associated with a train operator traversing different networks with multiple owners and managers;

- complications associated with timetabling, train schedule allocation and capacity management;
- the loss of some economies of size, scope and density;
- added complexities in the administration of prices and services, such as ticketing;
- the high initial cost of separation;
- high transaction costs of acquiring full information necessary for train operators and track providers to undertake long term investment planning;
- the loss of the ability to price discriminate (to use Ramsey pricing) and therefore recover the cost of track infrastructure; and
- greater regulatory intervention.[4]

Before any structural reform is considered there needs to be systematic analysis of the 'problem' and whether structural separation should be part of the solution. The Rail Bus and Tram Union cited the International Labour Organisation which noted:

> It has become increasingly clear that most railways cannot continue to operate successfully under the legal, administrative and financial regimes of the past. But it is equally true that, at the national level, the arguments in favour of restructuring are often not based on systematic analysis of the problems. (sub. DR114, p. 6)

Systematic analysis of structural reform options would involve assessing the relevance and likely magnitude of the costs of structural separation and comparing them with the benefits, including potential gains from facilitating competition and improved regulation and monitoring.

***The benefits and costs of structural separation are likely to differ between networks and depend upon the characteristics of the transport market.***

## 6.4 Which structures are appropriate?

This section considers structural issues relating to the urban passenger, interstate and regional rail networks, drawing on the principles set out in the previous sections and the characteristics of the rail networks defined in chapter 2.

[4] For further information see Kessides and Willig (1995), Brooks and Button (1995), Thompson (1997), King (1997), OECD (1998), van de Velde and van Reeven (1998) and OECD (1999).

## Urban passenger transport

Governments generally support urban rail passenger services as an important component of the transport system in cities. They may also use urban transport to address environmental and social policy goals, such as reducing congestion and pollution.

Urban passenger transport systems are non-commercial and would not exist in their present form and at current levels of service without government subsidy (PC 1998c). An increase in commercial focus would result in more efficient services and minimise losses. However, even with a commercial focus, it is anticipated that urban passenger services would remain non-commercial and require continued government support.

There is scope to improve the performance of these services by improving:

- transport planning by governments (such as the choice and mix of urban passenger systems including rail) (chapters 10 and 11); and
- the efficiency with which rail services are provided as part of the urban transport system.

Improvements in performance are best achieved by separating urban passenger networks from other railway businesses as vertically integrated businesses in order to improve the application of the purchaser-provider framework (chapter 11).

### *The case for horizontal separation*

The horizontal separation of urban passenger networks from other rail networks (such as regional and interstate networks) should improve the focus of governments on the choice and mix of transport services purchased in Australia's major cities and the efficiency with which they are provided. It should also encourage greater transparency.

Many participants raised concerns regarding the practicality of horizontally separating urban passenger networks (including RAC, Commonwealth Department of Transport and Regional Services (DTRS) and NSW Minerals Council). Their main concern related to interface issues whereby other trains traverse over urban networks (chapter 2). The significance of these issues depends on the physical complexity of the network and the degree of congestion.

Westrail commented that while Western Australia does not have urban interface problems, there are problems in other jurisdictions:

> We don't have an urban interface with our interstate business but it certainly causes us major headaches because the entry and exit times for the trains out of Sydney and Melbourne … control how you manage across the network. (trans., p. 757)

RAC also noted that interface issues are a significant concern in Sydney:

> In the case of Sydney (and to a lesser extent some other major cities), there is considerable overlap of markets that make horizontal separation impractical. (sub. DR102, p. 14)

However, some of these problems can be overcome through contractual arrangements. Under horizontal separation the provider of urban passenger services would control the urban network. Freight and non-urban passenger trains could then negotiate contracts for access to the urban network. In most Australian cities the simple network configuration and low degree of congestion would make this possible. ARTC noted:

> ... I wonder if it's worth just looking at other industries for a second and reflecting on those interfaces ... local ... state ... and you have federal government investment in a whole range of roads. For some unknown reason they actually do interconnect, and for some unknown reason they actually are all run smoothly even though you've got five or six different participants playing on them ...
>
> But let's look at one other example in Australia, the electricity industry. The electricity industry is really made up of a whole set of grids and transmission lines with a whole range of input providers of electrons from a whole range of generating frameworks.
>
> Those grids are under a range of different people's controls and they range from high voltage, medium, through to low voltage. They seem to be able to interconnect, they seem to be able to get the interfaces right and they do seem to be able to get their billing and structures right around it. (trans., p. 808)

There are many examples of contractual arrangements overcoming interface problems in Australia and internationally. In Victoria, contractual arrangements between Bayside Trains and interstate and regional operators in Melbourne permit non-urban passenger and freight trains to traverse the urban network. Similar arrangements (such as trackage rights) exist in the United States (appendix E, box E.4).

In some urban networks congestion may be a problem, particularly at peak periods. In these circumstances governments may consider:

- augmenting capacity by investing in a freight bypass or other infrastructure projects (chapter 10); and/or

- managing demand by adopting appropriate pricing strategies such as auctioning train paths (chapter 8).

While there are difficulties associated with horizontal separation of urban transport networks, there are practical solutions to these problems. Moreover, these problems and costs are considered small in relation to the efficiency improvements achieved through the use of competitive tendering and franchising processes to award the right to provide services (chapter 7) and from focusing governments on purchasing and planning of urban transport systems. The benefits from horizontal separation far outweigh the costs associated with interface issues.

***There are demonstrated and practical solutions to interface issues arising from horizontal separation of urban passenger networks.***

### *The case for vertical integration*

Urban passenger services require that trains run frequently and to a complex timetable. Coordination of services to meet the timetable is likely to be more effectively undertaken by a single operator.

Most urban rail networks in Australia are vertically integrated (with the exception of those in New South Wales). There is no competition between urban passenger train operators for the same customers, but there may be some competition between urban passenger, non-urban passenger and freight train operators for train schedules. Train scheduling is undertaken by the vertically integrated urban passenger operator(s) in all states except New South Wales. In Melbourne, Bayside and Hillside Trains undertake train scheduling for their own networks, which are independent of each other.

The relatively small size of many urban passenger markets in Australia is likely to limit the scope for competition between train operators for customers. In these circumstances, implementing competition for the market through contracting or franchising of vertically integrated businesses is more likely to generate improvements in efficiency of the urban passenger railway than the promotion of competition between operators through vertical separation.

RAC opposed the vertical integration of urban rail networks arguing that:

> If the Sydney network were reintegrated vertically, access requirements of freight operators would mean that SRA would need to either create an access unit and thereby introduce further jurisdictional boundaries for operators, or it would need to establish a retailing arrangement with RAC and/or other access providers. (sub. DR102, p. 14)

DTRS also opposed the vertical integration of urban networks, arguing that the greatest benefits would be generated from competition between urban train operators:

> We also think that the vertical separation model remains the best approach for urban systems where competition must be encouraged if urban transport is to fulfil its potential role in our cities in the future. (sub. DR125, p. ii)

However, while vertical separation has been successfully implemented for urban railways in Great Britain, there are still interface issues associated with congested networks. When the British Government decided to transfer part of the (vertically integrated) London Transport (LT) network to Railtrack, concerns were raised that congestion on some LT rail lines made separation inappropriate:

> LT has studied the proposal to run through trains on the northern section of the Circle Line between Paddington and Aldgate in detail. The scheme doesn't work because this section of the underground is used so intensively — as anyone who travels on it will recognise — that there are no spare 'slots', and re-engineering the line would be enormously disruptive. (Ford, P. 18/6/99 in The London Evening Standard)

In these circumstances alternative solutions may be appropriate. The access conditions for non-urban passenger and freight trains could be built into the contracting or franchising arrangements for the urban transport system, as they are in the Victorian approach. Franchise agreements could have terms and conditions that give the franchisees incentives to deliver the urban services more effectively and provide paths for other operators.

RECOMMENDATION 6.1

***Urban rail networks should be vertically integrated and horizontally separated from other rail networks.***

To achieve the full benefit of horizontal separation, it should be combined with competitive tendering and contracting using the purchaser-provider framework (chapters 7 and 11).

## Interstate network

The interstate network is already horizontally separated in terms of operations.[5] Currently four authorities are responsible for the administration of access, five authorities have a role in allocating train schedules and five authorities undertake investment in the network (chapters 3, 7 and 8). In Western Australia, the network is

[5] The interstate network includes the standard gauge track from Brisbane to Perth and Tarcoola to Alice Springs, and other track used by interstate trains (chapter 2).

owned by a train operator (Westrail); while elsewhere, the track infrastructure is separated from train operations.

Multiple sub-network managers impose costs on the interstate network. Train operators have faced significant financial and time costs in negotiating access charges and train schedules with numerous owners. ARTC was established to overcome these problems by providing rail operators with a one stop shop.

The competitiveness of the interstate network may be best improved through vertically separating the interstate network and having a single network manager.

### *The case for horizontal integration of network management*

The management of the interstate rail network is currently separated on a jurisdictional basis. In the Draft Report the Commission proposed horizontal integration of network management for the interstate network. The interstate rail network manager would not own the interstate network. Rather, its primary role would be to *manage* the network on behalf of the train operators and track owners according to a set of rules.

Many participants commented on the draft proposal. Once again some were concerned with the interfaces between the interstate and regional networks. DTRS submitted:

> ... the primary concern of States and State track owners is that the costs to the intrastate rail sector of vertical separation and horizontal integration of the interstate network under a single network manager, may outweigh the benefits they would realise from improved access arrangements to the interstate rail market. (sub. DR125, p. 2)

Westrail argued regardless of the structural model adopted interface issues would always exist:

> Whilst there is continued discussion with respect to the interstate network whatever structural model is introduced will require extensive interfaces and this will create issues for operators. (sub. DR107, p. 5)

NRC concurred:

> The problem comes with that interface where you've got a train path which crosses that interface and you've got two organisations who have to coordinate those train paths, but that problem is going to exist in New South Wales wherever you go until there is a freight network that goes either through or around the city on its own exclusive track. (trans., p. 1029).

As noted earlier, ARTC has used the experience of other industries relying on networks, such as roads, airports and the electricity industry, to explore interface issues and concluded that there were ways to overcome them (trans., p. 808).

A single network manager could assist in overcoming interface issues if it had full control. NRC noted:

> The manager concept will work only if on any given part of the network there is one organisation which is undoubtedly fully in charge, is able to contract the service and guarantee a level of performance, without having to go another layer, if you like, of the contractual arrangements to require that performance from somewhere else. It's got to be a one-to-one total control management situation, otherwise we're dealing with — once again we're dealing with a middleman who has no ability to affect the quality of the service that we get. (trans., p. 1029)

A network manager for the interstate rail network could play a similar role to that of the National Electricity Market Management Company (NEMMCO) in the national electricity market (box 6.3) or VENCorp in the Victorian electricity and gas market. A similar approach is adopted in the Netherlands by Railned and NS Verkeerleiding — the rail network and signalling and systems control managers respectively (appendix E).[6] This model can be distinguished from current arrangements under which ARTC operates (appendix F). ARTC owns and manages the former Australian National track. In the model proposed by the Commission the network manager would not own track infrastructure.

The horizontal integration of rail network management would allow coordinated management of the interstate network. In particular, the network manager could be responsible for determining and administering access and allocating train schedules (chapter 8). The network manager would also be able to facilitate the appropriate level of investment and maintenance to benefit all users of the interstate rail network (chapter 10). A code of conduct would need to be developed setting out the role and functions of the network manager (chapter 8).

***Network manager models, such as the National Electricity Market Management Company Limited (NEMMCO), provide a useful basis for examining the potential for the horizontal integration of rail network management and determining the role and functions of a single interstate network manager.***

[6] Similarly in Europe, Trans European Rail Freight Freeways network manager allocates train paths to train operators wishing to traverse the network (Mercer Management Consulting 1997).

Box 6.3 **National Electricity Market Management Company Limited (NEMMCO)**

The National Electricity Market (NEM) is a wholesale market for the supply and purchase of electricity, combined with an open access regime for use of the transmission and distribution networks in the participating jurisdictions of the Australian Capital Territory, New South Wales, Queensland, South Australia and Victoria.

The NEM arrangements are defined in the National Electricity Code (NEC). The NEC includes the rules and procedures for the wholesale electricity market and access regime for the electricity networks. NEMMCO manages and facilitates the wholesale electricity market while the National Electricity Code Administrator (NECA) supervises, administers and enforces the Code. The access regime for electricity networks is regulated by the Australian Competition and Consumer Commission and jurisdictional regulators.

The objectives of NEMMCO are to:

- conduct the wholesale electricity market efficiently on a self funding/break even basis;
- promote the ongoing development of, and changes to, the wholesale electricity market with the objective of improving its efficiency; and
- undertake responsibility for coordination of power system planning for the wholesale electricity market as defined by the Code.

*Source:* NEMMCO 1998.

### *The case for vertical separation*

On the interstate network there has been vertical separation into track infrastructure and train operations, except in Western Australia where the track from Perth to Kalgoorlie remains with Westrail.

Vertical separation of the interstate network has facilitated some intermodal competition through market segmentation and product differentiation. Specialized Container Transport now offers a regular service for transporting beverages and foodstuffs between Sydney and Perth, and Melbourne and Perth. Previously many of these items were transported by road.

While vertical separation could promote new entry into other market segments of the interstate track, its extent may be limited. For instance, if train operations in niche markets are characterised by economies of scale, only one train operator may ultimately provide that service. Nevertheless, where product differentiation and market segmentation occur on a sufficiently large scale, the volume of goods transported on the interstate network may increase. Increased capacity utilisation

may then reduce unit costs for operators on the network. There is some evidence of competition between train operators for the same customers, for instance between Toll and NRC in the freight forwarding market between Melbourne and Perth.

Another way vertical separation of the interstate track can deliver benefits is through promoting competition between train operators for train schedules. The efficient allocation of track infrastructure requires that train schedules should be developed and allocated in a manner that closely reflects their value to train operators (chapter 8). For instance, FreightCorp suggested that:

> The structure of a vertically separated rail network means that operators wishing to enhance the network need to be willing to pay. (sub. 55, attach. 2, p. 17)

However, an appropriate coordinating mechanism is required to create an efficient system for allocating train schedules in conjunction with access charges over the entire interstate network. This mechanism is particularly important for the pricing of peak loads and reducing congestion. Currently, the owners and users of the interstate network may place different values on the same train schedules and a mechanism for revealing whether the allocation of train schedules adequately reflects the highest valuations does not exist. (This is discussed in detail in chapter 8, section 8.3.)

Vertical separation has resulted in greater competition on the interstate network and also encouraged niche players to integrate into the transport logistics chain.

It would be desirable for the remainder of the interstate network in Western Australia to become vertically separated.[7] This implies that the sale of Westrail would exclude the interstate track from Perth to Kalgoorlie.

RECOMMENDATION 6.2

***Train operations should be vertically separated from track infrastructure on the entire interstate network. The infrastructure should be managed by a single network manager.***

***A process involving the Commonwealth and affected States should be established to determine the roles and functions of the network manager and develop a code of conduct.***

[7] Vertical separation would help remove any incentives or opportunities for Westrail to exert market power on the Perth to Kalgoorlie section of the interstate network.

## Regional rail networks

Regional rail networks are defined as all railways in Australia excluding the interstate and urban rail networks. As described in chapter 2, there are two types of regional networks:

- those without market power, such as ASR, Freight Victoria and Tasrail, as well as small branch lines; and
- those with market power, such as the main coal lines centred around the Hunter Valley in New South Wales, and Goonyella and Blackwater in Queensland.[8]

### *Regional rail networks **without** market power*

Regional rail networks without market power are usually subject to strong intermodal competition. Impediments to improving their performance have included a lack of commercial focus, inadequate investment in track infrastructure and a lack of autonomy.

Consequently, there is a need to address these impediments in order to improve the performance of these networks and allow them to compete more effectively with road transport. They also need to be able to price discriminate in order to cover fixed costs and therefore become commercially sustainable.

Improving the performance and competitiveness of regional rail networks is best achieved by separating them from other rail networks and allowing them to operate as vertically integrated businesses.

### *The case for horizontal separation*

Many regional networks without market power are particularly suited to horizontal separation because they are regionally based and largely radial. There is evidence that regional rail networks which have been horizontally separated (and privatised) are being transformed from loss making businesses requiring government subsidies into commercially independent businesses (for example, Freight Victoria, ASR and Tasrail) (chapter 7).

[8] Although not dealt with in this chapter, the private iron ore railways exhibit characteristics similar to those of the main coal lines.

However, like urban rail networks, there may be some interface issues associated with horizontal separation of regional networks. RAC observed that:

> Standard gauge lines in Victoria, South Australia and Western Australia, which either have been or are about to be privatised as vertically integrated entities, are integral parts of the standard gauge network … The NSW, Queensland and narrow gauge Western Australian systems all enjoy a healthy mix of traffics from high volume bulk movements to low volume tasks. In each case there is considerable movement of traffics between high and low volume lines. (sub. DR102, p. 15)

Interface issues occur at the point where regional networks join the interstate network or urban networks. Many regional trains need to traverse the interstate network. In these cases, regional trains would be treated like any other train operating on the interstate network. As noted earlier, there are demonstrated and practical solutions to the interface problems of regional trains traversing urban networks.

### *The case for vertical integration*

The nature of the problems facing regional rail networks without market power needs to be considered in assessing the case for vertical separation. Vertical separation is unlikely to deliver any further competitive gains for these networks because they already face strong intermodal competition and strong competition in downstream markets. Maddock concluded:

> If rail faces strong competition from road, so strong that it does not earn a commercial return, then we should not be treating rail as a natural monopoly. It may involve the technology of natural monopoly but there is no scope for this to provide for monopoly exploitation because of the intermodal competition. The correct policy position at the first level would thus seem to be to remove regulation, and to remove third party access requirements, since these will not produce efficiency gains. (sub. 40, pp. 3-4)

King and Maddock argued further:

> In terms of pro-competitive reforms then, there is probably not a lot that needs to be done. Rail suffers from an excess of competition.
>
> The principal manifestation of the competitive pressure on rail is the large accumulated and ongoing deficits of the sector and of its failure to provide an adequate return on investment. Pro-competitive reform is designed to [prevent] monopolists setting prices too high in search of excess profits. This is clearly not the problem with rail. (King and Maddock 1999, p. 13)

QR commented:

> Vertical separation as a means of competition overlooks the importance of intermodal competition as a market-based mechanism for providing efficiency incentives. (sub. 59, attach. 1, p. 2)

The WA Government concurred:

> In the case where density is light and intermodal competition is high such as the Westrail grain lines, vertical integration enables the railway to maximise efficiency. This may be of advantage in being able to compete effectively with other modes. (sub. 60, p. 4)

Kessides argued against vertical separation where markets are thin:

> ... in many countries, many markets are thin and separation might not actually lead to actual and potential competition in rail services. The primary benefits might not be obtained because the size of the market is small. (OECD 1999, p. 176)

In these circumstances the commercial sustainability of regional rail networks could be compromised. Instead of improving the performance of these networks, vertical separation may actually impair it. Hearsch concurred:

> In these situations, the total available business can barely support one rail operator and the notion of any form of 'on rail' competition has nothing to commend it. (sub. DR120, p. 23)

Further, the introduction of competition between trains could reduce the ability to price efficiently, increasing the likelihood that the provision of track infrastructure would depend on government subsidies (box 6.2).[9]

Some participants suggested that the commercial sustainability of regional rail networks is driven by the 'control' of train operations and track infrastructure. Australian Transport Network argued:

> In an integrated railway we can readily identify the problem, take responsibility for it, and deal with it. In a separated model, either there is an artificial division of primary responsibility, and later debate and settlement; or the prospect of litigation and significant costs. (sub. 25, p. 4)

A 'loss of control' could have implications for future investment in both rollingstock and track infrastructure (CRT Group, sub. 20). A single operator is likely to have better access to capital because the overall risks would be lower. Loss of control is minimised when regional rail networks are vertically integrated.

[9] It is unlikely that a track owner can practically implement an efficient two-part tariff for each train operator to recover fixed costs. In this case, vertical separation reduces the efficiency of Ramsey pricing because the individual train operators do not internalise the fixed cost of the track correctly, causing a distortion in their marginal cost.

The strength of intermodal competition combined with the need to control train operations and track infrastructure suggests that it is most efficient for one operator to meet the needs of markets served by these regional rail networks.

RECOMMENDATION 6.3

***Regional rail networks without market power should be horizontally separated from other networks and vertically integrated.***

### *Regional rail networks **with** market power*

A small number of regional rail networks possess market power because of the monopoly provision of track infrastructure and the lack of intermodal competition. They include those rail networks centred around the Hunter Valley, Goonyella and Blackwater regions (the main coal lines).

Historically, the lack of competition in these railways has enabled the NSW and Queensland Governments to extract monopoly rents by setting high coal freight rates (PC 1998a, subs. 36, 39, 50, 58, 59 and 77). For instance, Rio Tinto commented:

> ... that the authorities or their owning governments exploited their monopoly power, a power often buttressed directly or indirectly by legislation, to levy charges incorporating a sizeable monopoly rent component. It was widely acknowledged that rail charges incorporated a 'royalty' component. (sub. 58, p. 6)

The lack of competition has allowed inefficiencies in the transportation of freight to develop (chapter 4). In a submission to the Commission's (1998a) report, *The Australian Black Coal Industry*, Exxon argued:

> The high cost of transport of black coal in New South Wales is well known and documented as being significantly out of step with world's best practice. (Exxon submission to *The Australian Black Coal Industry* inquiry, sub. 3, p. 10)

Eliminating any ongoing monopoly rent and improving the efficiency of the main coal lines may be best achieved by horizontally separating them, leaving track and train operation vertically integrated and promoting competition for the market through franchising.

### *The case for horizontal separation*

In the Draft Report the Commission argued that high volume regional (coal) rail networks should be horizontally separated from other rail networks because of their market power. The Queensland Mining Council supported this approach:

> Profitable heavy-haul railways are very different in nature to loss-making passenger and light freight services. It makes sense to separate them — preferably physically, but at

> the very least organisationally — so that they are managed separately and have separate accounts. (sub. DR127, p. 1)

As with other rail networks, some participants commented that horizontal separation may prove difficult because of interface issues. In commenting on high volume regional networks, the NSW Minerals Council submitted:

> ... we believe it does not seem a good idea for the Hunter. It has features such as, first, it's a network that at the hub includes urban passenger, interstate freight, high-volume regional and low-volume regional traffic. Second, the bulk of its traffic is obliged to use rail, so there is no intermodal competition for that traffic. Third, it would be desirable for non-coal traffic that has its origin or destination outside the Hunter network to be able to deal with a single infrastructure owner. Creation of regional networks would require a body equivalent to the ARTC to provide a one stop shop for intrastate traffic, as well as increasing complications for interstate traffic.
>
> There would undoubtedly be benefits, in particular greater transparency, but this would appear to be attacking the symptoms of the problem rather than the problem itself. (trans., p. 692)

By confining these regional rail networks to the main coal lines, any interface issues would be minimised. As with other rail networks, there are demonstrated and practical solutions to overcoming any remaining issues.

The horizontal separation of the main coal lines is fundamental to reducing market power, facilitating improvements in transparency and independence. As Shell Coal submitted:

> Where there is no transparency and the owner of railway infrastructure has a natural monopoly, the customer (eg coal producer) cannot know whether the monopolist is using market power to recover inefficient operating costs and excessive overheads, or to hide poor investment decisions. There is no way to calibrate cost efficiency against world best practice without transparency. (sub. 36, p. 3)

Horizontal separation would generate further benefits through the facilitation of competition for the market — through franchising or competitive tendering and contracting. Such benefits are likely to outweigh the costs associated with interface issues.

RECOMMENDATION 6.4

***Regional rail networks with market power (the main coal lines) should be horizontally separated from other networks.***

*The case for and against vertical integration*

Consideration of vertical restructuring of the main coal lines depends on the best way to eliminate monopoly rent and increase service levels. McKillop noted:

> Eliminating monopoly rent and improving the efficiency of these railways are the key issues to be addressed. (sub. DR90, p. 6)

In the Draft Report the Commission sought participants' views on the appropriateness of vertical separation for the main coal lines. In response, some participants argued in favour of vertical separation, primarily because they believed that regulation of track access charges and competition between operators was the best way to eliminate monopoly rents. For instance, RAC noted:

> As volumes and the number of customers increases, the importance of competition also grows and the presumption in favour of competition should also grow. (DR102, p. 16)

NRC argued that:

> Vertical separation of high volume regional railways is essential to achieving the benefits of competition for customers using these railways. (sub. DR117, p. 12)

The NSW Minerals Council also argued in favour of vertical separation, noting that vertical separation was particularly important where track infrastructure is not owned by the coal industry:

> If it is assumed that the rail infrastructure is not owned by the coal industry, then for the Hunter rail network vertical separation has advantages that outweigh the disadvantages. (sub. DR104, p. 4)

Similarly, Queensland Mining Council preferred vertical separation for the main coal lines:

> These considerations lead our Council to prefer a structure for QR that reflects: separation of coal and minerals from the rest of the network, to provide managerial autonomy and transparency; [and] vertical separation of coal and minerals into above and below track services to facilitate competition and monopoly price and incentive regulation. (sub. DR127, p. 2)

Vertical separation and the promotion of competition between train operators can result in lower freight rates. However, the lower costs of train operations may not necessarily be accompanied by lower fees for track access. For instance, in New South Wales vertical separation initially resulted in lower freight rates and the transfer of monopoly rent from train operations to track infrastructure (PC 1998a).

Although there are benefits from vertical separation, there is still the potential to extract monopoly rents because track infrastructure is provided by a monopolist. Appropriate access regulation is particularly important in addressing this problem (chapter 8).

On the other hand, Westrail argued in favour of vertical integration:

> Clearly, Westrail believes that the appropriate model for high volume regional railroads is a vertically integrated railway with an effective access regime to prevent monopoly rents and provide competition in above rail services. (sub. DR107, p. 5)

One important advantage of vertical integration is the increased ability to focus on the logistics and optimisation of the entire production and transport process. Rio Tinto argued that for its Hamersley iron ore operation:

> Hamersley has moved from operating each mine as a stand alone operation to an integrated production system with substantial benefits to capital and manpower activity. Integral to this is the ability to schedule rail movements freely to achieve the correct quality of blend. Optimisation of the total system rather than the mine or rail system alone requires meticulous planning and rigid adherence to mining sequence and delivery schedules. Carriage of third party traffic on a single track system would put this in jeopardy. Because of this close integration, the rail system plays the same role in the production process as a shovel, a drill or a reclaimer. (sub. 58, pp. 10-11)

Moreover, ARTC argued that:

> It is accepted that in a few limited circumstances the railway line may be so entwined in the overall production process of a single company that the introduction of a third party train operator on the line may be severely detrimental to the competitiveness of the track owner. In many cases, the owner is operating in international markets in which strong competition already constrains pricing and necessitates efficiency. (sub. DR97, p. 7)

However, Queensland Mining Council argued that Queensland's situation with a 'government-owned multi-user monopoly' differed from the Hamersley example (sub. DR127, p. 2). While not denying the importance of the interdependencies between the different elements of the transport chain it gave greater weight to the need for competition (in the market) and transparent access regulation.

One strategy to retain the benefits of vertical integration while ensuring the elimination of monopoly rents and improvements in efficiency would be to promote competition for the market by franchising the network and its operations (chapter 7).[10] Greater transparency can promote efficiency. As noted by the OECD:

> Franchising also removes the power of the monopoly of information. Under traditional forms of regulation firms have the information, regulators do not. Under a franchising scheme that monopoly information is removed. (OECD 1999, p. 182)

Monopoly rents can be reduced in the bidding process by awarding the franchise on the basis of the lowest freight rate. Periodic retendering of the franchises will also assist in reducing monopoly rents:

> Competitive pressure can also be introduced into a monopoly or near monopoly activity

[10] Franchising is preferred to selling the network to avoid simply transferring monopoly rent from a government to private owner.

through periodic tenders for the franchise. (Viehof and Jones 1995, p. 1)

Franchising can also promote greater fairness. For instance:

> ... bidding schemes can make the rules of the game between incumbents and entrants fairer, as an efficient new entrant can take on the whole market immediately, rather than try to win market share gradually in a battle with the incumbent operator. (OECD 1999, p. 182)

The bidding process may be designed so that it includes transferring assets (such as rollingstock), thereby removing a substantial barrier to entry and making the market more contestable. The OECD stated:

> ... franchise bidding is going to make a market much more contestable than it would otherwise be, by separating out, from the competition, at least some of the sunk costs, thus lessening the entrant's need for a prior commitment, pushing the market thereby closer to perfect contestability. (OECD 1999, p. 182)

Further competitive pressure can be applied by franchising individual networks to different operators (for instance, the main coal lines around Goonyella and Blackwater), thus encouraging yardstick and interregional competition. Growing pressure from downstream markets would enhance competition between regions.[11]

***The preferred approach for enhancing efficiency and addressing market power in the main coal lines is through vertical integration and the application of competition for the market using franchising.***

## 6.5 Conclusion

The appropriate structures in interstate, regional and urban passenger rail networks will differ. Each railway has different characteristics, depending on the strength of intermodal competition, the degree of market power, the degree of competition in downstream markets and traffic density. The gains from structural reform therefore will vary between the different rail networks. Its effectiveness in promoting competition will also depend on ownership arrangements, especially ownership of rollingstock. Structural separation should only be implemented when the gains from removing impediments to performance exceed the costs. There may be other ways of capturing some of the potential gains from structural reform without incurring the costs associated with restructuring (chapters 7, 8 and 10).

[11] Competition in downstream markets refers to the competition Australian coal exporters experience on the world market from other international suppliers. Such competition reduces the market power of railways as any increase in freight rates may lead to a decrease in export revenues.

# 7 Public and private participation

**Although government-owned railways have improved their performance since 1991, they still lack a full commercial focus and suffer from inadequate investment. These problems stem from weaknesses in the corporatisation model. Refinements to this model may lead to some improvement in commercial focus. However, given the limitations of the model and the challenges facing the rail industry, alternatives to government provision need to be considered.**

The inquiry's terms of reference require the Commission to examine the role of the Commonwealth, States and private sector in rail operations and ownership.

In this chapter, the key issues of commercial focus and investment within the rail industry are outlined (section 7.1). A number of different models of rail service provision, ranging from government department to private ownership, are examined (section 7.2). Taxation arrangements which may affect private sector involvement in railways are also discussed (section 7.3).

## 7.1 Objectives and the role of government

Private enterprise was responsible for the introduction of railways in Australia in the mid-nineteenth century. Governments initially became involved because private investors wanted governments to guarantee dividends and provide further capital to complete lines. When these private railway companies encountered difficulties, governments took over ownership to protect themselves from financial exposure (appendix C).

Until recently, all major state-based rail systems and interstate operations were government-owned and operated. Historically, governments used their railways to pursue objectives other than commercial viability. Goals such as income redistribution, regional development and employment creation have underpinned the provision of some train services and associated infrastructure. However, the pursuit of social or political objectives has often been at the expense of efficiency. Apart from these non-commercial objectives, governments own railways as an alternative to regulating private monopolies and as a means of addressing externalities, such as traffic congestion in urban areas.

During the 1990s, there has been a change in emphasis with governments according greater weight to improving the efficiency and financial viability of their railways. The focus on efficiency stems from the relatively poor performance of government-owned railways in the 1970s and 1980s. In its 1991 inquiry into rail transport, the Industry Commission (IC) attributed the large and persistent rail deficits during this period to government intervention in railway operations for non-economic reasons (IC 1991b).

Other factors have also had a bearing on the increasing focus of governments on the performance of their railways. Importantly, the nature of the transport market has changed considerably in the 1990s. Competitive pressures have intensified with the entry of private sector operators. Moreover, the rail industry faces significant competition from a road transport sector, characterised by a high degree of flexibility and innovation, and the potential for greater competition from sea transport.

Against this background, most government-owned railways have been commercialised or corporatised to address some of the problems identified in IC (1991b) (chapter 3). Notwithstanding these reforms, many participants in the current inquiry (including the Australian Wheat Board, Australia Southern Railroad (ASR), Forsyth and Trace, Maddock, the NSW Minerals Council and Queensland Rail (QR)) have pointed to difficulties facing railways under government ownership. Two key issues raised by participants included:

- the lack of a full commercial focus; and
- inadequate investment and maintenance funding.

Given these concerns, this chapter examines recent reforms to government-owned railways and explores different models of rail service provision. Aspects of the competitive environment are also discussed, though they are addressed more fully in chapters 6, 8 and 10.

## 7.2 Public/private sector models

There are a number of forms (or models) of rail service provision, ranging from government department to private enterprise provision. Under the departmental model, government is responsible for virtually all aspects of provision including planning, design, financing and funding, construction, operation, maintenance and regulation[1] (table 7.1). Under the private enterprise model, the owners or their

[1] Regulation covers economic regulation (such as price and service regulation) as well as safety and environmental regulation.

agents are involved in most aspects of provision except for regulation and the funding of community service obligations (CSOs).

Table 7.1 **Main forms of rail service provision**[a]

| *Areas of responsibility* | *Government department* | *Government enterprise* [b] | *BOOT project* | *Franchised enterprise* | *Private enterprise* |
|---|---|---|---|---|---|
| Planning | G | G | G/P | G/P | G/P |
| Design | G | G/P | G/P | G/P | G/P |
| Construction | G | G/P | P | P | P |
| Operation | G | G/P | P | P | P |
| Maintenance | G | G/P | P | P | P |
| Ownership [c] | G | G | P → G | G/P | P |
| Payment for service | G/C | G/C | G/C | G/C | G/C |
| Regulation | G | G | G | G | G |

[a] G represents government, P the private sector and C consumers. [b] Traditional, commercialised or corporatised. [c] Although franchisees own the right to operate an enterprise for a fixed period, government may retain ownership of some assets. Ownership of private enterprises is on an indefinite basis.

*Source*: Adapted from EPAC 1995a.

Between departmental and private enterprise provision are different mixes of public and private involvement, such as commercialised or corporatised government enterprises, build-own-operate-transfer (BOOT) projects and franchises. The models in table 7.1 are stylised representations and involve a degree of abstraction. Moving along the spectrum of models towards private enterprise, more of the responsibilities and risks are borne by the private sector. In addition, the degree of independence from executive government (that is, cabinet ministers) normally increases.

## Government-owned railways

Since 1991, government-owned railways have been subjected to various kinds of administrative and structural reforms. In most jurisdictions, reforms have involved either commercialisation or corporatisation. These programs have generally aimed to lift the performance of government railways and to promote competitive neutrality between government and private operations. In some jurisdictions, such reforms have been used to prepare railways for sale to private sector entities. Key reform initiatives in railways are summarised in chapter 3 and appendix D.

*Commercialisation and corporatisation*

Reforms involving commercialisation and corporatisation seek to introduce commercial disciplines and practices into the operation of publicly owned enterprises. These reforms require public enterprises to adopt objectives and incentives that emulate those facing private firms. Corporatised enterprises are expected to focus more on cost minimisation and efficient pricing. They are also required to introduce performance-based systems of rewards and sanctions for directors and managers. The IC (IC 1991a) set out a general model of corporatisation as a guide for governments (box 7.1).

Box 7.1 **General model of corporatisation**

- Provide clear, non-conflicting objectives relating to commercial performance only.
- Identify, cost and directly fund any CSOs from the government budget.
- Vest management in a commercial board of directors accountable to parliament through a minister.
- Introduce a system of rewards and penalties for managers related to performance and introduce performance-monitoring systems.
- Require the adoption of uniform and commercial accounting practices.
- Make authorities liable for all taxes and government charges and make dividends payable at levels equivalent to similar private companies.
- Remove constraints such as government employment policies and advantages such as government borrowing guarantees.
- Make corporatised authorities subject to the Corporations Law.
- Separate out regulatory functions, introduce effective natural monopoly regulation and remove exemptions from the Trade Practices Act that do not apply to private companies.
- Remove regulatory and legislative barriers to entry.

*Source:* IC 1991a.

Corporatisation has been subsequently encompassed by the National Competition Policy (NCP). The Independent Committee of Inquiry into NCP (Hilmer et al. 1993) outlined a number of key principles for corporatisation. The Hilmer Committee gave particular emphasis to achieving competitive neutrality between government and private enterprises.

The main difference between commercialisation and corporatisation lies in the legislative framework. Corporatisation generally involves legislation which specifies the powers and responsibilities of the government enterprise (through its

board of directors) and executive government as the dominant shareholder. The legislation aims to remove government from day-to-day control of the enterprise. The enterprise may be established under the Corporations Law, or as a statutory authority under its own or 'umbrella' legislation (NCC 1997c). Commercialisation does not usually have an equivalent legislative basis.

Most jurisdictions have established umbrella legislative frameworks for the corporatisation of government-owned railways. Since the mid 1990s, a number of public rail entities in New South Wales, Victoria and Queensland have become subject to such legislation (chapter 3).

The National Rail Corporation (NRC) and Australian Rail Track Corporation (ARTC) are the only government-owned rail organisations that have been incorporated under the Corporations Law, as recommended by the IC (IC 1991b). NRC contended that the 'standards of commercial behaviour required of such entities is more strictly sanctioned than in any special legislation' (sub. DR117, p. 13).

In the case of Westrail, the WA Government did not adopt the legal structure for corporatisation recommended by the Independent Commission to review Public Sector Finances in Western Australia (McCarrey et al. 1993) or the IC (IC 1991b).[2] The WA Government considered that some provisions of the Corporations Law were not appropriate for Westrail. In place of legislation, a formal performance agreement was reached between Westrail management and the State Government.

In principle, corporatisation is a more transparent and accountable way to pursue competitive neutrality and other objectives than commercialisation. That said, the commercialised Westrail has performed strongly compared to its corporatised counterparts in the 1990s (chapter 4). While a range of factors can influence relative performance, the selective adoption of specific elements of corporatisation and the relationship between Westrail management and executive government may have contributed to this positive outcome.

### *Is corporatisation sufficient?*

As noted above, most government-owned railways have been commercialised or corporatised since the late 1980s. Despite achieving significant improvements in productivity between 1991-92 and 1997-98 (chapter 4), government railways still

[2] The McCarrey Commission considered the merits of two legislative frameworks. On balance, it supported the corporatisation of government enterprises under state statute but where the enterprises are being prepared for privatisation, provisions of the Corporations Law were thought to be more appropriate. The Commission identified Westrail as a candidate for corporatisation.

face several problems relating primarily to a lack of a full commercial focus and inadequate investment in the rail network. This suggests further gains are possible.

The limitations of corporatisation may stem from the way it has been implemented. Alternatively, there may be limitations to the model itself. Evidence to this inquiry provides support for both these possibilities.

A number of governments do not appear to have implemented the model as it was originally intended. Problems relate specifically to the objectives imposed by governments on their railways, the way in which CSOs have been specified, and the commercial freedom of boards to pursue profitable opportunities or cease loss-making activities.

Corporatisation was intended to strengthen the commercial focus of government railways. There was agreement among numerous participants (including Forsyth and Trace, FreightCorp, Tourism Council of Australia, Victorian Government and Westrail) that an increased commercial focus was still needed and was central to achieving further improvements in the rail industry.

Under corporatisation, governments are meant to provide rail enterprises with clear and non-conflicting objectives. This allows boards to focus on achieving those objectives and to be held accountable for their performance. It would appear that governments subject their railways, implicitly or explicitly, to multiple objectives. QR stated that:

> It is particularly important to recognise that probably the most significant factor contributing to rail inefficiencies is the tendency for the rail industry to be bound up in certain political processes. These have objectives other than pure transport outcomes – ie social welfare, employment and regional development objectives.
> (sub. 59, attach. 1, p. 2)

Further, in 1996, the Queensland Commission of Audit (1996) concluded that the performance of QR was constrained by government commitments and public expectations.[3] As a result, it found that the corporatisation process — at that time — had not been effective in achieving the desired outcomes of introducing 'arm's length' commercial relationships between Government and QR.

Introducing commercially-oriented charters does not preclude government-owned railways from delivering CSOs. If governments wish to pursue non-commercial objectives, this should occur on a transparent, contractual basis between government

[3] QR was required to provide services to communities in all parts of the State served by the rail network, contribute towards the fulfilment of the Government's policy agenda and honour commitments to its workforce precluding retrenchments and relocation (Queensland Commission of Audit 1996).

and the railway. The purchaser-provider framework required is discussed further in chapter 11 and appendix I.

While governments have implemented some reforms in identifying and explicitly funding CSOs (chapter 11), several participants have expressed concerns about cross subsidisation between profitable and unprofitable activities. Rio Tinto stated that:

> The NSW government now provides some explicit subsidies to enable otherwise uneconomic passenger services to access the track, but suspicions about a 'cross subsidy' element remain. (sub. 58, p. 6)

The Rail Access Corporation (RAC) confirmed that, in 1996-97, access charges to the State Rail Authority of New South Wales (SRA) did not recover the costs of providing access and an effective cross subsidy was required from the Corporation's more profitable activities (RAC 1997).

Similarly, commenting on the level of disclosure, the Queensland Mining Council stated that:

> QR will tell you, 'We've been corporatised. We calculate our CSOs correctly. We do not cross subsidise across the organisation and the rules are there to see in black and white.' Our point is: if that's the case, put the numbers on the table … (trans., p. 624)

Another element of corporatisation is competitive neutrality — ensuring that government operators are not competitively advantaged or disadvantaged compared to their private sector rivals. As discussed in chapter 10, a number of participants expressed considerable doubts about whether government-owned railways operate on a competitively neutral basis. Some claimed that government railways have taken actions which could not be supported in a commercial environment. At a broad level, this indicates potential difficulties in achieving a commercial focus within government-owned railways.

There are also concerns that corporatisation has not ensured adequate levels of investment in railways. While investment has been occurring (for example, the mainline upgrade in Queensland), there is evidence that some government railways have not made, or been able to make, sufficient investment in rail infrastructure from a commercial standpoint (chapter 10).

At the same time, FreightCorp and RAC contended that commercial imperatives do apply — that is, investment is undertaken where adequate returns are expected. RAC argued that:

> The real difficulty with investing in rail is not that there isn't money. Rail Access Corporation has a very sound balance sheet and free cash flows, significant free cash flows to invest in the system. As a state-owned corporation we can invest where we're

> going to get a reasonable commercial return. … There aren't very many profitable opportunities for investment, and so that's at the core of the problem. (trans., p. 651)

However, the findings of recent reports (HORSCCTMR 1998b, Maunsell 1998, Rail Projects Taskforce 1999) and evidence from participants (for example, Westrail) indicate that a major constraint facing government-owned railways is the lack of access to capital. As a result of this constraint, there are long delays before projects proceed or they may proceed in a piecemeal manner over a number of years as funding permits.

There are a number of possibilities as to why government railways may be capital constrained. In some cases, government railways may be subject to overall State borrowing limits constraining their ability to incur debt. Also, faced with large operating deficits for urban passenger services and observing generally poor returns in freight operations, State treasuries and ministers may consider that further equity funding cannot be justified. Poor returns could be exacerbated if rail owners are recording assets in their accounts at values in excess of their market value. Such practices could create an artificially high asset base making the financial performance of government-owned railways appear poorer than is actually the case.

Ultimately, the source of the capital constraint on government railways is not as important as the fact of its existence. Corporatisation is intended to allow government-owned enterprises to establish commercial capital structures and make investment decisions like any equivalent private corporation. Evidence that they are unable to do so points to problems with its implementation.

***The commercial focus of government railways would be improved if they operated more in line with the original intent of the corporatisation model.***

This would involve a number of changes to the current relationship between railways and government shareholders — the most important being a preparedness by governments to provide equity funding and/or allow railways to borrow on their own behalf for investment in rail infrastructure.

*Limitations of the corporatisation model*

Notwithstanding the gains which may be possible from a stricter application of the corporatisation model to government railways, the preceding discussion raises the issue of whether the rail industry tests the limits of this model. Compared to private ownership, the potential limits relate to the behaviour of governments in their role as shareholders.

Separation of ownership and control is characteristic of most larger private companies as well as government enterprises. Under the corporatisation model, performance monitoring by units within central agencies is intended to emulate, by administrative means, the performance assessment role fulfilled by debt and equity markets. In general, units monitoring performance within government operate with fewer resources and less information than that available to capital markets. As the original intergovernmental task force that codified the corporatisation model noted:

> … none of the monitoring devices [of government] provide the continuous and unrelenting scrutiny which characterises private sector monitoring.
> (TOIRGTE 1991, p. 26)

Measurement issues aside, there are questions about how governments interpret performance data and the extent to which they act upon this information. For instance, governments may be content to accept lower financial returns from their railways (and therefore refrain from enforcing sanctions) because there are compensating political benefits. Where such trade-offs are made, railways are not exposed to the same kind of commercial pressures and disciplines that confront private enterprises.

It is often difficult, and possibly unrealistic, for a minister or government to act in the same way as a commercial shareholder (notwithstanding the framework for delivering CSOs). The nature of the political process itself, and the expectations of the community, can mean that ministers seek to be involved, or are drawn into matters that are the proper responsibility of boards.

The shortcomings of the corporatisation model were discussed by some participants. John Hearsch Consulting noted that:

> Corporatisation and the appointment of 'commercial' Boards of Directors has been implemented in some instances with a view to the interface with government being at arm's length. However, experience would suggest that this objective is rarely achieved in practice unless the politicians and bureaucrats concerned exhibit uncharacteristic restraint! (sub. DR120, attach. 1, p. 24)

And the Victorian Government argued that:

> … even if corporatised entities are set up on a sound commercial/company basis and even if politicians do not interfere, the ultimate discipline of a stock market price is lacking. A falling share price is a warning to managers that they must lift their performance or face the threat of take-over and hence loss of their jobs. There is no equivalent with a government owned business. (sub. DR118, p. 6)

***The corporatisation model has inherent limitations, such as the inability of governments to behave in a commercial way and remain at arm's length from their railways. As a result, the commercial incentives and disciplines confronting corporatised railways are diluted.***

## Government procurement

Under the traditional departmental or government enterprise model, governments both funded and provided rail services. In the past decade, however, there has been a move away from exclusive in-house provision. Under the procurement model, governments purchase services from public enterprises or the private sector under contract. These issues have been addressed in an inquiry conducted by the IC in 1996 into the use of competitive tendering and contracting (CTC) by public sector agencies (IC 1996).

Government-owned railways have increasingly adopted CTC in the 1990s. A number of services are now provided by the private sector. Although contracting out has occurred primarily in the area of maintenance, some ancillary services, such as cleaning and catering, have also been outsourced (table 7.2). There has been subcontracting of some rail operations, for example, Northern Rivers Railroad hauls wagons containing fly-ash between Grafton and Murwillumbah as a subcontractor for FreightCorp (*Network Rail*, Dec/Jan 1998, p. 17).

CTC is a means of introducing market pressures into areas where competition was previously absent. Competition is introduced through the bidding process and drives providers — be they public or private — to adopt efficient methods of service delivery. Even where contracts are awarded to in-house bidders, the threat of competition can provide powerful incentives to improve cost-effectiveness (Rimmer 1994). The main benefits of CTC are argued to include lower costs, improved service delivery and quality, and greater flexibility (King 1994).

Contracting with the private sector generally involves the transfer of some commercial risk from government (such as the risks associated with the cost of construction and/or operation). There are likely to be stronger incentives to contain costs under contracted private provision where contracts are properly specified.

Table 7.2 **Competitive tendering and contracting by government-owned railways, 1991 to 1999[a]**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| New South Wales | 1992 | Service contract let for the provision of locomotive services. The private sector to own and maintain the locomotives and the SRA to lease them on a per kilometre basis. |
| | 1992-93 | Proposed private sector maintenance of Endeavour/Xplorer diesel railcars with potential for extension to XPTs. |
| | 1993 | Maintenance of electric passenger rollingstock at the SRA Clyde/Elcar workshop contracted out to the private sector. |
| | 1993-94 | Government released its contracting and market testing policy to encourage the adoption of contracting in the public sector. |
| | 1996 | Catering services on Countrylink trains outsourced. |
| | 1997-98 | RAC let several contracts for maintenance work on the state rail network. |
| | 1998 | Northern Rivers Railroad contracted to haul fly-ash in northern New South Wales. |
| Victoria | 1992 | Public Transport Corporation allowed to bid for NRC contracts. |
| | 1996 | Operation of Bendigo railway workshops contracted out. |
| Queensland | 1992 | Significant inspection tasks transferred to industry and private sector organisations. |
| Western Australia | 1992-93 | Instruction circulated to all public sector agencies to identify and pursue opportunities for letting services to competitive tender. |
| | 1996 | Westrail contracted out track maintenance and development work. |
| | | Major locomotive repairs and servicing of locomotives and wagons contracted out. |
| | 1996-97 | Cleaning of all country passenger rollingstock, catering and maintenance of Prospector railcars and refurbishment of Australind railcars transferred to the private sector. |
| | 1997-98 | Gantry crane operations at Kalgoorlie operated under contract to a private sector operator. |
| South Australia | 1995 | Some public transport services competitively tendered. |
| | | TransAdelaide track re-sleepering activities contracted out. |
| | 1996-97 | Service area franchise contracting for all metropolitan public rail services implemented. |
| Commonwealth | 1993-99 | NRC outsourced locomotive maintenance, some wagon maintenance, terminal equipment maintenance, information technology development and operations, and a number of corporate functions. |
| | 1998-99 | ARTC contracted out track maintenance. |

**a** This list is not exhaustive and not all contracts were tendered.

*Sources:* ARTC, sub. DR97; IC 1991a (various years); *Network Rail*, Dec/Jan 1998, p. 17; NRC, sub. 53 and sub. DR117; PC 1998c; WA Government, sub. 60.

Several participants pointed to cost savings from the use of CTC in railways. NRC attributed productivity gains to several initiatives including outsourcing of most non-core functions (sub. 53). The Victorian Government noted that the Public Transport Corporation had achieved gains from the contracting out of non-core activities such as information technology (sub. 82). And ARTC outsources a significant proportion of its activities to the private sector:

> … the result of which is an ability to reduce access pricing by an average of 7 per cent in real terms since the advent of ARTC's predecessor (AN Track Access) in 1995. (sub. DR97, p. 9)

According to ARTC, other gains from a commercially focused maintenance and network management effort have included increased network capacity, improved service quality and changes in train operating parameters (such as increased train length) which enable operators to derive above rail productivity benefits.

In New South Wales, a strategic review of RAC revealed that 'substantial cost reductions could be achieved from productivity gains and other efficiencies in the Infrastructure Works and Maintenance Program' (RAC 1997, p. 9). A priority of RAC has been to introduce contestability into this program. However, in July 1998 the NSW Government instituted a one year moratorium on the contestability program to allow Rail Services Australia time to implement the necessary structures to enable it to compete on an even footing with the private sector (sub. DR102). In June 1999, the Government partially lifted the moratorium by allowing competition for the provision of maintenance services on the Bondi Junction to Waterfall line in Sydney and the Hunter Valley lines.

While several government-owned railways have applied CTC to some of their activities, QR has taken a different approach:

> Just as we went against the general trend in Australia on the subject of integration, so too we went against the trend by investing in core activities like workshops and track maintenance. Retention of a full range of railway technical support services has been a major plank in our strategy to remain competitive … (O'Rourke 1999, p. 4)

The potential benefits available from CTC are not guaranteed. In some cases, the in-principle advantages of contracting out may be dissipated by a greater degree of contractual dispute (EPAC 1995b). For instance, a low bid may win a contract but subsequent renegotiation may raise the final cost. Another issue is the period of the contract which determines the frequency of competitive bidding. Aside from price, it is important that contracts contain appropriate incentives or conditions to ensure service quality. Governments may also need to retain the requisite skills in-house to supervise the performance of service providers against contractual commitments. Most of these issues can be addressed by well designed contracts, tendering systems, and monitoring processes.

The employment and regional impacts of using contracting out in government railways are discussed in chapter 11.

***Providing that tendering systems, monitoring processes and contracts are well designed, the application of contracting out in rail transport can lead to improvements in efficiency because of the stronger commercial disciplines confronting the private sector.***

## BOOT-based approaches

Under BOOT based approaches, the private sector finances and builds an infrastructure facility in return for the right to operate the facility and charge users a fee. The fees or user charges are usually approved and regulated by government. The use of BOOT-based approaches in rail transport is a recent phenomenon in Australia with only a small number of projects currently operating or under construction.

There are a number of key variants within BOOT-based approaches, including Build-Own-Operate (BOO), BOOT and Build-Transfer-Operate (BTO).

- BOO projects remain privately owned facilities in perpetuity. An example is the Skitube in the Snowy Mountains in New South Wales (HORSCCTMR 1998b).
- Ownership of a BOOT project transfers to government at the end of a pre-determined period. The New Southern Railway and the Brisbane Airtrain are examples of such projects (box 7.2).
- Under a BTO scheme, the government takes ownership of the project on completion and leases it back to the private sector.

The key difference between BOOT-based approaches and contracting out under public ownership is that, under a BOOT structure, the private sector provides at least some of the finance for the venture and assumes some part or all of the project's risk. The allocation of risks between the private sector and government is normally specified in the contract. BOOT-type projects may be characterised as project rather than network privatisations. These approaches can be used to upgrade existing infrastructure or to add new segments to networks.

BOOT-type projects appear to overcome some of the limitations of contracting out under public ownership, especially access to adequate capital (either debt or equity) and the incentive to dispute contract provisions. As noted earlier, the public sector may have difficulty in providing dedicated funding for large scale infrastructure projects stemming from budgetary or borrowing constraints.

Box 7.2 **BOOT projects: airport rail links**

**New Southern Railway**

The $800 million Sydney Airport Rail Link is Australia's largest BOOT railway project. It has a five year construction time table which commenced in July 1995. The project is a ten kilometre railway, mostly underground, running from Central Station to Sydney Airport, then joining the CityRail Illawarra and Glenfield lines at Turrella.

The project involves public and private sector collaboration in ownership, operation, cost and risk of development. The NSW Government will fund and own the tunnel, track, signalling and communications systems at a cost of about $540 million. The track will be owned by the Rail Access Corporation and the rollingstock owned and operated by the State Rail Authority of New South Wales (SRA). Transfield and Bouygues through the Airport Link Company will fund, own and operate the four underground stations (costing around $250 million) for 30 years after completion in 2000.

The fares applying to the Sydney Airport Rail Link will be in two parts: a train fare and a station fare. The train fare is the normal SRA fare (which is subject to review by the Independent Pricing and Regulatory Tribunal); concession fares continue to apply. The station fare is a special fare which provides the revenue for the Airport Link Company. All fares will be contained in the one ticket. There will be no extra charge for through passengers travelling on the link as part of the integrated CityRail network.

**Brisbane Airtrain**

The $190 million Brisbane Airport rail link will be Queensland's first BOOT rail development. Transfield in partnership with Macquarie Bank has formed the Airtrain Citylink consortium to build, own and operate an 8.5 kilometre rail link providing direct passenger services from Brisbane Airport to the Brisbane CBD and the Gold Coast. It links into the Citytrain network run by Queensland Rail.

Transfield will be responsible for design, construction, operation and maintenance. Design work began in early 1999. Construction is expected to begin later in 1999 and take just over two years to complete. Airtrain Citylink will own, operate and finance the project for 35 years after which the asset will revert to the Queensland Government at no cost. There is no government contribution or support of revenue streams.

*Sources:* Office of the Queensland Premier 1999; Transfield Maintenance, Melbourne, pers. comm., March 1999; *Transit Australia*, May 1998, pp. 99-102.

Compared to the contracting out approach, BOOT-type projects provide secure funding, bring generally sharper incentives for efficiency and generate synergies from bundling construction and operation with finance. As equity partners, BOOT contractors have the incentive to avoid excessive contract disputation and to consider the life cycle costs of the asset (EPAC 1995a).

The efficiency incentives facing BOOT contractors will depend on revenue arrangements and the associated risk exposure. Regulation of fares and payment of subsidies, for example, can affect contractors' incentives to seek cost savings and encourage growth in patronage. The Bureau of Industry Economics (BIE) noted that price caps (which restrict fare increases to the rate of growth in the consumer price index less a productivity factor) can introduce incentives to operate at least cost while limiting the scope for monopoly pricing (BIE 1995a).

Financial costs, including the cost of capital and transaction costs, are an important consideration in selecting the form of provision. Network risks for BOOT projects in particular may add to the cost of capital. Because a BOOT project is often part of a wider infrastructure network, changes in other segments of the network may affect the project's traffic flows and revenue. The Commonwealth Department of Finance and Administration noted that BOOT contracts tend to protect against competition from alternative routes (sub. 65). Moreover, transaction costs are typically high for BOOT projects because of the legal and financial complexity of contractual arrangements between numerous parties (EPAC 1995a).

Transaction costs are also a key consideration in selecting between BOOT or BOO projects. Contracts for BOOT projects will need to specify the condition of assets at the time of transfer back to government. Otherwise, the operator may be reluctant to maintain or replace assets as the transfer date approaches. BOO projects do not require these additional contractual provisions and therefore have greater flexibility in terms of investment and maintenance than BOOT schemes.

***Under BOOT-type arrangements, there may be additional efficiencies compared to contracting out resulting from synergies created by combining construction, operation and finance.***

## Franchising

Another model of service delivery is franchising.[4] Under this approach, government grants the right to operate a service for a fixed period to the franchisee. The right is usually won through a competitive bidding process.

Where transport markets exhibit natural monopoly characteristics, franchising may be a way of introducing competitive pressures. This occurs through periodic competitive bidding for the franchise. That is, an exclusive franchise is established

[4] Thompson and Budin (1997) apply the term 'concessioning' to leasing or affermage, franchising, and traditional concessioning.

and firms compete for the right to serve the franchise area. This is known as competition for the market, as distinct from on-going competition within the market.

There has been a recent international trend towards the franchising of rail services. A number of Latin American countries (including Argentina, Bolivia, Brazil, Chile and Mexico) have applied franchising to railways, as have some African countries and Great Britain. As the franchising of passenger services in Victoria has only recently commenced, the overseas experience — particularly in Argentina and Great Britain — is used as a guide to the potential outcomes of franchising.

### *International experience*

Proponents of franchising contend that the potential benefits include enhanced efficiency in operations and maintenance, improved service quality, greater innovation, market development and revenue growth, increased investment and reduced government financial support.

Many of these benefits have been realised in Argentina where rail services were franchised in the early 1990s (appendix E). The World Bank, which has been involved in rail reform in Argentina and elsewhere, examined the early performance of the franchises. According to Carbajo and Estache (1996), the overall results have been positive — many services have improved, traffic volumes have increased, and subsidies have been reduced (box 7.3).

In Great Britain, passenger train franchises began operating in the mid-1990s. The Office of Passenger Rail Franchising reported that the two key measures of train operators' performance — reliability and punctuality — had generally improved in 1996-97 compared to 1995-96. However, punctuality has since deteriorated whereas reliability has been broadly maintained. Strong growth in passenger numbers has also led to overcrowding on some commuter trains serving London (OPRAF 1999a, 1999b and 1998).

The infrastructure owner, Railtrack, improved network performance in terms of train delays attributable to Railtrack between 1995-96 and 1997-98. But, its activity in renewing assets (including some track components, signalling and stations) has been below expectations and there has been little increase in network capability (Booz-Allen & Hamilton 1999).

Box 7.3 **Rail franchising: The Argentine experience**

Before recent reforms, Argentina had a large public sector railway, Ferrocarriles Argentinos, which operated a national network of 35 000 kilometres and employed 92 000 people. By 1990, the railway was losing about US$1.4 billion a year (1992 US dollars) and its fixed assets were in poor condition. Much of the track was in a fair to bad state and only half the locomotives were available for service. As a result, the railway was losing traffic and market share.

In 1990, the Argentine Government and the World Bank agreed on a plan to restructure the railway into several separate freight and commuter rail networks, concessioning (that is, franchising) the networks, rationalising intercity passenger services, and other measures (appendix E).

Operating as franchises, most of the rail freight businesses appear stable but none are highly profitable as traffic density on Argentina's freight railways is low. Traffic has grown in rail freight services. However, because demand for these services will not be sufficient to justify promised investment, the level and timing of the investment program are being renegotiated. That said, the freight businesses have recorded strong improvements in performance in terms of labour productivity, service quality and freight rates. There has also been a reduction in the public deficit of about US$600 million a year.

**Traffic growth following franchising in Argentina**

| *Freight volume, major lines, 1990–1995* | | *Passengers carried, 1993–1995* | |
|---|---|---|---|
| | *Per cent* | | *Per cent* |
| Nuevo Central Argentino | 40 | SUBTE (subway) | 28 |
| Ferrocarril Mesopotamico | 50 | Urquiza | 36 |
| Buenos Aires al Pacifico | 92 | San Martin | 64 |
| Ferroexpreso Pampeano | 130 | Belgrano Sur | 69 |
| Ferrosur Roca | 160 | Mitre | 74 |
| | | Roca | 83 |
| | | Belgrano Norte | 408 |

The franchising of urban passenger services has seen recorded patronage grow strongly. Suburban and metropolitan demand for passenger rail services is much greater than anticipated and the government specified investment program is proving to be inadequate. On the other hand, most intercity rail passenger services have ceased operating.

*Sources:* Thompson 1997; Thompson and Budin 1997; Carbajo and Estache 1996.

Recent assessments have pointed to a number of problems with rail franchising and privatisation in Great Britain including inappropriately set performance benchmarks, shortcomings in liability regimes and weak or nonexistent incentives to invest in infrastructure and rollingstock (*The Economist*, 3 July 1999, pp. 57–60; Trace 1999).

### *Franchising processes*

The franchising process involves drafting contracts, designing the tendering system, and developing procedures for monitoring contracts.

#### *Contract specification*

Designing the franchise contract requires consideration of the period of the franchise as well as the responsibilities of the franchisee and government.

The period of the franchise contract is an important parameter which can affect incentives to invest. In general, the private sector will not finance assets whose service lives exceed substantially the franchise period (Thompson and Budin 1997). Kain argued that, in Great Britain, franchisees have little incentive to invest voluntarily in rollingstock:

> … a standard franchise length of seven years, the acquisition lead time and the high cost of trains work against investment in rollingstock purchase. The payback period is far longer than the standard franchise length, which adds to the investment risk, as the TOC [Train Operating Company] must bear all the risk of a low resale value at the end of a franchise period on the premise that the TOC can fail to re-win its franchise. (Kain 1998, p. 256)

The key advantage of short franchise periods is that they allow more frequent competition for the market, thereby maximising the competitive pressures on the incumbent to perform (Jones et al. 1993). On the other hand, franchisees with long term contracts normally face fewer constraints to investment and innovation. In deciding the terms of franchises, governments need to weigh up the benefits from the frequency of competitive bidding against the possible effects on investment risks and incentives.

The responsibilities of government (the franchisor) and the franchisee are specified in the contract. Franchising generally involves the transfer of commercial risk to private firms, thus differentiating it from contracting out. In the case of franchises in Great Britain, Kain noted that:

> Franchisees shoulder the commercial risk, that is, both cost control and revenue box risk. In this sense, the government has shifted the risk to the private sector … (Kain 1998, p. 256)

If overly prescriptive or regulated, franchise contracts may stifle private sector innovation and investment, and reduce potential efficiencies. Poorly designed contracts may see private operators engage in opportunistic behaviour, such as allowing assets to run down towards the end of the franchise period.

*Tendering and monitoring systems*

The winning bid may be selected on the basis of the highest positive bid, lowest subsidy requirement from government (that is, minimum negative bid), lowest tariff structure and/or other criteria. Governments can choose between bidding in a single round or bidding in stages — a pre-qualification round followed by shortlisting and final bids.

There is also the issue of whether to allow cross ownership of bus, tram, ferry and rail services. The level of competition between modes may diminish where a company operates different services in the same geographic area.

Once franchises have been awarded, governments will need to monitor the performance of rail services against contractual commitments. Contracts may include rewards and penalties where performance exceeds or falls short of that promised. In Great Britain, passenger franchises incur financial penalties for poor running times. The responsibility for monitoring contracts may require the creation of a new body or be given to an existing agency.

Asset transfer arrangements are crucial to facilitating competitive outcomes in subsequent rounds of tendering. Where the franchisees own assets (such as rollingstock), there is a risk that they may refuse to sell the assets or ask too high a price if they are unsuccessful in the next bidding round. To avoid such situations, governments need to consider how asset transfer will occur at the end of franchise periods and draft contracts accordingly.

### *The Victorian model*

The Victorian Government is seeking to achieve further improvements in the passenger rail system in Victoria through franchising. It stated that:

> The proposed franchising structure helps overcome the lack of competition inherent in the urban rail system because of its natural monopoly characteristics. Competition in the bidding stage for exclusive franchise rights substitutes for competition in the retail end of the market. (sub. 82, p. 7)

The Government studied the lessons from rail franchising in Great Britain and developed its own ‘franchising and leasing model’. Under this model, the urban train system was horizontally separated into two franchises (Bayside Trains and Hillside Trains) to optimise scale economies and permit ‘competition by comparison’. These franchises are vertically integrated operations; that is, the train companies will control both the rollingstock and infrastructure (track, signalling and stations) for the life of the franchise, unlike the British model under which Railtrack owns and manages the infrastructure.

As the passenger businesses in Victoria were loss-making and required government subsidies, the Victorian Government considered that a conventional sale might not be appropriate and negative bids should be sought. The successful bidders for the rail franchises (Bayside Trains, Hillside Trains and V/Line Passenger) were announced in June and July 1999 (chapter 3). They will operate train services, invest in rollingstock and receive subsidies during most or all of the franchise periods.[5]

The franchisees have entered into franchise agreements with the Victorian Government. The agreements include requirements for passenger service levels, first and last services, maximum fares, service intervals and operational performance (in terms of punctuality and reliability, capacity, quality of service and journey times).

In the case of the urban train franchises, the infrastructure will be leased from the Victorian Government. The leases set out the terms upon which the franchisees use the infrastructure (sub. 82). The franchisees will also be accountable for maintaining and renewing the track and signalling (sub. DR118). In the case of V/Line Passenger, the franchisee will lease the main country stations and enter into track access arrangements with Freight Victoria.

The Victorian model incorporates an operational performance regime under which franchisees can earn bonuses or incur penalties based on their actual performance in relation to punctuality and reliability benchmarks. The model contains tougher penalties than exist in Great Britain (sub. DR118). In addition, there are financial incentives for increasing patronage; that is, franchisees can receive payments from the Government for achieving passenger growth above specified threshold levels. Fare regulation and the declining pattern of subsidies are also expected to generate pressures to achieve cost efficiencies and growth in patronage.

The franchisees will invest in new rollingstock, upgrade the existing train fleets and undertake some investment in infrastructure. At the expiry of the franchises, the rollingstock will revert under lease to the Government so that it can be transferred to the winners of the second round of bidding, if required.

The State Government expects that franchising will result in improved service quality, increased service levels, patronage growth and a significant reduction in government financial support. The Victorian Auditor General (1998) noted that the content of the contracts will largely determine the success of a franchised public transport system. The franchising process in Victoria and the subsequent performance of franchisees will provide guidance on the usefulness of this approach for rail operations elsewhere in Australia.

[5] National Express is expected to make payments to the Government in the last four years of its Bayside Trains franchise.

***Franchising may generate further gains compared with contracting out because franchisees usually bear revenue risk, enhancing their incentives to expand the market.***

## Privatisation

The term 'privatisation' has been used to describe various forms of private sector involvement in activities previously dominated by government. In this chapter, it refers to the sale of government-owned rail operations (and transferring control of these assets) to the private sector.

The Commonwealth Government has divested itself of a significant part of its investment in railways, whilst retaining the debt. Several component assets of the former Australian National Railways Commission (AN) were sold to private sector interests in November 1997. In February 1999, the Victorian Government sold its V/Line Freight business (table 7.3).

Table 7.3 **Privatisation of rail assets, Australia, 1997-98 to 1998-99**

| *Assets* | *Sale price* | *Private operators* |
|---|---|---|
| | $m | |
| Victorian freight | 163 | Freight Victoria [a] |
| SA freight | 57 | Australia Southern Railroad [b] |
| Tasmanian freight | 22 | Tasrail [c] |
| Interstate passenger | 16 | Great Southern Railway [d] |

[a] Owned by RailAmerica. [b] Owned by Genesee & Wyoming. [c] Owned by the Australian Transport Network. Shareholders include Wisconsin Central Railroad and Tranz Rail. [d] Consortium includes Serco Asia Pacific and GB Railways Australia.

*Sources*: *Australian Financial Review*, 23 February 1999, p. 5; Harris 1998.

Some State Governments and the Commonwealth Government are intending to sell other rail freight operations in 1999. NRC is being prepared for sale and the WA Government is planning to sell the freight operations of Westrail.

Private firms apply a commercial approach to the provision of services. That is, they will only provide services or invest in new capacity if commercial returns are expected. Their primary focus is on improving performance, profitability and the market value of their assets.

As discussed earlier, governments often direct their businesses to pursue a number of objectives which may impinge on their commercial focus and performance. The Commonwealth Department of Finance and Administration noted that:

> One of the causes of AN's debt, is its operation of non-commercial services. Selling AN to the private sector will ensure that a commercial discipline is applied to rail services and activities. (sub. 65, p. 17)

Some participants argued that the incentives facing private firms are stronger than those for corporatised enterprises. Australian Transport Network (ATN) stated that:

> … under private ownership greater incentives and accountability can be ensured through management shareholding and bonus payments on the performance of the company. Ownership becomes contestable with access to the capital markets for equity funding and the company's board and management are exposed to the scrutiny of stockbrokers and analysts. (sub. 25, p. 2)

As noted by McKillop, freight markets are evolving towards the provision of completely integrated services (sub. DR90). However, retaining rail freight operations under government ownership may limit their ability to further integrate into the logistics chain. NRC argued that such integration is not possible without substantial privatisation:

> … in order to be integrated into the logistics chain, it is going to be necessary for mergers and alliances and associations to be built between corporate entities who are now responsible for and control parts of that logistics chain … Under public ownership all of those sort of changes in the corporate boundaries and structures are extremely difficult. (trans., p. 1002)

Privatisation also creates opportunities to change the leadership and culture of rail enterprises. The Victorian Department of Infrastructure contended that the leadership of some government-owned rail organisations is an impediment to further improvements and that a change in ownership offers a solution, by introducing new people and a new mindset into railways (trans., pp. 952-953).

From the perspective of governments, privatisation may be of benefit as it transfers commercial risk to the private sector.

Recently privatised railways in Australia — based on early indications — appear to have improved their performance compared to the government-owned railways they replaced. According to the CRT Group, the initial evidence suggests that privatisation has led to actions to ensure profitability, an immediate assessment of the prospects of contracting out non-core elements, injection of private capital and a more aggressive approach to innovation — both technical and managerial (sub. 20).

The private owners of Tasrail have increased traffic volumes and are actively seeking new contracts. They are investing in rollingstock and infrastructure and have introduced new labour arrangements (box 7.4). The Commonwealth Department of Transport and Regional Services noted that Tasrail is profitable for the first time in 130 years (sub. 76).

Box 7.4 **Rail privatisation: Tasrail**

ATN purchased the Tasmanian rail system from the Commonwealth Government as part of the AN sale. ATN has been operating Tasrail since November 1997. Tasrail's revenue has increased by approximately 50 per cent, returning the business to profitability. ATN announced an operating profit of $1.2 million for its first seven months of operation.[6] The improved profitability reflects revenue growth and cost reductions.

Tasrail has increased its traffic volumes significantly. It has won contracts to haul logs and containers. Some of the revenue growth stems from its purchase of the Emu Bay Railway for $7.8 million from Pasminco in 1998. It is also exploring opportunities for transporting dairy, mining, pulp and paper products.

Tasrail has commenced an investment program aimed at improving reliability of service and lowering operating costs. It plans to invest about $40 million by 2001. A re-sleepering program was initiated immediately after purchase and a new state-wide communications system was installed. Twenty six refurbished locomotives equipped for driver only operation, will replace the ageing Tasrail fleet. Additional wagons have been purchased and many existing wagons are being modified. Following some tunnel and bridge repair work, the Scottsdale line in north-east Tasmania was reopened to meet expanding forestry and mining industry demand. The Wiltshire branch line from Burnie to the north-west has been reopened.

Tasrail, which employs about 200 people, has also changed labour arrangements. It has introduced driver only operation, individual contracts and bonuses.

*Sources:* ATN, sub. 25; ATN 1998; Daily Commercial News, 4 June 1999, pp. 9-10; *Network Rail,* Oct/Nov 1998, p. 17; *Network Rail,* Feb/Mar 1998, p. 17; Harris 1998; *Rail 2000 Newsletter*, No. 49, January 1999, pp. 5-6.

ASR, which purchased the mainland freight assets of AN, has also introduced new labour arrangements such as multi-skilling and incentive schemes such as profit-sharing. At ASR, employees perform a range of tasks:

> … drivers, for example, start and inspect their own locomotives in many cases. They also plan their shunting work, interact with the customers and do minor field repairs on the locomotives and wagons. (Chabot 1998, p. 3)

[6] Up-to-date information on financial performance is not available.

ASR has committed to spending $62 million on locomotives, track and rollingstock over five years (Harris 1998).

Great Southern Railway (GSR), which operates passenger services, employs around 270 people for station and on-train services. A further 100 people are employed full-time by subcontractors who provide catering, laundry, cleaning and maintenance services. While GSR's Overland service continues to make losses, the Ghan and Indian Pacific services now generate positive margins which are sufficient to cover fixed costs. GSR expects to become profitable in the next year (sub. DR95).

These initiatives follow a similar pattern to that observed in New Zealand where the railway was privatised in the early 1990s. Although the corporatisation of the New Zealand railway generated significant improvements in performance, privatisation led to further gains (box 7.5).

In the Australian context, the fact that private consortia have purchased generally loss-making government railways without public subsidies (and in some cases for relatively high prices) suggests the new owners expect to achieve gains in efficiency.[7] That is, when the sale value exceeds the present value of the profits (or losses) under government ownership, this differential is an indication that enterprise performance is likely to improve under private management.

Rail privatisation in Australia has seen smaller assets being sold first. In these initial sales, vendor governments have had to deal with a range of often complex issues. This experience and the lessons learned may prove useful to governments intending to privatise larger rail operations.

When contemplating privatisation, governments need to be aware of the trade-off between maximising sale value and promoting competition. Government enterprises which earn monopoly profits are likely to fetch a higher price than if they faced competition. As Baumol stated, when a government-owned enterprise is put up for sale:

> … those who are responsible for overseeing the transaction are likely to consider themselves obligated for the sake of the public interest to seek to obtain for the property as high a price as can be gotten. But it is obvious that higher price bids can be elicited if the property is offered along with a monopoly license that is protected against the entry of rivals. (Baumol 1993, p. 7)

[7] Both AN and V/Line Freight were loss-making businesses before privatisation. AN recorded an operating loss (before abnormal items) of $57 million in 1996-97 (AN 1997) and V/Line Freight reported an operating deficit (before abnormal items) of $15 million for 1997-98 (V/Line Freight 1998).

Box 7.5 **Rail privatisation in New Zealand**

In 1982, responsibility for managing the New Zealand railway was shifted from a government trading department to a statutory corporation with largely commercial objectives. It later became a state-owned enterprise. In the early 1990s, the New Zealand Railways Corporation underwent financial restructuring. The Government formed a new company, New Zealand Rail Limited, to run the core rail freight, rail passenger, and inter-island ferry services previously owned by the New Zealand Railways Corporation.

New Zealand's rail system achieved significant improvements in customer focus, efficiency and financial performance over the 10 years from the time the business was corporatised. Between 1983 and the early 1990s, rail freight rates were reported to have declined by around 50 per cent in real terms, customer surveys indicated improvements in service quality, and employment had fallen by more than 70 per cent.

New Zealand Rail was sold to a New Zealand-US consortium in 1993 and now operates as Tranz Rail. Since privatisation, the company has introduced new labour agreements and work practices, sold non-core assets, re-branded its corporate identity, worked to improve customer satisfaction and upgraded its technology and asset base. Significant investment in infrastructure, equipment and technology has allowed the company to improve its service delivery by reducing freight transit times, increasing freight capacity and increasing operational efficiency. Labour productivity, asset utilisation, traffic levels and profit have all increased since privatisation.

**Performance improvements since privatisation, 1993–1998**

| | Per cent |
|---|---|
| Labour productivity | 47 |
| Asset utilisation[a] | 44 |
| Traffic levels | 32 |
| Operating profit | 85 |

[a] Number of trips per month for freight cars.

*Sources:* ATN, sub. 25; Duncan and Bollard 1992; Small 1998.

Thus, governments should consider the competitive environment within which their railways operate, including the structure of enterprises, access regimes and the degree of competition from other modes. Selling a monopoly business without effective regulation or adequate track access arrangements may artificially inflate the sale price, but may ultimately impose costs on industry and the community. Regulation issues are discussed in chapter 8.

In many freight markets in Australia, rail operators face competition from other operators and/or transport modes. Given this environment and considering the limitations of corporatisation, the remaining government-owned freight operations

are strong candidates for privatisation. The experience to date with the recently privatised rail operators in Australia has been encouraging.

In the case of the main coal lines in New South Wales and Queensland (where market power exists), governments could introduce periodic competitive bidding among private sector entities for the right to haul coal (chapter 6). To allow for franchising, privatisation of government-owned freight operations in these States would require specific arrangements for reserving the rollingstock used on the coal lines. As discussed above, it is essential that governments resolve asset transfer issues to ensure competitive outcomes in subsequent bidding rounds.

In addition to budgetary effects, governments should take account of the broader costs and benefits that are likely to result from selling their railways. Although privatisation of a railway may generate an overall gain to the economy, it could still have adverse impacts on railway employment and regional communities. In these situations, adjustment issues will need to be considered (chapter 11).

Once the decision to privatise is taken, it is important that governments specify the time frame within which privatisation will occur. Failure to do so may generate uncertainty and reduce investment in the rail industry. Some private operators are waiting for privatisations to occur before making further investments. In the case of NRC, some participants (Capricorn Capital Limited and the Austrac Group; Specialized Container Transport) have expressed concerns about the retention of assets in excess of NRC's requirements.

***In deciding to privatise railways, governments need to consider the competitive environment, including the extent of intermodal competition and the effectiveness of regulation. There is a strong case to privatise rail services operating in competitive transport markets.***

To sum up, private sector involvement in railways can take a variety of forms, including through CTC, BOOT-type schemes, franchising and full privatisation. The appropriateness of different forms of private sector involvement will differ, depending on the characteristics of the specific rail network and transport market.

Private sector participation has the potential to deliver net benefits to industry and the wider community, provided that governments pay adequate attention to contract specification, bidding processes, monitoring systems and regulation. Governments should also consider labour and regional adjustment costs (chapter 11).

RECOMMENDATION 7.1

***Governments which own railways should pursue further private sector involvement (through contracting out, BOOT-type arrangements, franchising or privatisation) as an integral part of their approach to rail reform.***

RECOMMENDATION 7.2

***All remaining government-owned freight operations should be privatised, with special arrangements for the rollingstock used on the main coal lines.***

## 7.3 Taxation issues

The extent and form of private sector involvement can be influenced by taxation arrangements. Participants' concerns in this area centred on:

- the Infrastructure Borrowings Tax Offset Scheme; and
- s.51AD of the *Income Tax Assessment Act 1997* (Cwlth).

### Infrastructure Borrowings Tax Offset Scheme

Several participants (including Patrick, QR and the WA Government) supported the use of tax incentives as a mechanism to encourage private sector investment in rail infrastructure. Patrick stated that:

> If the government wishes to foster the growth and development of rail, then tax incentives and BOOT schemes would induce more participation from the private sector. (sub. 63, attach. 1, p. 13)

Infrastructure projects, such as BOOT schemes, are normally undertaken by stand-alone companies, usually formed as a joint venture between several parent companies. Under the stand-alone company structure, tax losses can only be offset against income earned by the project and not against other income earned by the parent companies. As infrastructure projects are often characterised by long construction and start-up periods before any income is earned, any tax losses must be capitalised and offset against future income earned.

However, the real value of the tax losses (when carried forward) will be lower than when they were initially incurred, especially in periods of high inflation. Some have argued that stand-alone companies are tax disadvantaged due to their inability to access tax losses during the construction phase of projects.

To address this perceived tax disadvantage, the Commonwealth Government in 1992 introduced the infrastructure borrowings program. In 1997, this program was replaced by the Infrastructure Borrowings Tax Offset Scheme which aims to encourage private sector investment in land transport infrastructure by reducing finance costs. The scheme allows infrastructure proponents to apply:

> … for a tax rebate, described as a tax offset within the ITAA [Income Tax Assessment Act] 1997, which is provided to the project's resident infrastructure lenders. In return the infrastructure proponent (the borrower) receives a reduction in finance costs in the form of lower interest rates or other benefits, and forgoes tax deductibility on interest payments associated with the loan. (DTRS and the ATO 1998, p. 1)

Rail projects that have applied for the rebate include the Alice Springs-Darwin Railway, Bondi Rail Extension, Chatswood-Parramatta Rail Link, Snowy Mountains Railway, Surat Basin Rail Link and Sydney-Canberra Very High Speed Train (sub. 76). Rail projects were not among the first projects that qualified to receive assistance under the rebate scheme. The Commonwealth Government is in the process of assessing another round of applications.

However, some studies have placed the rationale for such tax concessions under question. Freebairn doubts that tax losses represent a convincing argument for special concessions to infrastructure investors:

> Because over a half of other investors [apart from infrastructure investors] also have to carry forward measured tax losses, and because the effect of loss carry-forward is to increase effective tax rates by only a few percentage points, even stand-alone project infrastructure investments are unlikely to face effective tax rates much above the average for other corporate investments. (Freebairn 1995, p. 16)

And, Sieper (1995) estimated that effective tax rates are broadly equivalent for stand-alone infrastructure projects, other infrastructure projects, and plant and equipment with effective lives between 5 and 30 years.

Both Freebairn and Sieper argued that, while stand-alone companies cannot access tax losses during the construction phase, this disadvantage is largely offset by the impact of accelerated depreciation and the fact that the tax system does not tax the appreciating value of a project during the construction period (EPAC 1995a).

A range of criticisms has also been levelled at the offset scheme. Specifically, Green (1998) argued that, compared to the former infrastructure borrowings program, the new scheme is worse in a number of respects — the type of projects considered is narrow, the guidelines appear to be subjective, eligibility is less certain and there is no avenue to appeal decisions. Submissions to the Rail Projects Taskforce (1999) criticised the limited funding for the scheme which is capped at $75 million a year. The Taskforce noted that the scheme favours well-developed

projects that are near financial close and commencement of construction rather than projects still in the development phase.

***There are doubts about the effectiveness of the Infrastructure Borrowings Tax Offset Scheme in the context of the rail sector. In general, the scheme appears to assist projects that would have proceeded anyway.***

## Section 51 AD

Section 51AD of the *Income Tax Assessment Act 1997* (Cwlth) was originally introduced to prevent 'sale and lease back' arrangements between State Governments and the private sector. Under these schemes, a (tax exempt) government body would sell infrastructure assets to a private entity which would then lease the assets back to the government body. In this way, the private entity could claim tax deductions on depreciation and interest expenses while the government body retained effective control over the infrastructure. As noted by the ARTC, such arrangements were 'at the expense of the Commonwealth tax revenue' (trans., p. 807). Section 51AD disallows these tax deductions, reducing the attractiveness of sale and lease back schemes.

A number of participants (including Australasian Railway Association, ARTC, NSW Government, Queensland Transport, QR and Victorian Government) expressed concerns about s.51AD. QR argued that it is a significant impediment to private sector investment in rail infrastructure:

> … this Section makes it difficult (if not unprofitable) for the private sector to directly finance and own a major railway deviation. The effect for private sector rail infrastructure owners is their costs may not be deductable if the railway operators using that infrastructure are tax exempt bodies and are deemed to control the use of the railway. (sub. 59, attach. 2, pp. 22-23)

The NSW Government contended that the discretionary powers under s.51AD introduce a level of uncertainty for State Governments that disadvantages BOOT-type projects:

> Given the level of State Government financial support for the rail industry, the private sector would generally fail the ATO's 'control' test when applied to BOOT projects. In fact, ATO clearance of the BOOT component of the New Southern Railway project came only after lengthy negotiations over the amount of 'control' exerted by the State Government in the contract arrangements with the private sector developer. (sub. DR128, pp. 42-43)

The Private Infrastructure Task Force (EPAC 1995a) concluded that there was little justification for retaining the anti-avoidance tax provisions (s.51AD and Division 16D) in their present form due to intrinsic deficiencies. Structuring private

projects to avoid the provisions was also found to be costly and time consuming. The Task Force recommended that the provisions either be abolished or redrafted. Its preference was to replace the existing provisions with new general leasing provisions.

Section 51AD and other business tax issues are being considered by the Review of Business Taxation (RBT 1999). The RBT noted that s.51AD and Division 16D are complex in their application of the effective control test, but the complexity of s.51AD is exacerbated by the severity of its application — it disallows deductions relating to assets completely while all income remains taxable. The provision has become more problematic with the privatisation and contracting of government activities that were not contemplated when it was first conceived (RBT 1999). The RBT will submit its final recommendations to the Commonwealth Government in August 1999.

***The anti-avoidance provisions of the Income Tax Assessment Act (section 51AD and Division 16D) may act as impediments to private sector investment in rail infrastructure.***

# 8 Access to rail infrastructure services

**Regulating access to rail infrastructure services is one way governments can ensure that train operators have the right to seek access on terms and conditions that do not disadvantage them relative to their competitors. Access regulation is most likely to be relevant in markets where it is desirable to promote competition between train operators and where this cannot be achieved more effectively through other reform measures.**

**A well designed access regime offers a workable framework in which track owners and train operators can reach agreements regarding access to track, while minimising the regulatory cost of doing so.**

Existing railways facing limited competition are able to raise prices or lower the quality of service to increase revenue. In contrast, increased competitive pressure may improve market outcomes because competition, or the threat of competition, puts pressure on railways to operate more efficiently, look for innovative ways to respond to customer needs, improve quality and/or lower prices.

Competitive pressure can be generated from within the market (rail-on-rail competition), competition for the market (through franchising) or from other forms of transport, particularly road and sea transport (chapters 2 and 6). Effective competition within the rail industry may be blunted if potential rail operators cannot gain access to track, or can only gain access subject to unfavourable prices, scheduling or other conditions.[1]

To create the right to seek access to infrastructure and so encourage competition, most governments have introduced legislative access regimes which set out:

- the terms and conditions for gaining access to the track; and/or
- the processes that determine these terms and conditions.

The terms of reference direct the Commission to consider the operation of access regimes in relation to the interstate and intrastate rail freight networks, although

[1] Although the Commission will focus on gaining access to track, the general principles may be extended to other associated rail infrastructure services (such as workshops, stations and signalling equipment) in some circumstances.

passenger operations are also affected.[2] In doing so the Commission examines the institutional arrangements that governments have introduced (section 8.1). It then considers the markets where access regulation may improve industry performance and the principles underlying well designed regimes in these markets (section 8.2). The problems of developing and implementing effective regimes, including the costs of access (section 8.3), pricing and allocating train schedules (section 8.4), costing methodologies (section 8.5) and the complexity of operating on the interstate network (section 8.6) are also discussed.

## 8.1 Australian access regimes

In its 1991 inquiry into rail transport, the Industry Commission (IC) recommended that track owners be required to allow other organisations track access subject only to capacity being available and the negotiation of a commercial agreement.

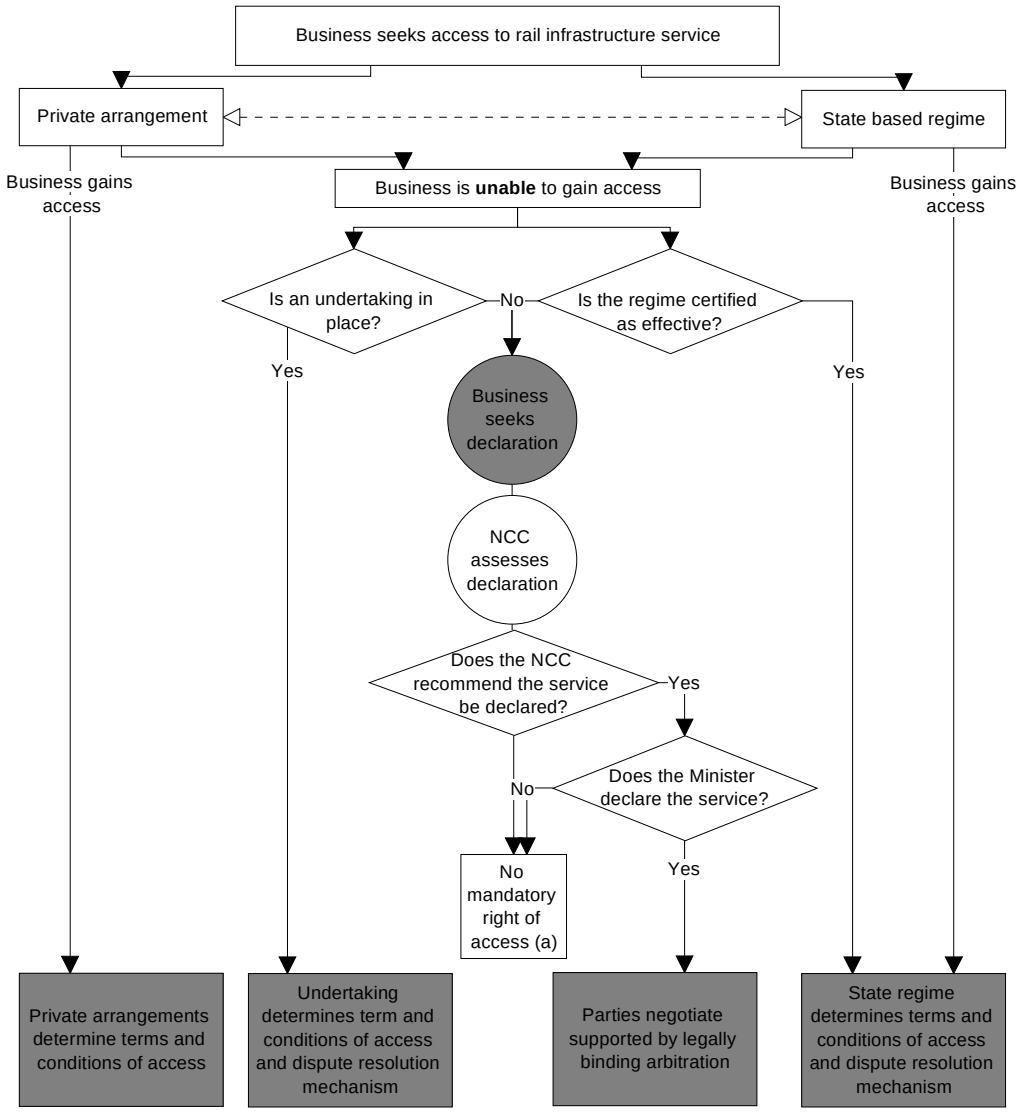
Since then there have been significant changes in the institutional arrangements which facilitate access to a range of rail infrastructure services (chapter 3 and appendix D). The details of current Australian access regimes are presented in appendix F.

In 1995, the National Access Regime was introduced under Part IIIA of the *Trade Practices Act 1974* (TPA) as part of the National Competition Policy Package. Under the regime, new and existing rail operators can:

- request that the National Competition Council (NCC) recommend that the relevant Minister 'declare' access to the services of a particular infrastructure facility. If the facility is declared, the parties enter into negotiation, supported by legally binding arbitration, in order to reach agreeable terms and conditions;
- negotiate within the provisions of a legally binding 'undertaking' registered with the Australian Competition and Consumer Commission (ACCC); or
- negotiate within the provisions of state-based access regimes which may, or may not, be certified as being 'effective' following a recommendation by the NCC (figure **8.1**).

[2] In many instances, the provisions within access regimes are equally applicable to both freight and passenger businesses. However, some regimes include specific terms and conditions for certain types of business. The NSW rail access regime includes specific pricing principles for coal freight (appendix F).

Figure 8.2 **Alternative ways to seek access**




**a** However, parties can appeal the decision to the Australian Competition Tribunal.

*Sources:* IC 1995a; NCC 1996b; ACCC 1997b.

Most State Governments have proclaimed access regimes for rail infrastructure services, but these have not been certified as effective (chapter 3).[3] The access regimes differ, both in terms of their coverage (types of track, such as intrastate and interstate) and the provisions that they contain. The NSW and WA regimes cover both interstate and intrastate networks, and the Queensland, SA and Victorian regimes apply only to the intrastate network (table **8.1**).

[3] Some of these are rail specific and others are more general, applying to major infrastructure (appendix F).

Each regime contains provisions setting out the principles for access seekers to negotiate with the access providers to reach agreeable terms and conditions. However, the pricing principles and the restrictions on negotiation can vary significantly (box **8.1**). Similarly, although each regime contains provisions and mechanisms for dispute resolution, these can vary in terms of the independence of the arbitrator, the transparency of arbitrated decisions, and the scope to appeal decisions (appendix F).

Currently, if operators are unable to gain access under agreeable terms and conditions, they may seek a declaration under the provisions of the National Access Regime. The NCC has received applications from five operators seeking declaration of certain rail infrastructure services (table **8.2**).

All but one of these have been assessed by the NCC, and recommendations made to the relevant Minister. In each case the service was deemed by the relevant Minister not to be declared. And in each case the appeals process through the Australian Competition Tribunal (the Tribunal) was invoked.

In some instances the declaration process stimulated further negotiations between the parties, leading to agreement being reached.

One application (the Hamersley Iron rail service in the Pilbara) was terminated, following a decision by the Federal Court in June 1999 regarding the NCC's jurisdiction to accept or review the application or make a recommendation on the matter. The court ruled that the Hamersley Iron rail service was integral to the production process and should therefore not be subject to access by Hamersley Iron's competitors. In July 1999, the NCC and Hope Downs Management Services appealed the decision.

The ACCC has not received any undertakings for rail. However, the Australian Rail Track Corporation (ARTC) has indicated that it intends to develop an industry code to form the basis of an access undertaking to be submitted to the ACCC in the future for the interstate track under its control (trans., p. 570).

Table 8.3 **Coverage of state access regimes for rail[a]**

| *State* | *Interstate* | *Intrastate* |
|---|---|---|
| NSW | NSW Rail Access Regime | NSW Rail Access Regime |
| Vic | na | *Rail Corporations (Amendment) Act 1998* [b] |
| Qld | na | *Queensland Competition Authority Act 1997* |
| | | *Queensland Competition Authority Amendment Regulation (No. 1) 1998* |
| SA | na | *Railways (Operations and Access) Act 1997* |
| WA | *Government Railways Act 1904* | *Government Railways Act 1904* |
| | *Government Railways (Access) Bill 1998* | *Government Railways (Access) Bill 1998* [c] |
| Tas [d] | na | na |

**a** As no jurisdictions have certified rail access regimes and no undertakings are currently in place, an operator may seek a declaration through the National Access Regime (under Part IIIA of the TPA) on all parts of the Australian rail network. **b** The regime covers the Freight Victoria country network (sub. 82). **c** The regime currently applies to the government owned freight network and excludes the private iron ore railways in the Pilbara area. **d** There is no specific access legislation. Tasrail, as owner of the track is required to enter into negotiations with other operators under its contract of sale. **na** Not applicable.

*Source:* Appendix F.

Table 8.4 **Declaration applications in rail**

| *Matter* | *Outcome* |
|---|---|
| Brisbane to Cairns rail freight services | NCC recommended that the service not be declared.<br>Queensland Premier did not declare the service.<br>An appeal lodged with the Australian Competition Tribunal was later withdrawn. |
| Sydney to Broken Hill rail services | NCC recommended that the service be declared.<br>NSW Premier did not make a formal decision, so the service was deemed not to be declared.<br>An appeal lodged with the Australian Competition Tribunal was withdrawn after the parties reached an agreement. |
| Hunter Valley rail service | NCC recommended that the service be declared.<br>NSW Premier did not make a formal decision, so the service was deemed not to be declared.<br>An appeal to the Australian Competition Tribunal is in progress. |
| WA rail and freight support services | NCC recommended that the rail service be declared but that the freight support services not be declared.<br>WA Premier did not declare the rail line service or the freight service.<br>An appeal was lodged with the Australian Competition Tribunal, but was withdrawn after the parties reached an agreement. |
| Hamersley Iron ore rail service in the Pilbara | Hamersley Iron applied to the Federal Court requesting that the NCC be restrained permanently from both considering the Robe River application any further and making a recommendation to the Commonwealth Treasurer. In June 1999, the Federal Court ruled in favour of Hamersley Iron arguing that the rail line was integral to the mine's production and therefore should not be subject to third party access under Part IIIA of the Trade Practices Act.<br>In July 1999, the NCC and Hope Downs Management Services (a prospective iron ore company) appealed the decision. |

*Sources:* NCC 1998d; NCC 1997a.

## Box 8.2 Access pricing arrangements

The NSW rail access regime was gazetted in February 1999. The access regime sets pricing principles for both general usage and coal freight.

General usage access prices are negotiated between a 'floor' and a 'ceiling'.

- The floor requires that:
  - any access revenue must at least meet the direct costs imposed by the access seeker(s); and
  - sectors should recover their incremental costs, including incremental fixed costs.
- The ceiling requires that any access revenue must not exceed the full economic cost of the sector(s) for which access is required on a stand alone basis.

In addition, Rail Access Corporation's total revenue must not exceed the stand alone full economic cost of the entire network.

Access prices for coal freight are on an origin-destination basis. On some routes the access price is negotiated as for general usage. On others, the access price is set as the ceiling price plus an adjustment component that reflects the amount that rail freight haulage revenue exceeded costs (access and rail operations) on that line in 1996-97. Coal specific pricing principles are currently being phased out, expiring on 30 June 2000.

Under the SA rail access regime, negotiation to gain access to the intrastate network is subject to 'floor' and 'ceiling' prices.

- The floor reflects the lowest price at which the access provider could provide the relevant services without incurring a loss.
- The ceiling reflects the highest price that could fairly be asked by an access provider for provision of the relevant services.

The Queensland rail access regime allows for 'access undertakings' which contain a framework of terms and conditions under which access will be provided. Queensland Rail (QR) has developed a draft undertaking based on a 'constrained market approach' that allows QR to discriminate between railway operators competing in different markets (sub. 59).

The pricing principles for government-owned railways in Western Australia are being developed as part of a Rail Access Code.

Under the Victorian regime, negotiation is not limited by defined floor and ceiling prices, although guidelines exist regarding prices determined as part of arbitrated decisions (through the Office of the Regulator General) (sub. 82).

On the interstate network, the ARTC publishes prices and terms and conditions for gaining access to the track which it owns (mainly South Australia) or manages (Victoria). In New South Wales, Queensland and Western Australia, the ARTC is negotiating specific train paths with the relevant track access body which it will on-sell to potential train operators.

*Sources:* Appendix F; subs. 59; 82; DR102.

## 8.2 Regulating access in rail markets

The appropriateness of access regulation depends on:

- the objective of regulating access;
- the characteristics of the railway network and markets; and
- the type of regime that is implemented.

The implications for the appropriate access regime for each of the interstate, regional and urban rail networks is summarised at the end of the section.

### Why regulate access?

Competitive pressure in rail markets can influence the behaviour of existing operators, leading ultimately to improved market outcomes. In some rail markets, productivity benefits can be generated by creating an environment which (chapter 6):

- increases the potential for competition in the market;
- encourages market segmentation and product diversity; and/or
- prevents the infrastructure provider from abusing its market power to make monopoly profits.

One way to create such an environment is to provide opportunities for new operators to gain access to track on terms and conditions that do not disadvantage them relative to their competitors. Access regimes also place bounds on returns available to the track owner to prevent the earning of monopoly profit.

However, the potential benefits of access regulation should be balanced against the sometimes significant costs of regulation (section 8.3).

The potential benefits of access regulation should also be considered in the context of other institutional, structural and regulatory reforms in rail markets. In many cases other reforms address the problems facing the industry more effectively, either by providing better solutions or achieving a similar outcome at lower cost. An increased commercial focus may lead to improvements in efficiency by changing the incentives facing managers and reducing the scope for government interference in business decisions (chapter 7). Such reforms are particularly relevant in the black coal markets. Equally, in interstate markets, reform to address inconsistencies between the systems in terms of technical specifications and operating procedures will reduce costs and uncertainty for existing and potential operators (chapter 9).

## Which markets?

In some rail markets the case for or against access regulation is clear.

It is unlikely that access regulation will be relevant in markets where the potential benefits of competition between rail operators arising from access regulation are small and/or the costs of regulation are large, or where the track infrastructure is struggling to be viable. An example is where it will only ever be cost effective for one train operator to provide services over a line — given the nature of the market and the large competitive pressures from other transport modes (such as a suburban passenger route or various regional networks carrying low volumes) (chapter 2, chapter 6, box 6.2).[4] As Rail 2000 noted:

> There are certain branch lines that if you have an open slather, open access policy, are never going to turn a dollar. (trans., pp. 9-10)

Maddock expressed a similar view:

> If rail faces strong competition from road, so strong that it does not earn a commercial return, then we should not be treating rail as a natural monopoly … The correct policy position at the first level would thus seem to be to remove regulation, and to remove third party access requirements, since these will not produce efficiency gains. (sub. 40, pp. 2-3)

King and Maddock argued that in relation to low volume intrastate railways:

> Since we can rely on road transport to impose competitive pressure on such intrastate rail there is probably no need to regulate it at all. The key policy issues are for State governments to determine the appropriate mechanisms to induce the managers of such systems to operate them as efficiently as possible. (King and Maddock 1999, p. 12)

Similarly, formal access regimes are likely to be unnecessary in markets where existing train operators and track owners have reached private agreements.

Access regulation is more likely to be relevant in markets where it is desirable to promote competition between train operators (either for customers or for the use of the track) and/or prevent market power in track infrastructure being used to inhibit competition. Access regulation may be appropriate where these objectives cannot be achieved more effectively through other reforms.

There is some evidence that the potential for increased competition in some main coal railways in regional Queensland and New South Wales has generated significant benefits, in terms of efficiency improvements by freight carriers and lower freight prices. Competitive pressures on coal rail freight in the Hunter Valley

[4] Although potential operators in these markets may seek access to a specific part of the route or infrastructure, for example, the central train station.

have led to reductions in rail freight rates of around 25 per cent between 1995-96 and 1997-98 (NCC 1998a). It is difficult to identify the contributions of the threat of competition between train operators and other factors, such as the phasing out of monopoly rents and contracting out of maintenance services, in the freight rate reductions.

The nature of the downstream markets into which coal is sold may also limit the ability of rail operators to extract monopoly rents. Maddock noted that:

> Even in the case of coal and other mineral lines on which there may be some degree of monopoly power, the prices concerned are set on the international market which again provides a check on the ability of the rail operators to extract monopoly rents. (sub. 40, p. 3)

It seems that there are still significant opportunities to drive efficiency gains further and improve performance of freight operations through competition, particularly 'for' the market in coal railways. Rio Tinto noted that in the Hunter Valley:

> … there has been some improvement in focus … [but] in terms of delivering anything like the efficiencies we see in other railway systems in this country and overseas, there's a long way to go. (trans., p. 545)

Similarly, the NSW Minerals Council noted:

> There are gains to be obtained from increasing competition … Those who would be advantaged by increased competition include the NSW coal industry, which would benefit from rail freight rates at world best practice levels, through a stronger industry which would be better able to compete in international coal markets. (sub. 39, p. 14)

There also is some evidence of benefits from increased competition among rail operators and increased market 'segmentation' in the interstate market. For example, the Specialized Container Transport (SCT) service between Melbourne and Perth commenced as a niche operation which focused on van traffic following the withdrawal of the National Rail Corporation (NRC) from this type of traffic (sub. 76). Other examples are provided in chapters 3 and 6.

In some rail markets, it is not clear whether access will enhance or diminish industry performance. Mandated access to the privately owned integrated railways supporting large export operations (like the Pilbara iron ore operations) may benefit new mining operations but this may be at the expense of incumbents and the national interest as a whole (box 8.2). When incumbent track owners lose their ability to act in their own commercial interest they may withdraw from future investment.

## Box 8.2 **Privately owned iron ore operations**

A number of privately owned rail systems operate in the Pilbara, Western Australia. The operations are designed as integrated components of iron ore production — mining, hauling, blending and shipping the ore (Rio Tinto, sub. 58).

To transport iron ore to the port, a new mining operation situated close to an existing track could either:

- develop its own integrated operation by duplicating the existing infrastructure; or
- seek access to the existing infrastructure and so increase rail usage along a track.

In either case, the increased supply of the product from the new operations may depress world prices for both existing and new operations.

A commercially focused new operator would only build its own integrated operation if its expected revenues are greater than the cost of building and maintaining its track. It would prefer to use existing track if the costs of building and maintaining its own track are greater than the costs of negotiation and the access price agreed with the existing infrastructure owner.

If spare capacity exists along the line, then the existing owner would only deny access to a new operator if:

- the new operator imposed additional costs on the existing operator, for example through damaging the track; and
- the existing operator was not able to negotiate an access fee large enough to compensate for the additional costs or the revenue forgone; or
- lower world prices from additional competition impaired the viability of existing operations.

Denying access implies that the access charge (reflecting the anticipated benefits to the new operator) is insufficient to compensate the existing owner and cover the costs of negotiation. The commercially negotiated outcome (no access) would coincide with the national interest because either the new operator builds its own line or the proposal was not viable. Mandatory access would therefore not improve national welfare and may in fact prove to be harmful.

*Sources:* sub. 58; IC 1995a.

***Access regulation may improve the performance of some rail markets, including interstate freight, where the benefits of increased competition, particularly through market segmentation, are expected to outweigh the costs of the access regime.***

***Access regulation is unlikely to improve performance in rail markets where there is no effective market power due to:***

- ***significant intermodal competition;***
- ***competition in downstream markets; and/or***
- ***little congestion on track infrastructure.***

***In these circumstances it is likely that very few train operators would seek access and that commercially driven railways will be able to reach private agreements.***

## Characteristics of well designed access regimes

A well designed access regime should offer a workable framework to address key problems in the market, while minimising the regulatory cost of doing so. It should:

- provide for an appropriate level of flexibility in terms of the ability of owners and operators to negotiate terms and conditions as market opportunities change;
- be transparent and administered independently; and
- reflect the institutional structure and arrangements governing the management and operation of the market.

### *An appropriate level of flexibility*

An access regime can:

- provide for flexible outcomes within broad guidelines; or
- be highly prescriptive, specifying terms and conditions under which access can be made, for example through the use of posted prices (box 8.5).

Flexibility in setting terms and conditions is important when there is limited information about existing and future opportunities in the market because it allows owners and operators to respond to changing circumstances as they occur. In contrast, prescriptive regimes may establish rules that unduly restrict or prevent commercially driven outcomes.

Flexibility may also be desirable in markets with high fixed costs, like railways. In these markets significant benefits are generated by encouraging optimal utilisation of the track.[5] This can be achieved by discriminating between operators so that those operators (or outputs) that are marginally profitable, but would be lost if charged higher prices, pay less than other operators but still make some contribution towards the long run costs attributable to them.

However, several participants noted their concern that such flexibility can allow track owners to discriminate inappropriately between operators, disadvantaging one relative to its competitors. As SCT noted:

> Without openness of pricing, there is always the suspicion that someone else has been given a better deal. (sub. 37, p. 3)

An undesirable form of price discrimination is the cross-subsidisation of services which do not cover their own costs. In its report into *The Australian Black Coal Industry*, the Commission received a number of complaints of cross-subsidies from coal freight to other freight and passenger services in other networks (PC 1998a). These complaints were reiterated by several participants to this inquiry.

In addition, increased flexibility may be at the expense of certainty which may inhibit potential operators from taking advantage of market opportunities at the time they arise. If a negotiated outcome cannot be reached, potential operators can seek redress or resolution though arbitration or litigation. However, this can take time. As Great Northern Rail Services (GNRS) noted:

> … the time required for the resolution will effectively mean that the operator will have lost the job because of the inability to meet contract conditions within acceptable time scales. The whole dispute resolution process is by its nature, long and involved and the realities of the industry make that a commercial nonsense. (sub. 46, p. 9)

Increased flexibility may also increase transaction costs when large numbers of potential or actual operators individually negotiate terms and conditions with the access provider. However, it is unlikely that this will be a problem in many rail networks given the generally agreed view that most can only support a small number of operators (chapter 2).

Prescriptive access regimes may address some of these issues. If the prescriptive regime reflects efficient pricing principles and is seen to be transparent and independent, then operators may be confident that they are being offered fair and reasonable terms and conditions. However, the cost of getting the principles wrong

[5] Indeed, the so called economies of density may have a significant influence on network costs (chapter 6).

can be high. In addition, such regimes may involve greater direct regulatory input (and consequently have higher regulatory costs) than flexible regimes.

***Flexibility in access regimes is required to ensure the optimal utilisation of the track, but this needs to be balanced against the potential costs:***

- ***if it allows infrastructure owners to inappropriately cross-subsidise between operators; and/or***
- ***there are high transaction costs.***

### *Transparency and independence*

Well designed access regimes should facilitate increased transparency. Several participants commented on the lack of transparency in access decisions in existing regimes and the difficulties that this presents to both track owners and train operators. With regard to access prices, Shell Coal suggested:

> Where there is no transparency and the owner of railway infrastructure has a natural monopoly, the customer (eg coal producer) cannot know whether the monopolist is using market power to recover inefficient operating costs and excessive overheads, or hide poor investment decisions. (sub. 36, p. 3)

Similarly, Rio Tinto suggested:

> … there is an inability of all customers to get from Queensland Rail a breakdown of the freight rates into the access charge and the hauler's charge, and that makes it very difficult once again to evaluate any competitive alternative. (trans., p. 543)

Some participants also commented on the lack of transparency in determining and publishing costs. Rio Tinto suggested:

> The industry has found it impossible to date to obtain any information at all on asset valuations. By contrast, Queensland coal producers have been able to obtain asset valuations for other public infrastructures such as the ports that we deal with, and the government-owned corporation there has made balance sheets available. Queensland Rail have made no information available. (trans., p. 543)

Similar concerns have been expressed by participants in the Commission's report into *The Australian Black Coal Industry* (PC 1998a). The Independent Pricing And Regulatory Tribunal of New South Wales (IPART), in its review of aspects of the NSW rail access regime, recommended that asset valuations be undertaken by an independent consultant. The process should include provision for stakeholders to comment on a draft valuation prior to the consultant establishing a final value (IPART 1999c).

Transparent pricing principles and cost methodologies within access regimes are highly desirable. Access to appropriate information may improve the efficiency of the price setting process and give potential train operators more confidence that they are being treated fairly. This is particularly important in markets with vertically integrated infrastructure owners (discussed below). As the NCC noted, for vertically integrated organisations it is important that:

> … there were some mechanisms to ensure transparency in those arrangements and to ensure that there wasn't the opportunity to, in effect, provide better internal pricing than would be available to other participants in the competitive market. (trans., p. 591)

The NSW Government regarded vertical separation as the key to facilitating transparency. It argued that:

> Open access and vertical separation have the potential to deliver significant benefits to the community … Also important is the creation of full transparency and the generation of commercial or market based pressures in all parts of the rail transport chain, neither of which may be achievable in a vertically integrated structure. (sub. DR128, p. 27)

Greater transparency in price *setting* is somewhat more complicated when train operators and track owners reach commercial agreements. In these cases the arguments for transparent pricing principles remain strong, although there will be less disclosure regarding the actual access charges facing individual operators.

It is also important to have independent arbitration and appeal mechanisms to limit any potential conflict of interest between the role of an infrastructure owner, the arbitrator and regulator. As the Queensland Commission of Audit noted:

> Given the incentive that exists for Queensland Rail to discourage competitors from operating on its network, the effectiveness of the regime will be limited unless it is enforced by an independent authority. (Queensland Commission of Audit 1996, p. 162)

Similarly, King noted:

> No one is going to fight an incumbent player who is also the industry umpire. (King 1997, p. 278)

When the possibility of conflict of interest exists it can be overcome by increasing the independence and transparency of the access regime processes, thereby providing operators with confidence that they are being treated fairly.

***Increased transparency in pricing principles and cost methodologies, and independent arbitration and appeal processes would provide operators with confidence in the fairness of access decisions.***

### *Institutional structure of the market*

Well designed access regimes also should take account of any differences in the institutional structure of activities in the market. Depending on the jurisdiction, operators seeking to gain access to track can now negotiate with:

- a vertically integrated organisation with an access regime;
- a separate 'ring-fenced' infrastructure unit within a vertically integrated organisation; or
- a separate infrastructure owner.

Several participants commented that, at least in terms of seeking access, dealing with a vertically integrated organisation or 'ring-fenced' unit was unsatisfactory and that structural separation may deliver better access outcomes.

#### *Vertically integrated organisations and ring-fencing*

In vertically integrated railways, a conflict may exist between actions in the interest of the integrated organisation and any obligations to treat all train operators fairly. In this circumstance the track owner may also be competing as a train operator with other operators seeking access. The track owner has an incentive to increase the access price to the competitor because of its monopoly position. This problem may be compounded by a lack of transparency in relation to the decision making process. As the Queensland Mining Council noted:

> … invariably, the chief executive and the board of QR will be making decisions about growing the business on the one hand and decisions about admitting competitors whose objective is to take away their business … (trans., p. 622)

Gaining access to track in vertically integrated organisations may become less of a problem when potential train operators intend to operate in market segments that are not in direct competition with existing operators. Indeed, commercially focused track owners have strong incentives to set prices and conditions to encourage new operators in noncompeting markets onto the track as the increased traffic flow will reduce costs for all operators.

Creating ring-fenced units within the vertically integrated organisation may contribute to improving the transparency of access decisions and the perceived fairness of the process.

However, some participants were not convinced that these arrangements would be sufficient. Shell Coal noted that it:

> … strongly disagrees with the decision by the Queensland Government to keep Queensland Rail a vertically and horizontally integrated corporate entity and to construct 'Chinese walls' between above track operations and the newly formed Access Unit. The break-up of the NSW State Rail Authority was not easy but the benefits of putting above track and below track responsibilities into separate corporate entities has delivered benefits we believe will be much harder to achieve under the Queensland Rail structure. (sub. 36, p. 5)

Under ring-fencing the track owner may still have strong incentives to introduce unfavourable scheduling and maintenance arrangements. As GNRS noted:

> A direct competitor requiring access to the network for the purpose of running a train can be effectively 'frozen out'. This can be achieved 'legally' by causing undue delays in granting access and providing inappropriate paths for the running of trains. (sub. 46, p. 9)

Similarly, the Commonwealth Department of Transport and Regional Services (DTRS) noted:

> … there are much more subtle ways than simply denying someone access to a line [including] your maintenance work, various requirements you might have of other players [and] investment priorities.
>
> If you're a vertically integrated operation you'll invest where it will provide the best commercial return for you and that may or may not suit the commercial requirements of other operators. (trans., pp. 526-527)

It has been argued that for ring-fencing to be effective the business units must be independently accountable for their commercial performance. The Commission of the European Communities' proposal for the development of the railways within the Community recommended that:

> … to create a solid basis for infrastructure charges, it is necessary to separate both the profit and loss accounts and the balance sheets of the two activities [being the infrastructure management and the provision of transport services]. (EC 1998b, p. 12)

However, such measures may not necessarily promote full accountability where the business units are in a subsidiary relationship to a parent corporation which manages its subsidiaries to the benefit of the whole corporation.

***For vertically integrated railways effective ring-fencing arrangements between track and other business operations could promote transparency and independence but may not be sufficient in some circumstances.***

*Vertical separation*

Access problems are reduced when the track owner does not compete as a train operator, that is when vertical separation is introduced. As NCC noted:

> In the context of access, there are a lot of benefits with separation because you remove the conflict which exists with a vertically-integrated organisation where they are both a competitor and a service provider to people who want access. So if you're looking at the issue purely in the access context, then I think the benefits of structural separation there are quite large. (trans., p. 590)

Vertical separation may also facilitate perceptions of fairness. The NSW Government argued that vertical separation:

> … eliminates problems of attempting to ensure that all access seekers are treated fairly and on a 'level playing field'. These problems arise when the owner of the infrastructure is also a major user of the facilities ie when the owner competes with other access seekers for either use of infrastructure capacity, or in end markets. (sub. DR128, pp. 8-9)

In addition, the NSW Government argued that:

> … if structural separation has occurred, an access regime may improve the relationship between end market and infrastructure, given that the infrastructure remains a natural monopoly. (sub. DR128, p. 49)

Vertical separation was adopted in New South Wales in 1996 and for the interstate network in 1998.[6]

DTRS considered that this approach on the interstate network could be jeopardised:

> Of immediate concern to the Commonwealth is the WA Government's proposed sale of Westrail's freight operations as a vertically integrated package including the Westrail owned interstate track between Perth and Kalgoorlie. The decision by WA is potentially the first decision point at which rail reform deviates from the industry structure envisaged by the Intergovernmental Agreement and puts at risk the chances of success of the ARTC. (sub. 76, p. 12)

Vertical separation would address any conflict of interest by introducing incentives for the track owner to encourage more operators onto the track. However, in these cases track owners may still have an incentive and opportunity to exploit their market power and make monopoly profits. In this situation a strong access regime may still be required to regulate monopoly profits. The merits of structural separation are discussed in chapter 6.

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[6] Likewise in some overseas railways, track management, including the administration and negotiation of access, are undertaken by separate entities, such as Railtrack in Great Britain and Banverket in Sweden.

***A strong access regime would be justified where a rail network is vertically integrated, the incumbent has market power and there is potential for competition between train operators in the same market.***

***A strong access regime would not be justified where a rail network is vertically separated and the track owner has little market power, as there are sufficient incentives for the track owner to efficiently use its capacity. Where the track owner has market power a strong access regime would still be required.***

## Access regimes for different networks

From the preceding discussion it is possible to determine the nature of access regimes required for each of the three railway networks outlined in chapter 2.

Only light handed access regimes are required for both the urban and regional networks without market power. In these networks there tends to be strong intermodal competition and only limited scope for competition between train operators for the same passengers or freight. Access arrangements for other operators wishing to use the network could be incorporated in franchise agreements or contracts.

In the regional networks with market power (the main coal lines) access arrangements depend, to some extent, upon the structural and ownership reform undertaken. If, as suggested by the Commission, these networks were horizontally separated as vertically integrated organisations and franchised, access arrangements would be included in the franchise agreement. Where there is vertical separation and considerable market power (as currently exists in the Hunter Valley) a strong access regime is required.

Although there is strong intermodal competition, there also is some competition between train operators on the interstate network. The access regime should encourage market segmentation and the entry of specialised train operators onto the network. Under current arrangements a strong access regime is required on those sections of the interstate network that remain vertically integrated (that is, Western Australia). Under the Commission's proposal for an interstate manager, the access requirements for the entire network would be embedded in a code of conduct (rules governing the operations of the network manager). This code would be approved, as an undertaking, by the ACCC.

## 8.3 Costs of access

The introduction and operation of access regimes is not costless. In determining the appropriate regime for any network the benefits and costs of the regime must be assessed. Introduction and operation of the regime includes the costs of:

- developing the regime;
- regulating access once the regime is in place; and
- the appeals process.

An important element of the cost of developing the regime is the time taken for it to be implemented. Some participants commented on the slowness with which access arrangements are being established. DTRS noted:

> Although bound by the Competition Principles Agreement to providing third party access to rail infrastructure, the States have been slow to develop rail access regimes that are acceptable to the NCC. (sub. 76, p. 5)

The NSW Minerals Council has been involved in the process to develop an effective rail access regime in New South Wales since 1995 (box 8.3). The NSW regime has still not been certified effective. The NSW Government noted that the NSW Minerals Council chose to participate in the process of developing the regime, and hence:

> Such costs were not imposed on the NSW Minerals Council. Rather the Council voluntarily incurred such costs. (sub. DR128, p. 50)

Once the regime has been implemented, train operators face costs associated with dealing with the regime, including administrative and compliance costs, and business incentives may be adversely affected (box 8.4).

Costs increase with the complexity of regimes and number of regimes with which operators are required to negotiate. Several participants noted the complexity of current access arrangements. Train operators on the interstate network must negotiate under a multiplicity of regimes. SCT noted:

> The difficulty with the state-based arrangements in SCT's experience with negotiations has not been that multiple telephone calls were necessary but that each state started out with different requirements and perceptions. It is the removal of the different perceptions and requirements that is needed (or the ability to remove the differences) not limiting the number of people that can be spoken to. (sub. 37, p. 2)

Box 8.3 **The NSW Minerals Council's experience**

The NSW Minerals Council noted that it has cost the Hunter Rail Access Task Force over $1.9 million since 1995 seeking to have an effective access regime established in New South Wales (subs. 39 and DR104). This includes:

- seeking unsuccessfully to contribute to the development of the regime;
- lodging an application for declaration of the Hunter Valley railway line service with the NCC;
- lodging an appeal with the Tribunal against the decision by the NSW Premier not to declare the service;
- responding to an application by the Rail Access Corporation in the Federal Court;
- responding to an application by the NSW Government to the NCC seeking the 'certification' of the NSW rail access regime;
- responding to the NCC's Draft Recommendation regarding the effectiveness of the regime;
- responding to IPART on the proposed terms of reference for a review of the regime; and
- making submissions to various inquiries and committees, including several submissions to the IPART Review of Aspects of the NSW Access Regime.

*Source:* sub. 39, pp. 20–22; sub. DR104, p. 5.

As noted in section 8.2, different access regimes are required depending upon the characteristics of each network. However, multiple regimes on a single network, such as the interstate network, unnecessarily increase the complexity of negotiating access. The NSW Government argued that:

> There may be good reasons for differences among access regimes eg. the amount and type of traffic on lines … The question of complexity and inconsistency is probably most relevant in the case of traffic traversing several regimes eg. interstate traffic. (sub. DR128, p. 49)

In other cases, different track owners within a particular area cause complexity. The Silverton Tramway Company noted:

> In order to access these sidings [near Broken Hill] our movement would commence on nonessential infrastructure, move onto essential infrastructure, across jurisdiction borders and onto a potential private siding.
>
> The access process for a 1.5 km journey comprises:
>
> – Siding agreements with [the] State Rail Authority of NSW to move from track occupied under licence
>
> – Access agreement with Rail Access Corporation

– Access agreement with Australian Rail Track Corporation.

Silverton is still trying to negotiate some sensible arrangements, currently without a positive outcome. (sub. 54, p. 3)

Box 8.4 **The costs of regulation**

Even when there are substantial direct benefits from competition between train operators, care should be exercised in regulating access to track because regulation itself may also impose significant costs, particularly if it is administered poorly, or applied too broadly.

Regulation can impose significant administrative and compliance costs on access providers, train operators and regulators. For example, the regulated access provider must devote resources to supplying the regulator with information, and the regulator must in turn be able to independently assess and verify that information. Owners and operators can also spend significant resources lobbying the regulator which constitutes another, less transparent, cost.

Significant costs can also arise through regulatory failure since it is unlikely that access regulation would be perfectly constructed or administered, given imperfect information available about the market.

As ARTC noted:

> Regulators can deal with extremes of behaviour. Subtlety of market behaviour which actually does dictate end results, is something that a regulator will never capture until a long period of time of evidence which by that time the damage has really and truly been done. (trans., p. 572)

Regulation may diminish incentives for business to invest in infrastructure facilities. The negative impacts on investment are particularly important in the rail industry since the lack of suitable investment in rail infrastructure is a major factor limiting the industry's growth and future prospects.

*Sources:* trans., p. 572; IC 1995a; IC 1997b.

Several participants noted that existing access arrangements in some jurisdictions hindered industry performance because they were unworkable or inappropriately implemented. Rail 2000 noted that:

> … open access to the rail network, if this is the desired intent of governments, is simply just not working. This is either as a result of Claytons Access Regime being promulgated in some states or unnecessarily cumbersome regimes in others. (trans., pp. 3-4)

In cases where access regimes are not working, formal proceedings are often drawn out and can lead to appeals, causing significant costs, delays and uncertainty for both the track owners and train operators. Moreover, significant resources can be devoted to lobbying the government about changes to policy (boxes 8.3 and 8.4).

***Reform to improve access to rail infrastructure has been slow. Current access arrangements are complex due to the multiplicity of regimes, especially on the interstate network, and the intricacies associated with each. These are likely to have imposed significant costs on industry participants.***

## 8.4 Pricing and allocating train schedules

The availability, price and allocation of suitable train schedules is an important factor that can influence the ability of operators to enter the market and run viable train services. It is also important in ensuring that incumbent railways and new entrants are able to respond quickly to the changing needs of customers and compete effectively with other modes of transport.

Existing access regimes adopt a wide range of approaches to pricing and a number of innovative approaches have been proposed for the future. ARTC currently uses a system of posted prices on the parts of the interstate network it owns or manages and has proposed the use of auctions in the future, while many state-based regimes provide for prices based on commercial negotiation (and arbitration where necessary) for access to the state network (box **8.3**).

The various approaches to pricing can be grouped into three broad categories — posted prices, negotiated prices and auctioning mechanisms (box 8.5). Each provides for different levels of flexibility, certainty and transparency. In addition, each has different implications for the way that train schedules are allocated to operators. Posted prices do not provide a mechanism to allocate train schedules so they must be supplemented with other measures, such as allocation on an administrative basis, or by operators being able to swap or trade schedules in a 'secondary market'. In contrast, auctioning mechanisms determine the price and allocate train schedules simultaneously.

In principle, an efficient pricing and allocation system should set prices and allocate train schedules reflecting the opportunity cost of the train schedule to all segments across the entire network. If it does not:

- operators may not make the best use of existing capacity; and/or
- track owners may not invest appropriately in the track infrastructure given the demands for rail use.

Box 8.5 **Approaches to pricing train schedules**

Posted prices — 'Posted' prices are not negotiable and define exactly the prices, terms and conditions under which operators can gain access to the track.[a]

Negotiation — A 'negotiated' agreement reflects the prices, terms and conditions reached following commercial negotiations between the access provider and the train operator. In some cases the negotiated price is constrained by defined upper and lower bounds. Where capacity transfer arrangements are in place, negotiations may take place between existing or potential train operators and the current schedule holder.

Auctioning mechanisms — Potential operators bid for segments of track, train schedules or packages of train schedules and the access provider optimises the allocation of these subject to the size of the bids, their feasibility and the cost of service.

[a] Posted prices can be calculated in a number of ways including as a multipart tariff, using Ramsey principles, and using the efficient component-pricing rule (the Baumol-Willig rule).

*Sources:* Jones et al. 1998; Dodgson 1998; Freebairn 1998; Starkie 1993.

## Posted prices

There is support for the use of posted prices in some rail markets. ARTC suggested that for the parts of the interstate network it owns or operates, it:

> … chose to have a pricing system which was openly published to all operators, so all operators operated off the same pricing schedule which was available to anybody that wanted to see it … What that did was it gave the operators confidence in their competitive position, as opposed to other people's competitive position and really made it a level playing field which people could compete on. (trans., p. 568)

While SCT suggested that:

> … to be effective an access pricing regime should have transparency as to rates, although we do not necessarily require there to be transparency of track management costs and track maintenance costs. (sub. 37, p. 2)

In addition, the House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform (HORSCCTMR) suggested that, at least on the interstate network, posted prices by track segment were appropriate (HORSCCTMR 1998b).

In evidence presented to the HORSCCTMR inquiry both the Queensland Mining Council and the NSW Minerals Council argued that access regimes should include published 'reference' prices, although both allow for some limited negotiation around the published price.

While posted prices may be administratively simple and provide greater certainty to operators regarding the terms and conditions under which they can gain access to the network, they have drawbacks which in part reflect imperfect information about the market. These in turn may prevent the efficient allocation of schedules and entrench monopoly positions if an existing operator is given a schedule for a long period.

Posted prices designed to reflect the different valuations placed by users on the track may require detailed information regarding the responsiveness of operators to changes in price which may be difficult to obtain given the small number of operators in most markets. As Easton noted:

> Put simply, the rail supplier is not competent to assess relative demand elasticities nor review changes in those relativities. (Easton 1996, p. 155)

In response to these complications, there can be a tendency for access providers to rely on arbitrary, administrative mechanisms in setting prices to attempt to capture differences in valuations of the track. Posted prices may rely on 'first come-first served' arrangements and 'grandfathering' of existing schedules. It is unlikely that such systems will allocate train schedules efficiently, since they do not reflect the value that new or different operators place on the schedules. Rather it is more likely that such systems will entrench current operators' positions in the market. Patrick noted that in negotiating train paths and rail access on the interstate network during 1996-97:

> … existing government rail operators obviously occupied the best train paths, leaving paths that were slow (long transit time) and sub-optimum in departure and arrival times. (sub. 63, p. 3)

The efficiency of pricing and allocating train schedules across networks could be improved under this system if supplemented by market-based arrangements. Posted prices could be used in conjunction with a secondary market in which operators trade the right of gaining access to track segments (capacity trading mechanisms are discussed below). This would ensure that the track segment would be acquired by the operator who values it the most.

## Negotiated prices

Commercial negotiations (with arbitration if necessary) are currently used in most state-based regimes. When prices are set through commercial negotiation, operators

who provide different services can negotiate terms and conditions according to the value that they place on the track.[7]

The ability to charge different access prices to different users enables access providers to put in place incentives to encourage the effective use of track infrastructure. This may not be possible under a less flexible posted prices approach.

However, commercially negotiated outcomes between parties may be made at the expense of efficiency (IC 1997b). In the first instance the track owner could abuse its market power and charge access prices that are too high — above stand alone cost (the total cost of supplying the infrastructure) — especially when the operator is in a weak bargaining position and has no other transport alternatives.

Alternatively, when there are significant monopoly profits available in the rail market (in both above and below track operations), the track owner and train operator may agree on terms and conditions that promote monopoly profits rather than economic efficiency.[8] As King and Maddock noted:

> … firms will negotiate access prices and conditions that suit them, not those which increase social well being … (King and Maddock 1996, p. 97)

In this case negotiation between the track owner and train operator will involve:

> … trying to seize as large a share of monopoly profits as possible, with no party interested in competition that may benefit consumers but reduce profits. (King 1997, p. 276)

In addition, commercial negotiations may occur irregularly and may result in contractual arrangements for specific train schedules over different lengths of time. Consequently it may be difficult to negotiate with all train operators over all schedules and segments of the network simultaneously, in order to improve the efficiency over the entire network.

## Market mechanisms

An important element of competition between train operators is competition for schedules (chapter 6). However, current access arrangements limit this form of competition.

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[7] Under this pricing regime, operators whose derived demand for the service is not responsive to price changes would be charged higher prices while those operators who are quite price responsive would be charged lower prices.

[8] This is not a likely problem in most rail markets in Australia as very few make significant monopoly profits.

For the interstate network, the ARTC's 'one stop shop' role appears limited to allocating excess capacity to new entrants. The Rail Access Corporation (RAC) noted that ARTC and itself:

> … each have rights to sell our uncommitted capacity, ARTC for interstate purposes or RAC for intrastate purposes, and there will be an iterative process in the agreement under which we negotiate and agree those paths in a practical sense. (trans., p. 1118)

FreightCorp noted that in relation to current approaches:

> The issue of allocation of train paths has not been adequately dealt with in any of the jurisdictions in which FreightCorp currently operates. The solution has generally been to allow existing users to retain their path allocations ('grandfathering'), with additional paths for new entrants fitted around these. (sub. DR123, p. 2)

FreightCorp then argued that:

> Grandfathering favours incumbents over new entrants. As the Commission recognises, in some circumstances this can be a deterrent to the growth of competition from new entrants … Grandfathering allocations leads to inefficient use of the infrastructure. As infrastructure owners are unable to amend the paths provided to existing users, new paths have to be scheduled around these. (sub. DR123, pp. 2,3)

Market-based mechanisms, such as auctioning and capacity transfer arrangements, can be used to promote competition between train operators for train schedules.

### *Auctioning mechanisms*

Auctioning provides a market mechanism for the initial allocation of schedules to train operators. Although auctioning is not currently used in Australian rail markets, it has been proposed as a future option — especially in networks which are or become more congested as a result of new entry and increased activity. As the market for schedules develops, the pricing and allocation of schedules is likely to evolve from posted and negotiated prices to more market-based mechanisms.

The main advantages of auctioning models over the posted price and negotiated price approaches are that they:

- allow for greater flexibility in determining prices and conditions;
- may provide information on the highest value and best use of the track; and
- provide indicators of where investment in the track may be justified.

For example, in a well designed auction covering interstate operations, bidders would reveal the true valuation of their use of the track. In principle, this might be achieved by getting all train operators — both interstate and intrastate users of the interstate network — to bid simultaneously for individual train schedules they are

seeking.[9] This would include simultaneously assessing bids for both the use of the interstate track by both interstate and intrastate operators and identifying the operator which values particular schedules most highly.

The bids would include the necessary information for the market manager to be able to maximise the profit of the entire network by choosing the optimal mix of train schedules. Information required may include axle load, train speed, origin-destination and any stopover requirements.

The market manager could use a network optimising program that allocated train schedules subject to bid prices, the schedules being mutually exclusive and the bid price exceeding the cost of supplying the service. Bidders could submit a number of bids, each with different prices and train paths, to reflect their valuation of the alternative schedules they are prepared to purchase.

There could be spot pricing (through a bidding process and trading) or negotiation for the short term allocation of remaining schedules. The Commission has also considered these issues in relation to the pricing and allocation of airline slots (PC 1998b).

The market manager could also have a role in identifying and facilitating investment in the network. The market manager could disseminate data regarding network utilisation and identify areas where additional investment in the network may be justified (chapter 10).

Several participants were critical of proposals to auction train schedules. The practical difficulties of auctioning schedules was raised by Great Southern Railway. It noted that:

> … we think it will be difficult to devise a method for bidding for paths, given that different trains have different characteristics and so require different types of paths … To our knowledge, no country in the world has devised a working method for selling train paths by competitive bidding. (sub. DR95, p. 4)

NSW Government noted that establishing an auctioning mechanism would entail high set up and familiarisation costs.

[9] Train schedules here may be defined as a capacity to move a certain volume of freight within a specified period of time, rather than a rigid time schedule.

NRC (sub. DR117) acknowledged that in theory auctioning provides information on the value of paths by actual and potential users. However, it referred also to practical difficulties as powerful arguments against the auctioning approach. These included:

- that where there is a need for a new train path, the market will be such that it will be rare for more than one operator to be in a position to bid for the path;
- existing long term business arrangements and contracts would be disrupted leading to uncertainty; and
- strong interactions between time-paths on networks make it difficult coordinating auctions of a continuous path across a corridor.

The NSW Government also noted the difficulty with small numbers of potential bidders for some paths:

> … the benefits in terms of improved allocation of train paths and providing better incentives for investment in track would not be great, given the small number of bidders likely to be involved for any given bundle of train paths. (sub. DR128, p. 44)

In cases where there is only one operator seeking a new path, RAC argued that new paths could be accommodated with only modest investment in the network without the need to auction paths:

> To the extent that the market is not met, this reflects under investment in the network. The Sydney-Melbourne business provides a good example. Rail currently has somewhere in the order of 20% of this market. This market share is achieved with a single 1,500 metre train per day. Even in the unlikely event that rail was able to secure 100% of the market, this would still only represent five 1,500 metre trains per day. If the assumption is further tightened so that the entire market wanted to be serviced overnight, this would still only require that the 5 trains leave at half hour intervals. Such a scenario is readily achievable with modest investment in the infrastructure. (sub. DR102, pp. 22-23)

The need for greater certainty was raised as an objection to auctioning paths by several participants. RAC argued that one of its concerns with auctioning was:

> … that it may have a negative impact on the market. If a rail operator needs to invest time and resources in developing a market, it will only do so if it has reasonable certainty over its train path. Under an auctioning system there is a risk that operators will be discouraged from market development. (sub. DR102, p. 23)

Similarly, SCT argued:

> The provision of spot pricing, like auctioning, would give rise to a great deal of uncertainty in the market which in turn would not allow investment to take place in the rail industry … The use of spot pricing and auctioning techniques could … give rise to

> uncertainty insofar as the investment plans of another operator are concerned. (sub. DR100, p. 4)

The difficulty of auctioning a continuous path across a corridor is not to be understated. NRC argued that:

> There are strong inter-actions between time-paths on the network, both 'vertically' (between time-paths on the same track), and 'horizontally' (between time-paths on adjacent sections of track, which are administered by different access providers). The practical difficulties of coordinating auction of a continuous path across a whole corridor (eg Sydney-Perth) would make an auction impossible. (sub. DR117, p. 16)

Auctioning may also be inefficient. Large incumbent operators with 'deep pockets' could dominate the market by outbidding smaller or new operators. Although this may reflect efficient bidding (and therefore efficient outcomes), it may also reflect the abuse of market power (and therefore inefficient outcomes). SCT concurred:

> The Commission is quite correct in pointing out that auctioning may be an inefficient process because large operators could abuse their market power etc. (sub. DR100, p. 3)

The practical issues raised by participants present challenges to the development of a path auctioning system. However, they are not sufficient to rule out the concept. Appropriate design and implementation of an auctioning system can overcome many of these issues. An effective auctioning system will provide information on individual users valuation of train paths and facilitate the efficient development of the rail industry.

Arguments relating to uncertainty are not arguments against auctioning *per se*, but for train paths to be allocated for appropriate time periods and to provide protection for pre-existing contracts. ARTC noted that auctioning processes can be such that:

> … the time frames for which paths can be contracted can be quite flexible, subject to 'use it or lose it' provisions, enabling certainty of business to be established. Secondary trading of train paths also enables the owner of the path to enhance the returns available to the owner from a given path. (sub. DR97, p. 10)

The network manager responsible for the auctioning process would be required to trade off the individual operator's desire for certainty and longer term paths with the system wide efficiency gains from facilitating the possibility of new entry.

The practical problems associated with auctioning and allocating paths have yet to be resolved. However more powerful computer models currently being developed to allocate train paths may assist in overcoming some of these difficulties. (sub. DR103; sub. DR113).

### *Capacity transfer mechanisms*

Capacity transfer mechanisms would permit the existing holders of train schedules to transfer or sell them to other railways (or possibly other organisations). Such mechanisms may facilitate the transfer, without payment, of schedules (a largely administrative approach) or encourage the development of markets for the sale of schedules at commercially negotiated prices. Either mechanism is more flexible, in terms of freeing up schedules for new entrants, than posted prices or negotiated pricing arrangements discussed above.

Capacity transfer mechanisms provide opportunities to 'free up' the allocation of train schedules. The NSW Minerals Council argued in favour of a market-based trading mechanism for schedules:

> The Council sees considerable scope for capacity trading and the ultimate development of secondary markets involving 'derivatives', to aid price discovery and transparency and serve as a competitive discipline on the monopoly seller of rail access. (sub. DR104, p. 6)

As well as path holders voluntarily trading excess requirements, capacity trading arrangements could contain 'use it or lose it' provisions. An operator could be required to surrender unused paths to the access provider or offer them for sale to other train operators. This would limit the ability of incumbents to restrict entry and competition by hoarding train paths.

A draft capacity transfer policy for inclusion in the NSW rail access regime was issued by the NSW Government for comment in June 1999 (box 8.6). It includes provisions for the transfer of access rights and the relinquishment of unused schedules to RAC.

The draft RAC policy appears to be based largely on administrative processes. Unused schedules are not sold by operators but are reallocated by RAC to operators in accordance with its established conditions for offering access. It is unclear whether the transfer of access rights between operators would involve payment.

The NSW Minerals Council expressed concern that elements of the draft RAC policy would inhibit the development of an effective market-based approach. In particular it noted limitations on who could trade capacity, the nature of access rights offered and the central role of RAC (as both broker and owner) (NSW Minerals Council, pers. comm., 26 July 1999).

Box 8.6 **Draft NSW capacity transfer policy**

The RAC has issued a draft capacity transfer policy to apply to the NSW rail network. The objective of the policy:

> … is to facilitate the optimum efficient utilisation of the NSW Rail Network by rail operators through the establishment of effective mechanisms for the transfer of access rights between operators. (RAC 1999, p. 2)

The three principles guiding the development of the policy state:

> a) that RAC have the power, where appropriate, to ensure that a rail operator does not retain the right to use timepaths that are not being utilised in circumstances when they can be allocated to another rail operator;
>
> b) where a rail operator is not utilising capacity and surrenders the unutilised capacity, and the access fees payable to RAC are not based on usage of the NSW Rail Network, it may be necessary to adjust the access fees; and
>
> c) where a rail operator seeks access to capacity that is already utilised by another rail operator, RAC will approach the other rail operator to seek to negotiate an amendment to its agreement so as to facilitate the rail operations of the prospective operator. (RAC 1999, p. 2)

RAC's role is to negotiate access rights and pro-actively facilitate the transfer of access rights between operators where there is agreement between the operators to do so.

Rail operators are free to voluntarily reduce their access rights at any time. To facilitate the relinquishment of unutilised access rights, RAC may include provisions in access agreements requiring the payment of path reservation fees or the relinquishment of access rights if they are not used for a reasonable time ('use it or lose it').

Operators are also free to transfer part or all of their access rights to another operator, provided the new operator accepts the characteristics associated with those rights. If the new operator wishes to change the characteristics of the access right (for example, seek a higher axleload) RAC is required to enter negotiations with the new operator to agree, if practical, to the changed characteristics.

In the case of disputes between RAC and existing or prospective operators these will be subject to the dispute resolution mechanisms contained in the relevant access agreement. These may include referral of disputes to IPART for arbitration.

*Source:* RAC (1999).

Market-based trading is preferred to administrative transfer arrangements to ensure schedules are obtained by operators who most value the use of the track.

***It is not apparent that existing access regimes include market-based mechanisms for allocating and transferring schedules. The introduction of such mechanisms would be particularly relevant to the interstate network and main coal lines.***

RECOMMENDATION 8.1

***The pricing and allocation of train schedules should reflect the value that users place on the track. To encourage this, the Commonwealth Government should establish a process to investigate the feasibility of developing a market approach for allocating schedules or transferring capacity on the interstate network.***

## 8.5 Costing methodology

There are a number of costing issues relating to the establishment of access prices. An otherwise well designed access regime may result in inefficient access prices if costing issues are addressed inappropriately. Some participants commented on the methods currently used to measure costs and the lack of transparency in determining and publishing costs. Similar concerns have been expressed by participants in the Commission's report *The Australian Black Coal Industry* (PC 1998a).

The methods of measuring the costs of capital in rail infrastructure vary widely with:

- the choices of the method of asset valuation (historical, deprival or other valuation methods); and
- the rate of return (nominal or real rates).

### Valuation of assets

Rail transport entails large capital expenditure on assets, particularly track and rollingstock. Different approaches to asset valuation may significantly affect the value of assets and the estimation of costs.

Currently, the method of valuing assets differs across jurisdictions and ranges from deprival methods, to replacement costs and historical costs.

The choice of asset valuation method is a case by case decision and largely depends on the objectives for which the asset valuations are sought (CCNCO 1998). It also depends upon the assets to be valued. Easton argued that the:

> … method of valuation should be determined by the nature and characteristics of the asset, and certain other considerations … particularly in regard to the difficulty of assessing replacement value … (trans., p. 830)

In this section, asset valuation is considered from the perspective of setting prices for access to track infrastructure — where issues such as the valuation of 'once-off' assets including the provision of track corridors arise.

In the context of setting access prices, several participants argued that historical cost was the most appropriate form of asset valuation for government-owned railways. This is because historical values are more transparent and may be simpler to administer than other approaches, especially for long lived assets. Easton argued that with historical cost valuation:

> … there is no subjectivity involved, valuations are reliable in the sense that they represent actual expenditures and, as such, they are verifiable. For long life assets, including sunk capital, these are considered significant advantages [over other asset valuation methods] … Furthermore there is no need for time consuming and possibly costly procedures to arrive at alternative costs, which in most instances (for rail specific assets at least) involve subjective assumptions and even speculation. (Easton 1996, p. 93)

The characteristics of the assets are an important consideration. Easton has argued:

> I think there are some cases in which the nature of characteristics of the asset lends itself to a treatment of other than historical cost, but please not deprival value. (trans., p. 844)

King (1996) has also suggested that historical cost is, on balance, the more appropriate valuation method, arguing that it is easy to administer, transparent, less subjective than replacement cost, and provides adequate incentives for operation and investment.

However, the use of historical cost may pose additional problems, particularly in periods of inflation, technological change or changes in supply and demand conditions. The Steering Committee on National Performance Monitoring of Government Trading Enterprises (SCNPMGTE) suggested that in times of increasing prices, the use of historical cost is likely to result in:

- the understatement of the value of the assets;
- the understatement of expenses; and
- for commercial entities, the overstatement of profits and returns on assets (SCNPMGTE 1994).

In addition, in its draft guide to access undertakings the ACCC suggested that:

> Before accepting the historical cost approach to asset valuation as part of pricing principles included in an undertaking, the Commission will need to be satisfied that gold plating and over investment is not likely to occur. (ACCC 1997b, p. 41)

Other valuation methods may better capture the value of the economic services in the asset and so be more appropriate. IPART has suggested an alternative asset valuation methodology. IPART has recommended that a depreciated optimised replacement cost (DORC) methodology be used for valuing RAC assets when setting ceiling prices under the NSW access regime.[10] IPART stated that:

> DORC is the replacement cost of an 'optimised' system, less accumulated depreciation. An optimised system is a re-configured system using modern technology designed to serve the current load with current technology, with some allowances for growth. This method excludes any unused or under utilised assets and allows for potential cost savings that may have resulted from technological improvement. (IPART 1999a, p. 28).

However, there is not universal support for the DORC valuation methodology. The NSW Minerals Council noted that:

> The theoretical appeal of the DORC approach is undeniable. However its practical application can present problems on some occasions. (sub. DR104, p. 8)

It also argued that the DORC approach requires an:

> … exhaustive and computationally unwieldy 'optimisation' process to establish the appropriate railway configuration for each user or group of users. (sub. DR104, p. 8)

Similarly, the difficulty of specifying the optimal configuration was highlighted by Westrail:

> … DORC can lead to protracted negotiations as to what is the optimum configuration. The benefit of DORC, which is principally alleged to be avoiding 'gold plating' or over investment in the infrastructure can be achieved in an access regime requiring demonstration from the owner that the infrastructure is required for the task. (sub. DR107, p. 7)

Easton argued that the nature of the assets (especially asset life) is important in assessing the validity of applying the DORC methodology:

> The DORC approach would make more sense, and I use that word deliberately, if renewals of like by like are a capital charge … [but] What's the justification for valuing at replacement value if the assets or substantial slabs of it never have to be replaced? (trans., p. 832)

There is no single asset valuation methodology which is clearly preferred in all situations. The use for which the valuation is sought and the characteristics of the assets, especially their frequency of replacement, influence the selection of an appropriate valuation methodology.

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[10] By virtue of Schedule 3 (iv) of the NSW rail access regime, this recommendation and that relating to the maximum rate of return took effect without further action on the sixtieth day after the IPART report was presented to the Premier of New South Wales.

***The appropriate asset valuation methodology should be determined on a case by case basis, depending upon the purpose for which the valuation is required and the characteristics of the assets.***

### Rate of return

Several participants argued that existing access regimes applied non-commercial rates of return to assets which inflated asset prices. The NSW access regime used nominal rates of return in setting a ceiling for access charges to rail infrastructure. The ceiling rate of return was 14 per cent nominal post-tax on the replacement value of assets. Many participants commented that this was too high, given the sorts of risks associated with the business.

IPART (1999c) recommended that the maximum rate of return for the NSW regime be set at a pre-tax real return of 8 per cent. This change was automatically incorporated into the NSW rail regime. IPART also recommended that the NSW Government consider creating a process for revising the maximum rate of return at periodic intervals, indicating that three yearly revisions were appropriate (IPART 1999c).

Participants noted that the rate of return recommended by IPART was not necessarily applicable to all rail networks, and may not be sufficient to attract private sector investment. ARTC noted that IPART's recommendation was:

> … relative to a set of circumstances presented to a particular market, so I wouldn't want that sort of thing to become a kind of general rule framework … but in New South Wales the Commission was looking at an area that had a sunken investment, had a high-yield return base on it, and was a very secure risk market … I think you would get a different decision in different locations, so I don't think, if that is a general rule, it would necessarily flow on. (trans., p. 819)

The rate of return which infrastructure owners are permitted to earn on assets can affect the access charges faced by train operators. Higher permitted rates of return are likely to lead to higher access charges. However, if returns are set too low investment may be inhibited. Regulators will need to continually review rate of return policy.

## 8.6 Complexity of operating on the interstate network

Participants noted the complexity of operating on the interstate network. Difficulties arise because this network is owned or managed by several authorities, each operating under different access regimes which reflect the nature of the markets that

operate within state boundaries. This creates uncertainty and adds to the cost of rail operators who may wish to buy slots from origin to destination, not just from border to border.

In order to reduce the complexity ARTC commenced operations on 1 July 1998 to provide a 'one stop shop' for access to the interstate network (box 8.7).

Box 8.7 **The Australian Rail Track Corporation**

The ARTC was incorporated in February 1998 and commenced operations on 1 July 1998. It is fully owned by the Commonwealth Government through shareholder representatives of the Departments of Transport and Regional Services, and Finance and Administration.

It was established to provide a 'one stop shop' for national rail operators, and the States have entered negotiations with ARTC over access arrangements.

The main purpose of ARTC is to 'facilitate a commercially viable Australian rail industry through the introduction of new infrastructure and access arrangements, contributing to an efficient national transport system' (ARTC 1998, p. 1). In order to do this, ARTC has responsibility for management of access and track maintenance in South Australia (and parts of New South Wales, Western Australia and the Northern Territory) as track owner and in Victoria as track manager via a lease agreement. ARTC is available to act as a retail broker for access in Queensland, New South Wales and Western Australia.

*Sources:* ARTC 1998; sub. 74; sub. 76.

Currently ARTC's terms and conditions only apply to the track that it owns or manages. Both New South Wales and Western Australia have indicated that they will not allow ARTC to own sections of the interstate track within their respective jurisdictions (HORSCCTMR 1998b). Instead, ARTC must negotiate access and exclusive agency rights with these jurisdictions and with Queensland (trans., p. 570). ARTC is currently negotiating draft wholesale agreements with these jurisdictions and has indicated that the negotiations are proceeding to an advanced stage (sub. DR97 and appendix F).

NRC (sub. DR117) argued that the 'one stop shop' approach would create an additional layer through which operators had to seek access rather than dealing directly with the access provider. NRC envisaged problems with this approach including:

- pricing being shrouded in two layers of secrecy and confidentiality;
- delays in negotiating train paths through intermediaries;

- provisions for indemnities and warranties would be more complex — with the ability of ARTC to enforce performance warranties on behalf of the access user being questionable; and
- increased complexity in the day to day management of train paths by interposing ARTC.

In relation to the last problem, Affleck (NRC) argued:

> Day to day management of train paths … would be complicated by interposing a middleman. It would be too easy for the ultimate access provider to 'pass the buck' to the middleman, which in spite of its best intentions would be unable to address the detailed operational issues which arise every day. (Affleck 1999, p. 11)

These problems led NRC to conclude:

> For all of the above difficulties and others, National Rail and other rail operators have a strong preference to continue to deal directly with the real access providers, both when negotiating contracts for access and when managing the on-going use of access. The problems in dealing with several entities to obtain access are minor compared with those listed above. (sub. DR117, p. 17)

However, while a large incumbent operator such as NRC may be able to deal directly with multiple access providers, this is likely to be more difficult and costly for new entrants or smaller operators. The complexity of existing arrangements can hinder their ability to respond quickly to commercial opportunities — further entrenching the position of incumbents.

The creation of a market manager on the interstate network (chapters 6 and 10) would overcome any problems relating to the day to day operation of the system by vesting this responsibility within one organisation.

In the meantime, ARTC has encouraged discussions and cooperation between jurisdictions. As part of these discussions ARTC is developing an industry code to provide a common framework and set of rules for access to the interstate network which would apply regardless of whether it owns or manages the track.

# 9 Safety regulation and operating procedures and standards

**Inconsistent safety regulations and operating procedures and standards are an impediment to efficient rail operations, particularly between States. They can reduce rail safety, add to costs, create uncertainty and inhibit innovation. Ultimately, existing and potential operators are impeded from taking advantage of market opportunities, investment is discouraged and rail's competitiveness relative to other modes of transport declines.**

**Although progress has been made by Commonwealth, State and Territory Governments and industry to reduce inconsistent regulation in railways, progress could have been faster and the outcomes are still uncertain.**

Regulations discussed in this chapter relate to safety and operating procedures and standards. Chapter 8 discusses regulation relating to access regimes. Rail regulation in this chapter takes various forms including legislation, standards and codes.[1]

In the past, each State managed and regulated its own rail system.[2] Prior to the 1990s, differences in regulations between States were not of concern to operators because there was little scope for more than one operator in each system. However, during the 1990s the completion of the national standard gauge track linking the five mainland capital cities through Melbourne, the introduction of open access on the track, the creation of the National Rail Corporation (NRC) and the entry of new private operators have focused attention on inconsistent rail regulations as a major

[1] The Council of Australian Governments (COAG) defines regulation to be the 'broad range of legally enforceable instruments which impose mandatory requirements upon business and the community as well as to those voluntary codes and advisory instruments … for which there is a reasonable expectation of widespread compliance'(COAG 1997, p. 2).

[2] The Australian Capital Territory (ACT) has four kilometres of track under NSW regulation. Railways in the Northern Territory were administered by Australian National until July 1998. The *Rail Safety Act 1998* (NT) has been gazetted but no decision has yet been made regarding the administration of rail safety.

impediment to efficient interstate rail operations.[3] These differences can increase costs and reduce the ability of rail to compete with other modes of transport.

Prior to the 1990s, vertically integrated State government-owned railways operated primarily within their own State so that any rail safety and operational issues related mainly to individual jurisdictions. Today, train operators are dealing with multiple jurisdictions. However, State-based accreditation authorities retain responsibility for regulating safety and ensuring compliance, and track owners adopt their own operating procedures and standards, while complying with each State's safety regulation. Many participants commented on issues relating to safety regulation and operating procedures and standards, in particular inconsistencies between jurisdictions and their impact on efficiency. The Australasian Railway Association (ARA) noted with respect to safety that:

> State-based regulatory regimes remain a barrier to entry into rail operations. Despite their excellent safety record, rail operators are subject to a vastly more complex and costly regulatory regime than road operators. (sub. 51, p. 11)

And with regard to operating procedures and standards that:

> These different standards have adversely affected interstate rail operations. (sub. 51, p. 10)

Great Northern Rail Services (GNRS), referring to both safety regulation and operating procedures and standards in general commented that:

> The industry, particularly those operators who work across State borders, are presently burdened with onerous regulatory requirements. The plethora of regulations … are expensive imposts on all operators. (sub. 46, p. 8)

And NRC held a similar view in referring to both:

> The complexity of regulation of interstate rail equipment, operational procedures and employee competencies is a significant barrier to entry and a significant impost on innovation for existing operators. (sub. 53, p. 18)

The WA Government, however, held a different view in relation to safety accreditation. It noted that:

> Perceptions held by a small element of the industry that there is a lack of coordination, and inconsistency between States are generally unfounded ... (sub. 60, attach. B, p. 2)

The focus of participants' comments was on the interstate network. However, inconsistent safety regulations and operating procedures and standards can also

[3] In this chapter interstate rail operations include the activities of operators running trains on any track in any State other than the State in which their principal activities take place, as well as national operators, such as NRC and Great Southern Railway.

affect operators wishing to run trains on the intrastate network in States other than the State in which their principal activities take place. Although participants focused on freight operations, passenger operations are also affected.

Safety regulation and operating procedures and standards for railways are substantially more complex and confusing than for many other industries. The complex safety accreditation system, layers of regulation, confusion between safety and operating procedures and standards, different interpretations and terminology within the industry, and complicated mechanisms for progressing reform have all been highlighted in this inquiry. These are overlaid by change over the past few years and during the course of this inquiry.

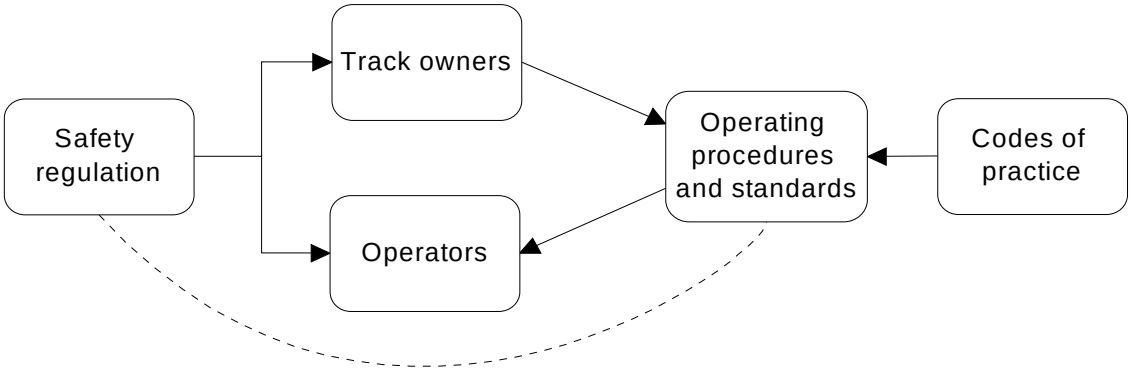
The Commission's approach is to treat safety and operating procedures and standards as separate although operating procedures and standards incorporate elements of safety. This chapter focuses on how to achieve efficient implementation of safety regulation by removing inconsistencies in safety accreditation and mutual recognition between jurisdictions (section 9.1). According to the Industry Reference Group (IRG), a joint government and industry initiative comprising industry representatives, rail safety regulation is about ensuring that activities are undertaken in a safe manner, that is, 'what you need to do' (sub. DR109).

Operational issues relate mainly to the choice of operating procedures and standards adopted by track owners to increase their efficiency while complying with safety regulations. Of particular interest is the extent to which operating procedures and standards should be harmonised or made uniform across track owners' rail networks (section 9.2) and the development of codes of practice (section 9.3). The IRG described the process for establishing uniform operating procedures and standards as being about allowing rail organisations to conduct their operations in a safe and efficient manner, that is, 'how to do it', taking into account the need to remove jurisdictional differences and improve efficiency (sub. DR109).

The relationship between safety accreditation and mutual recognition, operating procedures and standards, and codes of practice is represented in figure 9.1.

Alternative ways of maintaining the momentum of reform are considered in section 9.4. A stocktake of reforms and key developments in removing inconsistent rail safety regulation and operating procedures and standards during the 1990s are summarised in chapter 3, with greater detail provided in appendices D and G.

Figure 9.1 **Safety regulation, operating procedures and standards, and codes of practice**




## 9.1 Safety regulation

The industry recognises that there is a need to focus on managing safety risk, given the potential for rail accidents, the complexity of rail transport operations, and the recent entry of operators with little or no experience in rail (ARA 1997). The Australian Standard on Rail Safety Management (AS 4292) notes that the safety objective in the railway industry is 'to minimise the risk of harm to people and damage to property' (Part 1, p. 5). AS 4292 is described in box 9.1.

In 1995-96 the incidence of nonfatal accidents in rail transport reported in new workers' compensation cases was substantially higher than for the 'all industries' total (table 9.1). Although there is no information on fatalities for that year, other data indicate that the number of fatalities[4] associated with railways is substantial — in 1993 there were over 100 fatalities, and approximately 40 in 1997 (ABS 1993b, ABS 1997).

Table 9.1 **Incidence of new workers' compensation cases reported[a], 1995-96**

| *Industry* | *Fatal* | *Nonfatal* | *Total* |
|---|---|---|---|
| Rail transport | np | 42.59 | np |
| Transport and storage | 0.18 | 41.84 | 42.01 |
| All industries | 0.05 | 25.47 | 25.51 |

**a** Excludes Victoria and the ACT. Incidence relates to occurrences per thousand wage and salary earners. **np** not provided.

4 Based on Death Certificates issued by coroners. Includes all persons, not just employees. Excludes suicides.

*Source:* NOHSC 1998.

Box 9.1 **Australian Standard on Rail Safety Management**

The Australian Standard on Railway Safety Management (AS 4292) is referred to in the accreditation sections of most State rail safety/transport acts and forms an underlying component of the national guidelines for safety accreditation. The national guidelines state that 'applicants are required to develop their railway safety management system for their railway activities in a manner consistent with the Australian Standard for Rail Safety Management (AS 4292)' (sub. DR106, attachment on national guidelines).

The objective of AS 4292 is to provide a uniform set of railway safety requirements which can be incorporated into management systems to adequately control risk. It is not prescriptive in its approach.

AS 4292 consists of seven parts:

- Part 1: General and interstate requirements;
- Part 2: Track, civil and electrical infrastructure;
- Part 3: Rollingstock;
- Part 4: Signalling and telecommunications systems and equipment;
- Part 5: Operational requirements;
- Part 6: Railway interface with other infrastructure; and
- Part 7: Railway incident investigation (draft).

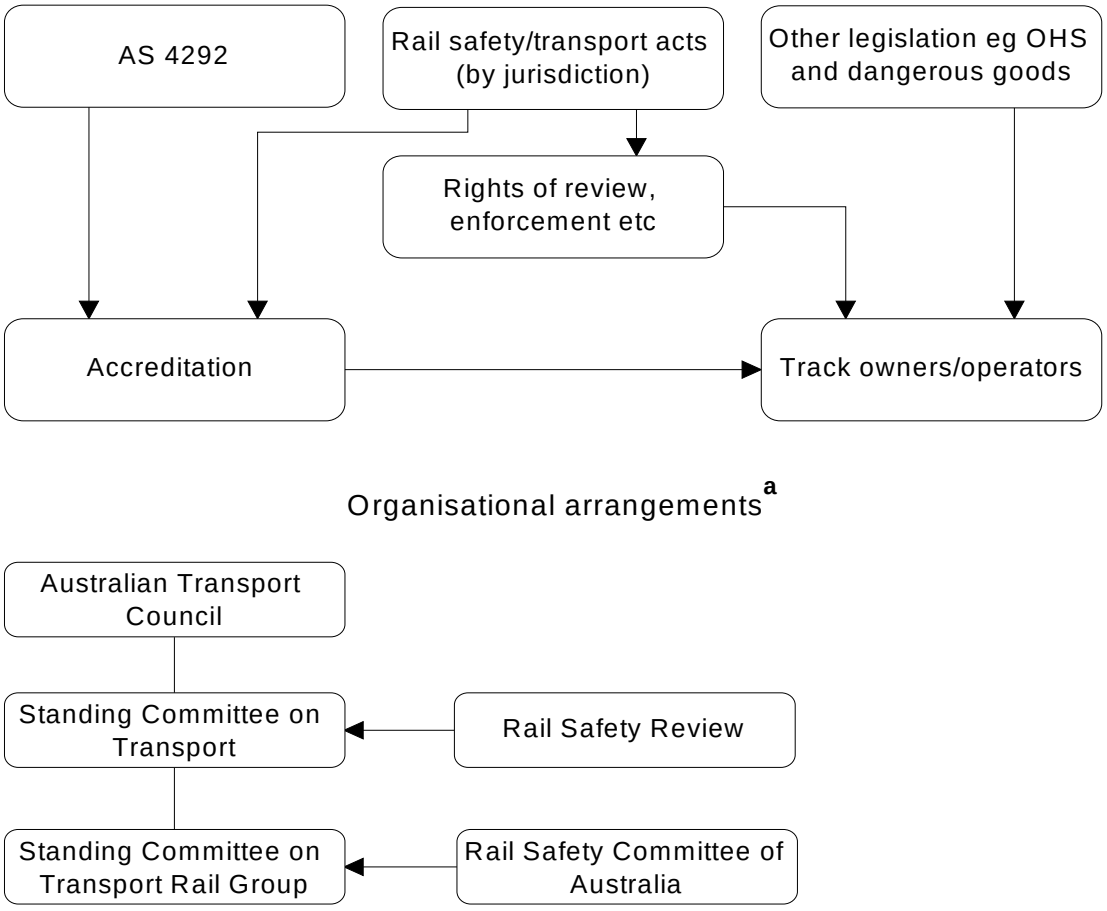
AS 4292 was prepared by Committee ME/79, Railway Safety, and approved on behalf of the Council of Australian Standards. Part 1, published in 1995, establishes the general principles. Parts 2-6, published in 1997, provide guidance on what is needed to comply with Part 1. Part 7 has yet to be finalised.

*Sources:* ARSAA sub. 106; Standards Australia 1997.

Although it is beyond the scope of this inquiry to assess safety risk management in the rail industry, it is within its scope to examine some of the tools used, such as the safety accreditation process, in so far as they may impede efficient interstate rail operations.

The processes of rail safety regulation in Australia and organisational arrangements associated with progressing regulatory change are presented in figure 9.2.

Figure 9.2 **Safety regulation**




[a] Other organisations involved include the Australian Rail Safety Accreditation Authorities (ARSAA) and ME/79 (Australian Standards Committee).

## Safety legislation

Safety is regulated by State and Territory Governments according to each jurisdiction's rail safety legislation. New South Wales was the first State to amend its railway legislation (in 1993) to include safety accreditation. It placed the onus on the industry to perform to agreed standards and introduced accountability and transparency (ATC 1993). This legislation was then used as a model for the development of legislation in other States.

In 1996 all jurisdictions[5] agreed (through an Intergovernmental Agreement (IGA)) that legislation be passed making AS 4292 the principal standard forming the basis for safety accreditation. They also agreed that parties make provision under existing

[5] Excluding the ACT.

or future legislation for accreditation by an accreditation authority and for mutual recognition (IGA 1996).[6]

Legislation, consistent with the IGA, followed in the other States and Territories. As a consequence, legislation covers many similar areas in each State, including accreditation of owners and operators, safety audits and inspections, rights of review, enforcement and fees. Legislative reviews in States other than New South Wales resulted in most also incorporating reference to mutual recognition and AS 4292.

Although the areas covered under the acts are similar, the detail varies between jurisdictions. For example, the clauses relating to suspension of accreditation in the Queensland *Transport Infrastructure Act 1994* (chapter 6, part 4) are different to the wording under this area in the South Australian *Rail Safety Act 1996* (part 2, division 2).

In New South Wales a review of the *Rail Safety Act 1993* (NSW) commenced in mid-1998. Industry consultation is being finalised and submission of legislation to Parliament is anticipated in September 1999. Rewriting of the Act is expected to be comprehensive, addressing issues such as mutual recognition.

Other legislation which is not specific to rail but affects the industry includes occupation, health and safety and dangerous goods legislation. Such legislation is not discussed in this chapter, but adds to regulatory oversight of railways (IC 1995c).

## Safety accreditation

According to State legislation, an organisation or person wishing to operate a train must be accredited in the jurisdiction in which the principal activities are undertaken.

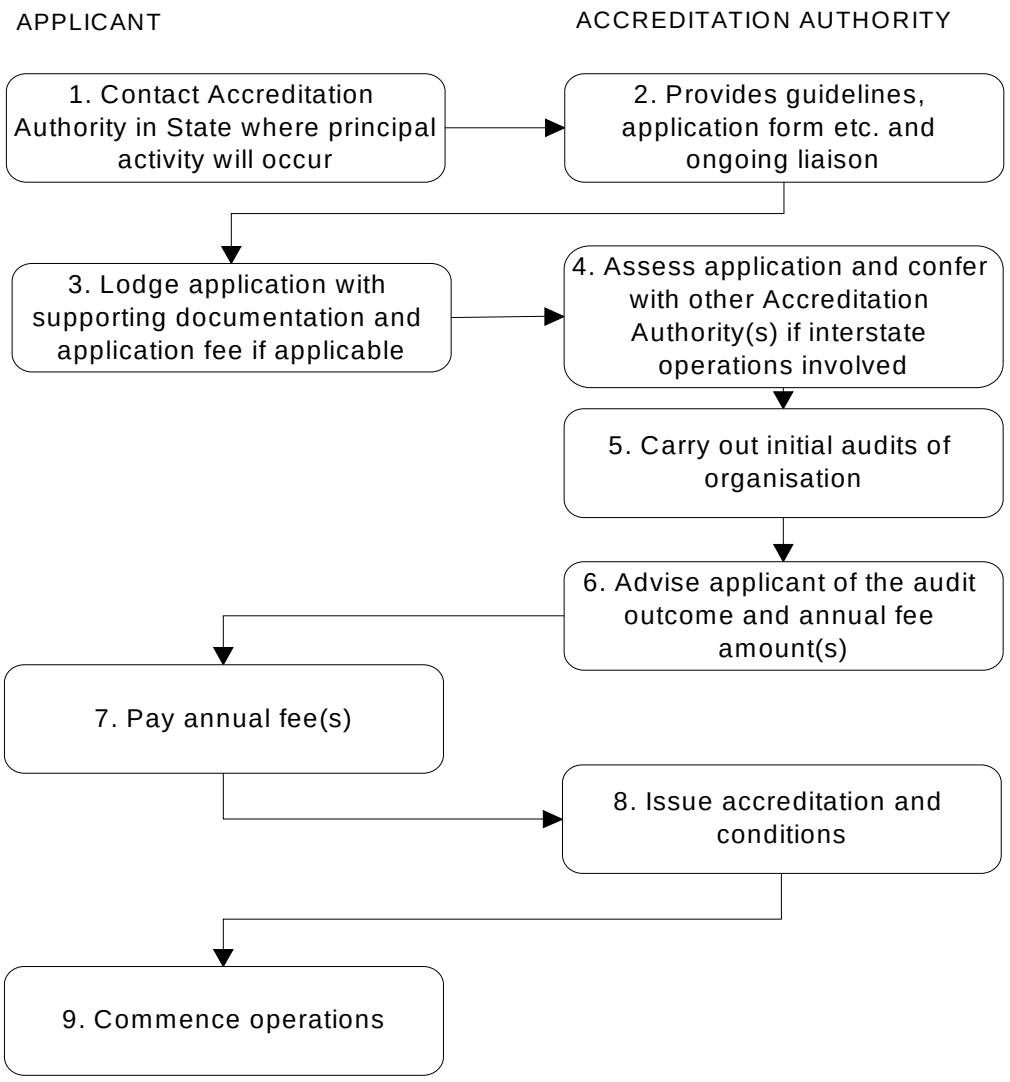
The accreditation process is based on the principle of coregulation, with rail safety being managed jointly by industry and government. The operator or track owner, not the regulator, is responsible for the safety of its activities. The accreditation authority, usually within a State transport department, must be satisfied that the operator or track owner has in place, and can demonstrate, an appropriate safety

[6] Mutual recognition is based on the premise that safety accreditation of a rail operator or owner in one State or Territory should be acceptable in other jurisdictions. For a discussion see ORR (1997).

management system.[7] This system must be consistent with AS 4292. The accreditation authority has no responsibility for the development or modification of the detailed operating procedures and standards of the applicants.[8]

The safety accreditation process currently being implemented by all accreditation authorities is set out in figure 9.3.

Figure 9.3 **Rail safety accreditation process[a]**




**a** Application and assessment in steps 3-4 may be iterative.

*Data source:* ARSAA sub. DR 106, attachment on Accreditation Authorities Administrative Processes.

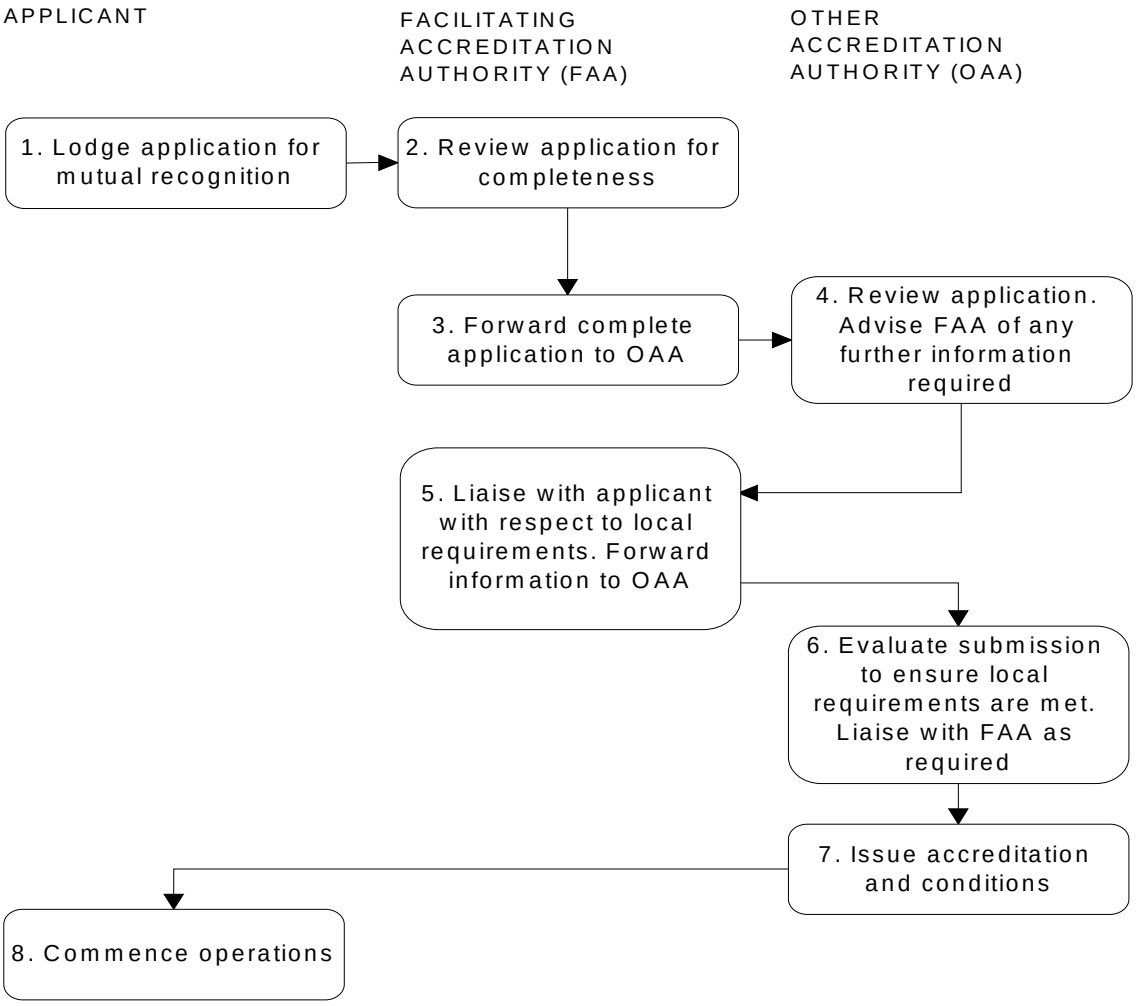
[7] Sugar cane railways in Queensland are exempt from obtaining safety accreditation through this process, and the intent is for Pilbara railways in Western Australia to be also exempt by the end of 1999.

[8] In addition to accreditation, potential operators must also gain access to the track (chapter 8) and meet any operating procedures and standards of the track owner.

An operator accredited in one State may apply for accreditation to operate in other States through mutual recognition. Mutual recognition was adopted in principle under the IGA and is legislated in all States, except New South Wales — mutual recognition is, nonetheless, available in that State.

The mutual recognition process agreed to by the accreditation authorities is outlined in figure 9.4.

Figure 9.4 **Mutual recognition of accreditation**




*Data source:* ARSAA sub. DR 106, attachment on Accreditation Authorities Administrative Processes.

Several operators have gained, or are in the process of gaining, accreditation or mutual recognition of accreditation in other States. Queensland, for instance, has accredited seven interstate operators through mutual recognition as of July 1999.

### *Process issues*

Until early 1999, each safety regulator had its own accreditation process which was broadly consistent with other jurisdictions but varied in detail (see, for example, PTSD 1999). New South Wales offered interim accreditation, Victoria did not.[9] Fees, additional requirements and auditing requirements also varied.

Inconsistencies in the approach adopted by jurisdictions imposed substantial financial and time costs on operators seeking accreditation and mutual recognition. They also created uncertainty and barriers to entry to interstate operations.

Participants raised a number of concerns relating to safety accreditation and mutual recognition processes. These included:

- processes which were complex, costly and time consuming;
- additional requirements imposed by regulators; and
- fees which were too high, duplicated across jurisdictions and which failed to reflect the service provided.

Many of these concerns are now being addressed.[10] Some of them are illustrated in box 9.2.

### *Complexity*

A number of participants raised concerns about the lack of consistency, complexity and cost of the accreditation and mutual recognition processes. In particular, participants commented that accreditation processes were complicated for new entrants to the rail industry and were an issue not just for operators wishing to gain accreditation for the interstate network but also for those wishing to operate on intrastate tracks in other States.

9 Interim accreditation refers to approval given to an applicant to operate, subject to certain conditions, prior to final accreditation approval.

10 Other issues related to varying auditing requirements and a lack of clarity about the role and responsibilities of the regulator and the track owner.

Box 9.2 **Participants' comments on accreditation and mutual recognition processes**

The present lack of consistency creates an unnecessary and costly burden on interstate operators and a barrier to entry and competition. (Toll Rail sub. 2, p. 2)

… significant barriers still exist for entry of new rail operators in the Hunter Valley region for the carriage of coal, due partly to the excessive time costs of attaining accreditation as a Rail Operator under the RSA [Rail Safety Act]. (NSW Minerals Council 1998, p. 5)

… we had to submit to Queensland a document of some 60 or 70 pages - 60 pages, dealing with the differences between Queensland and New South Wales … some of those were quite legitimate differences … but I suppose our view would be that in essence mutual recognition of accreditation should be just that. At the moment … the exceptions far outweigh the non-exceptions and it makes it very cumbersome … We have the resources to address these issues. Some smaller operations do not have the resources … (NRC trans., p. 309)

Although a national agreement covering mutual recognition … has been in place for some years, its effectiveness has been eroded by additional State requirements outside the agreement. (National Competition Council sub. 79, p. 12)

The auditing requirements are quite different [between States] … there needs to be an understanding of what this is costing the operators and the inefficiencies that this results in … We would like to see the overall process simplified with some standards set on a national level or at least by agreement among all the States and have one very minor fee that we would pay. (Australia Southern Railroad trans., p. 37)

Patrick stressed the difficulties facing a new entrant to the rail industry:

> In seeking accreditation in several States, there is different legislation in each State and different fee scales. The process of documentation, audit reviews and incident reporting requires an ongoing input from the rail operator and ongoing cost. (sub. 87, p.2)

Patrick responded to the Australian Rail Safety Accreditation Authorities (ARSAA) submission (DR106), commenting:

> [The ARSAA] seem to believe that ALL organisations seeking accreditation are age old operators in the rail industry, no doubt steeped in tradition and documentation regarding the nuts and bolts of railway operation and safety … [The ARSAA] has little understanding of the difficulties and time required for a NEW entrant to embark on a rail venture commencing three years ago.
>
> To seek accreditation under the regimes of the last two years, Patrick Rail, [if it were an] *established railway* [government or ex government], would be able to trot out reams of rail safety procedures, using its excess clerical staff to dig out every bit of information to meet the requirements of the accreditation authorities. However, reality is that at the sharp end of the commercial world, to start up and operate a profitable railway, these procedures have to be established with minimal resources and to high quality and safety standards … (sub. DR116, pp. 1, 2)

Patrick provided the Commission with a detailed timetable of its accreditation/mutual recognition processes which commenced in 1996 (sub. 87). The key milestones appear in box 9.3.

Similarly, GNRS pointed out the impact of the mutual recognition process on small operators:

> It may be that instead of putting in the whole documentation you only have to put in a part of that documentation but it still takes time and it costs money and to a smaller operator such as ourselves it becomes a significant decision whether you go for that particular job or that particular task or whether you let it go and go in a different business direction. (trans., p. 980)

*Additional requirements*

Several participants, including the National Competition Council, commented on 'additional requirements' imposed by various jurisdictions for accreditation. The Maunsell report (1998) noted additional accreditation requirements as one of the key differences between jurisdictions. In 1997 national guidelines for rail safety accreditation applications listed different additional requirements for each jurisdiction. Those for New South Wales were two pages in length covering areas such as the right to operate a railway, railway performance details and a description of rollingstock (RSIAWG 1997).

Yet the ARSAA stated in respect of additional requirements that 'There are none and never have been and this is one of the great myths that some railway operators continue to push …' (sub. DR106, p. 7).

The revised national guidelines (April 1999) do not refer to any additional requirements.

*Accreditation fees*

Each jurisdiction charges fees for safety accreditation and for mutual recognition. Operators generally pay only one application fee,[11] but pay an annual accreditation fee in the jurisdiction of their principal activities and another full annual fee in the jurisdiction in which mutual recognition is granted.

11 Charged for accreditation but not for mutual recognition.

Box 9.3 **Patrick: accreditation and mutual recognition processes**

| *Dates* | *Key Milestones* |
|---|---|
| *1996* | |
| March-June | Initial discussions on requirements for accreditation. |
| June | Written application to Victorian authority. |
| July-Nov | Prepare insurances and documentation for initial interview. |
| December | Interview by Victorian and SA authorities to gather initial accreditation material from Patrick. |
| **1996 costs** | **Estimated costs in preparing submissions, attending meetings and interviews approximately $10 000.** |
| *1997* | |
| Jan-April | Further written submissions providing additional information, arrange insurances, update training procedures to incorporate rail operations under accreditation. |
| April | Interim accreditation in Victoria. Patrick operates first train Adelaide to Melbourne. |
| May-Oct | Further documentation and meetings re final accreditation. |
| November | Audit of procedures at Patrick Melbourne terminal. |
| **1997 costs** | **Estimated costs in preparing submissions, attending meetings and audits approximately $18 000.** |
| *1998* | |
| Jan-May | Provide additional documentation, review rail procedures and submit regular safety reports. |
| June | Final audit of Patrick rail terminal. Apply for mutual recognition to operate in South Australia. |
| September | Letter received advising that accreditation granted. Scale of fees also received. |
| **1998 costs** | **Estimated costs in preparing submissions, attending meetings and audits approximately $11 000.** |
| *1999* | |
| January | Certificate of accreditation received for Victoria. Scale of fees indicates $5000 application fee, $5000 annual fee. |
| February | Meeting with Victorian authority to provide additional information for mutual recognition. |
| May-June | Full audit. |
| June | Final approval given for mutual recognition to operate in South Australia. |
| **1999 costs** | **To date: fees $10 000 (annual fees for South Australia not yet known), salaries $3500.** |

*Sources:* Patrick sub. 87; Patrick, pers. comm., 15 July 1999.

Participants expressed a number of related concerns about these fees. First, many complained that the cost of the fees to the operator was too high. The ARA noted:

> … interstate operators face substantial costs in complying with different State requirements including accreditation fees that must be paid to each State jurisdiction irrespective of mutual recognition. (sub. 51, p. 11)

Second, some argued that the annual fees are excessive because they do not reflect the cost of provision of that service. The ARA commented:

> If they [accreditation agencies] charge it for the work they did that would be fine but they don't do it that way. They charge it on size … It's like a de facto access fee because it has a very similar base for determining what those fees ought to be. (trans., p. 463)

And GNRS argued:

> Perhaps [accreditation] fees should be based on services provided, not an arbitrary fee calculated to cover costs of an ever expanding bureaucracy with no accountability to the industry it is supposed to serve. (sub. 46, p. 9)

Third, some argued that the fees vary substantially between States as do the fee formulae, which are complex. The formulae are based on a variety of measures, such as quantities of freight or passengers carried, length of track used and/or size of locomotives.

The Independent Pricing and Regulatory Tribunal (IPART) report on rail safety accreditation costs (1999b), while relating specifically to New South Wales, also detailed the different accreditation fee structures and formulae in other States and assessed the basis for charging fees. It noted that full cost recovery for safety accreditation was justified but that there were various options in respect of cost recovery mechanisms. Fees could be calculated on the basis of:

- costs incurred by the accreditation authority;
- an assessment of the benefits received by the participant;
- access fees; and
- risk exposure of the participant based on either observable risk indicators, insurance premiums, forward looking risk assessment or incident based reporting (see IPART (1999b) pp. 21-28 for a detailed discussion).

IPART concluded that:

> … the cost recovery mechanisms already in place in NSW and other Australian States are not clearly based on one or a number of these rationales, and are, to a greater or lesser extent, arbitrary. (IPART 1999b, p. 1)

It recommended that initial application fees should be charged on a fee for service basis but that annual fees be charged according to a risk based charging methodology. However, in supporting a national approach to safety accreditation, IPART recommended that New South Wales adopt a new charging mechanism only if it is adopted nationally.

Finally, annual fees are duplicated across States, being payable in the jurisdiction of principal activities as well as in other jurisdictions in which mutual recognition has been granted. Specialized Container Transport, for example, has received advice that in addition to a possible annual accreditation fee of approximately $5000 in Victoria, it will also have to pay an annual accreditation fee for mutual recognition in each other State — possibly $20 000 in South Australia and $7000 in New South Wales (Specialized Container Transport, pers. comm., 2 February 1999).

However, the NSW Government argued that levying another full accreditation fee for mutual recognition in a jurisdiction was justified on the grounds that there was no evidence that barriers to entry were imposed, the majority of benefits were captured by the applicants, and unique geographic and historical conditions resulted in more 'onerous' regulation in New South Wales and hence higher costs (sub. DR128).

Although fees for mutual recognition may not have resulted in barriers to entry for larger operators, they can be costly for small operators and accentuate other barriers to entry identified by participants.

Neither the level of fees or their duplication across jurisdictions should be justified by the level of benefits derived by applicants. If New South Wales is indeed imposing rigorous regulation based on unique conditions, it would appear the revised national guidelines are not being adopted fully. If New South Wales is incurring additional costs they should not be passed on to the industry.

There is no such duplication of fees in the road transport industry where, in general, one annual fee is paid to enable operations across all jurisdictions (chapter 10). CRT Group, when discussing mutual recognition, noted:

> In the second jurisdiction in which minimal costs are involved full rate schedules are charged. Operators therefore pay in all jurisdictions as distinct for road where the registration fee virtually covers access anywhere in Australia, is payable once in any State or Territory. (sub. 20, p. 8)

*Progress to date*

The issue of consistent rail safety regulation was raised as long ago as the early 1990s (appendix G) and more recently by Maunsell[12], yet has still not been fully resolved. The Rail Projects Taskforce noted:

> Governments have been working together over many years endeavouring to achieve mutual recognition of safety regulation. However this work has been slow, tedious and not delivered the results that industry could reasonably expect. (RPT 1999, p. 42)

Concerns about accreditation and mutual recognition processes have been widely accepted over the past couple of years by the industry and Commonwealth and State authorities as having validity. Consequently, there has been progress, particularly during 1999, towards making these processes more efficient and effective. For example, as noted earlier, the most recent national guidelines do not include additional requirements. Such progress should particularly advantage new entrants and small operators.

The Rail Safety Committee of Australia (RSCA), chaired by the Commonwealth, and comprising State and Territory accreditation authorities and industry representatives, is addressing these concerns. It is developing processes to streamline the accreditation process, including simplification of the application process, eliminating duplication, and reducing the time taken to gain accreditation (RSCA 1998). Its work in this area is intended to be finalised in August 1999.

The ARSAA commented that there will no longer be any problems because a common set of national guidelines for accreditation is being implemented by all jurisdictions, together with consistent processes (trans., p. 986):

> … the accreditation authorities, in conjunction with the Rail Safety Committee of Australia, said not only do we need to produce national guidelines to help industry know what the accreditation process is, but to make sure that we do things consistently in various jurisdictions — that we actually have to have some processes for ourselves that we each follow so that there aren't differences … (trans., p. 986)

The ARSAA also noted:

> Whilst there may have been some problems initially with accreditation and mutual recognition these issues have now been resolved with the introduction of the national guidelines and uniform processes being developed by the accreditation authorities in consultation with industry. (sub. DR106, p. 10)

[12] Maunsell (1998) noted the substantial differences between States in safety accreditation processes and recommended that the process should be streamlined and overlaps between safety regulators and track owners reduced, for example, in duplication of auditing.

In New South Wales, the *Rail Safety Act 1993* (NSW) is under review, and the Rail Access Corporation, NSW Transport Safety Bureau and operators have agreed, in principle, to streamlining the auditing process. The IPART recommendations on the full recovery of accreditation costs will be taken into account in the review of the Act.

Participants commented on the progress in 1999. BHP stated:

> As far as I know it's [mutual recognition] certainly improving … there's a greater responsiveness amongst the regulatory authorities … (trans., pp. 1078, 1079)

GNRS commented in respect of mutual recognition:

> … as we said in our original submission, our experience with the PTSD [Victorian Public Transport Safety Directorate] has not always been positive, however it's changed for the better over recent times. (trans., p. 975)

Some participants, such as GNRS and NRC, noted that progress which has occurred, particularly in auditing processes, can be attributed to operators pushing for change.

It is important that any progress is not jeopardised by jurisdictions legislating to introduce more prescriptive clauses into the accreditation parts of their rail safety/transport acts when they are subject to review, possibly re-creating other inconsistencies.

It is too early to ascertain whether all of the concerns raised above have now been resolved, as the ARSAA indicates. Until outcomes are visible, that is, operators have gained accreditation and mutual recognition under the new national guidelines, it is not possible to ascertain the extent of progress.

The introduction of national guidelines does not guarantee the resolution of operators' concerns as much will depend on how jurisdictions implement them. Different interpretations of the guidelines could result in a continuation of inconsistencies. Specialized Container Transport noted in reference to different State accreditation authorities that:

> … it's a non-prescriptive area, the accreditation, so therefore every different person in every different State puts a different interpretation on it … so therefore the more bodies you're dealing with the more variations there are. (trans., p. 1090)

Even if their interpretations were consistent, there is no guarantee that mutual recognition will occur to the satisfaction of operators, that the revised auditing system will work, or that time delays will be reduced.

As long as so many accreditation authorities exist there is a possibility that inconsistent processes will remain.

***There has been progress in reducing inconsistent safety regulation between jurisdictions but it could have been faster and outcomes are still uncertain.***

One area of concern which has yet to be resolved relates to accreditation fees. This has been acknowledged by the accreditation authorities (trans., p. 988) and the RSCA which is examining a nationally consistent approach to setting accreditation fees (RSCA 1998). Its work is still in progress and will take into account the NSW IPART views on accreditation fees (1999b).

Whatever national charging mechanism is ultimately selected, it should be transparent, equitable between rail accreditation applicants, predictable and as simple as possible.

***The fees charged for accreditation and mutual recognition are inconsistent between jurisdictions. Annual fees are currently duplicated across jurisdictions.***

RECOMMENDATION 9.1

***A national approach should be developed for charging rail safety accreditation fees, with a single annual fee for accreditation and mutual recognition.***

As long as separate jurisdictions remain, this fee should be paid in the jurisdiction of principal activities.

*Rail safety review*

Ministers at the April 1999 Australian Transport Council (ATC) meeting agreed to the establishment of an independent review of rail safety arrangements by the Standing Committee on Transport, to be completed for the ATC meeting in November 1999. A steering committee has been established to oversee a review by a consultant. The establishment of such a review provides an indirect indication that there may be some unresolved issues in the area of safety regulation (other than fees).

While the RSCA has been considering ways to improve existing rail safety regulation, the independent rail safety review is taking a wider strategic approach. The review will advise on the appropriate focus, structure, accountability, responsibilities and arrangements for safety regulation.

## 9.2 Operating procedures and standards

Operators wishing to run trains on the interstate network or parts of the intrastate networks in other States must not only gain accreditation but must also comply with the operating procedures and standards of the track owner.

Operating procedures and standards can relate to safeworking systems, communications, management information systems, rollingstock design, axle loads and train length (Maunsell 1998).

Standards set out the detail of train operations, such as the phonetic alphabet for radio communication, whereas the procedures set out the process for implementing that detail, for example, how and when the phonetic alphabet should be used.

Different operating procedures and standards have developed over time as State government-owned railways installed rail infrastructure, such as signalling systems, independently of that installed in other States. This was not an issue prior to national standardisation of the gauge which allowed trains to cross State borders. However, gauge standardisation and the opening up of rail to competition have highlighted differences in operating procedures and standards between States as an issue.

According to Safeworking Services, State government-owned railways had considerable power:

> The fact is that railways were the biggest and best technology in town, they had the biggest and best workforces and so forth, and so they became authorities. They became law. Railways could do anything … There [have] been a number of reform movements to try and standardise things but at the end of the day, the fact that railways have been authorities in the past and have virtually absolute power in this area has impeded rail reform greatly. (trans., pp. 1057-1058)

In the mid-1990s most State government-owned railways were either commercialised, corporatised or privatised. The weight of responsibility for operations and maintenance shifted away from State governments to their track owners, such as Rail Access Corporation, Queensland Rail and Westrail, and the commercial focus was increased. Thus operating procedures and standards remain largely State-based, resulting in inconsistencies between States.

Track owners must ensure that their operations comply with safety regulations, but their commercial focus may result in the development of different operating procedures and standards for different parts of the network to ensure efficiency. This, in turn, may differ across States.

## Costs of inconsistencies

Rail operators have commented that inconsistencies in track owners' operating procedures and standards are affecting their efficiency by creating barriers to entry to interstate operations and increasing costs. Some of these inconsistencies have been highlighted by participants (boxes 9.4–9.6).

Box 9.4 **Example 1: Radio communications**

Radio communication is used in most communication based safeworking systems. It is also important for communication with company train management, maintenance gangs, terminal operators and other trains. Two radio facilities are required on the interstate network — a 'control' facility and a 'local' facility. The 'control' facility is of prime importance for radio-based safeworking systems.

Variations between track owners and within their jurisdictions include different radio frequencies for both control and local communications, different radio equipment and different operating procedures (for technical examples see Deveney in NRC sub. 53).

*Source:* NRC sub. 53.

Box 9.5 **Example 2: Axle loads and speed restrictions**

Axle load and speed restrictions are set by track owners. They are determined by the condition and type of track and by other factors, such as gradient, curvature and condition of bridges.

For a given speed restriction and rail weight there are substantial variations in axle load requirements over the interstate network. For example, given a rail weight of 47 kg/m and a speed limit of 80 km/hr, 23, 21 and 20 tonne axle loads are permitted by three different owners. (Maunsell 1998)

Maunsell (1998) noted that some of the differences in the relationship between axle loads and speed restrictions do not appear to be justified on the grounds of variations in track conditions etc.

*Source:* Maunsell 1998.

Box 9.6 **Example 3: Safeworking systems**

Safeworking systems may be defined as follows:

> ... the safeworking system provides the means by which trains are detected and signal indications activated, and the detailed rules for train operation. (NRC, sub. 53, p. 24)

Safeworking systems are designed to avoid conflict between trains and between trains and track maintenance. Although there is a safety principle underlying these systems, operating procedures and standards relate to how to undertake operations most efficiently, such as how to communicate, display signals and undertake maintenance work in the most efficient manner.

There are three main types of safeworking systems:

- track circuit systems based on visual signals beside the track activated by an electric current in the track;
- communication based systems delivered by voice or data to an in-cab console; and
- token systems which rely on the physical sighting or moving of a 'token' (metal rod). This was the most commonly used system in the past and is still in use today, even on some main lines.

Each of these systems has its advantages and disadvantages (Maunsell 1998).

Within these three systems there are variations in the technology, and the procedures which apply. Consequently, many participants argued that there are in effect over twenty systems in operation.

NRC noted that there are 24 safeworking codes and their respective systems in total across the interstate network on which it operates (sub. 53). Crew based at the Junee depot have to use ten safeworking systems over the route sectors in which they operate. Crew based in Melbourne, Dimboola and Sydney have to work across eight or nine systems. To further illustrate the problem, NRC commented:

> … on route sector RN19 (Chullora-Junee) there are three safeworking systems in operation: SWN1 (shunting), SWN2 (electric staff) and SWN7 (track block and automatic). Within the area of SWN3, there are four changes of signalling systems. First, drivers must respond to double colour light signals for several kilometres, then single colour light signals, then back to double, then to upper quadrant semaphore signals (wig-wags), and then lower quadrant semaphore signals, and finally for the remainder of the sector, single aspect colour signals. Each of these has a different system for indicating stop, go and caution. (sub. 53, p. 24)

To complicate the situation further, in New South Wales a green over green signal indicates 'full clear', but in Victoria 'full clear' is indicated by a green over red signal — which means 'caution' in New South Wales.

*Sources:* NRC sub. 53; Maunsell 1998.

Inconsistencies are a particular problem where there are interconnecting systems, as on the interstate network and at the interface between different networks, such as

the urban and interstate networks. Train crews operating on interstate tracks must have a detailed understanding of each system.

The impact on the rail industry of inconsistencies in operating procedures and standards, such as those illustrated above, are varied. First, the effectiveness of standards and procedures is reduced and the probability of accidents increased.

Second, costs are incurred which reduce the ability of rail to compete with other modes of transport. For example, lower than necessary axle load limits reduce the quantity (by weight) of goods which can be carried by rail through various interstate corridors. The need for operators to install more than one radio system in the cab because they are not compatible adds to the cost. GNRS noted:

> Cost, availability and logistics of fitting equipment are onerous to all operators, but in particular to smaller regional and short haul operators whose viability is threatened by the impost of such 'hidden' costs. (sub. 46, p. 12)

Barriers to entry to interstate operations can occur if costs are substantial or the availability of required equipment is restricted. GNRS commented that of two communication devices authorised for a particular section of the Victorian interstate network, one is domestically developed by a railway operator in conjunction with a manufacturer, and is not available on the open market. The alternative is an American system which would cost $25 000 per unit for GNRS to purchase. Although GNRS ultimately managed to purchase less expensive second hand units and refurbish them, it noted that 'these situations underpin the extra "hidden costs" for operators entering the market and can create a monopolistic situation and restrict, in real terms, an operator entering particular segments of the network' (sub. 46, p. 12). The Australian Rail Track Corporation made a similar comment:

> Communications equipment also presents a barrier. In Victoria in particular, the fact that the base communications system is a proprietary system is affecting new entrants' ability to compete in that market. New system components necessary for new operators to comply with safeworking are generally unavailable … (sub. 74, p. 9)

### *Progress to date*

In 1991 the Industry Commission discussed the issue of inconsistencies, arguing that 'there is an urgent need to encourage greater harmonisation where operational efficiency will be enhanced' (IC 1991b).

European countries and Canada are experiencing similar difficulties and do not appear to be any further advanced (appendix G). In Canada, reviews have stressed the need for regulatory change but implementation is still in progress. In Europe, inconsistencies are greater than in Australia.

Maunsell (1998) recommended a variety of priority actions to address inconsistent operating procedures and standards in Australia, such as introducing performance-based standards for braking distances and train size, and agreeing on and implementing compatibility standards for radio voice and data systems.

The IRG is addressing inconsistent operating procedures and standards. The Commonwealth Department of Transport and Regional Services (DTRS) noted that: 'It is the first time that governments and industry have worked together and jointly allocated financial and human resources to address operational uniformity issues' (sub. DR125, p.2). The IRG has developed action plans and timelines to address the tasks identified in the Maunsell report relating to the development of harmonised or uniform operating procedures and standards. The major mechanism for progressing these tasks is through the development of codes of practice.

***There has been less progress in reducing inconsistent operating procedures and standards than for safety regulation. Progress could have been faster and outcomes are still uncertain.***

## 9.3 Codes of practice

Codes of practice are a common set of rules which organisations may apply to their operating procedures and standards. They are a form of self-regulation, being developed by industry with facilitation from government.[13] According to the IRG the main reason for developing the codes of practice is 'the need to facilitate more efficient interstate train operations'. The IRG explained:

> Safety is a key element of train operations and safety concerns should not be compromised for the sake of improved efficiency. However, in many cases jurisdiction difference in safe operating practices can impact on efficiency and the uniformity work is designed to address this issue. (sub. DR109, p. 4)

The codes of practice may also assist industry to comply with the relevant parts of AS 4292.

The IRG is currently working on four national codes of practice relating to:

- rollingstock;
- rail infrastructure and track;

[13] If the mandatory elements of the codes are eventually enforced by government providing legislative backing, then a coregulation approach would apply, as it does currently in the safety area. For an explanation see ORR (1998).

- train operations; and
- transmission based signalling systems. (sub. DR109, p. 8)[14]

These codes are currently in draft form and are close to finalisation. It is intended that they will then be subject to legal review and industry consultation, endorsed by industry, and implemented in 2000.

In the development of the codes it is intended that only a small component of the codes will be prescriptive or mandatory, to be confined to 'those aspects of railway activity where prescriptive/mandatory requirements are essential to ensure interoperability and provide for an adequate level of [operational] safety' (IRG 1999).

Mandatory elements of the codes are intended for operations on the interstate network. Codes of practice will be recommended, but not mandatory, for areas of interface between the interstate network and other networks. The codes are intended as a guide for stand-alone rail systems. They are not intended to replace an organisation's operating procedures and standards. Where they are not mandatory the decision on whether to use the codes will be left to individual organisations (IRG 1999).

Issues relating to levels of prescriptiveness and mandatory requirements are likely to be subject to considerable debate when the IRG releases the codes for wider industry consultation. There are several issues which the Commission considers will require resolution prior to final implementation (box 9.7).

Ministers at the April 1999 ATC meeting agreed to the development of a framework for an IGA which would include the establishment of an interim non-statutory unit, attached to the DTRS, to facilitate and coordinate implementation of the codes of practice developed by the IRG. This body, to operate with industry representation, will develop a strategic approach for implementation and facilitate a consistent approach on the interstate network (ATC 1999).

14 The titles of these codes of practice differ from those listed in IRG (1999).

## Box 9.7 Codes of practice: issues for resolution

There are a number of issues to be considered in assessing the extent to which inconsistent operating procedures and standards should be harmonised or made uniform through codes of practice.

- Greater harmonisation or uniformity should not be imposed just for the sake of it because the impact of such change will vary across the industry.
  - Operators may gain but net efficiency gains for the track owners will depend on whether benefits outweigh the costs incurred in the changeover, for example, if signalling infrastructure has to be replaced.
- There is a trade-off between flexibility and greater harmonisation or uniformity. Greater flexibility resulting from less prescriptive or non-mandatory regulation is likely to result in more inconsistency between track owners' operating procedures and standards and vice versa.
- Similarly, there is a trade-off between the extent of prescriptiveness of regulation and the degree of harmonisation or uniformity. As long as regulation is not prescriptive, track owners could implement different operating procedures and standards.
- The benefits and costs to the industry will vary between networks.
  - For isolated railways, such as BHP Mt Newman in the Pilbara, and many regional networks, the cost to the track owner of changing its rail infrastructure to a nationally uniform standard is likely to outweigh substantially any potential gains to the industry.
  - On the interstate network where operators currently run trains across track with several different operating procedures and standards, the benefits of harmonisation or uniformity are likely to outweigh the costs.
  - This may also be the case for some parts of intrastate networks, particularly at the interface with the interstate network.
- Local conditions may necessitate track owners maintaining different operating procedures and standards within their jurisdictions with which operators must comply. As Maunsell (1998) and the ARSAA (trans., p. 928) noted, there are particular local conditions relating to, for example, geographic features, which require particular operating procedures and standards. This is reasonable as long as they reflect these conditions and are not imposed on operators as a barrier to competition. Maunsell was of the opinion that some differences in operating procedures and standards were not justified by particular conditions (box 9.5).

In the process of developing the codes of practice to date, the IRG has incorporated some elements of best practice regulation. Best practice regulation was endorsed by the Council of Australian Governments (COAG) in 1995.[15] Its main features include specification of regulatory objectives, consultation, an assessment of the benefits and costs of options, and an implementation and review strategy. These are usually incorporated into a Regulatory Impact Statement (RIS) (appendix G).[16]

The IRG has a clearly specified objective, to minimise prescriptive and mandatory codes, and intends to consult widely with industry prior to recommending the codes for implementation (IRG 1999). However, the draft codes have been developed without any systematic assessment of the benefits and costs to the industry.

The DTRS supported the concept of best practice regulation, commenting that:

> The Department endorses the adoption of best practice regulation for activities which may have a significant impact on business. (sub. DR125, p.2)

BHP also supported the application of best practice regulation through a rigorous RIS process:

> We think it is desirable and necessary to have a regulatory impact statement process. It's important that those who are pushing reforms are able to clearly say why they're necessary. (trans., p. 1068)

BHP also noted:

> … the advisory structures which support regulatory initiatives in the rail industry are complex and multi-layered … The processes by which the input of industry representatives and other affected parties into proposed regulatory initiatives is made can be somewhat ad hoc, and vary from issue to issue. Risks exist that new regulatory initiatives may impose substantial financial and time costs on operators. A well-constructed process requiring Regulatory Impact Statements to be completed prior to the implementation of major safety regulation initiatives would greatly assist in the management of these risks. (sub. DR110, p. 2)

BHP provided an example of where, in its opinion, failure to apply best practice regulation resulted in proposed regulations that were not 'seen by those affected until they are well on the way to completion or implementation, then some sort of effort is required to resolve the matters' (trans., p. 1067) (box 9.8).

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15 In 1995 COAG endorsed guidelines which set out the best process to follow in determining whether standards, laws and regulations are appropriate. The guidelines were amended in November 1997 (COAG 1997).

16 A guide to assist organisations to undertake best practice regulation has been developed by the Office of Regulation Review (ORR 1998).

Box 9.8 **BHP example of a lack of best practice regulation**

In 1998 BHP became aware of the draft code of practice on rollingstock, and that the majority of its operations would not comply. In particular, BHP's Pilbara railways would need to be restructured (even though they complied with North American standards).

BHP raised its difficulties at an early stage and was able to resolve the situation. However, BHP is not sure that processes are currently in place to enable similar issues to be satisfactorily resolved in the future. BHP stated:

> … the current processes do not contain systematic safeguards, such as might be built into a Regulatory Impact Statement procedure, to ensure similar problems arising in the future can be adequately dealt with. (sub. DR110, p. 2)

*Sources:* BHP sub. DR110; BHP trans.

The IRG, on the other hand, commented that a RIS should not be undertaken on two main grounds. First, a RIS is not required by the ATC:

> The Commonwealth's current role is solely one of facilitation and the Commission's statement that a RIS is mandatory for Commonwealth regulation is not relevant to the IRG uniformity work … The IRG questions whether a RIS needs to be undertaken on work developed by the industry for the industry … Given that the uniformity work is not to be endorsed by the ATC … the IRG questions the Commission's [Draft Report] recommendation for a RIS. (sub. DR109, pp. 2, 3)

Second, there has already been 'extensive industry participation', and it is intended that further industry consultation will take place (through the IRG) and an implementation strategy developed (by the proposed unit) (sub. DR109, p. 2).

Industry consultation and the development of an implementation strategy are important components of best practice regulation but they are not sufficient. It is also important that the benefits and costs of implementing the codes of practice are adequately assessed, taking into account the issues raised in box 9.7. Implementation of the codes will be difficult without industry support, which is less likely to be forthcoming if the processes are not, and/or are not seen to be, rigorous, transparent and fair.

Moreover, a RIS may be required under COAG guidelines if legislation was required to bring any mandatory elements of the codes into effect (COAG 1997).

Even if a RIS is not compulsory, it would still be desirable to apply best practice regulation to the remainder of the process to final implementation. This approach would maximise acceptance of changes within the industry and ensure that best outcomes are achieved.

RECOMMENDATION 9.2

***The principles of best practice regulation, as endorsed by the Council of Australian Governments, should be applied to the development and implementation of railway codes of practice.***

## 9.4 Advancing regulatory reform

The preceding discussion, and evidence in appendices D and G, indicate that regulatory reform has occurred but progress could have been faster and outcomes are still uncertain. Unless the pace of reform is increased, continuing uncertainty about the regulatory environment may impede investment in the industry and affect its commercial viability. In the area of safety regulation, it is too early to ascertain whether outcomes of changes to the accreditation and mutual recognition processes will be successful. The review of rail safety regulation, although a positive step, creates further uncertainty. In regard to operating procedures and standards, outcomes are also uncertain because the major mechanism for change, the codes of practice, have not yet been implemented.

### Safety regulation

The rail safety review is examining current regulatory arrangements but it may not be in a position to assess adequately the outcomes of the implementation of the revised national guidelines before its report to the ATC in November 1999. It is unlikely that a sufficient number of operators will have applied for mutual recognition under these guidelines to draw any definitive conclusions.

If this is the case it may be desirable to set up a process within 12 months to review progress in the application of mutual recognition under the guidelines.

If it was found that mutual recognition is not working, or is unlikely to work in the future, then consideration could be given to alternative regulatory approaches. These include:

- the establishment of a single national safety regulator covering all rail systems in Australia, with responsibility for the development and enforcement of national regulation (the Civil Aviation Safety Authority Australia (CASA) model);
- the establishment of a single national safety regulator covering all rail systems in Australia, with the States maintaining responsibility for legislation and enforcement (National Road Transport Commission (NRTC) model); or

- a national safety regulator covering the interstate network only.

A number of participants commented that safety regulation could be progressed by a single national rail safety regulator:

Patrick, in highlighting the cost of safety accreditation, stated:

> Patrick still maintains that establishment of a single Rail Safety organisation would provide uniform requirements and fee scales and would provide more sensible direction to interstate rail operators. (sub. 87, p. 2)

And the Australian Rail Track Corporation commented:

> Standard safety levels should apply on a national basis with an operator required to demonstrate adequacy to a single body much like the Civil Aviation Authority (CASA) in the aviation industry. (sub. 74, pp. 6, 7)

The Rail Projects Taskforce in its recent report stated:

> The Taskforce supports the call for a single rail safety regulatory body. This could be modelled on the Civil Aviation Safety Authority that regulates international and interstate aviation safety … (RPT 1999, p. 42)

IPART (1999b) noted that a national accreditation regime would reduce the overall costs of safety accreditation.

In the aviation industry, safety regulation is developed, implemented and enforced by a single national agency — CASA. This approach ensures that inconsistent regulations between jurisdictions are not an issue (box 9.9).

Box 9.9 **The Civil Aviation Safety Authority Australia**

In 1995 the *Civil Aviation Act 1988* (Cwlth) was amended to establish CASA, an independent statutory authority. It is controlled by a board which reports to the Commonwealth Minister for Transport and Regional Services. CASA's main responsibility is to 'maintain, enhance and promote the safety of civil aviation … through effective safety regulation and by encouraging greater acceptance by industry of its obligations to maintain high safety standards' (CASA 1998, p. 2).

Prior to 1965 the States and Territories regulated aviation safety. However, they ceded power to the Commonwealth following decisions in the High Court which determined that intrastate aviation could affect interstate and international aviation.

CASA develops aviation standards and procedures and also maintains a compliance and enforcement role. Aircraft incident and accident investigation is handled by a separate authority — the Bureau of Air Safety Investigation.

*Source:* CASA 1998.

The NRTC adopted a different approach. The NRTC is responsible for safety as well as developing uniform national standards, but leaves implementation and enforcement to the States. It was viewed by participants as generally successful in progressing regulatory reform in road transport. Although the pace of change has perhaps been slower than anticipated, more appears to have been achieved in road transport regulatory reform than has occurred in rail (box 9.10 and chapter 10).

It could be argued that regulatory reform in the road transport industry has been more successful than for rail because it was given priority by COAG and the decision-making process is deliberative rather than consensual. The Ministerial Council on Road Transport votes on issues, and although this process may involve compromise, it is more conducive to progressing reform than the requirement to obtain the agreement of all parties in the ATC. Moreover, the NRTC has adopted processes which facilitate best practice regulation and effective implementation of regulations.

A substantial drawback of both the NRTC and existing rail approaches is that as long as there are several jurisdictions involved in implementing and enforcing regulation, no matter how substantive the goodwill, there is a likelihood that a particular jurisdiction will interpret the regulation differently, thus diluting national consistency. In the CASA approach, enforcement is undertaken by the national regulator, thereby ensuring consistency.

An alternative approach, supported by Safeworking Services (sub. DR101), would be for the national regulator to be responsible for the interstate track only. The House of Representatives report, *Tracking Australia*, *an Inquiry into the Role of Rail in the National Transport Network*, recommended that a rail safety authority be established for the interstate network (HORSCCTMR 1998b).[17]

Advantages of this approach would include:

- a one stop shop for safety accreditation would be provided for operators on the interstate network;
- there would be the potential for reforms to flow on to state accreditation authorities; and
- this may be potentially easier (and faster) to achieve than a single national regulator because State accreditation authorities would not have to cede all of their safety accreditation responsibilities.

[17] It should be noted that this report did not discuss the issue of whether a national safety regulator should cover only the interstate network because the report focused on the interstate network (referred to as the 'national track').

Box 9.10 **The National Road Transport Commission**

In the early 1990s the road transport industry faced a similar situation to rail — regulations relating to driver and vehicle operations and standards, weights and dimensions differed between jurisdictions, creating unnecessary costs for interstate road transport users and regulatory authorities.

To address this issue, in 1991 Heads of Government agreed to the establishment of the NRTC as a joint Commonwealth/State/Territory body with a high degree of independence reporting to the Ministerial Council on Road Transport.[18] A key objective was to introduce nationally uniform or consistent transport policies, laws and standards. Reforms which have been implemented to date include:

- national uniform charges for heavy vehicles (see chapter 10 for details);
- national heavy vehicle registration scheme and standards; and
- national heavy vehicle pre-registration standards and roadworthiness standards.

Features of the NRTC reform process which are particularly pertinent to rail are:

- in effect, the NRTC develops national standards but implementation and enforcement is undertaken by individual governments;
- development of a strategic plan to systematically progress additional reforms on a module basis (rather than all at once) through to the year 2000-2001;
- RISs are routinely prepared as a requirement of the legislation/regulation making process and submitted to the Ministerial Council for Road Transport. They are prepared in consultation with interested parties and include a benefit–cost evaluation;
- a mutual recognition type process, in effect, has been used as a vehicle for implementation. For example, once a heavy vehicle is licensed in one jurisdiction and pays the one registration fee, that vehicle can then be operated across all jurisdictions — a very different situation to rail; and
- implementation of legislative proposals through a template legislation process whereby the Commonwealth Parliament passes legislation on behalf of the ACT.[19] Other jurisdictions then pass this legislation by adopting that of the ACT. Implementation has proven to be a time-consuming process.

*Sources:* NRTC 1996; NRTC 1998a.

18 Comprising Commonwealth, State and Territory Ministers with road and/or transport responsibilities.

19 See IC (1995c) for a discussion of the advantages and disadvantages of template legislation. The NRTC also uses other implementation processes, such as national model legislation.

Although a national approach is important for an interconnecting system, such as the interstate network (Forsyth and Trace, sub. 88), it is also important that national regulation applies to intrastate tracks that may be used by operators, particularly at the interface with the interstate network. One set of regulations for the interstate network and different State-based regulations for other tracks add another layer of complexity for operators. Rather than six accreditation authorities, there would be seven. As the Rail Projects Taskforce noted:

> Without a national body covering both national and state track, rail operators would still require accreditation in each State it operated in resulting in the need to support multiple bureaucracies. (RPT 1999, p. 42)

The establishment of a single national safety regulator would be preferable to a seventh regulator. Consistency would be improved further if State accreditation authorities ceded all their safety accreditation responsibilities to this regulator (the CASA approach). Such a regulator could maintain a coregulation approach, rather than a 'command and control' approach, and would preferably be an independent statutory agency. This approach would ensure a less costly and time consuming accreditation process, removing the need for mutual recognition processes and duplication of accreditation fee across jurisdictions.

However, alternative regulatory arrangements should only be progressed if it is clear that mutual recognition is not working.

## Operating procedures and standards

As in other countries, issues relating to inconsistent operating procedures and standards in Australia will not be resolved in the short term. Approaches to progressing the harmonisation or uniformity of operating procedures and standards include:

- extending the functions of a single national safety regulator; or
- establishing a separate body.

The NRTC addresses both the issues of safety and inconsistent operating procedures and standards. Such an approach would be feasible for the rail industry. However, as these issues are essentially separate and have been treated as such by the rail industry, a body to address only inconsistent operating procedures and standards could also be effective.

The latter approach has been adopted by the industry. As noted above, an interim unit is to be established to facilitate and coordinate implementation of more consistent operating procedures and standards. This unit could be converted to a

permanent national body, with industry representation, to progress work in this area in the longer term. The DTRS noted that a permanent mechanism, such as legislation, may take up to 18 months to finalise, but was important to ensure that work in this area continues (sub. DR125).

RECOMMENDATION 9.3

***The Commonwealth Government should establish a permanent mechanism to ensure the ongoing harmonisation or uniformity of railway operating procedures and standards.***

# 10 Competitive neutrality

**A lack of competitive neutrality can have adverse effects on the efficiency of the whole transport system, the performance of the rail industry, and private sector participation in the rail transport market. Corporatisation does not appear to have fully neutralised the competitive advantages and disadvantages between government and private railways. Achieving an efficient land transport system requires more than increasing the commercial focus of railways. It requires reform to road provision and pricing to address competitive neutrality between rail and road.**

The inquiry's terms of reference require the Commission to examine the implications for rail transport services and the economy generally of regulations, charges and arrangements affecting competing and complementary modes of transport.

In this chapter, competitive neutrality between government and private enterprises in the rail transport market is discussed (section 10.1). The key issues regarding competitive neutrality between rail and road transport are examined (section 10.2) and different approaches to planning and investment in land transport infrastructure are discussed (section 10.3).

## 10.1 Competitive neutrality between rail operators

Fostering competitive neutrality is a core element of the Competition Principles Agreement (CPA). It requires that government enterprises do not have any net competitive advantages over private sector rivals simply as a result of public ownership. As the National Competition Council (NCC) stated:

> In essence, competitive neutrality involves the application to public enterprises of the taxes, incentives and regulations that private businesses face. This allows the two sectors to compete for resources on an equal footing and encourages efficient operation of public enterprises. The underlying aim is to ensure that the community's resources are used as efficiently as possible. (sub. 79, p. 12)

Governments agreed, under the CPA, to introduce competitive neutrality principles to their significant business activities which include railways. The CPA (clause 3)

identified four areas of potential net competitive advantages possessed by government enterprises.[1]

Competitive neutrality has been pursued through corporatisation for most government-owned rail authorities. As discussed in chapter 7, this involves:

- levying the full range of taxes on a public enterprise;
- imposing a rate of return requirement and debt guarantee fees; and
- introducing pricing which better reflects costs of provision.

A number of participants considered that, despite corporatisation, government-owned railways do not compete for business on a competitively neutral basis with private operators. Participants' concerns focused on the alleged ability of government-owned railways to charge low, and possibly uncommercial, freight rates and to hoard physical assets such as rollingstock and terminals.

Government-owned railways have the potential to offer lower freight rates than their private sector counterparts where the requirement to make a commercial return is not binding. In contrast, private enterprises cannot continue to earn returns lower than that required by private owners and must price their services on a commercial basis — that is, full cost recovery including an appropriate return on capital.

The National Rail Corporation (NRC) and Rail Access Corporation (RAC) identified competitive neutrality risks in operations supported by community service obligations (CSOs). The RAC noted that, in the absence of a contestable process for CSO supported operations, the information gap between the rail operator and budget sector agencies could result in excess levels of CSO payments (sub. DR102). This may allow the CSO supported operator to win business from commercial operators by using the excess to cross-subsidise its other activities.

Although the following claims are untested, they indicate that the private sector perceives a lack of competitive neutrality.

Several participants have alleged that government-owned enterprises engage in uncommercial pricing of rail services. Capricorn Capital Limited and the Austrac Group (Austrac) contended that major government-owned rail enterprises are apparently operating without commercial discipline and possess an ability to price below economic cost (sub. 56).

[1] These include exemption from taxation liability, access to capital at concessional rates, exemption from aspects of business regulation, and pricing policy which does not take into account all of the costs of production (Willett 1996).

Similarly, Australia Southern Railroad (ASR) alleged that NRC:

> … was allowed to bid for the contract to provide locomotives and drivers for the concurrently privatized Great Southern Railway. National Rail has never shown a profit, and at the rates bid for the Great Southern Railway business we doubt if there is a profit motive in the organization. (sub. 45, p. 1)[2]

Austrac contended that 'sub-economic returns resulting from freight rates set by NRC undermine the capability of start-ups like Austrac to raise equity' (sub. 56, p. 4).

Moreover, ASR has claimed that FreightCorp — an enterprise owned by the NSW Government — offered uncommercial freight rates to win a major coal haulage contract in South Australia. ASR previously held the contract with Flinders Power to freight coal from the Leigh Creek coal fields to its Port Augusta power station. In its bid for the new contract, ASR had apparently offered Flinders Power a freight rate less than half the rate charged by the former Australian National (*Australian Financial Review*, 11 December 1998, p. 20).

Another private operator, Great Northern Rail Services (GNRS), has alleged anti-competitive behaviour by a publicly-owned rival. GNRS stated that 'anti-competitive actions by the present corporatised but government owned V/Line Freight have significantly impacted on GNR's operations and opportunities' (sub. 46, p. 5).[3]

Some participants expressed concerns about the retention of surplus assets by public rail operators. Austrac stated that government-owned railways have 'control over unnecessary quantities of locomotives and rollingstock and essential supporting assets including terminals' (sub. 56, p. 4).

In a recent survey of private rail operators, a significant proportion of the respondents considered that competing with government-owned operators was a major barrier to private investment (DTRS 1999). Respondents commented on a range of practices allegedly employed by government-owned competitors including predatory pricing, causing delays in obtaining access, and overinvestment in and hoarding of rollingstock.

As noted above, these claims about a lack of competitive neutrality are untested. However, it is worth considering the possible effects on private operators of

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[2] This claim has been disputed. NRC indicated that, according to Great Southern Railway, it had won the 'hook and pull' contract in November 1997 with a quoted price higher than that offered by one or more other tenderers on the basis of superior service quality (sub. DR117).

[3] The Victorian Government sold V/Line Freight to the private sector in February 1999.

competition with government-owned railways which may possess advantages due to ownership. Where public enterprises operate in a competitive market but adopt uncommercial practices, this could have several important consequences. Such practices may:

- reduce the market share and viability of existing private operators;
- dampen confidence, create uncertainty and increase risks, combining to lower private sector investment; and
- deter the entry of new private operators.

A lack of competitive neutrality (or even the perception of unfair competition) would generally inhibit private sector participation in the rail industry. There is also a cost to the community where such uncommercial practices are supported by government subsidies or lower dividends. In these cases, achieving competitive neutrality would release or contribute to budgetary resources for application to more socially beneficial purposes.

Under the CPA, governments are required to establish mechanisms whereby businesses can lodge complaints that competitive neutrality is not being implemented appropriately by government-owned enterprises. Mechanisms for handling complaints now operate in all jurisdictions (NCC 1998a). A recent case is outlined in box 10.1. Use of these mechanisms by private operators with genuine complaints can maintain pressure on governments to pursue reforms in this area.

That said, the achievement of competitive neutrality hinges on the issues of governance, incentives and disciplines under public ownership. Most jurisdictions have corporatised their rail enterprises. However, the Commission questions the effectiveness of some of these arrangements (chapter 7). While not a requirement of the CPA, seeking private sector operation of government-owned assets — through competitive contracting out or franchising — or private ownership and operation are alternative solutions to competitive neutrality issues. Full privatisation would align objectives, incentives and disciplines between firms competing in the rail transport market.

***Reforms under corporatisation have the potential to place government-owned railways on a commercial footing, but in practice they appear insufficient to achieve competitive neutrality in the rail transport market.***

***Although not required by the Competition Principles Agreement, private sector provision of rail services — whether through competitive contracting out, franchising or privatisation — is a more effective means of aligning commercial practices between competing rail operators.***

Box 10.1 **Competitive neutrality complaints — the Coachtrans case**

Coachtrans Australia (Coachtrans) lodged a complaint with the Queensland Competition Authority (QCA) against Queensland Rail (QR) alleging a breach of competitive neutrality, misuse of monopoly powers and severe market distortion.

In February 1996, QR introduced a rail passenger transport service from Brisbane to Helensvale. QR charged $7.20 per single adult fare for this service. At the time QR introduced the service, Coachtrans provided a bus service from Brisbane to Helensvale charging $11.00 per single adult fare.

Coachtrans alleged that the principle of competitive neutrality had been breached by the prices QR was charging for the Brisbane to Gold Coast passenger rail service and the procedural and regulatory advantages enjoyed by QR. Coachtrans advised the QCA that, as a result of these alleged advantages, its viability was diminished and that its parent company was underwriting losses pending resolution of the complaint.

The QCA found that QR has a competitive advantage over Coachtrans in respect of prices in the Brisbane to Gold Coast transport passenger market. It noted that QR is in receipt of substantial subsidies from the Queensland Government and is able to set prices which are below its operating costs and which make no return on its capital costs. It noted that Coachtrans does not receive subsidies or other assistance from the Queensland Government and is required to meet all its costs to remain viable over the longer term. The QCA also found that QR does not enjoy any procedural or regulatory advantage in respect of Brisbane to Gold Coast services.

While accepting the QCA's decision on procedural and regulatory matters, the Queensland Government rejected its decision that there has been a breach of the principle of competitive neutrality in relation to the fares charged by QR for its Brisbane to Gold Coast services. The Government considered that the information available to it was not sufficiently conclusive to support the QCA decision. This case is now the subject of legal action.

*Sources:* QCA 1998; *Queensland Government Gazette*, August 1998, p. 1834.

## 10.2 Competitive neutrality across rail and road transport

Railways compete with road, sea and air transport for freight and passengers. Modal shares vary between market segments and over time (chapter 2). The potential for modal substitution depends largely on the responsiveness of transport customers to:

- prices (freight rates or passenger fares); and
- service characteristics (such as punctuality, reliability, frequency, transit time and the capacity to carry specific commodities).

In turn, prices and service characteristics are influenced by a number of factors including managerial decisions, technological developments, competitive pressures as well as government policies. There may also be interaction between these factors.

The concept of competitive neutrality can be applied more broadly to the market for transport services (encompassing rail, road, sea and air transport services). Competitive neutrality issues arise regarding government policies applying to different modes where they favour one mode over others. In this broader sense, a lack of competitive neutrality need not necessarily stem solely from government ownership of transport enterprises, but rather the policy framework and processes.

Participants accorded particular significance to the issue of competitive neutrality in the land transport market — that is, rail and road transport. Laird indicated that competitive neutrality with road is an issue demanding attention (sub. 4). Other participants concurred with this view. The NSW Government noted that:

> … road/rail competitive neutrality is a fundamental land transport issue that needs to be addressed nationally especially as a critical area of cross modal competition is in interstate line haul. (sub. DR128, p. 39)

Key government policies and arrangements which could affect competitive neutrality in the land transport market include investment, taxes and charges, as well as access regimes, safety regulation and operating procedures and standards (table 10.1).

Table 10.1 **Government policies potentially affecting competitive neutrality between rail and road transport**

| *Policy area* | *Specific policy or process* |
|---|---|
| Infrastructure investment | • Planning framework<br>• Investment appraisal<br>• Budgetary processes |
| Taxes and government charges | • Diesel fuel excise<br>• Road user charges |
| Access, regulations and procedures | • Access regimes<br>• Safety regulation<br>• Operating procedures and standards |

Participants pointed to differences and inconsistencies in access regimes, safety regulation and operating procedures facing railways operating across State borders. In contrast, there have been significant reforms creating consistency in charges and regulations applying to heavy vehicles in the road transport sector. (Access regimes

are discussed in chapter 8 and issues regarding safety regulation and operating procedures and standards within the rail industry are examined in chapter 9.)

Railways and road transport operators could face greater competitive pressures from sea transport (especially in the long-haul freight market) if reforms to coastal shipping and the waterfront were further progressed. The Victorian Government commented on the 'rent-collecting tradition' in the maritime industry, pointing to the large number of small ports in Australia given its population and share in world trade as one area for future reform (trans., p. 944).

## Investment in road and rail systems

Governments have been primarily responsible for capital expenditure on rail and road infrastructure.[4] However, many participants (Australasian Railway Association (ARA), ASR, Campbelltown and Districts Commuter Association, FreightCorp, Laird and Healthy Cities Illawarra) expressed concerns over the comparative levels of government expenditure on the rail network and the road system. ASR claimed that:

> … governments in Australia created and built the railroads as a publicly owned enterprise to produce an efficient transportation system. Since that start, however, the governments have invested heavily in the public highway system and almost ignored the railways. Now they cannot understand why the railways have trouble competing. (sub. 45, p. 2)

The Local Government and Shires Associations of New South Wales (NSWLGSA) stated that 'the ability of the rail transport sector to be competitive has been constrained in recent times by lack of investment' (sub. 71, p. 4).

The Campbelltown and Districts Commuter Association pointed to the Adelaide Hills as an example of relative investment in road and rail infrastructure:

> The hundred or so million dollars being spent on a few kilometres of road to remove bends, make tunnels and fill in gorges to enable a reduction in road length by a kilometre and save a few minutes is by contrast a 'gold plated project' compared with the nearby rail line. I understand that freight trains take 3 hours to travel about 100 kilometres. A figure of $80 million was suggested to realign the track to fast freight standard and remove 2 hours of transit time. (sub. 11, p. 10)

Although this subsection focuses on investment, overall public sector expenditure on these modes also includes spending on operations and maintenance. Further, for a range of reasons, these expenditures (or costs) may not be fully recovered from

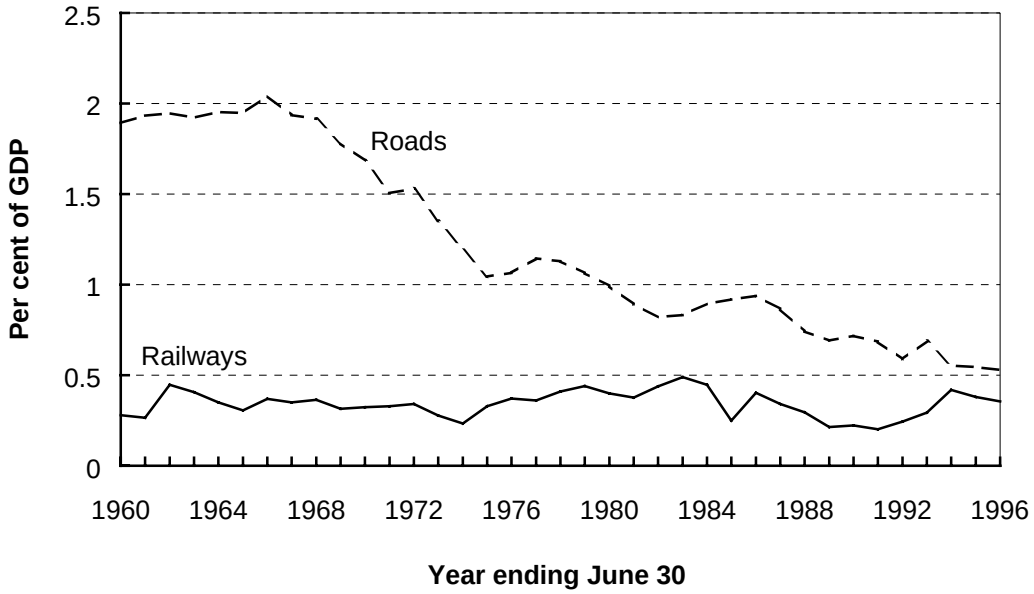
[4] As owners of public rail enterprises, governments have also had responsibility for investing in rollingstock.

users. In this regard, several participants (the Commonwealth Department of Transport and Regional Services (DTRS), the Victorian Government and the Road Transport Forum) noted the large subsidies provided to government-owned railways.

### *Capital expenditure and asset condition*

There has been a significant disparity in investment funds allocated by the public sector to rail and road systems in recent decades. The differential between the modes declined substantially in the late 1960s and 1970s (figure 10.1). It averaged about half a percentage point of gross domestic product (GDP) each year in the 1980s. The differential has further narrowed in the mid 1990s.

Figure 10.1 **Public sector investment in land transport infrastructure, Australia, per cent of GDP [a,b,c], 1959-60 to 1995-96**




**a** Gross fixed capital expenditure as defined by the ABS. **b** The public sector comprises the general government sector and the public trading enterprise sector including government-owned railways. **c** The data include Commonwealth and State/local sector investment.

*Data source:* ABS (unpublished constant price estimates; *National Income, Expenditure and Product*, Cat. no. 5206.0).

According to the Commonwealth Department of Finance and Administration, Commonwealth funding of roads over the last 20 years has been about eight times the level of Commonwealth funding of railways. From 1977-78 to 1996-97, the Commonwealth spent $3.9 billion (in 1996-97 prices) on Commonwealth rail

entities and infrastructure. Over the same period, Commonwealth funding of roads was $31.5 billion (sub. 65).

The large disparity in road and rail investment has coincided with road transport capturing an increasing share of the domestic freight and passenger markets (chapter 2). However, causation may run in two directions. Increased investment in roads may have encouraged modal substitution.[5] Alternatively, growing road use (due to factors such as inter-suburban travel and 'just in time' logistics requirements) may have led governments to invest more in their road systems.

The capacity and quality of the infrastructure network — be it road or rail — is a function of investment and maintenance spending. But, analysis of comparative levels of expenditure on rail and road systems is not sufficient to establish whether under or overinvestment has occurred in these transport modes. Investment may be driven by factors which differ in importance across modes and time, so investment levels need not be similar. DTRS noted that relative investment levels reflect factors such as the size and maturity of the respective networks:

> The rail network was largely developed before the advent of heavy vehicles on roads. Consequently the rail network represents a mature network with the focus of works on maintenance and realignments, while the road network has until recently been under development to meet current demands … (sub. DR125, p. 5)

Moreover, the Commonwealth Government's funding of roads and railways reflects its responsibilities. Unlike the National Highway System where the Commonwealth Government is responsible for construction and maintenance, about half of the interstate rail track is currently owned by State Governments.

That said, the Commonwealth Government has directed significant funds towards the upgrading of the National Highway System since 1974-75.[6] Upgrading and augmentation of the system has included additional lanes, wider lanes, town bypasses, bridge strengthening and new roads. In an evaluation of the Sydney–Melbourne transport corridor, the Bureau of Transport and Communications Economics (BTCE) concluded that:

> The 'level of service' provided by the Hume Highway, which describes such operational characteristics as travel time, comfort and convenience, safety, vehicle operation and community effects, is assessed to be relatively high for most of the highway. (BTCE 1993, p. 56)

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[5] The Allen Consulting Group (1993) found that investment in roads leads to a substitution away from other forms of transport — particularly rail — in favour of road transport (sub. 17).

[6] Laird (1996) estimated that grants for upgrading and maintaining the National Highway System amounted to about $12.6 billion (1994 dollars) between 1974-75 and 1993-94 or around 40 per cent of Commonwealth road grants over this period.

Improvements in the capacity and quality of the interstate road system in turn has raised the productivity of road transport operators. For example, with the completion of major town bypasses (Mittagong, Goulburn and Yass), gains in efficiency can be expected through the reductions in vehicle operating costs from shorter travel distance and less steep grades (BTCE 1993).

In the case of railways, many participants commented on the poor state of the infrastructure (box 10.2). Of particular concern was the condition and capacity of the interstate track. Another major problem was route congestion in the Sydney metropolitan area (box 10.3).

Recent parliamentary and commissioned reports have presented considerable evidence on the inadequacy of rail infrastructure.

- The House of Representatives Standing Committee on Communications, Transport and Microeconomic Reform (HORSCCTMR) noted that it had received evidence from rail operators, industry groups and private sector interests on the serious inadequacy of existing infrastructure in many areas of the interstate and intrastate rail networks (HORSCCTMR 1998b).
- In a report commissioned by the Australian Transport Council, Maunsell (1998) identified priority areas which require major capital expenditure including crossing loop and gradient improvements, areas with axle load and speed restrictions, extending double stack clearances throughout the interstate network, and improving capacity for high demand routes.
- In a report for the Commonwealth Department of Transport and Regional Development and the Australian Rail Track Corporation (ARTC), Booz-Allen & Hamilton (1998) identified a number of high priority projects on the interstate network. High benefit–cost ratios were estimated for projects which would reduce route congestion in the Sydney area and for passing loops throughout the network.

Importantly, low quality track has adverse consequences for rail costs and productivity. This is manifested in terms of slower train speeds, lighter axle loads, longer transit times, higher crew costs and higher fuel costs. Inadequate track capacity also impinges on rail performance. The lack of passing loops constrains traffic along a given line and short passing loops limit train length. Such deficiencies are likely to undermine the ability of railways to compete with road transport operators and contribute to modal substitution.

## Box 10.2 **Participants' comments on deficiencies in rail infrastructure**

A significant number of submissions pointed to problems with the existing rail infrastructure. The Australian Shipping Federation stated that:

> Many of the vital transport networks … [including the standard gauge network], both interstate and intercity, are in dire need of considerable upgrading … (sub. 18, p. 2)

The Australian Wheat Board contended that:

> At an infrastructure level, the lack of investment on track and signals constitute one of the main factors which has resulted in slow track speeds and low axle load capacities. (sub. 32, p. 14)

According to the Campbelltown and Districts Commuter Association:

> There are 63 places that have extreme grade and curvature occurring together between Brisbane and Melbourne … This wastes fuel, increases wheel wear, rail wear, distance and time. (sub. 11, p. 7)

The CRT Group stated that:

> The infrastructure is sub-standard and is still after several years subject to severe speed restrictions and passing loop and signalling inconsistencies. (sub. 20, p. 4)

Laird claimed that:

> The Adelaide–Melbourne–Sydney–Brisbane corridors are currently poor. This is due to various factors including steep ruling grades and poor track alignment with many tight radius curves … and leads to higher unit operating and maintenance costs. (sub. 4, p. 12)

The NRC commented that:

> The poor quality of interstate rail infrastructure is a legacy of many decades of neglect by State governments, and has many aspects … [including obsolete alignments, obsolete signalling and communications equipment, short crossing loops, inadequate height clearances, inadequate track strength and poor quality track structure]. (sub. 53, pp. 12-13)

Specialized Container Transport noted that:

> Most operators have expressed their concerns regarding … the poor track condition, the lack of long passing loops, inconsistent and prohibitive speed limits, the inability to double stack containers from Melbourne and the far from world's best practice maximum axle weights. (sub. 37, p. 1)

According to the Railway Technical Society of Australasia:

> … the network has numerous speed-weight restrictions due to: wooden sleepers in Victoria; light weight rail on the Melbourne to Albury standard gauge track; a curve for every kilometre plus steep ruling grades from Albury to Sydney; poor alignment from Sydney to Brisbane … (sub. DR93, p. 2)

The quality of the track between Melbourne and Adelaide raised concerns among participants including the ARA, Patrick, People for Public Transport and Wimmera-Mallee Rail Services. Patrick stated that:

> … although now standard gauge, the track condition varies from poor to good through the corridor with some sections still under speed restrictions. This extends the transit time and adds cost to each journey. (sub. 63, attach. 1, p. 9)

## Box 10.3 **Participants' comments on route congestion in Sydney**

Many participants expressed their concern about route congestion in Sydney and its detrimental impacts. The Victorian Government noted that 'moving freight in and out of Sydney by sea and rail is a big problem' (trans., p. 949) and more generally:

> It [Sydney] is the crucible of Australia's transport disaster. There are many bad things happening outside Sydney, but they're all happening in spades in Sydney. (trans., p. 949)

It also argued that:

> … if they [freight and passengers] can't get in and out of Sydney the whole nation pays for that. It's a national problem needing national leadership, and we're seeing precious little of it at the present time. (trans., p. 950)

The Association of Mine Related Councils stated that:

> In the Sydney metropolitan area – a by-pass to the Chullora freight route is critical. The inadequacies of the present system were demonstrated during the period of the Royal Easter Show in 1998 at the Homebush facilities. (sub. 13, p. 2)

According to the ARTC:

> The difficulty of rail congestion throughout the Sydney metropolitan area continues to be a major impediment to the efficient movement of freight on the North-South corridor (Brisbane-Sydney-Melbourne) … (sub. 74, p. 6)

Similarly, John Hearsch Consulting noted that:

> … freight service quality is also adversely affected by conflicting demands for scarce track capacity between passenger and freight trains. The problem is particularly severe in Sydney where there is a four hour curfew on freight trains in the suburban area morning and afternoon in order to ensure that peak commuter travel is not delayed.
> (sub. DR120, attach. 1. p. 20)

The NSW Department of Transport stated that:

> The Sydney problem, as we see it, is basically a hole in the national network. As the Sydney area expands and as urban traffic grows … the availability of the constrained infrastructure is going to get less and less. (trans., p. 248)

Westrail noted the wider effects of bottlenecks in Sydney:

> … we get 16 interstate trains in a period of seven hours and otherwise don't use the track for the rest of the day, and that's causing major problems … unless you resolve the urban issue, particularly in Sydney, you are not going to get anywhere and that's particularly important for the north-south corridor, which is the worst performing corridor …
>
> Until you get the horizontal separation you are going to have this continual … problem with freight trying to go in and out of there and then at the end of the day the only solution in Sydney is to separate the two networks. (trans., pp. 757-758)

The Rail Projects Taskforce (1999) recommended that the national track be upgraded to a standard where it could be a competitive and sustainable alternative to road transport. According to the Taskforce, the projects to be funded would remove temporary speed restrictions, provide additional and longer passing loops, alleviate congestion and strengthen the track.

***There has been inadequate investment in some parts of the rail network. The resulting problems for the rail industry are particularly acute in the Sydney area.***

### *Investment decision-making processes*

The relative levels of investment spending on road and rail networks together with specific evidence of deficiencies in rail infrastructure, raise questions about the processes which governments have used to allocate funds within and between different transport modes. Capital expenditure on rail and road systems in Australia is the result of several economic processes. These involve transport planning, applying techniques of investment appraisal, ranking projects in order of priority and the allocation of budgetary funds.

#### *Transport planning*

The lack of an integrated planning framework is a possible factor behind modal investment outcomes in recent decades. Numerous participants (Bicycle Federation of Australia, Hames, NSWLGSA, People for Ecologically Sustainable Transport, QR and Rail 2000) claimed there was a need for an integrated approach to transport planning. The South Australian Local Government Association (SALGA) noted:

> … the need for governments to develop a coordinated, comprehensive and holistic transport strategy which incorporates rail as a viable option in the transport network. (sub. 57, attach. 1, p. 3)

The National Transport Planning Taskforce found that transport investment decision-making in Australia was highly segmented by mode and level of administration (NTPT 1994). Because many different government authorities are involved in the provision of transport infrastructure, this may lead to coordination failures, inconsistencies in approaches, and has the potential to overlook network effects and interactions between modes. The NTPT recommended that a framework for national strategic transport planning be established. Under such a framework, national transport needs would be considered on a multi-modal corridor basis.

More recently, the HORSCCTMR has urged the Commonwealth Government to develop an integrated national transport plan (HORSCCTMR 1997 and 1998b). The Rail Projects Taskforce (1999) also supported a national transport plan,

recommending that the Commonwealth Government take the lead in its development to 'secure a seamless domestic transport system'.

Several approaches to planning (and investment) in land transport are discussed in section 10.3.

*Investment appraisal*

Differential treatment of rail and road projects in investment evaluations has been suggested as a factor which could bias investment spending towards a particular mode. A number of participants contended that current investment appraisal procedures lack consistency. The ARA stated that 'analysis of road projects has included wider social cost–benefit criteria, whereas rail projects have been assessed on a narrow, commercial basis' (sub. 3, p. 13). The NSWLGSA contended that 'there is not a consistent approach across the country to investment evaluation' (sub. 71, p. 4).

An extensive survey of investment evaluation methods used by transport authorities was undertaken for the NTPT (Applied Economics 1994). The results indicated that cost–benefit analysis was applied quite widely for road infrastructure but was only occasionally used for investments in railways, seaports and airports.

According to the survey, financial evaluation was the most common form of investment appraisal used by railways. The technique was used mainly for internally funded projects and for small projects requiring outside funding. However, cost–benefit analysis was used for some large projects that required external funds. In the case of road infrastructure, cost–benefit analysis was both required and used to evaluate road investments in all States.

There are several practices in the cost–benefit analysis of road projects which can raise estimated social returns and potentially distort investment allocation between modes. Benefits to users such as travel time savings are included as benefits in road analyses but these are omitted from evaluations of rail investments. Environmental effects are often excluded from the calculation of benefit–cost ratios for road projects and analyses often fail to adequately consider alternative projects (Applied Economics 1994).

Even if time savings benefits are included in both road and rail project evaluations, DTRS argued that these benefits do not occur to the same extent in rail projects. According to the department, this stems from the road transport industry sharing the asset with private motorists and railways competing in the less time sensitive segment of the transport market. It stated that:

> Unless the assessment of rail projects is able to demonstrate similar social and time value benefits accruing from the investment, under consistent assessment criteria road improvement projects will almost always be favoured as a result of the superior BCRs [benefit–cost ratios] that are generated. (sub. DR125, p. 6)

Although most investment in rail and road infrastructure has been by government, the private sector has played an increasing role in recent years, for example, in road and rail build-own-operate-transfer projects. Under current infrastructure investment arrangements, proposals prepared by the private sector are submitted to the relevant government agency or committee for initial assessment. At this stage of the process, governments are able to identify whether cost–benefit analysis is required and, if so, the relevant considerations in measuring costs and benefits.

Cost–benefit analysis is especially relevant for large transport projects relating to both rail and road infrastructure which have significant network and/or external effects (whether positive or negative) and for projects requiring funding to meet social objectives. However, financial evaluation may be more appropriate for smaller projects where externalities or network effects do not figure prominently.

***Cost–benefit analysis is warranted where proposed major projects (whether predominantly publicly or privately financed) are expected to generate significant external effects.***

*Budgetary and political factors*

Aside from the iron ore railways and some coal railways, investment in rail infrastructure has been funded mainly by government grants and borrowing. Budgetary allocations have also funded capital expenditure on the road system. The amount of funding governments allocate to rail investment may be affected by:

- budgetary or borrowing constraints;
- the financial losses of government-owned railways; and
- competing political priorities.

For rail and road transport, budgetary pressures can halt or delay projects even though the projects are expected to generate high social returns. Funds for investment are generally scarcer within a contractionary fiscal environment. Since 1991, many State Governments have implemented measures to improve their fiscal

positions, often to address high levels of public debt. More recently, the Commonwealth Government has progressively reduced its outlays relative to revenue and GDP.

This trend of fiscal consolidation may have constrained the amount of funds available for investment in infrastructure generally. The EPAC Private Infrastructure Task Force concluded that borrowing constraints have in the past impeded public investment (EPAC 1995a). There may also be a tendency for governments, when faced with budgetary constraints, to give priority to recurrent spending over capital expenditure.

In principle, corporatised railways should be able to obtain equity from their government owners or borrow funds to finance investment in commercially viable operations, that is, where financial returns are expected to at least meet the cost of capital. As Rio Tinto pointed out:

> … there are parts of the system where investment could be justified, namely those where good returns are currently being earned and there is scope for increased traffic. It is important that those investments be undertaken. (sub. 58, p. 21)

However, the poor financial performance of government-owned railways in recent decades may have contributed to their greater difficulty in obtaining capital (compared with road agencies) through budgetary or borrowing processes. As governments already contribute significantly to cover the losses of railways, they may be reluctant to allocate additional funds (chapter 7). While conventional wisdom would advise against further investment in loss-making businesses, this fails to consider that much of the rail deficit is the result of governments' non-commercial objectives.[7] Currently, there is no equivalent way of assessing the financial performance of past investments in the road system.

The relative spending on rail and road infrastructure could also reflect the political priorities of governments. The Australian Wheat Board pointed to limited government funding and the 'relative political "unattractiveness" of rail freight compared to passenger and other funding portfolios' as possible reasons for the rail industry's slow take-up of new technology (sub. 32, p. 9). Similarly, Forsyth and Trace noted that rail authorities, subject to government pressures, may invest in high profile projects but such investments may be less rewarding in efficiency terms than more mundane investments in track improvements (sub. 88).

Due to budgetary constraints and political priorities, some rail projects may not proceed even though they are anticipated to generate commercial returns. This

[7] The BTCE noted that urban passenger services account for the majority of the deficit (HORSCCTMR 1998b).

would occur, for example, where the measured social returns of road projects are higher than rail projects and the budget constraint is reached before any rail projects are selected. Such investment opportunities would normally have been undertaken if rail enterprises were fully commercial or under private ownership.

***The budgetary and political environment under which government-owned railways operate may have hindered their ability to raise adequate funds for investment purposes.***

## Taxes and charges

A number of taxes and charges are levied on providers of transport services in Australia (table 10.2). To the extent that these distort relative freight rates between modes, they can influence the competitiveness of railways compared to road transport, and affect modal usage and investment patterns.

Table 10.2 **Main taxes and charges applying to rail and road transport** [a]

| *Indirect taxes* | *Charges* | *Income taxes* |
|---|---|---|
| • diesel fuel excise | • access/registration | • company tax |
| • payroll tax | • safety | |
| • import duty | | |

**a** Railways are currently exempt from wholesale sales tax on certain items.

*Source:* Based on BTCE 1997b.

According to some participants, railways are disadvantaged relative to road transport operators by high levels of taxes and charges. The ARA stated that:

> In 1995, the NTPT estimated taxes and charges as comprising 16.6 per cent of road freight operating costs. At the time, no charges applied to rail operators, but taxes were estimated to comprise 16.5 per cent of rail operating costs of which 12 per cent was diesel fuel excise. Track access charges applying to rail operators have now increased rail's taxes and charges by 25 per cent – 30 per cent to over 40 per cent of operating costs, two and one half to three times that of road. (sub. 51, p. 15)

The central question is whether taxes and charges are being applied consistently across modes. Participants' concerns relate chiefly to the diesel fuel excise, the potential impact of taxation reform, and infrastructure charges.

### *Diesel fuel excise*

The diesel fuel excise was introduced in 1957 as a means of raising funds for road construction and maintenance. The excise was directed at road users so an

exemption scheme was introduced for off-road users of diesel fuel including railways. However, in 1982, the *Diesel Fuel Taxes Legislation Amendment Act 1982* (Cwlth) replaced the exemption scheme with a rebate scheme and changed the definition of off-road users to exclude railways, coastal shipping and manufacturing. This meant that railways could not claim the rebate unless beneficiation was involved.[8] These amendments diminished the competitive position of railways relative to road transport, holding other factors constant.

In 1998, the Commonwealth Government released its plan for a new tax system (Costello 1998). As part of its proposed tax reforms, the Government intended to reduce the effective diesel fuel excise from 35 cents a litre to 18 cents a litre for rail transport operators, and from 43 cents a litre to 18 cents a litre for heavy road vehicles.[9] Studies estimated that the reforms would have delivered greater benefits to road transport than to railways (Costello 1998; MM Starrs Pty Ltd and Ian Wright & Associates 1999).

These tax reform proposals raised the issue of whether the same rate of excise should apply to both modes. The main rationales for imposing indirect taxes, such as the diesel fuel excise, are to raise revenue for either specific or general purposes and to address externalities (BTCE 1997b; Freebairn 1997a).

Numerous participants (ASR, Institution of Engineers, NSW Minerals Council and QR) viewed the diesel fuel excise as a measure which raises funds for the road system.[10] The Australian Peak Shippers Association stated that 'a majority of diesel fuel taxes collected by the Federal Government from rail go to fund road infrastructure over which rail's competitors operate' (sub. 10, p. 2).

In determining annual registration fees for heavy road vehicles (over 4.5 tonnes gross vehicle mass), the National Road Transport Commission (NRTC) includes a portion of the diesel fuel excise as a road use charge. The charge has a legislative basis, being defined in the *Heavy Vehicles Agreement 1991* as:

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[8] A rebate is allowed for diesel fuel used in transporting minerals or ores from a mine to other locations for beneficiation. Beneficiation involves upgrading the concentration of ores or the removal of impurities but not final smelting or processing (BTCE 1997b).

[9] The difference between 43 cents a litre and 35 cents a litre reflects the excise collected by the Commonwealth on behalf of the States and Territories as compensation for the loss of business franchise fees following a 1997 High Court decision.

[10] On the other hand, the Commonwealth does not consider the diesel fuel excise to be a road user charge. It stated that fuel taxes and the revenue they generate have no correlation to the amount of funds provided by the Commonwealth for roads and that the fuel excise is a source of general revenue (Commonwealth Minister for Transport and Regional Services 1999). Further, the Commonwealth Department of Finance and Administration noted that 'the fuel excise is principally a revenue raising measure and the tax receipts are paid into the Consolidated Revenue Fund' (sub. 65, p. 12).

> … a charge equal to the part of the diesel fuel tax levied by the Commonwealth for the use of a Vehicle on a road being the part fixed by the National Commission from time to time, in accordance with this Agreement. (Schedule 1 of the *National Road Transport Commission Act 1991* (Cwlth))

The charge nominated by the NRTC is subject to approval by the Ministerial Council for Road Transport. Under the First Charges Determination, the notional charge was set at 18 cents a litre (NRTC 1992).[11]

In its inquiries into rail transport and petroleum products, the Industry Commission (IC) recommended that the rebate scheme be extended to include diesel fuel used in rail freight services (IC 1991b; IC 1994a). In the latter report, the IC argued that extending the rebate to railways, which often transport export commodities, was in keeping with the objectives of the rebate scheme.[12] The Rail Projects Taskforce (1999) recommended that rail operators be treated like other off-road diesel users for the purposes of fuel taxation.

Following recent negotiations, some elements of the Commonwealth Government's proposed tax reforms (Costello 1998) have been modified. There are two key changes to diesel fuel excise arrangements affecting road and rail transport:

- the effective excise will be reduced to 20 cents a litre by granting credits to qualifying road vehicles; and
- railways will be entitled to receive full credit for excise paid.

The *Customs and Excise Amendment (Diesel Fuel Rebate Scheme) Act 1999* (Cwlth) allows rail transport to claim the rebate. This change is likely to ameliorate some concerns about competitive neutrality. Whether competitive neutrality is actually improved — in an overall sense — depends on the magnitude of any remaining distortions in the road and rail transport sectors arising from government policies.

***Recent legislation will partly address competitive neutrality concerns between railways and road transport relating to taxes and charges.***

### *Infrastructure charges*

There are several different methods for pricing access to rail networks in Australia (chapter 8). In the case of heavy road vehicles (over 4.5 tonnes), the NRTC has

11 The NRTC (1998b) has proposed increasing the notional charge to 20 cents a litre.

12 The scheme is a way of improving the competitiveness of Australian commodity exports by rebating most of the excise paid on the off-road use of diesel fuel by agricultural and mineral producers.

developed a system of road use charges. There are two components to national heavy vehicle charges:

- part of the diesel fuel excise (which is nominated by the NRTC as a road use charge); and
- annual registration charges which vary between vehicle classes, vehicle use and the number of axles.

In rail transport, track access charges account for a substantial component of operating costs. However, road access costs are generally only a small proportion of heavy vehicle operating costs — generally less than 10 per cent and typically less than 5 per cent (Stanley 1993). This means that even large percentage changes in registration charges for heavy vehicles may not significantly change the price of road transport. Aside from changes in relative prices, the extent of any modal substitution would also depend on the size of cross-price elasticities and the importance of non-price factors such as service quality.

A number of participants (ARA, ASR, CRT Group, Laird, NRC and NSW Minerals Council) argued that differentials in access charges confer a significant competitive advantage to the road transport industry. Some participants also noted that, controlling for mass and distance, rail access charges greatly exceed heavy vehicle registration charges. The CRT Group estimated that the access charge on a normal-sized train from Sydney to Melbourne of 1000 net tonnes is $5.50 a tonne. Registration charges would equate to about 55 cents a tonne for a similar journey by a B-double truck assuming a 40 tonne net payload (sub. 20). NRC has calculated similar disparities between access and registration charges (sub. 53).

Where government policies on charging (as well as taxation and investment) have the effect of materially assisting one mode over its competitors, such biases could act to deter private sector investment in the disadvantaged modes. The NSW Government stated that:

> Less than optimal development of transport systems due to poor infrastructure charging signals has implications for the likelihood of private sector investment in transport and calls on Government funding, and would also have adverse community and environmental consequences. (sub. DR128, p. 38)

Although charges need not be equal across modes, these differences warrant a closer look at the current methods of charging for access in both rail and road networks. As the Commonwealth Department of Finance and Administration noted, ‘inconsistencies between access pricing for various modes of transport can result in sub-optimal allocation of transport tasks between modes’ (sub. 65, p. 12). Given that the Commission’s approach is to move towards efficient pricing in each mode, the issue is whether heavy vehicles are being charged appropriately for road usage.

*Heavy road vehicle charges*

Important reforms have occurred in the charging of heavy vehicles in recent years (chapter 3). Despite these initiatives, concerns remain about the schedule of charges. The Burnside City Council claimed that:

> The damage to the national road network is absolutely out of proportion to the contribution which heavy vehicle operators make towards their upkeep. (sub. 5, p. 6)

QR also found strong reason to believe that there is significant underrecovery of direct costs for heavy articulated road vehicles that compete with railways (sub. 59).

The NRTC charging system, outlined in box 10.4, attempts to recover the share of road expenditure that can be reasonably allocated to heavy vehicles (NRTC 1998b). Registration charges for a particular vehicle class are based on the average distance travelled by that class and the average gross mass of that vehicle class, for example, all six axle trucks are levied the same charge.

However, the averaging process used to calculate registration charges by vehicle class is a weakness of the present charging system. This has been acknowledged by NRTC:

> All the road use data in the charging process are averages for a vehicle class. These averages conceal differences in the use made of the road system by individual vehicles. (NRTC 1995, p. 20)

The averaging process assumes that all vehicles within a class are attributed the same road costs. This results in overrecovery of road costs from vehicles carrying lighter loads and travelling shorter distances, and cost underrecovery from vehicles carrying heavier loads and travelling longer distances.

According to NRTC (1998b), the charging structure tends to overcharge lighter vehicles and undercharge heavier vehicles. In the First Charges Determination, a minimum charge was introduced to ensure continuity between registration charges for the 'heaviest' light vehicles and the 'lightest' heavy vehicles. This resulted in overrecovery of road costs from the lightest heavy vehicles which was then redistributed across other vehicle classes. As a consequence, there was underrecovery of road costs from classes of heavier vehicles.

Box 10.4 **NRTC road charging approach**

The *cost allocation model* uses road expenditure and road usage data as inputs, and attributes expenditure by vehicle class as an output. The process involves:

- assuming that the costs of road use are equal to the average level of road expenditure over a three year period;
- attributing those costs that can be associated with use of different vehicle types to those classes of vehicles; and
- allocating remaining costs on some broad measure of road use (vehicle kilometres of travel is used).

The *charging model* aims to recover the expenditures allocated to each vehicle class through a combination of a notional diesel fuel charge and annual registration charges.

- A diesel fuel charge and an 'access charge' are selected.
- Revenues from both these sources are deducted from the expenditure allocated to each vehicle class and 'mass distance charges' are derived from the remaining expenditures.
- The 'access charge' and 'mass distance charge' are then combined to form annual registration charges.

In the analysis for the First Charges Determination, this approach attributed around $1020 million of road costs to heavy vehicles. It recovered about $660 million from a road use charge set at 18 cents a litre of diesel and $370 million from annual registration charges which varied by vehicle class.

*Sources:* NRTC 1998c; NRTC, Melbourne, pers. comm., 4 August 1999.

Since the First Charges Determination, there have been changes in the costs of road construction and maintenance, the level of road expenditure, patterns of vehicle use and revenue obtained from charges. As a result, road expenditures related to heavy vehicles have increased by about 25 per cent. To maintain recovery of direct costs, the NRTC has proposed increasing the notional diesel fuel charge from 18 cents a litre to 20 cents a litre and increasing registration charges for some vehicles. It has proposed that increases in registration charges should be limited to the heaviest vehicles where there is underrecovery of their share of the costs (NRTC 1998b).

While it is unclear whether the changes to heavy vehicle charges proposed by the NRTC will be sufficient to correct for previous undercharging, they will reduce the existing differential.

A road user charging system for heavy vehicles, based on variable weight and distance, would overcome the deficiencies of the averaging process. Consequently, weight-distance charges are aligned with each vehicle's road usage and associated pavement wear. Weight-distance charging has applied to heavy vehicles in

New Zealand since 1978 (Bollard and Pickford 1998). In the United States, some states have adopted taxes based on an assessment of trucks according to their total weight and distance travelled (Winston 1991). Weight-distance taxes can approximate the damage charge quite closely, provided they are made specific to the type of vehicle (Newbery 1990).

Moving to a weight-distance system would involve the use of measurement devices. This may require evaluating different technologies such as electronic tolling (which will apply on CityLink in Melbourne) and Global Positioning Satellite (GPS) systems.[13] Further advances in technology are likely to increase the feasibility of introducing weight-distance road user charging. The additional benefits that may result from adopting a weight-distance system would need to be considered against the related administrative, compliance and enforcement costs.

***The existing road user charging system for heavy vehicles underrecovers road costs attributable to classes of vehicles which compete directly with railways. This confers a competitive advantage on long distance road transport operators.***

RECOMMENDATION 10.1

***The National Road Transport Commission should prepare — and recommend to the Ministerial Council for Road Transport for adoption — a revised schedule of heavy vehicle charges which ensures that each class of vehicle pays the full cost of its road use.***

### *Indirect costs of road use*

The current system of heavy vehicle charges does not take into account the indirect external costs associated with road use.[14] Stanley (1993) noted that the NRTC brief on charging was solely to develop a uniform system of charging heavy vehicles for road expenditure attributable to their road use and excluded the indirect external costs of road use and light vehicle charging.

Many submissions (Bicycle Federation of Australia, Fleay, Healthy Cities Illawarra, People for Public Transport and SALGA) commented on the indirect external costs of road usage. Healthy Cities Illawarra was concerned that:

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[13] GPS systems have the potential to incorporate information on road damage, engine emission externalities and congestion. In 1998-99, the Tasmanian Department of Infrastructure, Energy and Resources commenced an Intelligent Vehicle Trial to examine the feasibility of using the GPS system as an aid to better management of road networks.

[14] Direct external costs include damage and wear caused to roads and bridges by motor vehicles whereas indirect external costs encompass pollution, congestion and accident costs. Insurance may cover the property costs and some medical costs of road accidents.

> Road vehicle use, particularly heavy trucks, is continuing to increase, despite the costs in air pollution, greenhouse gases, noise pollution, health impacts, and road congestion. (sub. 6, attach. 1, p. 1).

SALGA pointed to the 'environmental impact of increased road usage, particularly through built up urban areas in terms of noise pollution and gas emissions' (sub. 57, p. 2). Several participants also noted that rail transport was more energy-efficient than road transport and generates fewer emissions for an equivalent transport task.

A number of participants (ARA, Maddock, RAC and State Rail Authority of New South Wales (SRA)) agreed that road charges should include external effects. As Maddock stated:

> The best outcome would be achieved if the price of road services were set in such a way that it takes full and appropriate account of road costs and any external benefits and costs. (sub. 40, p. 3)

And, the SRA noted that:

> If correct pricing principles were applied to both rail and road, the price of externality effects would be part of the user charge applied to each mode of transport. (sub. 67, p. 5)

In New Zealand, road pricing reforms are being contemplated as part of broader reforms to the provision of roads. The *Land Transport Pricing Study* examined the cost of road infrastructure as well as environmental and safety externalities (New Zealand Ministry of Transport 1997a). The study presented a number of options for the funding, pricing and management of New Zealand's roads. More recently, the *Better Transport Better Roads* proposal canvassed congestion pricing and road charges that reflect the environmental impact of road use (New Zealand Ministry of Transport 1998a).

In the Commission's view, systems of road pricing that incorporate the full economic costs should be considered for future application in Australia.

***Current systems for charging road users do not take sufficient account of indirect external costs such as pollution costs, accident costs (that are not covered by insurance) and congestion costs.***

## 10.3 Planning and investment in land transport

As noted earlier, some parts of the rail network (such as the interstate track) are in need of further investment. Participants also expressed concerns about a lack of transport planning. Given that these infrastructure deficiencies have arisen under

current institutional arrangements, it is worth examining alternative approaches to planning and investment in land transport networks, including:

- the integrated approach;
- the Swedish approach; and
- the commercial approach.

## The integrated approach

This approach involves establishing a central public organisation (in the form of a committee, authority or commission) which would be responsible for preparing a plan for national road and rail networks — and possibly other modes (sea and air transport). This body could perform a range of planning and other functions including setting transport objectives, compiling an inventory of transport assets and gathering information on current and future transport demand.

The organisation's main function would be to identify transport projects for inclusion in the national plan. This would involve evaluating projects and ranking them in order of priority. A national planning body could rank rail and road projects on the basis of benefit–cost ratios. Such a body could also make recommendations to governments on which projects should receive funding.

The key potential benefit of the integrated approach is that, having one body performing the planning task, there would be greater consistency and coordination in developing road and rail networks. As proposed investments would be assessed and ranked on the same basis (using cost–benefit analysis), project selection is more likely to be neutral with respect to mode.

Investment in transport infrastructure has often been guided by political considerations. A further advantage of an organisation which compiles and publishes a list of projects ranked according to economic criteria is that it would limit, or at least highlight, ministerial discretion in selecting projects.

Integrated planning for national networks has conceptual appeal, but there are potential difficulties with such an approach.

A national planning body may rely primarily on further investment to resolve perceived infrastructure shortages. For example, to alleviate road congestion, it might recommend greater investment in roads or railways. However, measures aimed at managing the demand for road space (such as road pricing) may also be effective and may use less capital resources than a supply-based approach.

Proponents of a national transport plan argue that the plan must be linked to funding to enable implementation. The HORSCCTMR (1997) recommended that the Commonwealth Government develop an integrated strategic plan for the national transport network and that it also provide an appropriate, guaranteed level of road funding to support the national outcomes as set out in the plan.

However, linking a national plan to funding can create undesirable incentives. If projects included in the plan automatically attract Commonwealth funding, it is likely that States and Territories will push to have projects in their jurisdictions added to the plan. Similarly, the private sector may promote large scale transport projects as being of national significance in order to gain government assistance. The plan could evolve into a wishlist containing 'vision' projects of doubtful value, while commercially viable projects do not proceed.

A related issue is the definition of the national transport network. While definition is easier for infrastructure which links jurisdictions, in other cases it may prove more difficult. For example, are transport projects required for major sporting or cultural events part of the national network? To avoid disputes with jurisdictions, the planning body may need to devise a set of criteria to determine which existing infrastructure and new projects form part of the national network.

Under an integrated approach governments, through the central body, would have primary responsibility for planning, project selection and funding, and possibly even provision. However, benefits are expected from further private sector involvement in railways (chapter 7). The private sector is normally better capable (than the public sector) of identifying and evaluating commercial opportunities. Private entities have a strong incentive to seek out all relevant information and assess the risks regarding potential investments.

Another drawback is that a central body might be too removed from the businesses and enterprises that actually invest in and operate transport systems. In evaluating and ranking projects, the body would be heavily dependent on the quality and detail of the information supplied by these agencies.

There are administration costs associated with establishing and running a central body. Implementing its recommendations on which projects should proceed will also have budgetary implications. Even if a national body were formed, States and Territories are likely to retain planning responsibilities for their own transport systems. Further, it may not be possible to divorce priority setting completely from political considerations. Ministers may be unwilling to relinquish responsibility for determining funding priorities.

Although a centralised planning approach would improve some aspects of existing arrangements, it would continue the past practices of relying on governments to provide funds for transport infrastructure — and the past, as evidenced above, does not have a good record.

## The Swedish approach

Unlike the integrated approach, in Sweden separate government agencies are responsible for planning and investment in road and rail networks. The Swedish approach relies on subsidies to promote competitive neutrality between rail and road transport.

In the case of road investment, the road administration is required to:

- evaluate projects on economic (rather than commercial) criteria;
- prepare investment programs which prioritise projects according to the results of cost–benefit analyses; and
- submit investment programs to parliament for approval and decisions on funding allocations.

This is known in Sweden as the 'road model' (OECD 1999). Since the vertical separation of Swedish railways in 1988 (appendix E), the road model has been applied to assessing investment in rail infrastructure. Unlike Australian practice, cost–benefit analysis of track investment attempts to measure the benefits to users, such as the value of shorter travel times (Kopicki and Thompson 1995). The national track authority must also prepare and submit its investment program to parliament.

Many participants have suggested that investing in railways is a way of ameliorating the costs of road transport (including the indirect external costs of accidents, pollution and congestion) and attaining an optimal modal split between road and rail transport. This means that, where road infrastructure is subsidised by say imposing low road user charges or fuel taxes, railways would also require subsidies to lower the price of rail services and generate a substitution towards rail transport.

Such an approach has been adopted in Sweden. A Transport Bill presented to the Swedish parliament proposed reducing rail track charges to correct for distortions of intermodal competition caused by changes in road vehicle taxation since 1988 (Jones et al. 1998). The Swedish Government, which owns the national track authority, indicated that from 1 January 1999 many of the track access charges were to be removed (*Railway Gazette International*, August 1998). As a result, subsidies for track provision have increased.

If the Swedish approach to the subsidisation of rail transport were to be implemented comprehensively, the data and analytical burden would be onerous. Governments would need to collect and analyse information to estimate, for instance, price deviations from social marginal costs in one mode (such as road transport) and then adjust prices appropriately in competing modes (such as rail transport).[15]

Moreover, the Swedish approach may not fully resolve the issue of investment priorities within rail transport. According to Thompson (1997), in Sweden, there have been coordination problems between the national track authority and the national operator. The operator wants to set investment priorities for track work whereas the authority follows politically-determined funding priorities. Following vertical separation, infrastructure spending increased significantly. However, 'since that money was provided by the taxpayers, the politicians wanted full control over the spending' (OECD 1999, p. 180). Indeed, as noted above, both rail and road investment programs must be approved by parliament.

The Swedish approach would involve costs in budgetary terms and could result in resource misallocation. Where prices are set below marginal costs, subsidies would be required to cover operating losses. There are also costs of administering such policies. Aside from the budgetary impacts, this approach could skew economic activity towards the transport sector and away from other sectors. Government must also be committed to making the funds available.

## The commercial approach

Planning and investment in land transport infrastructure can also be determined on a more commercial basis by enterprises and agencies within each mode. The commercial approach involves the following elements:

- a broad policy framework for the national transport system;
- the provision of rail and road infrastructure;
- use of the purchaser-provider model for non-commercial objectives; and
- a network manager for the interstate track.

To advance key transport goals, the Commonwealth Government could develop and introduce an overarching policy framework for the national transport system. The framework would set out the Government's main objectives and directions for the

[15] Such analysis would require estimates of substitution elasticities which vary across transport corridors and between studies. There is likely to be considerable debate over the magnitude of the estimated elasticities and differing estimates may leave scope for political lobbying.

system regarding efficiency, safety, equity and the environment. The Commonwealth Government could prepare a draft framework for public comment before preparing a final version. Such a framework has been developed in New Zealand — initially in the form of a *National Land Transport Strategy Draft* and subsequently a *National Transport Statement* (New Zealand Ministry of Transport 1997b and 1998b).

Improving coordination and consistency within and between modes could be included as an efficiency goal in the framework. Transport agencies would be required to ensure that their objectives, policies and decisions are broadly consistent with the national framework. This requirement could be included in performance agreements between agencies and their parent departments.

Through this mechanism, the Commonwealth Government could influence the long term development of the transport system without needing to supplant or centralise the planning and investment functions of separate transport entities.

In the case of railways, this approach would then require that rail enterprises operate and invest only where services are viable. Existing operations would continue or new investment proceed if the rate of return at least meets the cost of capital. Private sector involvement would further strengthen the commercial orientation of rail enterprises. Investments proposed by the private sector would still be subject to the normal project approval processes required by governments.

A commercial emphasis does not preclude the provision of some non-commercial rail services. Governments may be willing to fund services for social or other reasons. Where governments wish to pursue non-commercial objectives (such as income redistribution or regional development goals), the purchaser-provider model should be applied (chapter 11). In these cases, governments would underpin planning and investment through their commitment to purchase services.

Moreover, the commercial approach does not prevent governments from addressing external or network effects arising from land transport activities. As discussed above, for major projects which are expected to have large external effects (positive or negative), cost–benefit analysis is required. Where projects will generate significant positive externalities and benefit the community but are not viable, governments may decide to provide 'top-up' funding to projects involving private financing or fund them completely.

Commercialising railways is likely to generate benefits in its own right. However, given that rail and road transport compete for business in many freight and passenger markets and are complementary in others, outcomes in commercialised

railways will be conditional on developments in government policy regarding the road system and the road transport industry.

Aside from the issue of road pricing, there are broader issues concerning the institutional arrangements for delivering roads in Australia. Submissions to recent parliamentary committees of inquiry have argued that governments have not set clear objectives for road provision, investment patterns have not maximised the potential benefits to road users and political imperatives and funding uncertainty have impeded long term planning (HORSCCTMR 1997; HORSCTCI 1993).

These issues suggest scope for improving road provision. Abrams et al. (1998) examined a number of different institutional arrangements for road provision, including commercial approaches based on the effective road fund and public utility models.[16] A road fund currently operates in New Zealand where further road reforms are also being considered (box 10.5).

Achieving competitive neutrality between rail and road in Australia, within a more commercial framework, will require reforms to the provision of roads. A range of issues covering planning, investment, funding and institutional arrangements should be examined within the context of a broad public inquiry into road provision.

***A commercial approach to the provision of rail and road infrastructure would be a better way of promoting competitive neutrality between modes than introducing a government-driven integrated planning process or linking rail subsidies to those of the road sector.***

[16] The effective road fund approach involves a devolution of responsibility for key road provision tasks to a representative board of management. The board decides both the aggregate level of expenditure on roads and where these funds will be invested. Funds are derived from earmarked taxes and charges. The public utility model involves a fully commercial treatment of road provision. The utility charges directly for road use and provides road services on the basis of achieving a reasonable rate of return on its investments.

Box 10.5 **Road provision in New Zealand**

Transfund's main objective is to allocate resources to achieve a safe and efficient road system. It purchases components (road outputs) which comprise the National Roading Program from various road agencies, including Transit New Zealand and local authorities.

The board of Transfund has a high level of autonomy in deciding what road works will be undertaken to achieve assigned objectives. Its purchase of road outputs is financed through the National Road Fund (NRF). The NRF is largely funded by an identified portion of the fuel excise, road user charges and motor vehicle registration fees. Transfund also recommends to government the level of these charges.

Recently, the New Zealand Government proposed significant changes to the institutional arrangements for road provision — outlined in *Better Transport Better Roads* (New Zealand Ministry of Transport 1998a). Under these proposals, a small number of regionally-based local road companies would manage local roads. A Crown-owned company, Transit New Zealand Limited, would operate state highways and motorways. Another Crown-owned company, Transfund New Zealand Limited, would provide road funding.

*Source:* Abrams et al 1998; New Zealand Ministry of Transport 1998a.

### *Role of a network manager under the commercial approach*

To facilitate investment in the interstate rail system under a commercial approach, the Commonwealth Government could establish a network manager to coordinate planning, amongst other functions (chapter 6). These functions could be defined in a formal code of conduct. In regards to planning, the code would:

- require the network manager to collect and disseminate planning information to network participants and interested parties;
- request track providers and users to participate in the planning process; and
- set out consultation mechanisms through which interested parties could examine, and comment upon, investment plans.

This coordinating function is similar to that undertaken by the National Electricity Market Management Company (NEMMCO) — the network manager of the national electricity market (box 10.6). Its other functions are outlined in chapter 6 (box 6.3).

The proposed manager would administer the planning process to facilitate investment, but it would not actually undertake the investment — this would be done by participants in the rail industry (appendix H). To avoid conflicts of interest, the manager would not own any track or rollingstock. Importantly, establishing a

network manager obviates the need to have a single network owner, that is, different parts of the network can have different owners — government or private.[17]

Being responsible for the day-to-day management of the network, the manager would be in a good position to collect information on the condition of the track, capacity constraints, track charges and current and future traffic flows. The manager would also be closer to the network and its users than a government committee or commission.

Box 10.6 **Planning of the national electricity network**

The National Electricity Market Management Company (NEMMCO) coordinates the planning of the national power system. The National Electricity Code sets out the procedures for network planning and development.

For planning within a region, the code requires service providers to conduct annual planning reviews. Where a need for network augmentation is identified, joint planning is undertaken by the relevant service providers. They must consult with affected code participants and interested parties on possible options to address the projected system limitations. The service providers then prepare a report which includes an assessment of identified options, the preferred proposal, a summary of submissions from consultations, and the recommended action. The report is made available to affected code participants and interested parties. Where any code participant disputes a recommendation, the service provider and the affected code participant must negotiate in good faith to reach agreement on the action to be taken.

For planning across regions, the code requires NEMMCO to establish an Interregional Planning Committee. The committee helps NEMMCO prepare the statement of opportunities, undertake an annual planning review of the power system and assess applications to establish new interconnectors between regions. The statement of opportunities contains information on the performance of the existing system and power transfer capabilities, as well as the adequacy of the system to meet forecast power transfers. As part of the annual planning review, the committee identifies and assesses options to address system constraints and must call for and receive submissions from service providers, code participants and interested parties.

In the case of new interconnectors across regions, the committee assesses applications and NEMMCO determines whether the proposed interconnector is justified. For example, TransGrid requested the committee and NEMMCO to review the economic and technical aspects of proposed interconnection between South Australia and New South Wales.

*Source:* National Grid Management Council 1996; Interconnections Options Working Group 1999.

17 Under the approach recommended by the Rail Projects Taskforce (1999), the Commonwealth Government — through a national rail authority — would acquire all national rail corridors and associated infrastructure.

As part of its planning function, the manager would identify deficiencies within the interstate network and coordinate a response to these problems. In some cases, infrastructure deficiencies can have adverse effects throughout the network. As noted earlier, route congestion in the Sydney metropolitan area has been identified as a major national problem (box 10.3). The *NSW Rail Access Regime* establishes 'passenger priority' provisions for use of the State network (sub. DR128). Urban passenger trains in Sydney are given priority to use the track in the morning and afternoon peak periods, causing significant delays for other trains entering or exiting the Sydney area. It has led freight operators to divert trains onto other routes and reschedule services to avoid the morning and afternoon curfews. Furthermore, it results in many trains travelling within a narrow band of time, creating difficulties in other parts of the network. The NSW Government noted that:

> In recognition of the importance of improving capacity through Sydney to rail freight movements throughout Australia, parties to the 1997 *National Rail Summit* agreed to develop a plan for the provision of dedicated freight track(s) through metropolitan Sydney. (sub. DR128, p. 36)

Although the infrastructure problem in Sydney could be resolved eventually under the commercial approach, there would be a time lag before its key elements are implemented. Given that private sector funding is unlikely to be forthcoming in the short term, there is a compelling case for Commonwealth Government funding to create additional freight paths through Sydney on externality grounds. While a portion of the Commonwealth's $250 million Interstate Rail Infrastructure Investment Fund has been allocated to projects in Sydney[18], this allocation falls short of the amount required to resolve the congestion problem fully. The Rail Projects Taskforce (1999) noted that a dedicated rail freight route through Sydney may cost in the range of $300 million to $500 million.[19] Detailed project evaluation should be undertaken to ascertain the level of funding required.

This investment would facilitate the efficient use of the interstate network and so enhance the ability of railways to compete with other modes, especially road transport. However, the full benefits for the network from such investment would only be realised through the establishment of a network manager to handle competitive access and facilitate planning. Thus, Commonwealth funding for rail infrastructure in Sydney should be made contingent on the adoption of a network manager for the interstate track.

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[18] Construction of the first project, at Flemington junction in Sydney, commenced in late 1998 (sub. DR128).

[19] The NSW Government prepared preliminary indicative costings for southern and northern access route projects between Macarthur and Cowan (NSW Minister for Transport 1997). In total, these projects were estimated to cost in the vicinity of $450 million (1997 dollars).

RECOMMENDATION 10.2

***Governments should adopt a more commercial approach to railways and road provision. This will involve:***

- ***the Commonwealth Government introducing an overarching policy framework for national transport;***
- ***applying competitive contracting out, franchising or full privatisation to railways;***
- ***establishing a network manager for the interstate track to manage competitive access and facilitate planning;***
- ***applying the purchaser-provider model rigorously where non-commercial objectives are being pursued; and***
- ***evaluating major road and rail projects using cost–benefit analysis where the projects are expected to have significant external effects.***

RECOMMENDATION 10.3

***The Commonwealth Government should — as a matter of national priority — allocate additional funds to projects which would alleviate route congestion in the Sydney metropolitan area, subject to the adoption of a network manager for the interstate track.***

RECOMMENDATION 10.4

***The Commonwealth Government should establish a public inquiry into road provision in Australia. This inquiry should examine:***

- ***road transport planning processes;***
- ***methods of investment appraisal (including the evaluation and allocation of costs and benefits);***
- ***funding arrangements (including taxation, charges and grants);***
- ***the scope to improve road pricing; and***
- ***current institutional arrangements and alternatives.***

# 11 Social dimensions

**Governments have used the provision of rail services to promote a number of non-commercial objectives relating to passenger and freight transport. These include safety, congestion, the environment, employment and regional development. The reform of Australia's railways does not preclude governments from pursuing clearly specified and funded non-commercial objectives. However, consideration needs to be given to the most effective and efficient way of achieving desired outcomes. If governments do choose to subsidise railways, procedures and funding need to be managed in a commercial manner and costs made transparent.**

**The reduced demand for labour by railways is largely due to technological change and competition from road transport. As a consequence, direct intervention by government is likely to be a costly and ineffective way of influencing the level of employment in railways or achieving general employment objectives. Instead, governments have a key role to play in facilitating adjustment within the industry to reduce unnecessary transitional costs and to help people and regions adjust to change.**

As part of this inquiry, the terms of reference require the Commission to 'have regard to the established economic, social, regional development and environmental objectives of government'. In addition, the *Productivity Commission Act 1998*, requires the Commission 'to recognise the interests of industries, employees, consumers and the community, likely to be affected by measures proposed by the Commission'.

Participants have raised concerns regarding the effects of rail reform on the provision of non-commercial services (particularly in urban areas), employment levels and regional development outcomes. This chapter describes the current role of governments in providing non-commercial rail services (section 11.1). Section 11.2 considers the rationale for subsidising railways and the scope for minimising the cost of such subsidies. Section 11.3 addresses some of the specific concerns raised by participants regarding the provision of non-commercial rail services. Section 11.4 then discusses the impacts of reform on railway employment and regional areas in Australia.

The Commission's concurrent inquiry, *The Impact of Competition Policy Reforms on Rural and Regional Australia*, considers structural adjustment issues in regional Australia in greater detail (PC 1999).

## 11.1 Government payments to railways

State governments make considerable payments to railways from their annual budgets to fund the provision of non-commercial rail services.[1] These services are widely known as community service obligations (CSOs). As well as recurrent payments to cover operating expenses, governments in some instances provide capital grants for the purchase of infrastructure such as rollingstock and track.

There are difficulties in accurately determining the cost of providing subsidised rail services in most jurisdictions from publicly available information. In some instances subsidy payments are presented as a consolidated payment for all transport modes. In many cases it is unclear how the cost of the service was calculated, especially the treatment of capital assets.

Government payments for urban and non-urban passenger services are usually a combination of general subsidies for all passengers, as well as additional concessions for targeted users. Payments for freight services include subsidies to train operators as well as payments for the retention of non-commercial branch lines.

For example, the NSW Government paid over $1 billion to purchase rail services and infrastructure in 1997-98 (table 11.1). Payments made to railways included explicit CSO payments, deficit funding and capital grants. Explicit payments were made to the State Rail Authority of New South Wales (SRA) (for urban and non-urban passengers), FreightCorp (for the haulage of some grain, minerals and general freight in regional New South Wales) and Rail Access Corporation (RAC) (for track infrastructure on a number of regional branch lines). In addition, SRA received a capital grant of $356 million and recorded an operating deficit of nearly $33 million in 1997-98.

[1] Transport subsidies are not restricted to railways. Governments subsidise a range of transport modes including buses, ferries, trams and regional aviation. The Commonwealth Government no longer subsidises rail directly although it does reimburse some pensioner discounts.

Table 11.1 **State Government payments for community service obligations[a], 1997-98**

| *Rail service* | *NSW* | *Vic* | *Qld* | *WA* | *SA* |
|---|---|---|---|---|---|
| | $m | $m | $m | $m | $m |
| **Urban passengers** | | | | | |
| Explicit payments and deficit funding | 462.5 [b] | 201.2 [d] | 327.5 [e] | 87.2 | 174.5 [g] |
| Capital grants | 356.2 [c] | 172.7 [d] | 0 [f] | 0 [f] | 0 [f] |
| **Non-urban passengers** | | | | | |
| Explicit payments and deficit funding | 71.2 | –– | 59.8 | 13.7 | 0 [h] |
| **Freight** | | | | | |
| Explicit payments | 90.0 | 6.5 | 158.8 | 0 [h] | 0 [h] |
| **Track** | | | | | |
| Explicit payments | 177.0 | … | … | … | … |
| **Total payments** | **1 156.9** | **380.4** | **546.1** | **100.9** | **174.5** |

[a] No rail CSO payments were made by the Tasmanian Government in 1997-98. [b] The entire operating deficit for SRA in 1997-98 ($38.2 million) has been allocated to urban passenger services. [c] All capital grants to SRA have been allocated to urban passenger services. [d] This figure represents the total cash payment to the PTC for all passenger services (trains, trams, buses and non-urban passengers) in 1997-98. Around half the passenger services provided in 1997-98 were by rail. [e] QR received $7.8 million in concession payments for urban passenger services. These funds were recorded as sales revenue by QR. [f] No capital grants were made by the State Government for urban passenger services in 1997-98. Costs associated with the maintenance of capital are included as part of the explicit payments. [g] Includes payments to TransAdelaide (economic entity) for urban trains, buses and trams. Around 22 per cent of the journeys provided by TransAdelaide in 1997-98 were by rail. [h] No payments were made by the State Government for this service in 1997-98.

… included as part of payments for the provision of subsidised passenger and freight services.

–– included as part of the consolidated payment for urban passenger services.

*Sources:* SRA 1998; FreightCorp 1998; RAC 1998; PTC 1998; V/Line Freight 1998; QR 1998; Westrail 1998; TransAdelaide 1998.

The NSW Minerals Council suggested that the NSW Government was partly funding certain rail freight CSOs through cross-subsidisation from coal operations:

> Additional CSO funding is provided by monopoly rent from coal access charges. This is described as an 'adjustment component' of access charges under clause v(e) of Schedule 3 of the [access] Regime.
>
> ... An analysis of the accounts suggests that the adjustment component is being used to cross-subsidise RAC's operations. (sub. 39, p. 17)

However, RAC disputed this suggestion:

> … the export coal adjustment component is not and has never been used by RAC to cross-subsidise loss making operations as suggested by the NSW Minerals Council. (sub. DR102, p. 34)

The Commission has not sought to verify the claims made by the NSW Minerals Council. However, the situation does demonstrate how a lack of transparency in the manner by which governments specify and fund non-commercial services can create perceptions of unfair treatment on the part of commercial (unsubsidised) customers.

The Victorian Government paid over $380 million to purchase rail services and fund infrastructure in 1997-98. Payments made to the Public Transport Corporation also included explicit payments, deficit funding and capital grants. V/Line Freight received $6.5 million in payments for subsidised freight operations.

In Queensland and Western Australia, non-commercial services are funded through explicit payments to Queensland Rail (QR) and Westrail, respectively.

In South Australia, urban rail passenger services in Adelaide are provided by TransAdelaide. In addition, TransAdelaide also provides urban bus and tram services. Total contract payments to TransAdelaide for all services were $174.5 million in 1997-98.[2]

Long distance passenger services (the Indian Pacific, Ghan and Overland trains) are provided by Great Southern Railway (GSR). With regard to passenger subsidies, GSR stated:

> Great Southern Railway now operates without any Government subsidy. The Commonwealth and certain States continue to pay reimbursement for pensioner discounts and other concessions, however this has now declined to about 10 per cent of income. (sub. DR95, p. 2)

In Tasmania no rail CSO payments were made by the Government in 1997-98.

## 11.2 Subsidising railways

Government subsidies to railways represent a significant use of the community's resources, exceeding $2.3 billion in 1997-98 across jurisdictions (table 11.1). In New South Wales and Queensland, payments to railways represented around 5 per cent and 4 per cent of total government outlays respectively (NSW Government 1998b; Queensland Government 1998b).

[2] Published payments to TransAdelaide are consolidated across all transport modes with no individual costing for the provision of urban rail passenger services.

In some instances users make virtually no contribution to the cost of their rail services. For example, with respect to some branch lines used for transporting grain in New South Wales, RAC commented:

> Certainly without below rail CSOs that very extensive network of grain branch lines in New South Wales wouldn't exist. We get about 95 per cent of our revenue off a typical branch line from the CSO and only about 5 per cent through access fees. (trans., p. 1106)

Similarly, in the case of urban and non-urban passenger services, government subsidies often cover most of the cost of providing the service. Fare structures are determined by government and prices paid by passengers cover only a small proportion of the cost of service provided. The difference between the cost of service and passenger fare is broadly consistent across jurisdictions. For example, in Queensland, the average government payment (subsidy) per urban rail passenger journey is over five times the average fare paid by passengers (box 11.1). In Western Australia, the average government payment per urban rail passenger journey is over four times the average fare paid by passengers (Westrail 1998).

### Box 11.1 Government subsidies for urban rail passenger services in Brisbane

In Brisbane, urban rail passenger services are provided by the State-owned statutory corporation, Queensland Rail (QR). In 1997-98, QR provided around 41.5 million passenger journeys and collected approximately $60.6 million in farebox revenue, $7.8 million in concession payments and $319.7 million in community service obligation payments from government. From this information it can be estimated that:

- the average fare paid by passengers per journey was approximately $1.45.
- the average subsidy (including targeted concessions) per passenger journey was approximately $7.90.

*Source:* QR 1998.

Governments may justify some subsidies on the basis that rail is disadvantaged relative to road transport. Under existing arrangements, some of the costs of road transport (such as air pollution and damage to roads) are not fully reflected in road user charges. Subsidies to railways may also be justified as promoting social objectives, including income redistribution, access for disadvantaged groups and regional development.

This section focuses on the merits of subsidising railways to promote non-commercial objectives as well as some issues arising from such a policy. Consideration is also given to the most effective and efficient way of minimising the cost of subsidies while achieving the desired outcomes.

## Participants' views

Participants generally supported governments subsidising railways for a variety of reasons, including a lack of competitive neutrality with road, accessibility for disadvantaged groups and regional development. In addition, People for Public Transport and the Bicycle Federation of Australia raised the issue of the relationship between energy use and transport as worthy of consideration by governments (subs. 14 and 31).

In regard to urban passenger services, the Australasian Railway Association (ARA) commented:

> Australia's urban and commuter railways generate significant social benefits by providing an efficient mass transport alternative to cars, helping to reduce road congestion and accidents, fossil fuel consumption and greenhouse gas emissions, particularly in urban areas. (sub. 51, p. 8)

And the South Australian Local Government Association (SALGA) noted:

> Well patronised urban passenger rail services will lead to reduced greenhouse gas emissions, reduced fossil fuel use and improved air quality for all. (sub. 57, p. 2)

The importance of maintaining transport services, including rail, to regional Australia was raised by the Local Government and Shires Associations of New South Wales:

> Intrastate and interstate passenger services are also vital. These services provide important passenger transport links for rural and regional centres, particularly for the aged, disabled, youth and those with limited means. These links are becoming more critical with the ongoing rationalisation and centralisation of services forcing people to travel greater distances. The closure of a number of branch lines and service cuts are a major concern to many councils in regional Australia.
>
> Intrastate and interstate [are] also critical freight links that are important in maintaining and developing our regions. Regional development is a matter of utmost concern to rural councils. (sub. 71, p. 2)

And the SALGA:

> Government policy should also focus on balancing regionalism with national benefits. Healthy regional economies benefit the whole of the Australian economy. Thus, improved rail services in the regions should be encouraged to support the local economies and, moreover, would alleviate the negative impacts of excessive road transport. (sub. 57, attach. 1, p. 2)

In addition to maintaining transport services in regional areas, RAC acknowledged that subsidies for railways in New South Wales were essentially an indirect assistance measure for the rural sector (trans., p. 1107).

## External costs of road transport

As noted in chapter 5, the overall objective of reform is to have an efficient transport system. Achieving this objective requires that the fares and charges for transport reflect all the *economic costs* imposed by individual use. This includes recognising and dealing with any external costs generated by transport, regardless of mode.

In some instances it would appear that the level of subsidies to railways greatly exceeds that necessary to correct for distortions in the road sector. The question arises as to whether such subsidies are required at all to meet economic objectives. Chapter 10 considered the merits of subsidising railways on the basis of a lack of competitive neutrality between road and rail transport. It was found that a more commercial approach to the provision and pricing of roads (that encompasses external costs such as pollution, noise and congestion) was more efficient than linking rail subsidies to those of the road sector.

If this approach was fully implemented, there would be no *economic reason* for subsidising railways to compensate for a lack of full cost recovery in road transport.

## Social objectives

In some instances governments may choose to subsidise transport to promote purely social objectives, generally relating to equity. Social objectives, by their nature, are broad and governments can use a variety of instruments to promote them including:

- the tax and welfare system;
- the provision of social services, such as education, health and law and order;
- financial grants from the Commonwealth Government to State, Territory and Local Governments;
- direct assistance to rural and regional industries; and
- subsidising transport, including railways.

FreightCorp stated that subsidies for rail freight were justified for two reasons:

> They contribute to the survival of small, often isolated rural communities and meet community needs by reducing the reliance on road transport. (FreightCorp 1997, p. 29)

However, it is often difficult to determine the precise reason(s) (and hence difficult to justify a specific subsidy level) why most governments are subsidising railways.

The Commission is unaware of any Australian published material that link subsidies to railways to specific social objectives (section 11.3).

***Most governments do not appear to have clearly specified social objectives relating to subsidies provided to railways.***

Determining the most appropriate way of achieving social objectives from the range of options available, requires clearly specified goals and knowledge of the cost effectiveness of each option in achieving these goals. In addition, it is important that the option(s) chosen are provided in the most efficient manner.

This approach ensures that the community receives value for money and maximises the ability of governments to promote social objectives within resource constraints.

## Subsidising transport

It may be the case that after careful assessment of the alternatives, governments decide that subsidising transport is their preferred way of promoting social objectives.

Within transport, there are a number of alternative modes that governments could choose to subsidise. As such, a rigorous and consistent approach to assessing the merits of subsidising alternative transport modes is needed to determine the most effective and efficient means of promoting social objectives. As noted by the Victorian Government, while railways have a role in Australia's transport system, they are better suited to providing some types of transport services than others (trans., p. 939). It is unlikely that railways will be the most effective and efficient transport mode to promote social objectives in all cases. For example, Jones et al. questioned the effectiveness of subsidising railways to promote income redistribution objectives:

> Rail's low market share, and the fact that other forms of public transport (such as buses and coaches) might offer cheaper and more flexible alternatives, limits the effectiveness of subsidising rail services as a means of income redistribution. (Jones et al. 1998, p. 53)

The most effective and efficient transport mode for passengers or freight may also change over time due to factors such as improvements in technology and supplier responsiveness to the preferences of users. As noted by the Independent Pricing and Regulatory Tribunal (IPART) with respect to the provision of trains and buses for long distance travel:

> It appears that the level of service superiority previously held by trains over coaches has narrowed and is negligible when assessed in conjunction with operational flexibility, lower capital costs and the commercial viability of coaches. (IPART 1997, p. 20)

***Evaluating the cost effectiveness of alternative transport modes is important in deciding how best to provide subsidised transport services.***

### *Subsidising railways*

If governments choose to subsidise railways rather than another mode, they then need to determine the most appropriate way of providing the assistance. As discussed in chapter 6, there is scope for minimising the cost of rail subsidies to taxpayers through tendering and greater private sector participation. Any such subsidies to railways need to be specified in contracts that articulate clearly the services required and the level of the subsidy.

#### *Passengers*

Subsidies for rail passengers are commonly provided as general subsidies for all users, with additional concessions for targeted user groups. Targeted concessions are usually provided on the basis of social objectives, such as income redistribution and improved access for disadvantaged people. The use of concessions for urban rail passengers to promote social objectives was considered in detail by the Industry Commission's (IC) (1994b) report, *Urban Transport*. A finding of this report was that the effectiveness of such concessions can be increased by making them available to people who satisfy eligibility criteria, rather than be restricted to those who have access to particular transport providers.

The franchising of urban passenger services in Melbourne provides a recent example of where steps have been taken to minimise the costs to taxpayers of a general subsidy (chapters 3 and 7).

#### *Freight*

Adoption of the Commission's reform package for regional railways is consistent with minimising the circumstances in which subsidies for rail freight would be

necessary. Evidence from recently privatised railways, including Tasrail and Australia Southern Railroad, indicates that under private ownership, railways can successfully compete in Australia's transport markets with little, if any, subsidy from government (chapter 7).

***By adopting the Commission's reform package, the need for subsidies to regional railways is likely to be significantly reduced.***

Even so, some existing branch lines in regional networks may still prove to be non-commercial and require government support if the government decides they are to remain open.

The characteristics of non-commercial branch lines (few commodities and low traffic volumes) indicate that if governments choose to support their retention, the cost of the subsidy can be minimised through a franchise agreement or negotiations with potential purchasers if the network were to be privatised. Given the limited volumes of freight transported over these lines, access and interface issues with other networks or operators is likely to be minimal.

For vertically separated railways, as in New South Wales, governments have the option of subsidising the track infrastructure, train operations or some combination of the two. With regard to the appropriateness of below track subsidies, RAC commented:

> The present CSO line approach is the model preferred by all parties in NSW because it recognises that rural freight usage is insufficient in most sectors to meet the fixed common costs of providing access. It allows RAC to charge train operators, particularly freight operators, affordable access fees which make a contribution to fixed costs. Other previous funding approaches did not address this issue and attempted to transfer the infrastructure shortfall to freight rates or to passenger fares with all the attendant distortions. (sub. DR102, p. 36)

QR (sub. 59, attach. 2) also supported the concept of below track subsidies, especially on very low volume lines. It considered the provision of subsidies to train operators to be inefficient on the grounds that:

- it places the risk of third party volatility on the last remaining operator, who has no ability to manage the risk; and
- any potential for increasing traffic on the line is diminished greatly by the barrier to entry posed by the existing operator's access to subsidy funding.

However, the economic characteristics of non-commercial branch lines indicate that few efficiency gains are likely to be achieved by promoting competition between train operators on subsidised track (chapter 6). As such, subsidies can be provided to one train operator and their costs minimised through a franchise agreement. As argued by Jones et al.:

> Subsidies paid to train operators (rather than infrastructure managers) enable governments to have a role in deciding precisely which services are provided, and can be combined with a franchising or competitive tendering process to ensure that state-supported services are provided efficiently. (Jones et al. 1998, p. 55)

This approach does not exclude the franchisee from allowing other train operators access to the track.

In addition to minimising the cost of the subsidy, its transparency could also be enhanced by directly subsidising the operators rather than indirectly by lowering track access costs.

This approach for subsidising rail freight has parallels with current funding arrangements in New South Wales for urban rail passengers. The Government directly subsidises SRA (the predominant train operator) rather than the infrastructure provider (RAC).

***Subsidisation of track infrastructure in regional areas is unlikely to be the most effective and efficient way of achieving social objectives. If governments choose to subsidise regional railways, these payments can be minimised through franchising or negotiated as part of the privatisation of regional railways.***

An alternative to directly subsidising rail freight operations is to redirect the assistance to the users themselves. This can be done through a system of freight rebates. Such a system currently operates in Queensland for the movement of stock and fodder during drought periods (box 11.2).

Box 11.2 **Drought assistance in Queensland**

In Queensland, the Department of Primary Industries is responsible for administering freight subsidies as part of the Government's Drought Relief Assistance Payment Scheme. The scheme provides subsidy assistance to primary producers for the transport costs of fodder, stock drinking water, livestock returning from agistment and restocking.

The scheme operates as a rebate system where users receive a discount from the Department on eligible transport costs. They have the option of choosing between rail, hired carrier or private vehicle, with different rebates applying to different transport modes.

*Source:* Department of Primary Industries 1999, DPI Assistance Measures, http://www.dpi.qld.gov.au/ruraldev/welcome.htm (accessed 11 June 1999).

## 11.3 Improving the provision of non-commercial rail services

The preceding section examined the merits of subsidising railways to promote non-commercial objectives. This section outlines the reforms governments have implemented to improve the effectiveness and efficiency by which railways are used to promote non-commercial objectives and addresses some of the specific concerns raised by participants.

### Recent reforms

Reform of the procurement of non-commercial rail services has generally been addressed through a 'whole of government' approach to procurement. These reforms have occurred within the context of what is termed the purchaser-provider framework. More detail on the purchaser-provider framework are provided in appendix I.

A key element underpinning the reform process has been a shift towards the development of contractual arrangements between the government and railways. These formal agreements set out the non-commercial services required and explicit government payments, thus avoiding the need for cross-subsidisation and deficit funding.

Victoria and South Australia have refined further the manner in which railways provide non-commercial rail services. In Victoria, the Government has increased the level of private sector participation through franchising rail passenger services (box 3.5 and chapter 7). This required the Government to articulate clearly the level

and quality of services required and the prices that will be charged. The level of subsidy was determined through a competitive bidding process.

In South Australia, the Government in 1994-95 created the Passenger Transport Board (PTB) to coordinate the provision of urban passenger services in Adelaide (chapter 3). TransAdelaide provides urban rail passenger services under contract to the PTB but there is currently no tendering of the service.

Despite such reforms, the Rail Tram and Bus Union (RTBU) was critical of the ability to successfully apply the purchaser-provider framework with regards to railways:

> The 'purchaser-provider' model proposed by the Industry Commission in 1991 was generally rejected. This is because it is highly impractical to expect the main purchasers of public transport — the departments of transport, education and social welfare — to be able to adequately negotiate with rail operators, let alone run a tendering process for the provision of rail, bus and ferry concessional services. (sub. DR114, p. 40)

Successful implementation of the purchaser-provider framework is not an easy task. It requires a range of policy formulation, negotiation and tendering skills. In many instances more planning and effort is required by purchasers to improve the provision of non-commercial transport services. However, current deficiencies do not necessarily mean that the purchaser-provider framework cannot be implemented successfully. Rather, they highlight those areas requiring further improvement to ensure that the benefits of the framework are fully realised.

A number of specific concerns were raised relating to the current arrangements for providing non-commercial rail services. These related to the specification of policy objectives, the types of rail services required to achieve these objectives and the transparency of the costings of these services.

## Specification of policy objectives

As discussed earlier, participants generally supported subsidising railways for a variety of economic and social reasons.

However, in response to the Draft Report, some were critical of the level of attention given to the specification of policy objectives. McKillop argued:

> The Draft Report … gives inadequate attention to these issues, particularly the established economic, social, regional development and environmental objectives of governments. (sub. DR90, p. 1)

And the Wimmera-Mallee Rail Services Association:

> The draft report does not give much attention from the user's point of view re provision of social and economic benefits through rail services in regional areas. (sub. DR115, p. 1)

The terms of reference require the Commission to have regard to the established economic, social, regional development and environmental objectives of governments. However, in addressing its terms of reference, the Commission has not sought to question or redefine such objectives. Instead, it has examined the manner in which governments promote stated objectives, including whether they have clearly defined such objectives and developed indicators to monitor performance.

Available evidence indicates that few jurisdictions have made public, even in general terms, the overall objectives they seek to meet from their transport systems. Most jurisdictions have published transport plans or strategies that contain some reference to expected transport outcomes, such as public transport patronage numbers or vehicle kilometres by private cars (Victorian Government 1998; NSW Government 1998a; WA Government 1995). However, these plans appear to place the greatest emphasis on the services to be subsidised, without clearly articulating the underlying purpose of providing the service.

A lack of clearly defined transport objectives can mean that purchasers are not in a position to judge the merits of the range of services which could be purchased. Importantly, accountability (of the purchaser) is weakened when the purchaser is responsible for promoting vague or incomplete policy objectives.

## Specification of services

Participants raised concerns regarding the quality and appropriateness of rail services subsidised by governments. As with the specification of objectives, some participants were critical of the level of detail given to the specification of services in the Draft Report. The RTBU argued:

> The Draft Report failed completely to look at how urban public transport could be expanded to meet major social needs for better transport, less congestion and less pollution in our cities. This is because of the extremely narrow commercial focus of the PC and its acceptance that the car will dominate urban transport, while rail, bus and ferry services will be residual. (sub. DR114, p. 41)

A number of participants also cited individual projects and requirements (including Friends of the Belair Line (sub. DR89) and the Bicycle Federation of Australia (sub. DR111)) that could be undertaken to promote non-commercial objectives.

The Commission has investigated the underlying principles and processes used in specifying the provision of non-commercial transport services, but has not examined the merits of individual projects. This role is most appropriately undertaken by purchasing agencies.

Available evidence suggests that there is a lack of consistent and transparent evaluation of the types of transport services purchased to promote non-commercial objectives.

Michael (1994) argued that the services purchased by government are not always the most appropriate from the government's perspective:

> The Australian emphasis, however, has not been to pursue CSO policy from the perspective of the policy-maker, but rather from that of the management's needs of individual State-owned enterprises. (Michael 1994, p. 4)

IPART recommended a review of support for Countrylink in New South Wales on the basis that there is currently no definite link between the services provided and stated policy objectives (box 11.3).

Box 11.3 **Regional passenger services in New South Wales**

Countrylink was established in July 1989 to operate regional passenger services in New South Wales. In 1997-98, the Government subsidised Countrylink by some $71.2 million to:

- provide concessions for the elderly, students and disadvantaged people to achieve equity goals;
- provide services to particular regions to achieve access and mobility goals;
- offset negative congestion and environmental, health and safety aspects of private road transport; and
- offset cost disadvantages associated with government provision of services.

In September 1996 the Premier of New South Wales requested that the Independent Pricing and Regulatory Tribunal (IPART) review the pricing policies of Countrylink. IPART released its report in February 1997.

One of IPART's recommendations was that the Government review support for long distance passenger train services compared to alternative travel. Two important considerations underpinning this recommendation were that:

- overall, the mobility disadvantage of Countrylink passengers appeared to be overstated; and
- there were divergent views on the value of the externality benefits generated by Countrylink.

*Source:* IPART 1997.

Many bicycle groups indicated that governments did not appear to be undertaking an adequate assessment of the benefits and costs associated with improved integration of bicycles and trains. They argued that environmental outcomes (among other things) could be improved through better integration of the needs of cyclists and travel on rail transport (box 11.4). According to the Bicycle Federation of Australia:

> … our mode of transport, and even when combined with others — often ends up at the bottom of the heap. (trans., p. 88)

### Box 11.4 **Railways and bicycles**

The Commission received numerous submissions from bicycle groups from all states in Australia (for example, subs. 22, 28, 31, 33 and DR111). The general theme of the submissions was that benefits could be derived from better intermodal integration of railways and bicycles. Benefits cited included improved environmental outcomes (air quality and noise levels), reduced congestion levels and a more energy efficient transport system.

Japan and the Netherlands were presented as examples of countries that had achieved such integration. The current situation for bicycle users in New South Wales, Victoria, Western Australia and South Australia was also detailed.

The Bicycle Federation of Australia (DR111) argued that to achieve the benefits of greater integration of bicycles and trains governments needed to:

- make bicycle parking mandatory in all stations and in a fixed proportion to station patronage;
- adopt the newly revised Austroads bicycle security planning guidelines for long term bicycle parking; and
- begin planning for bicycle hire facilities at all major stations.

In commenting on the integration of railways and bicycles, the State Rail Authority of New South Wales indicated that it was encouraging commuters to store their bicycles at stations:

> ... what we're seeking to do is certainly bicycle storage at stations, and in fact encouraging this; the problem in Sydney is getting enough critical bicycle mass to really get that going. (trans., p. 283)

In most systems bicycles are allowed on metropolitan trains free of charge during off-peak periods. However, in peak periods restrictions and additional fares may apply.

The Commission also received complaints that the quality and choice of transport services to regional areas had suffered as a result of reform to Australia's railways. The Commonwealth Department of Agriculture, Fisheries and Forestry (AFFA) noted:

> One consequence of reform at this [State] level has been the withdrawal of rail freight and passenger operations from many 'thin' routes servicing rural and regional areas, following assessment of the financial performance of those services. Typically this has left businesses and consumers with fewer transport options. (sub. 84, p. 6)

The Wimmera-Mallee Rail Services Association argued that the replacement of train with bus services was unacceptable in the case of V/Line country services:

> People of all ages found the buses did not meet their needs for comfort, ease of entry, freedom to move about, access to on-board food and toilets, overall time of journey (eg. Dimboola-Melbourne half to three quarters of an hour more due to changeover at Ballarat) and safety. (sub. 26, p. 1)

As discussed in the preceding section, a more rigorous and consistent approach to assessing the merits of the services provided to promote non-commercial objectives, using techniques such as cost-benefit analysis, can address the concerns of participants. Public consultation and disclosure of any such analysis strengthens the purchaser's accountability to the government and community.

## Transparency

Despite the reforms initiated by governments, in many instances there still appears to have been little improvement in the transparency of the information provided to the community on the cost of providing non-commercial rail services. As noted earlier, payments for non-commercial services are still often consolidated across transport modes and it is unclear how services are costed. The ARA stated:

> However, procurement of these [non-commercial] services must not disguise inefficiencies. These services must be managed commercially by rail authorities, but with transparent CSO payments from government. (sub. 51, p. 8)

And AFFA stated:

> … where governments choose to retain subsidised passenger rail services in non-metropolitan Australia, they should provide direct funding for these subsidies rather than using freight costs to cross-subsidise these services as has been the case in the past. Such community service obligations should be transparent[ly] funded from the budget of the relevant government department. (sub. 84, p. 3)

Reinforcing the need for transparency, Kennard argued:

> … I feel that the public needs to be better informed about the costs of train operations and also comparative costs covering various forms of transport, road (car and truck) and rail. Too little is known and understood about the nature and the extent of capital and real operating costs. (sub. 12, p. 1)

An accurate costing of subsidies for rail services involves an *economic costing* of each service, based on the *opportunity cost* of the resources used in production. Economic costing covers all variable operating costs, such as labour and fuel, plus a rental charge based on an appropriate rate of return on the assets used in production. As an example, the planned total cost for providing Citytrain (urban passenger) services in Queensland was $454 million in 1997-98. This cost comprised around $200 million in working expenses (such as labour and fuel) and $254 million (around 55 per cent) in capital expenses (depreciation and return on assets) (Queensland Rail, Brisbane, pers. comm., 29 April 1999).

The difference between the economic cost of the service and the payments made by users accurately represents the cost to the community of providing non-commercial transport services.

***Accountability of purchasers would be enhanced if information provided to the community on subsidised transport services were based on economic costs and disaggregated across transport modes.***

RECOMMENDATION 11.1

***Governments need to address the deficiencies in the application of the purchaser-provider framework to rail and should enter into transparent contractual arrangements with clearly specified non-commercial objectives.***

## 11.4 Employment

There have been large reductions in employment in railways, with full-time employment falling from 88 500 to 36 500 between 1986 and 1998 (chapter 2). Chapter 12 discusses future employment prospects in railways.

Participants have raised concerns regarding the negative effects of rail reform on workers in relation to privatisation and the contracting of services previously done 'in-house' by government railways; the difficulties faced by redundant railway workers in finding new employment; and the negative effects on regional communities from job shedding programs undertaken by railways.

This section considers these concerns regarding job losses and regional adjustment, and the role of governments in rail reform and meeting employment objectives.

## Privatisation and the contracting of activities

One of the features of Australia's railways is the greater level of private sector participation in the industry through privatisation and the contracting of activities.

Concerns have been raised by participants, including the RTBU, regarding changes to the wages, employment conditions and bargaining rights of rail workers under privatisation (box 11.5).

### Box 11.5 Rail Tram and Bus Union concerns about privatisation

One element of the rail reform process in Australia has been the privatisation of formerly government-owned railways. Examples include the separation and transfer of Australian National to private ownership in 1997-98 and the recent sale of V/Line Freight in Victoria.

In Australia, the *Workplace Relations Act 1996* is a central piece of legislation influencing labour market arrangements. In addition, Australia has ratified international conventions regarding the rights of workers. One such convention highlighted by the RTBU is the International Labour Organisation Convention No. 98, concerning the rights of workers to organise and bargain collectively, ratified in 1973.

The transfer from public to private ownership has resulted in changes to both the number of workers employed by these railways and the manner in which wages and conditions are determined.[3]

Labour market outcomes after privatisation have differed across jurisdictions. For example, in Tasmania, a new set of wages and conditions for workers employed at Tasrail (formerly part of Australian National) were negotiated within the context of individual Australian Workplace Agreements. On the other hand, in Victoria, a proviso on the purchase of V/Line Freight was the certification by the Australian Industrial Relations Commission of a replacement Enterprise Agreement (sub. DR114).

[3] In July 1999, the Full Bench of the Federal Court upheld a previous decision by the Court that when an organisation takes over an obligation to deliver services 'outsourced' by a State government department, the organisation was bound by the awards to which the State was bound when it delivered the services.

Participants argued that competitive tendering and contracting (CTC) has a negative effect on labour, particularly through lower wages and conditions of workers, and eroded job security. The Australian Services Union noted:

> These two issues [the outsourcing of activities and competitive tendering and contracting], seek to undermine job security and standards of living of members of this Union and cause a reduction in jobs available to Australians — along with reduction of employment opportunities for regional Australia, which in turn has an affect upon services to regional and country Australia, which places pressure upon other community services such as schools, hospitals, banks to name a few. (sub. 78, p. 2)

Inglis commented on the loss of job security associated with CTC:

> I deplore wholeheartedly, the system of contracting jobs for a period of time, and getting people with no railway experience … The railways in each State, promised job security, which in turn bred loyalty and efficient performance of jobs. (sub. 38, p. 4)

The RTBU cited research by the ACTU which argued:

> CT results in casualisation of the workforce, loss of jobs and working conditions, and is particularly disastrous for the employment conditions of women and other disadvantaged groups. (sub. DR114, p. 27)

In addition, a report commissioned by the Public Transport Union argued that the social costs of outsourcing RAC's maintenance work exceed the financial benefits (box 11.6 and chapter 3).

However, as noted by the RTBU (sub. DR114), outcomes for workers from these reforms is broader than just wages and conditions of employment. It includes other factors such as job security, professional development, worker morale, occupational health and safety and family life. For example, in commenting on the outcomes for labour after the privatisation of Tasrail, the Australian Transport Network argued that:

> … we have created a number of family supporting good paying jobs, provided promotional opportunities, and given our employees a sense of pride in their accomplishments. (HORSCCTMR 1998a, p. 1195)

The effects of CTC on labour were considered in detail in the IC's (1996) report, *Competitive Tendering and Contracting by Public Sector Agencies*. That inquiry included an examination of the scope of CTC at all levels of government in Australia, its costs and benefits, and employment effects.

Box 11.6 **Track maintenance in New South Wales**

In New South Wales, under the separation program of the former State Rail Authority, it was intended that track maintenance services required by the Rail Access Corporation (RAC) would be made fully contestable by June 2000. However, as contracts were progressively opened to tender, the inability of the incumbent government provider, Rail Services Australia, to win maintenance contracts with RAC led to the State Government imposing a moratorium on the contracting out of track maintenance until July 1999.

In support of the moratorium, the Public Transport Union commissioned a report, *Back on Track*, which argued that the social costs of outsourcing RAC's track maintenance requirements outweigh the economic benefits gained. The social costs from outsourcing rail track maintenance included the loss of employment that would occur within Rail Services Australia and the public risks associated with the outsourcing of track maintenance.

The Government has since partially lifted the moratorium by allowing competition for the provision of maintenance services on the Bondi Junction to Waterfall line in Sydney and the Hunter Valley coal lines (some $65 million in maintenance contracts).

*Source*: PECG 1998.

An important finding was that protecting the employment of public sector employees by not engaging in CTC provided no long term guarantees for their job security. This has particular relevance for Australia's railways given the strong (privately provided) competition from alternative transport modes faced by the industry. As noted in chapter 7, when well designed, the application of CTC in rail transport can lead to improvements in efficiency. CTC therefore provides one mechanism for railways to compete better in Australia's transport markets, potentially enhancing the job security for workers in the industry.

## Labour adjustment

The costs and difficulties associated with railway workers adjusting to losing their jobs in the industry depend upon the ease with which individuals can relocate to alternative employment, either within the same region or other regions. The ability to relocate is influenced by several factors including:

- the availability of suitable alternative employment;
- the transferability of skills where individuals seek employment in alternative occupations and the ability to undertake retraining, where necessary;
- the costs of moving — substantial costs may be involved, particularly for families;

- government impediments to mobility — some government taxes (such as stamp duty on the purchase of residential property), charges and regulations discourage labour mobility; and
- emotional attachment to a particular location — people dislike moving away from friends, family and a familiar environment.

The Bureau of Transport and Communications Economics (BTCE) (1990) undertook a survey of redeployed and redundant railway workers as part of its assessment of social impacts resulting from railway restructuring. The main findings from the report were:

- of those workers that accepted a redundancy package, and did not retire from the workforce, 56 per cent found alternative employment;
- 44 per cent remained unemployed after redundancy and two thirds of these for at least 13 months. Lowly skilled employees accounted for over 56 per cent of the unemployed; and
- 89 per cent of the unemployed workers had not applied for available government retraining schemes.

The RTBU argued that given the current restructuring occurring in the industry and the large number of railway workers who have lost their jobs, the study by the BTCE be updated (sub. DR114).

Workforce characteristics also provide an indication of the ability of incumbent employees to adjust to structural change. Data obtained from the ABS *Labour Force Survey* indicated that most railway workers are less 'mobile' than workers in other industries (appendix J). This is in part explained by the fact that the majority of railway workers are older males with less than half having completed the highest level of secondary school.

### *Specific assistance for railway workers?*

The large reductions in employment combined with past difficulties redundant railway workers have faced in finding alternative employment may give rise to calls for specific assistance to railway workers and their families. Assistance packages aimed at specific industries have included the Labour Adjustment Package (LAP) for textiles, clothing and footwear and passenger motor vehicles. The RTBU argued that because many of the reductions in railway employment were attributable to government policies, the introduction of a LAP for rail workers would be appropriate (sub. DR117).

In considering specific assistance in these circumstances, it is important to note that *all* government policies can generate winners and losers. While participants generally highlighted those policies which they believed lowered output and employment in the rail industry, it should also be recognised that governments are also substantial purchasers and subsidisers of railway services. It is therefore difficult to determine the net effect of all government policies on railway employment. This is especially true when considered within the context of forces external to the industry, independent of government policy. These include increased competition in the final markets served by railways, such as Australia's black coal industry, and continual improvement in the operations of road transport (chapter 3).

The introduction of specific assistance for railway workers can create important equity considerations. Factors which are driving change in railways are also driving change in a range of other industries across the Australian economy. These factors extend beyond changes in government policy to changes in technology and increased competitive pressures. It would appear inequitable to provide specific assistance to railway workers compared to workers in other industries also made redundant for similar reasons. As such, general — rather than industry-specific — assistance for railway workers is preferable in equity terms.

The Commission also notes that the results from past specific assistance programs have not been encouraging. The IC found that the LAP program for textile, clothing and footwear workers produced poor labour market outcomes (compared to general assistance programs) despite good participation rates in the program by workers (IC 1997c).

The advantage of relying on general support programs is that they aim to address the training and income maintenance needs of the unemployed regardless of the particular combination of circumstances that may have caused their job loss. Generally available assistance for displaced workers includes:

- welfare assistance, such as the Commonwealth Newstart Allowance;
- the provision of information by the Commonwealth Government about job vacancies, careers and assistance; and
- education and training policies at the Commonwealth and State levels to improve the ability of railway workers to transfer employment opportunities elsewhere.

The European Union has adopted a similar approach in establishing a Social Fund that provides financial assistance for projects aimed at reducing structural adjustment costs for workers across all industries facing structural adjustment pressures (box 11.7).

Box 11.7 **The European Social Fund**

The European Social Fund (established under the Treaty of Rome) is one of three Structural Funds designed to strengthen the economic and social cohesion of the European Union. The objectives of the Social Fund are:

- promoting the development and structural adjustment of regions where development is lagging behind;
- assisting regions seriously affected by industrial decline;
- combating long term unemployment;
- providing support for workers having to adjust to industrial changes; and
- promoting the development of rural areas.

In promoting these objectives, the Fund provides financial assistance towards the running costs for vocational training schemes, guidance and counselling projects, job creation measures and other steps to improve the employability and skills of both employed and unemployed people.

*Source:* EU 1997.

Governments therefore have an important role in ensuring the effectiveness of general support programs for redundant workers. Such programs need to be adequately funded and reviewed regularly to ensure that unnecessary economic and social costs from structural change across all industries are minimised.

## Regional issues

As noted in chapter 2, evidence indicates that employment in railways outside Australia's capital cities has fallen more rapidly than within capital cities. Participants expressed concern over the negative effects of these job losses on local communities. The Australian Services Union commented:

> We all see what happens when jobs are lost to a town, the town's growth slows, it stagnates and then we have pressures upon the town to maintain infrastructure services such as schools, hospitals and roads, where they may be in demand to go to perimeter areas of capital cities, for instance, the movement of hospital beds and such. (trans., p. 553)

With regards to the reform and sale of Australian National (AN), the SALGA noted:

> ... the economic effect the downsizing and lack of Government support for the rail industry had on the operation of Australian National and its eventual sale. This is highlighted in the case of Port Augusta where the quantified effect has been calculated at $90m over the past three years; and the effect this will have on communities which have in the past relied heavily on the industry for employment, both directly and through related industries. (sub. 57, p. 1)

During this process, the Commonwealth Government allocated $20 million in 1996-97 towards the Rail Reform Transition Program.[4] This program involved facilitating business and job creation in those areas affected by the privatisation of AN (box 11.8). The Tasmanian Government supported the operation of the program:

> The Commonwealth Rail Reform Transition Program considerably offset the negative impacts of the sale of Tasrail. (sub. 81, p. 3)

The Commission recognises that the reduced demand for labour by railways has serious implications for some rural communities. However, no definite conclusions can be drawn without a detailed study covering issues such as the significance of railway employment, overall industry structure and unemployment rate in the affected region.

Box 11.8 **Rail Reform Transition Program**

In 1996 the Commonwealth Government began a series of reforms to Australian National (AN), culminating in its separation and privatisation in 1997-98. To assist local economies to adjust to the changes that were created by the eventual privatisation of AN, the Government allocated a total of $20 million over two years from 1996-97.

The objective of the Rail Reform Transition Program was to support measures which would encourage job creation through economic development of the regions most adversely affected by the privatisation of AN. The funds available were not directed specifically towards railway workers. Instead, funding was available for projects that offered suitable potential to create, directly or indirectly, sustainable employment opportunities in the affected regions.

*Source:* Sharp 1997.

[4] In the same financial year the Commonwealth Government also announced an *Assistance to Depressed Regions Programme* to support strategies to improve the skills base of regions experiencing adjustment pressures, high levels of unemployment or that are disadvantaged by their remoteness.

In the first instance it is important that the resources invested in general assistance programs are targeted at those areas — whether they be metropolitan or rural — with high levels of unemployment and difficulty in adjusting to structural change.

A case for additional assistance in a specific regional area can be made only if it has substantially greater difficulty than others in adjusting to changes in the structure of its local economy. However, even if a robust case could be made, it can be very difficult and potentially quite costly to structure a program to improve the economic and social fortunes of the affected region. Any such program would need to be carefully targeted and only short term in nature so as to ensure that it did not develop into a poorly targeted, long term assistance measure.

## Reform of railways and employment objectives

The concerns raised by participants regarding the negative effects of rail reform on employment may give rise to calls for the slowing or suspending of reform in the industry. However, maintaining inappropriate employment levels could adversely affect the competitive position of rail in some of its major markets, such as the carriage of export coal from mines to ports. Rail freight charges comprise 15 to 30 per cent of the free on board cost of New South Wales coal exports (chapter 2). Railways therefore can influence the competitiveness, and hence output and employment of Australian coal mines.

The NSW Minerals Council commented:

> Ultimately, mines close or reduce production and manpower because the cost of production is higher than sales revenue. The unnecessarily high cost of rail transport is a contributing factor to costs. (NSW Minerals Council submission to the Inquiry into the Impact of Competition Policy Reforms on Rural and Regional Australia, sub. 62, p. 7)

Reduced output by coal mines would in turn reduce the demand for rail services and hence erode job security within the rail industry.

In the case of non-bulk freight, rail already faces strong competition from road transport. Avoiding reforms to improve the efficiency of rail services would erode the competitive position of rail in the face of continual improvements in efficiency by road transport operators. Conversely, improving the efficiency of railways can benefit both the railways and the industries and regions they serve:

> Reduced transport costs mean that regional products effectively become cheaper in their final markets, increasing the competitiveness of producing areas. (The Chamber of Minerals and Energy of Western Australia submission to the Inquiry into the Impact of Competition Policy Reforms on Rural and Regional Australia, sub. 29, p. 4)

Improving the productivity of Australia's railways can also deliver broader benefits to the community. Rail Services Australia argued that rail reform in New South Wales has increased the ability of the Government to provide other goods and services to the community:

> These savings are in fact annual savings and we anticipate that over a billion dollars in savings — that's present-day dollars — will be delivered to the people of New South Wales over the course of the first 6 years of rail reform. That's money that governments can spend on schools, police, hospitals or, if they choose, on rail. (trans., p. 364)

Secure employment in the rail industry can best be promoted by an efficient industry capable of competing with alternative forms of transport, especially road transport. As argued by the European Commission:

> Vigorous action to restore competitiveness is the only way to stable employment; although jobs in the railways will be less numerous in future, they should be more secure in a healthy industry. Moreover, a certain number of jobs will be created when new entrants find and exploit new markets. (EC 1996, p. 31)

Ongoing improvement to the productivity of Australia's railways is the key to allowing the industry to achieve its output and employment potential.

# 12 The way ahead

## 12.1 The case for continued reform

Since 1991, the Commonwealth and States have to varying degrees, undertaken reforms aimed at improving their rail systems and regulatory regimes (chapter 3). Some progress has been made in increasing the commercial focus of railways, restructuring rail systems, increasing private sector involvement and reducing the complexity of safety legislation and operating procedures.

There is evidence that the reforms to date have improved railway performance. Newly privatised railways are becoming profitable and new entrants are competing in niche markets. Freight rates have reduced substantially. Productivity has increased overall and service quality has improved in some jurisdictions, especially New South Wales and Queensland.

However, in some markets, freight railways are still making losses or are barely viable. Productivity in Australia is still significantly lower than in North America, so freight rates are higher. Rail continues to lose market share to road in the transport of non-bulk freight.

Among government-owned railways, there is evidence of a lack of investment in some areas and the quality of infrastructure has declined. Yet many railways, both passengers and freight, continue to receive significant government financial support.

Some problems are more specific to particular networks, for instance black coal railways have been used to extract monopoly rents.

Structural reform and the introduction of access regimes have been proceeding slowly. There are problems associated with multiple access regimes and complex arrangements within individual regimes.

Inconsistent accreditation fees and operating procedures and standards are an impediment to efficient rail operations. Although progress has been made to reduce such inconsistencies, outcomes are uncertain.

Completing these reforms and removing regulatory barriers are expected to yield further improvements in performance.

## 12.2 Priorities for reform

The overall objective of reform is to have an efficient transport system — this involves having the appropriate mix of transport modes which best meet Australia's freight and passenger transport needs (chapter 5).

In order to ensure a place in the transport system of the future, railways must continue to improve their efficiency. To some extent, past reforms have yielded the 'easy' gains resulting from improving the efficiency of the existing rail systems. Future reforms need to be targeted to yield the more difficult efficiency gains resulting from the choice of technology in rail systems and the participation of rail in the transport logistics chain.

As noted in chapter 5, governments need to create an environment that will give rail the opportunity to take its place in an efficient transport system.

In many markets rail competes with other modes of transport. The ability of railways to compete in these markets can be impeded by a lack of commercial focus to drive efficient operations. This report has made a number of suggestions as to how to achieve an environment to enable railways to operate more commercially. These centre on addressing ownership and structural arrangements, ensuring competitive neutrality both within the rail sector and between transport modes, and removing complex and inconsistent regulatory arrangements, and introducing competition in railway operations.

### Increasing commercial focus

To achieve a commercial focus, it is important that railways have:

- the flexibility to make timely decisions (both investment and operational);
- the ability to form strategic alliances, mergers or joint ventures;
- access to capital; and
- no undue restrictions on input choice.

There are a number of ways in which the commercial orientation, customer focus and market responsiveness of railways can be improved. One is the stricter application of the corporatisation model to government-owned railways. However, a threshold issue is whether the rail industry tests the limits of this model.

Competitive tendering and franchising, particularly in urban passenger networks, may offer benefits beyond those available from simply corporatising a government railway, largely because of the private sector's stronger commercial orientation.

Franchising may generate further gains compared with contracting out because franchisees usually bear some revenue risk which is likely to strengthen their incentives to develop the market.

In the case where there is strong competition from other transport modes, such as road, privatisation will be desirable. There is no reason why most freight operations should not be privatised. In cases where there is strong competition from road, track infrastructure could also be privatised, or at least subject to a long term lease arrangement. There is evidence that the initial privatisation of former government-owned railways has been successful — Tasrail has substantially improved its performance since being privatised.

### *Non-commercial services*

Governments have, and will continue to have, important social and economic objectives relating to rail. The emphasis on increasing the commercial focus of railways does not preclude governments from using railways to achieve non-commercial objectives relating to urban passenger and other services.

The challenge is to implement an approach that allows both commercial and non-commercial objectives to be met without impeding the ability of railways to compete commercially, where possible, against other modes.

If governments choose to subsidise railways, they should clearly specify their policy objectives, the services required to achieve these objectives and the appropriate level and form of the subsidy to be provided.

## Promoting competition

Not all railways face competition from road or other transport modes. But there are several forms of competition that may be generated within the rail sector to control any market power. Governments can use competition for the market, which occurs when operators compete to win a franchise or contract to provide a particular service for a given period. Train operators may also compete for the same customers, so called ‘rail-on-rail’ competition. There may also be competition for train schedules in the network — where train operators compete for the right to obtain the schedule they value most highly.

## Promoting competitive neutrality

Arrangements ensuring competitive neutrality both between different modes and within the rail sector are required if competition is to result in an efficient transport system.

With regard to intermodal competition, each mode should be able to compete on the basis of price and service quality without being unfairly advantaged or disadvantaged as a result of government policy.

Planning and investment is one area where governments can directly affect competitive neutrality between modes. There are three broad options: an integrated approach involving a public organisation preparing a plan for both the national road and rail network; separate road and rail planning organisations along with subsidies to rail so that it is treated in a similar manner to roads (as in Sweden); or a more commercial approach to both rail and road transport. The Commission's preferred approach is to adopt the latter option, that is to introduce appropriate road investment, pricing and cost recovery arrangements, and allow both road and rail to operate on a commercial basis.

The issue of competitive neutrality within the rail sector also arises. It is possible that on some routes there will be a mix of government and privately owned train operators. No railway should be advantaged or disadvantaged simply as a result of its ownership — it should compete on its own merit.

Increasing the commercial focus of railways, and encouraging private sector operators, will address many of the concerns regarding competitive neutrality within the rail sector.

## Introducing consistent regulatory arrangements

Inconsistent operating procedures and standards and variations in accreditation fees across jurisdictions are still impediments to efficient rail operations. Although progress has been made, the outcomes are uncertain. It is too early to ascertain whether operators' concerns regarding rail safety regulation more generally have been resolved, although it would appear that progress has been made in introducing consistent regulation and mutual recognition across states. Uncertainty also remains regarding operating procedures and standards because the codes of practice relating to these procedures have yet to be implemented.

There are processes in place to deal with inconsistencies in rail safety regulation and operating procedures and standards, but issues remain to be resolved.

## 12.3 Implementation strategy

Improving the performance and efficiency of Australian railways requires that both the Commonwealth Government and other Australian jurisdictions undertake reforms over which they have control and responsibility.

Some reforms require collaborative action by governments, while others can be undertaken by governments acting independently.

### The Commonwealth Government's role

Given the need for a national approach on some reforms, it is appropriate that the Commonwealth adopts a significant role in leading the reform process.

The Commonwealth should have direct responsibility for a number of reform areas — the development of a national transport policy framework, ensuring competitive neutrality and facilitating a consistent approach to safety and operational regulation. Reform in these areas is required irrespective of the changes individual jurisdictions make to their own railway networks. In addition, the Commonwealth also has a role, in consultation with affected States, in establishing a single interstate network manager and in providing funds to alleviate major problems on this network.

#### *Developing a national transport policy framework*

The Commonwealth could play an important part in developing an overarching national transport policy framework. This framework would set out the Commonwealth's main objectives and directions for the national transport system regarding efficiency, safety, equity and the environment.

A national transport policy framework would differ — with less detail and no funding commitments — from the integrated strategic plan for the national transport network recommended by the HORSCCTMR (1997) and from the NSW cross-modal transport plan *Action for Transport 2010*.

#### *Ensuring competitive neutrality*

It is the responsibility of the Commonwealth to ensure that there is competitive neutrality between transport modes. The Commonwealth has already partly addressed a previous anomaly through recent reforms to the diesel fuel excise.

A key element of a national transport policy framework would be to facilitate competitive neutrality between road and rail, with both modes operating within a more commercial environment.

Reforms to the provision of roads are also required, including road transport planning processes, methods of investment appraisal, road funding, and charging for different classes of vehicles. The Commonwealth should establish an inquiry into road investment and provision in Australia.

### *Facilitating consistent safety regulation and operating procedures and standards*

The Commonwealth should continue to facilitate the removal of regulatory impediments to interstate rail operations, particularly inconsistent safety accreditation fees and operating procedures and standards. This process should be undertaken in consultation with industry and the States and Territories.

Monitoring the progress of mutual recognition of rail safety accreditation processes is also required. If mutual recognition does not appear to be functioning effectively consideration should be given to alternative approaches, such as a single national safety regulator.

### *Facilitating the establishment of an interstate network manager*

The Commonwealth should facilitate the establishment of a single manager for the interstate network. In the first instance the Commonwealth and the affected States should establish a process to develop the specific roles and responsibilities of the interstate network manager, and define the extent of the interstate network.

Access arrangements on the interstate network would be embedded in a code of conduct governing the operations of the interstate manager. The network manager would be responsible for setting the terms and conditions for access.

It would also be responsible for allocating train schedules and contributing to the identification of investment needs across the whole interstate network. Setting prices and allocating train schedules should reflect the opportunity cost of all users of the interstate network, both interstate and intrastate train operators. An option which the network manager may consider is the use of market-based mechanisms for determining train schedules, including capacity transfer arrangements and auctioning.

The network manager would be in a position to identify areas of possible investment in the interstate network. However, significant congestion problems in the Sydney metropolitan area which affect operators throughout the interstate network need to

be addressed immediately. The Commonwealth should — as a matter of national priority — provide funding to alleviate congestion on the interstate network in the Sydney metropolitan area, subject to acceptance of the network manager model.

## The jurisdictions' role

Reform of structural, ownership and access arrangements is the responsibility of each jurisdiction, including the Commonwealth in regard to the interstate network. Railways can be separated into three categories to facilitate the application of policy reforms — interstate, regional and urban passenger networks. Regional networks can in turn be divided into those with market power (the main coal lines) and those without. This categorisation is not a rigid taxonomy but is intended to highlight the contrasts that exist in the Australian railway system and is a useful device for policy development. Railway networks are classified according to the dominant rail operation (freight or urban passenger); other train operators, such as those providing non-urban passenger services, would negotiate access to these other networks.

### *Interstate network*

The preferred approach to the interstate network is to vertically separate the track from train operations, with a single horizontally integrated network manager to administer access and facilitate investment.

This package is intended to facilitate competition on the interstate network. Three aspects of competition could be enhanced — competition between railways and other transport modes, competition between train operators for the same customers, and competition for train schedules.

The Commonwealth and its joint shareholders should conclude the sale of the National Rail Corporation. This process has been under way for some time and an expeditious sale will assist in maintaining the momentum of reform.

### *Regional networks*

Policy packages have been developed for regional networks without market power and those (the main coal lines) which are able to exercise market power.

#### *Regional networks without market power*

Regional networks should be horizontally separated from urban and other freight networks. They should also be vertically integrated. There is strong intermodal

competition, little scope for competition between train operators, and benefits accrue from combining train operations and track infrastructure.

Stringent application of the corporatisation process may facilitate the adoption of a more commercial focus. However, increased private sector involvement through franchising or privatisation is more likely to achieve greater benefits than those achievable through corporatisation. A number of privatisations have already taken place among these networks — in Victoria, Tasmania and South Australia.

Only light-handed access regimes are required. Given the low volumes of freight carried on most of these networks, there is unlikely to be much demand by other train operators for access. Where there is demand, the commercial approach of the railways, together with excess capacity, suggest that access would be negotiated between the parties.

It is expected that horizontal separation and increased private involvement will give these networks the freedom and commercial focus (including greater autonomy, flexibility and access to capital) required to compete with a strong road transport industry.

*Regional networks with market power*

Horizontal separation of regional networks with market power (the main coal lines centred around the Hunter Valley in NSW, Goonyella and Blackwater coal railways in Queensland) will facilitate the regulation of the natural monopoly element of the network. Horizontal separation also facilitates the franchising of these networks.

The Commission's preferred approach is for track and train operations to be vertically integrated. Market power in track infrastructure would be addressed through the promotion of competition for the market using franchising. Vertical integration permits the realisation of gains from the application of logistics management, including the optimisation of the transport process from the mine to the port.

Incentives to improve efficiency are generated by promoting competition for the market through contracting out or franchising, using competitive bidding. Other rail operators, apart from the incumbent, could enter the market from time to time. Provisions for access would be included in the franchise agreement.

This approach maximises the possibility of capturing the gains available from retaining an integrated system while also introducing pressures to minimise costs — at least during the bidding process.

*Urban passenger networks*

Urban passenger networks should be horizontally separated from freight networks but remain vertically integrated. Vertical separation of train operations from track provision is unlikely to generate benefits.

A purchaser-provider framework should be applied to the separated businesses. Government agencies, such as departments of transport, education and community services should be responsible for the planning, specification and purchase of services. They would be responsible for monitoring performance and ensuring that the provisions of the contract are met by the service provider.

The selection of the provider should be through a competitive process involving contracting out or franchising, thus introducing competition for the market. Larger urban networks could be horizontally separated further by geographic area, thereby facilitating 'yardstick' competition, as is expected to occur in Victoria.

There is no particular need for a strong access regime because there is little potential for competition between train operators for customers and train schedules.

It is expected that these reforms will lead to an improvement in the efficiency of transport in urban areas, particularly in the areas of planning, provision and pricing of rail services.

## Implications for individual jurisdictions

The priorities for reform have different implications in each jurisdiction because of differences in the characteristics of their railways. Progress in reform has varied between jurisdictions, but the potential exists for further change in them all.

The reform packages have the greatest implications for Queensland. Currently a single, vertically integrated, government-owned railway, it has regional (including coal) freight networks, an urban passenger network and provides non-urban passenger services. The Queensland Government should consider whether its rail system would benefit from reforms to its structure and/or ownership arrangements. In the first instance, it could separate, and franchise, its two major coal hauling railways (centred on the Goonyella and Blackwater regions) from the rest of the network. In the next stage it should consider horizontally separating (and franchising) its urban network from the remainder of the network and also privatising Queensland Rail's remaining freight operations.

New South Wales could also adopt a similar approach for its Hunter Valley coal freight railways to ensure that progress in improving their performance continues.

The privatisation of FreightCorp should also be investigated and the payment of subsidies for track infrastructure reconsidered. If subsidies are to continue, the payments could be better focused and minimised through their inclusion in franchise agreements with operators, or negotiated as part of the privatisation of regional railways.

Further reform of the interstate network has particular implications for the Commonwealth, New South Wales, and Western Australian Governments. They are currently owners of parts of the network, have separate access regimes, and own railways which operate over parts of the network. The single network manager approach will be more effective if the interstate network is vertically separated. This implies that the proposed sale of Westrail exclude the track between Perth and Kalgoorlie. Promoting competition over the entire interstate network through a single network manager is likely to generate significant benefits and give rail an opportunity to strengthen its competitive position on these important transport corridors. Such an approach will require cooperation between these jurisdictions as operators and owners of the network.

In most jurisdictions the performance of urban passenger rail systems could be improved by a more rigorous application of the purchaser-provider framework and by introducing competition for the right to provide these services. Evidence from Victoria, South Australia and Western Australia demonstrates that urban networks can be horizontally separated successfully from the remainder of the rail network. Victoria's initiative in franchising its urban railways should be monitored with a view to applying the model in other jurisdictions.

## 12.4 The impact of reforms

At the broadest level, these reforms will lead to a more efficient transport system.

More specifically, their implementation would be expected to improve the environment within which railways operate by:

- creating more commercially-focused railways, with the flexibility to make operational and investment decisions in a timely manner; and
- reducing uncertainty, particularly relating to competitive neutrality, regulatory arrangements and the role of government more generally.

This in turn could encourage greater private sector interest in entering the Australian market, through contracting out, franchising, the privatisation of existing government-owned railways, or the formation of new companies. Private operators would have strong incentives to minimise costs, thus leading to further improvements in rail performance.

They would also have greater incentives to undertake new investment wherever it is viable and adopt more innovative approaches to investment. Tranz Rail in New Zealand has adopted an approach of reconditioning second-hand locomotives rather than buying new equipment — thereby greatly reducing the cost of supplementing its locomotive fleet. Private operators are also better able to raise the required capital, free of government borrowing constraints.

It is expected also that the reforms would result in further market segmentation, especially on the interstate network, and the development of specialist operators to meet specific customer requirements. There are examples of this occurring already on the interstate network as a result of previous reforms.

The approach to reform suggested by the Commission may also affect railway employment, especially in government-owned railways, although less so than in the past in most jurisdictions.

However, new private participants, such as Specialized Container Transport, Toll Rail and Patrick have already entered the market. Further private participation in the industry has the potential to stabilise employment or at least slow the rate of decline.

Secure employment in the rail industry can best be promoted by an efficient industry that is better able to compete with alternative forms of transport, especially road transport, and whose dependence on government subsidies is minimised.

In addition to industry wide changes in employment, there may also be region-specific issues associated with employment losses or the reduction or cessation of services. These issues are being considered in the Commission's concurrent inquiry into the impact of competition policy reforms on rural and regional Australia.

If the reform of railways is not pursued the industry may not survive long into the 21st Century, other than as a carrier of coal and other bulk products. Further reform of the Australian railway industry will yield significant benefits to consumers of rail services. Rail services are an important input into many industries, especially the export-oriented mineral sector. Reductions in freight costs and passenger fares, and improved service quality will result in significant benefits, not only to passengers and Australian industry, but for the community more widely.

# A Conduct of the inquiry

## A.1 Introduction

This appendix outlines the inquiry process and the organisations and individuals that have participated in the inquiry.

On 5 August 1998, the Commission received the terms of reference for the inquiry. The reference directed the Commission to inquire into progress in rail reform in Australia, and to report within twelve months. The full terms of reference are on page XVIII.

Following receipt of the terms of reference, the Commission placed a notice in the national press inviting public participation in the inquiry and released an issues paper to assist participants in preparing their submissions. The Commission received 88 submissions prior to the release of the Draft Report and an additional 40 following the Draft Report. A list of those who made submissions is in section A.2. The Commission also held informal discussions with organisations, companies and individuals to gain background information and to assist in setting an agenda for the inquiry. Organisations visited by the Commission are listed in section A.3.

In October and November 1998, the Commission held public hearings in Adelaide, Perth, Sydney, Brisbane and Melbourne with 38 individuals and organisations attending. Following the release of the Draft Report in March 1999, public hearings were held in Sydney, Perth, Adelaide and Melbourne in May (section A.4). Submissions and transcripts of these hearings are publicly available.

Two technical workshops (December 1998, February 1999) and a public workshop (April 1999) were held during the course of the inquiry to discuss the analysis of railway performance presented in chapter 4. In addition, the Commission established an Independent Referee Panel to comment on the productivity analysis of railways.[1] Participants to the workshops and panel members are listed in section A.5.

A session on regulatory reform in railways was organised by the Commission as part of the July 1999 Industry Economics Conference, hosted by Monash University.

[1] The referees' comments on the Commission's modelling work appear in PC (forthcoming).

## A.2 Submissions received

| *Participant* | *Submission No.* |
|---|---|
| Association of Mine Related Councils Inc | 13 |
| Austrac Group & Capricorn Capital Ltd | 56 |
| Australasian Railway Association Inc | 3, 51, 105 |
| Australia Southern Railroad | 45 |
| Australian Automobile Association | 17 |
| Australian Conservation Foundation | 48 |
| Australian Peak Shippers Association | 10 |
| Australian Rail Safety Accreditation Authorities | 106 |
| Australian Rail Track Corporation Ltd | 74, 97 |
| Australian Services Union | 78 |
| Australian Shipping Federation | 18 |
| Australian Transport Network Ltd | 25 |
| Australian Wheat Board | 32 |
| Balance Research | 41, 112 |
| BHP Transport | 110 |
| Bicycle Federation of Australia | 31, 69, 111 |
| Bicycle Queensland | 33 |
| Bicycle User Group of Fairfield Holroyd | 22 |
| Burnside City Council — Local Government Association of South Australia | 5 |
| Campbelltown and Districts Commuter Association | 11 |
| Capricorn Capital Ltd & Austrac Group | 56 |
| CRT Group Pty Ltd | 20 |
| Day, M | 7 |
| Department of Agriculture, Fisheries and Forestry (Cwlth) | 84 |
| Department of Finance and Administration (Cwlth) | 65 |
| Department of Foreign Affairs and Trade (Cwlth) | 64 |
| Department of Transport and Regional Services (Cwlth) | 76, 124, 125 |
| Doogue, P | 16 |
| Easton, Dr E | 50, 94 |
| Eco Design Foundation | 8 |
| Energy Action Group | 47 |
| Environment Victoria | 49 |
| | *Continued* |
| Esperance Port Authority | 1 |
| Fleay, B J | 96 |
| Forsyth, Professor P & Trace, Associate Professor K | 88 |
| FreightCorp | 123 |
| Fremantle Bicycle User Group | 72 |
| Friends of the Belair Line | 89 |

| | |
|---|---|
| Friends of the Northern Railway Inc | 9 |
| Glenelg Shire | 108 |
| Great Northern Rail Services Pty Ltd | 46, 119 |
| Great Southern Railway | 95 |
| Greater Lithgow and District Bicycle Advocacy Group | 28 |
| Hames, S | 34, 73 |
| Healthy Cities Illawarra Inc | 6, 83, 92 |
| Hiskey, E | 68 |
| Industry Science Resources | 86 |
| Inglis, L | 38 |
| Kennard, D & E | 12 |
| John Hearsch Consulting Pty Ltd | 120 |
| Laird, Associate Professor P | 4, 91 |
| Local Government and Shires Association of NSW | 71 |
| Local Government Association of South Australia | 57 |
| Maddock, Professor R | 40 |
| McKillop, R | 29, 90 |
| Melbourne Port Corporation | 35 |
| Munro, R | 44 |
| National Competition Council | 79 |
| National Farmers Federation | 70 |
| National Rail Corporation Limited | 53, 117 |
| NSW Department of Community Services | 19 |
| NSW Government | 128 |
| NSW Minerals Council | 39, 61, 104, 126 |
| Operations Research Group Pty Limited | 103, 113 |
| Patrick The Australian Stevedore | 63, 87, 116 |
| Pedal Power ACT Inc | 42 |
| People for Ecologically Sustainable Transport | 30 |
| People for Public Transport | 14, 98 |
| Queensland Department of Transport | 75 |
| Queensland Mining Council | 77, 127 |
| Queensland Rail | 59, 122 |
| Rail Access Corporation | 102 |
| Rail Management Services Pty Ltd | 99 |
| Railway Technical Society of Australasia | 93 |

*Continued*

| | |
|---|---|
| Rail Tram and Bus Union | 114 |
| Rio Tinto | 58 |
| Road Transport Forum | 23 |
| Safeworking Services Pty Ltd | 21, 101 |
| Scott, G | 66, 85 |
| Shell Coal Pty Ltd | 36 |

| | |
|---|---|
| Shoalhaven Bicycle Users Group | 52 |
| Specialized Container Transport | 37, 80, 100 |
| Standing Committee on Transport (SCOT) Rail Group | 109 |
| State Chamber of Commerce (NSW) | 55 |
| State Rail Authority of New South Wales | 67 |
| Sydney Ports Corporation | 27 |
| Tasmanian Government | 81 |
| The Institution of Engineers Australia | 62 |
| The Silverton Tramway Company Ltd | 54 |
| Toll Rail | 2 |
| Tourism Council Australia | 121 |
| Vicgrain Ltd | 24 |
| Victorian Bicycle Coalition | 43 |
| Victorian Government | 82, 118 |
| Western Australian Government | 60 |
| Westrail | 107 |
| Whitehorse Cyclists | 15 |
| Wimmera-Mallee Rail Services Association | 26, 115 |

## A.3 Visits

*New South Wales*

A Goninan & Co Ltd
Rail Tram and Bus Union
Department of Transport
Department of Treasury
FreightCorp
Independent Pricing and Regulatory Tribunal
Macquarie Bank
National Rail Corporation Limited
NSW Minerals Council
Rail Access Corporation
Rail Services Australia
State Rail Authority of New South Wales

*Victoria*

Australasian Railway Association Inc
Australian Competition and Consumer Commission
Australian Wheat Board
BHP
Booz-Allen & Hamilton (Australia) Ltd
Bureau of Transport and Communications Economics
CSIRO
Department of Infrastructure
Department of Treasury and Finance
FCL Distribution
Forsyth, Professor P
Freebairn, Professor J
Great Northern Rail Services Pty Ltd
Great Southern Railway
Hillside Trains
Maddock, Professor R
National Competition Council
National Road Transport Commission
Patrick The Australian Stevedore
Public Transport Corporation
Specialized Container Transport
The Silverton Tramway Company Ltd
Toll Holdings
Trace, Associate Professor K
Transfield Pty Ltd
V/Line Freight
Vicgrain Ltd
VicTrack Access

*Queensland*

Davidson Transport Consulting
Maunsell Pty Ltd
Queensland Competition Authority
Queensland Department of Transport
Queensland Mining Council
Queensland Rail
Queensland Treasury

*South Australia*

Australia Southern Railroad
Australian Rail Track Corporation Ltd
Department for Transport — Urban Planning and the Arts
Department of Industry and Trade
Department of Premier and Cabinet
Department of Treasury
G13 Pty Ltd
Rail 2000 Inc
Trailerail Bi-Modal Freight

*Western Australia*

Department of Transport
Department of Treasury
Hamersley Iron Pty Ltd
Robe River Iron Ore Associates
Trailerail Bi-Modal Freight
Westrail

*Tasmania*

Department of Transport
Department of Treasury and Finance
Tasrail

*Australian Capital Territory*

Department of Finance and Administration (Cwlth)
Department of Industry, Science and Technology (Cwlth)
Department of Primary Industries and Energy (Cwlth)
Department of Transport and Regional Services (Cwlth)
Department of Treasury (Cwlth)
House of Representatives — Standing Committee on Communications, Transport and Microeconomic Reform

*Overseas*

*New Zealand*

Hon Richard Prebble C.B.E.
Institute for the Study of Competition and Regulation Inc
Ministry of Transport
New Zealand Institute of Economic Research
New Zealand Tourism
Transfund New Zealand
Tranz Rail

*France*

International Union of Railways
European Conference of Ministers of Transport
OECD

*Netherlands*

Ministry of Transport and Waterways
Netherlands Railways

*Canada*

AC Lane Consulting (discussions in Melbourne)

## A.4 Public hearing participants

*New South Wales*

Healthy Cities Illawarra
Bicycle Federation of Australia
Blue Mountains Commuter and Transport Users Association
Campbelltown and Districts Commuter Association
Capricorn Capital Ltd
Department of Transport
FreightCorp
Friends of the Northern Railway Inc

*New South Wales (Continued)*

Laird, Associate Professor P
National Rail Corporation Ltd
NSW Minerals Council
Operations Research Group Pty Limited
Patrick The Australian Stevedore
Rail Access Corporation
Rail Equity and Finance Group
Rail Services Australia
Railway Technical Society of Australasia
State Rail Authority of New South Wales

*Victoria*

Australasian Railway Association Inc
Australian Rail Track Corporation Ltd
Australian Railway Association, Australia and New Zealand
Australian Services Union
Australian Wheat Board
Balance Research
BHP Transport
Bicycle Federation of Australia & People For Ecologically Sustainable Transport
Department of Transport and Regional Services
Glenelg Shire
Great Northern Rail Services Pty Ltd
Great Southern Railway
Standing Committee on Transport (SCOT) Rail Group
McKillop, R
National Rail Corporation Ltd
Queensland Mining Council
Rail Access Corporation
Rail Tram and Bus Union
Rio Tinto
Safeworking Services Pty Ltd
Specialized Container Transport
Vicgrain Ltd
Victorian Government
Wimmera-Mallee Rail Services Association

*Queensland*

Franklin, J
Hames, S
Queensland Department of Transport
Scott, G
Shell Coal Pty Ltd

*South Australia*

Australia Southern Railroad
Australian Rail Track Corporation Ltd
Bicycle Federation of Australia
Burnside City Council — Local Government Association of South Australia
Easton, Dr E
Friends of the Belair Line
Hiskey, E
People for Public Transport
Rail 2000 Inc

*Western Australia*

Bicycle Federation of Australia
Department of Transport
Fleay, B J
Hamersley Iron Pty Ltd
Westrail

## A.5 Workshops

*Technical workshop participants*

Professor Peter Forsyth
Monash University

Mr David Greig
Department of Treasury & Finance, Victoria

Dr Joseph Hirschberg

University of Melbourne

Professor Richard Morey
Richard C Morey Consultants Inc.

Associate Professor Keith Trace
Trace and Associates

*Public workshop participants*

Dr Fred Affleck
National Rail Corporation

Mr John Austin
Department of Transport, New South Wales

Ms Robyn Beetham
Department of Transport & Regional Services (Cwlth)

Mr Chris Bydder
Hillside Trains

Ms Melanie Cox
FreightCorp

Mr David Crawford
Department of Transport & Regional Services (Cwlth)

Mr Glenn Edwards
Australian Rail Track Corporation

Mr Rob Ellison
Bayside Trains

Mr David Greig
Department of Treasury & Finance, Victoria

Mr Peter Harris
Department of Infrastructure, Victoria

Dr Joseph Hirschberg
University of Melbourne

Mr Mike Houston
V/Line Freight Corporation

Ms Denise McMillan
Australian Rail Track Corporation

Mr Patrick McNamara
Bureau of Transport Economics

Professor Richard Morey
Richard C Morey Consultants Inc.

Mr Chris Nash
Queensland Department of Transport

Mr Rod O'Loan
V/Line Freight Corporation

Mr Richard Price
Queensland Rail

Mr Geoff Tighe
V/Line Passenger

Associate Professor Keith Trace
Trace and Associates

*Independent Referee Panel*

Dr Joseph Hirschberg
University of Melbourne

Mr Steve Meyrick
Meyrick and Associates Pty Ltd

Associate Professor Keith Trace
Trace and Associates

# B Rail network maps

This appendix contains maps of Australia's interstate and regional rail networks, including:

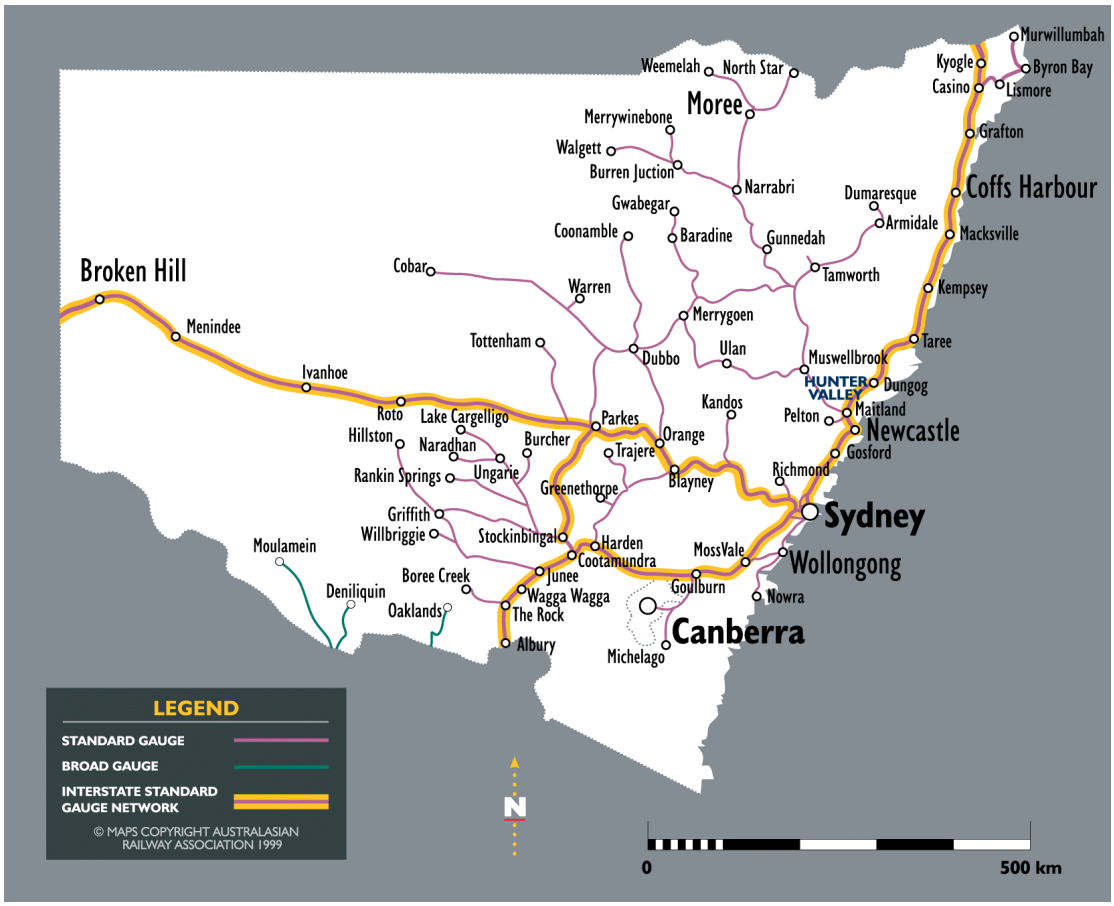
- the interstate rail network[1] (section B.1);
- the New South Wales rail network[2] (section B.2);
- the Victorian rail network (section B.3);
- the Queensland rail network (section B.4);
- the South Australian/ Northern Territory rail network (section B.5);
- the Western Australian rail network (section B.6); and
- the Tasmanian rail network (section B.7).

[1] The interstate rail network has been defined by National Rail Corporation and is discussed in chapter 2.

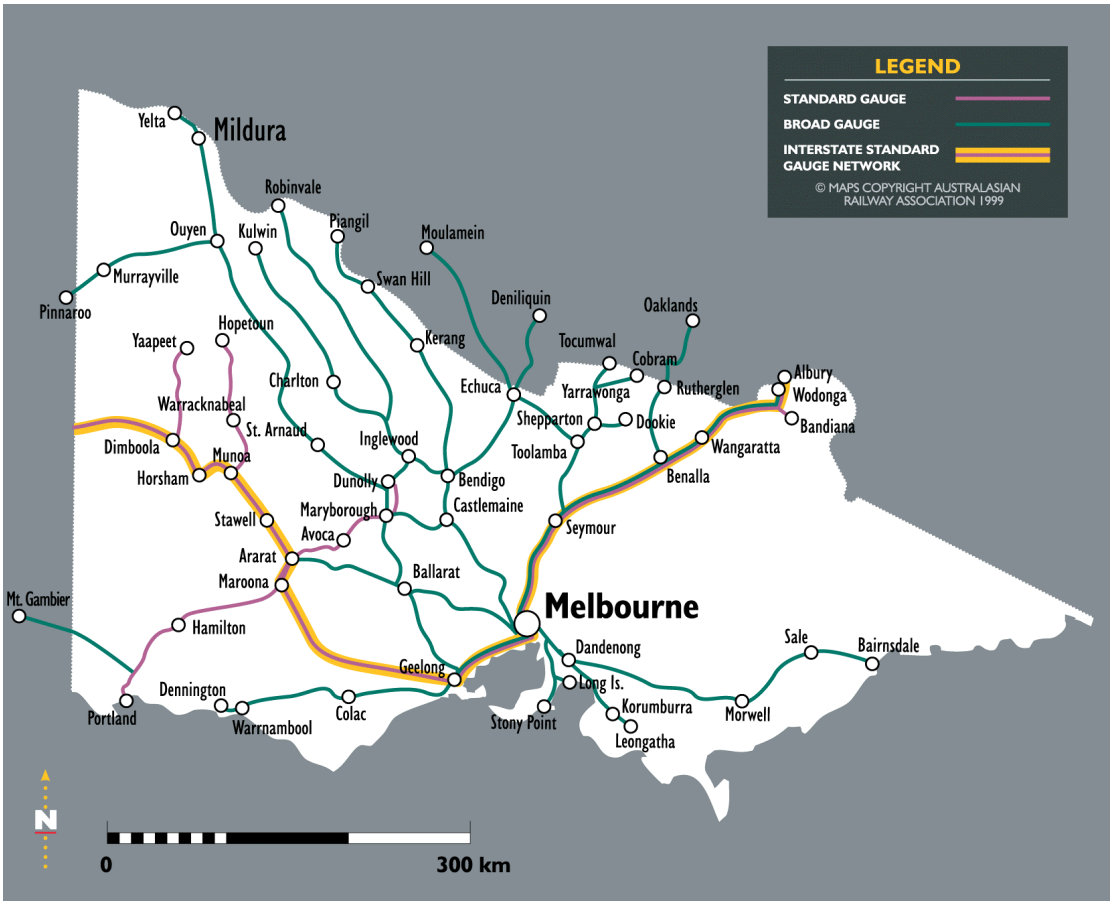
[2] Also includes the ACT.

## B.1 Interstate rail network

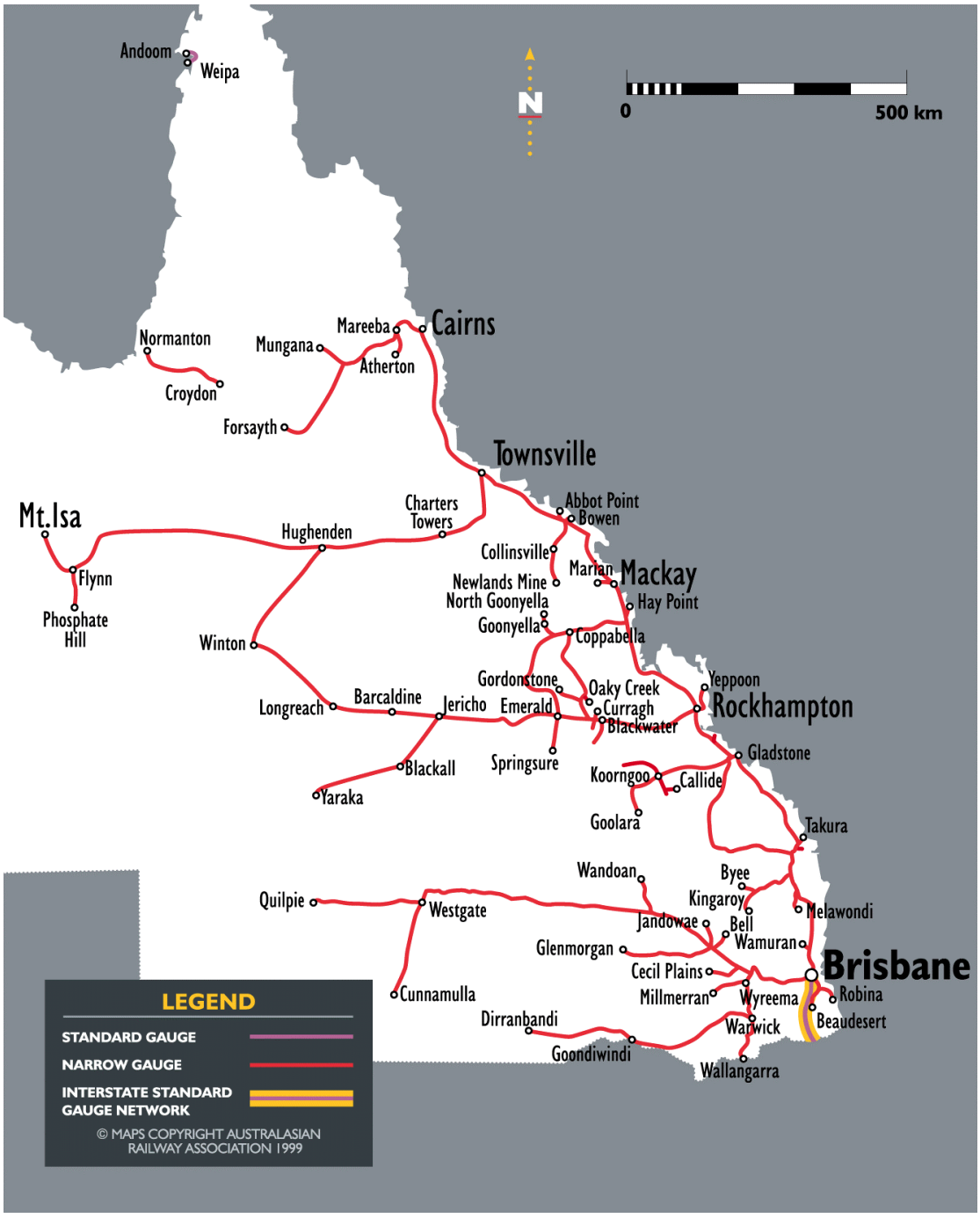
## B.2 New South Wales rail network



## B.3 Victorian rail network

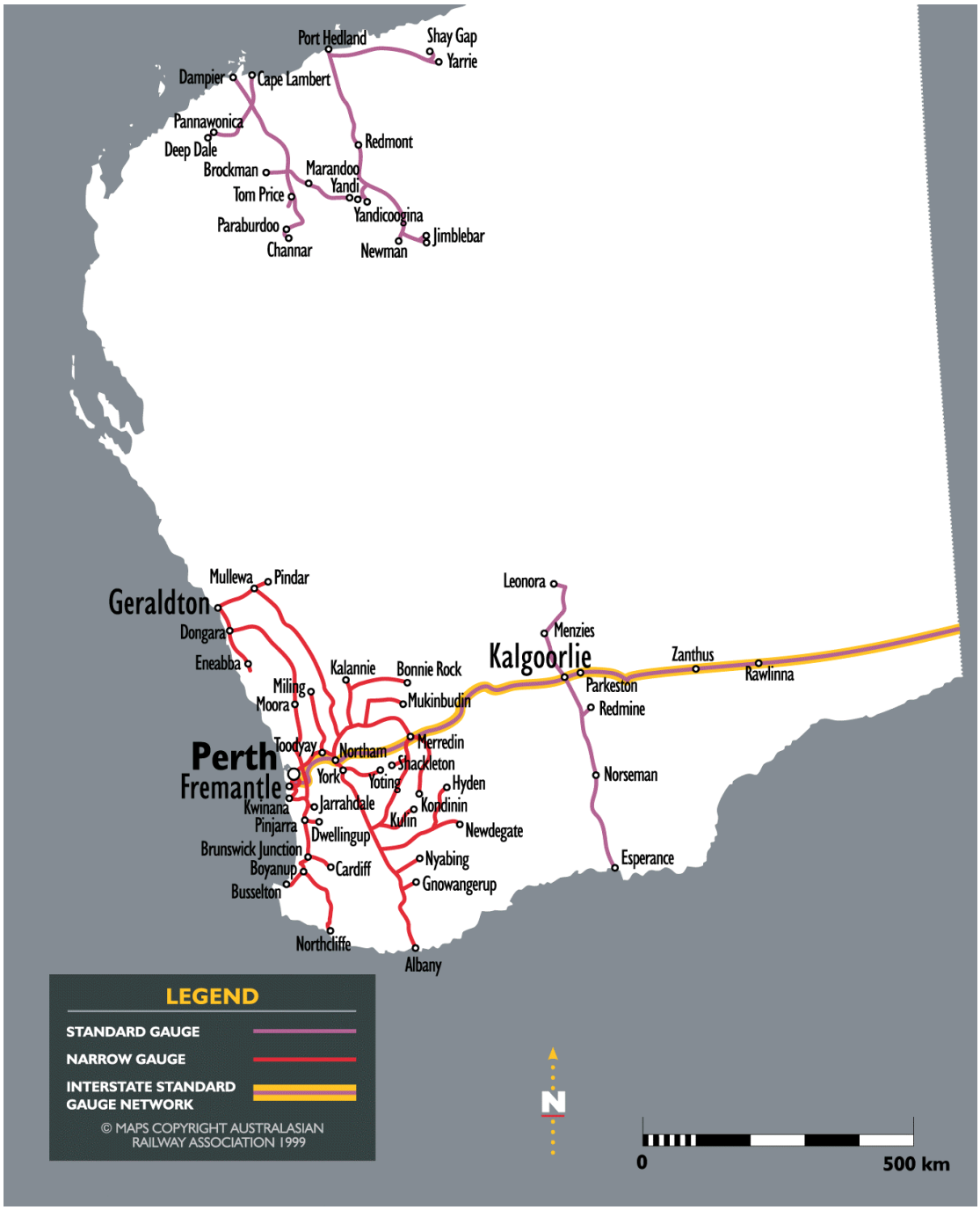


## B.4 Queensland rail network

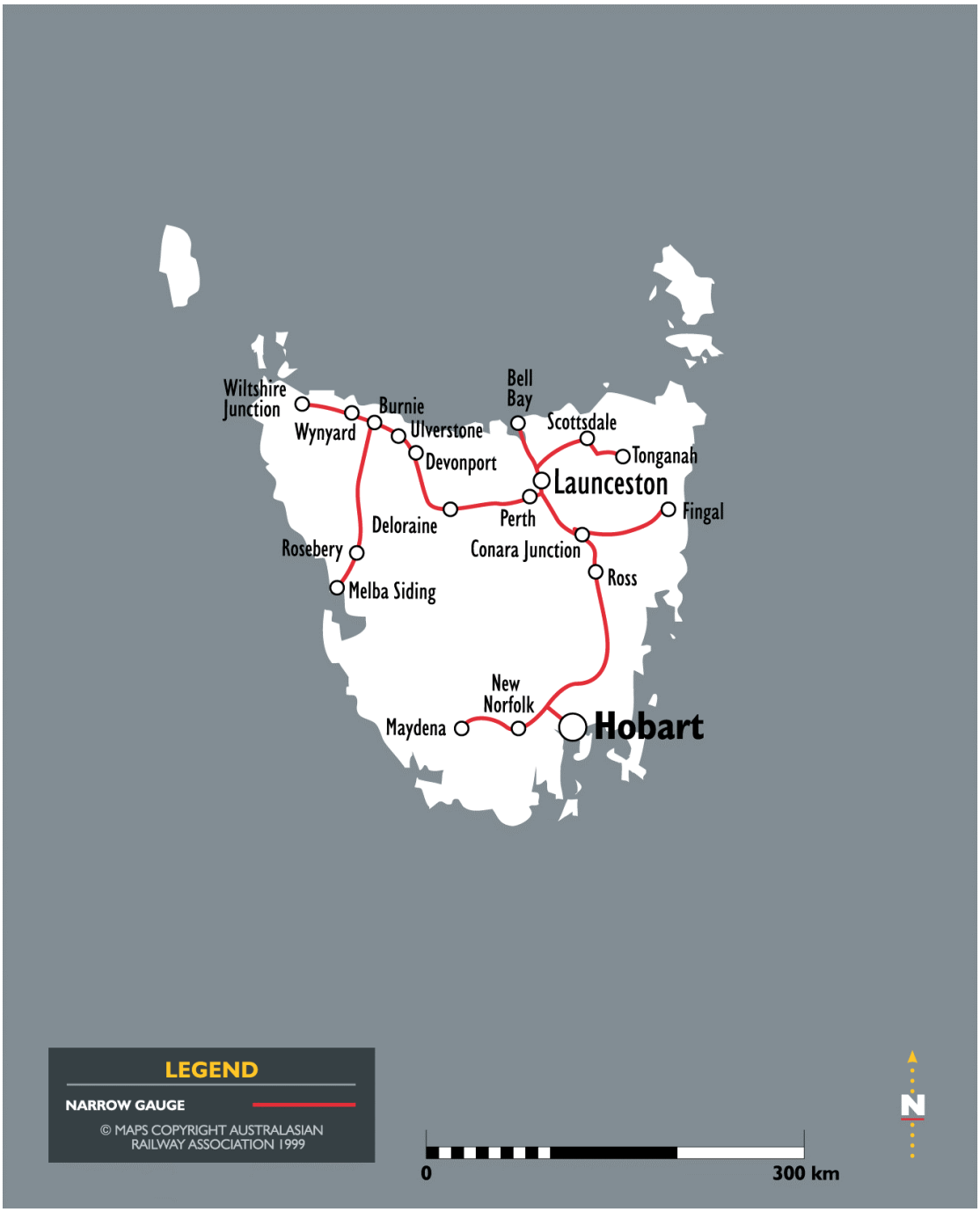


## B.5 South Australian/Northern Territory rail network

## B.6 Western Australian rail network



## B.7 Tasmanian rail network



# C History of railways in Australia

The current role and performance of different transport modes in Australia are products of past decisions and events. A number of factors including investment decisions, government regulation, changes in technology and work practices have all influenced the development of Australia's transport system, including railways. The Victorian Government stated:

> … what we have today is a product of history and a product of what would fashionably be called "past dependence". That is, the sequence in which events happened leads to the outcome which one sees and one cannot, in past dependent processes, argue that what one sees is in any way remotely related to an optimal position in its transport configuration or anything else where you have got a past dependent process going. (trans., p. 940)

This appendix briefly describes the development of railways in Australia from the 1840s to the 1990s, providing a context for examining the current issues and challenges facing the industry.

## C.1 1840 to 1915

Private enterprise was responsible for the introduction of railways in Australia. In 1846 the Great Southern and Western Railway Company was formed with the intention to construct railway lines from Sydney to Parramatta and Richmond/Windsor (Brooke 1988). Initial government involvement in Australian railways arose because of investors' demands that governments guarantee the dividends of private investors and the need to provide additional capital to complete lines (IC 1991b).

The majority of the initial private railway companies collapsed without ever building, still less operating, a railway. Governments out of necessity took over ownership of the early railway companies to protect themselves from financial exposure. Thus there is no significant early history of private participation in railways (IC 1991b).

The boom years for railways in Australia first occurred between 1860 and 1890. Each colony developed a railway network centred on the capital city or other ports, extending out into the rural towns (Stevenson 1987). The growth of the rail network

created political pressure for the construction of lines to every settlement. However, McKillop argued that the spread of railways actually benefited the capital cities more than rural areas:

> The paradox of Australian railways is that while the political pressure to build railway lines into the interior came from rural communities, the net effect of the railway systems was to centralise economic and institutional power in the capital cities of the colonies. Not only did the railway system of NSW radiate out from the port of Sydney (and to a lesser extent Newcastle), but differential freight rates were used to give city-based merchants and manufacturers a price advantage over country-based competitors. (sub. DR90, p. 2)

The Victorian Government also noted the close association between the development of railways and the maritime industry:

> … rail was used by the colonial governments to prop up an increasingly obsolete port configuration as land transport improves largely due to rail, and there was a very sick co-evolution with the maritime industry due to the intervention of government in trying to protect past rent-seeking or rent-earning opportunities when the time had passed. (trans., p. 940)

The rapid expansion of the rail network soon began to dominate the budgets and political agendas of the colonial governments:

> The six colonial governments which owned railways were excited and worried by the spread of lines. In Victoria and New South Wales the steam monster threatened to swallow its masters. (Blainey 1983, p. 253)

One of the most discussed issues concerning railways during these early periods — an issue that continued well into the 1990s — was the gauge problem. New South Wales, Victoria and South Australia initially started constructing railways based on the broad gauge (5 ft 3 in or 1600 mm). However, New South Wales converted to standard gauge (4 ft 8½ in or 1435 mm) in the 1850s. In Queensland, Western Australia and Tasmania, railways were constructed to the less expensive narrow gauge (3 ft 6 in or 1067 mm).[1]

The break of gauge initially caused little concern among the colonial governments. Railways were not used to link capital cities but rather to link each capital with its outer towns and regions. However, the problem of gauges developed as more railways were built to link the States. During the two World Wars, the gauge barrier to the quick passage of supplies and troops across States became an acute problem. Criticism from the business community and general public 'raised sufficient heat to melt every railway in the land' (Blainey 1983, p. 244).

[1] South Australia constructed both narrow and broad gauge railways.

During the early period, railways were treated like any other government department and fell under the direct authority of a minister. As argued by Stevenson:

> Governments typically set rates and fares, decided when to build new lines, and were involved in other major and even quite minor decisions. Railway receipts were paid into consolidated revenue … It made railway authorities financially dependent on governments even when they operated at a profit, which quite frequently they did. (Stevenson 1987, p. 7)

However, in the 1880s the colonies of New South Wales, Victoria, Queensland and South Australia handed over the detailed running of their railways to appointed commissioners. Governments experimented with single commissioners, a board of commissioners or a single commissioner with assistant commissioners. The appointment of commissioners effectively transformed the running of railways into semi-independent agencies.

Despite the doubtful economic or social value of some of the railways built and operated during the boom years, they generally proved to be marginally viable. This was possible because government railways were exposed to little competition from competing transport modes or from other railways. Road and air transport were still not serious threats to the dominance of the railways, though steamships offered some competition. Government control over the railways meant that there was no potential competition from privately-owned and operated railway companies (Stevenson 1987).

## C.2 1915 to the 1990s

The past dominance of the railways in Australia began to end after World War One. Two reasons cited for this decline were the inability of the railways to cater to changing demand patterns and the growth of road transport.

In relation to demand McKillop argued that:

> The decline of rail as a dominant transport form in NSW since the 1920s, and particularly since the 1950s, reflects the inappropriateness of its 19th century routes … The traditional centralist organisation and route structure of the NSW railways meant that they missed out on most of the post-War growth. Its network was not appropriate for the changed demand pattern … (sub. DR90, p. 4)

After World War One road transport also emerged as a viable alternative to rail transport. However, the Victorian Government argued road transport did not emerge as a serious competitor to the railways until the 1970s:

> Road competition appeared late in Australia compared with North America and Europe … the Sydney-Brisbane connection by road was only fully sealed by 1958 and the last river was bridged on the Pacific Highway in 1966 … Until the 70s, at least, there was not anything – leaving aside the National Highway Program – nothing like a competitive road freight mode, just because the infrastructure wasn't there … (trans., pp. 940, 944)

Despite some difference of opinion regarding when road transport became a serious competitor to the railways, when it did occur it posed serious problems for State Governments in terms of both the profitability of the railways and resulting effects on State finances (Stevenson 1987).

The first response of State Governments to the emergence of road transport was to regulate the traffic of passengers and goods in the 1930s. Traffic regulations restricting freight can be categorised as:

- geographically based restrictions on the distance commodities could be carried by road transport;
- restrictions on the commodities that could be carried by road transport; and
- special taxes in proportion to the volume of traffic and the distance travelled.

The period after the Second World War was a time of mixed fortunes for the railways. Railways were seriously run down during the War and substantial renewal was required to rectify the deferral of maintenance that had occurred. Even more importantly, by the 1950s railways suffered substantial losses of traffic to private truck operators despite the restrictions placed on freight transport listed above. In addition, the Privy Council's ruling on the Hughes and Vale case in 1954 found that the revenues from licensing long distance transport across State boundaries were inconsistent with s. 92 of the Constitution.

Two factors complemented each other to provide new life for railways in Australia. They were the widespread application of diesel technology to Australian railways in the 1960s and the growth of the minerals sector during the 1970s. Diesel locomotives and the unit train (an entire train dedicated to a specific commodity) excelled at the long distance haulage of the bulk commodities produced by the minerals sector. Indeed, governments used their monopoly provision of rail freight services to extract monopoly rents from mining companies — a practice only being addressed gradually in the 1990s.

The changing nature of Australia's freight railways is highlighted in table C.1. In 1960-61, railways carried most agricultural produce, two thirds of coal and mineral production and about half of the production of fertilisers, cement and timber. In the case of coal and minerals, railways maintained their market share in the context of a rapidly expanding industry, but for all other commodities presented in table C.1, railways have been unable to maintain even the tonnage freighted.

Table C.1 **Rail freight and annual production for select commodities, tonnes, 1960-61 to 1994-95**

| | *Agriculture and livestock* | | *Coal and minerals* | | *Fertilisers, cement and timber* | |
|---|---|---|---|---|---|---|
| *Financial year* | *Rail freight* | *Proportion of production* | *Rail freight* | *Proportion of production* | *Rail freight* | *Proportion of production* |
| | '000 tonnes | per cent | '000 tonnes | per cent | '000 tonnes | per cent |
| 1960-61 | 15 413 | 86.4 | 22 054 | 61.4 | 5 929 | 45.8 |
| 1965-66 | 14 986 | 82.0 | 27 032 | 54.6 | 7 384 | 46.8 |
| 1970-71 | 18 041 | 75.3 | 41 266 | 53.4 | 6 460 | 38.3 |
| 1975-76 | 18 520 | 64.4 | 57 788 | 57.4 | 4 715 | 27.9 |
| 1980-81 | 19 334 | 70.3 | 78 966 | 58.3 | 5 611 | 27.2 |
| 1985-86 | 24 831 | 67.3 | 118 676 | 63.9 | 4 793 | 22.5 |
| 1990-91 | 17 845 | 47.7 | 139 099 | 60.9 | 3 638 | 17.5 |
| 1994-95 | 11 288 | 37.9 | 171 456 | 64.2 | 3 324 | 13.9 |

*Source:* BTE 1998.

## Resolving the gauge problem

After World War Two the first serious attempts were made at solving the gauge problem. In 1956, a Committee of the Federal Parliament delivered its report on the unification of trunk railways in Australia, known as the Wentworth Scheme. The Wentworth Scheme discarded the proposal for all Australia's railways to be converted to standard gauge. Instead, it was recommended that only the capital cities should be linked by standard gauge, with little interference to existing lines of other gauges (Kain 1995).

While there was only muted support for the committee's recommendations, gradual progress was made in standardising the rail links between Australia's capital cities. In 1962 the link between Sydney's Central Station and Melbourne's Spencer Street Station was completed (Brooke 1988) and by 1970 a train could run on standard gauge track from Sydney to Perth. The process of linking all of Australia's mainland capital cities (except Darwin) is summarised in table C.2. Appendix B contains maps of Australia's interstate and regional rail networks illustrating current gauge differences.

Table C.2 **Major post-1950s gauge standardisation initiatives**

| *Year* | *Standardisation initiative* |
|---|---|
| 1962 | Opening of a new Melbourne/Wodonga standard gauge line parallel with the existing broad gauge route, linking Melbourne, Sydney and Brisbane by standard gauge. |
| 1969-70 | Opening of new standard gauge links between Kalgoorlie and Perth and between Port Pirie and Broken Hill, eliminating three breaks of gauge and facilitating through Sydney/Perth services. |
| 1980 | Opening of the Tarcoola/Alice Springs rail line, replacing the former route via Oodnadatta and Marree and eliminating one break of gauge. |
| 1983 | Conversion of the Adelaide/Crystal Brook line to standard gauge thus placing Adelaide on the East-West standard gauge network for the first time. |
| 1995 | Conversion of the Adelaide/Melbourne broad gauge route to standard gauge, completing standardisation of the interstate network. |

*Source:* Kain 1995.

## Financial crisis within railways

Despite the new advances in technology and growth of the minerals trade, the railways were forced to face up to mounting revenue shortfalls and strong pressures were placed on State budgets in the 1970s (IC 1991b). In particular, there was no contribution to profitability from passenger services. Both urban and non-urban passenger services operated at considerable losses.

Government responses to mounting rail deficits varied across both jurisdiction and market segment. However, in general, most attempts by governments to improve the fortunes of the railways can be categorised as some combination of:

- the closure of the most uneconomical branch lines and passenger services;
- the alteration of financial and governance arrangements;
- the injection of capital to improve the state of the track or quality of the rollingstock; and
- the revision of fare structures.

In the case of freight services, it was accepted that these services — or at least some of them — could operate on a commercial basis. To achieve this goal, governments generally rationalised services and some branch lines were closed. In some instances greater commercial freedom was given to railway commissioners.

State Governments also gradually deregulated restrictions on the intrastate movement of freight from the 1960s. Key factors prompting the deregulation of freight transport included:

- the inefficiency of carrying certain commodities by rail;
- the ineffectiveness of the regulations at protecting rail from road transport; and
- the costs imposed on businesses and the wider community.

The SA Government was the first State Government to deregulate freight transport in 1963 and 1964. However, other State Governments were considerably slower in following this lead. Only modest moves were made towards deregulation in the 1960s and 1970s. Regulations on commodity traffics as they stood in 1991 are summarised in table C.3.

Since 1991, governments have removed many of these regulations on commodity traffics. From 1993 the Victorian Government removed restrictions applying to the transport of bulk oil, minor bulk commodities, timber, cement and briquettes (PC 1998c). In Western Australia the transport of all bulk commodities was deregulated in July 1995. However, the handling facilities at some ports are served only by rail.

Table C.3 **Regulated commodity traffics by State, 1991**

| *State* | *Traffics* |
|---|---|
| New South Wales | Under the NSW Environmental Protection Act, coal was usually required to be transported by rail, if available. The use of road transport for export grain was constrained by limited road receival facilities at export ports. |
| Victoria | Domestic grains, cement, briquettes, limestone and petroleum were regulated to be transported by rail, with carriage by road allowed under permit in certain circumstances. |
| Queensland | Coal, coke, domestic grains (except seed grains), limestone, liquefied petroleum gas, minerals and ores and raw sugar were regulated to be transported by rail. With the exception of grains, road permits were issued when 'road transport was more competitive for the carriage of these restricted goods'. |
| South Australia | No restrictions. |
| Western Australia | Truck licences were not granted for domestic grains, fertilisers, bulk petroleum, bulk ores and minerals, or some timber. Partial regulation of bulk petroleum and fertilisers. |
| Tasmania | Permit fees applied to the road haulage of bulk cement, bulk fertiliser, limestone, timber, logs, coal and sulphuric acid. |

*Source:* IC 1991b.

The unprofitable urban rail passenger services posed even greater challenges for governments:

> For railway authorities this type of service poses a variety of problems. It is highly visible to the general public, chronically in need of capital investment, vulnerable to industrial disputes, and may interfere with other railway operations. (Stevenson 1987, p. 105)

Governments maintained or increased their control over the operation of rail passenger services. Ministers tended to take direct managerial responsibility, and new construction had to be sanctioned by Parliament. When funds permitted, the quality of track and rollingstock was upgraded in an attempt to improve service quality and stem declining rail patronage.

Passenger fares were also tightly regulated. Changes to passenger fares were (and continue to be) driven by a range of financial, social and political factors. For example, in 1976 in New South Wales fares were reduced by 20 per cent to promote patronage despite considerable financial losses at existing fare levels. In other cases, fares were raised in response to increases in wages or other operating expenses.

# D Reform initiatives

The following tables outline the key rail-related reforms undertaken in Australia during the 1990s. These are elaborated on in chapter 3.

Table D.1 **Key reforms in the 1990s: industry structure**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| Cwlth | 1991-92 | National Rail Corporation (NRC) established to operate the interstate rail freight business in Australia. The shareholders are the Commonwealth, NSW and Victorian Governments. |
| | 1993-94 | The interstate freight business of Australian National (AN) transferred to NRC. NRC identified other assets required to conduct its operations and State Governments then had discretion whether to transfer ownership of the assets, give a long term lease or grant access to NRC. |
| | 1994-95 | Specialized Container Transport (SCT) commenced interstate rail freight operations. TNT (now Toll) commenced one year later. |
| | 1997-98 | Australian Rail Track Corporation (ARTC) established. The corporation was given responsibility for management of access and infrastructure maintenance in South Australia as track owner and in Victoria as track manager under a five year lease agreement. Access arrangements for the interstate track with New South Wales, Queensland and Western Australia are currently being negotiated. |
| | 1998-99 | ARTC commenced operation. |
| NSW | 1995-96 | Transport Administration Amendment Bill passed by Parliament in June 1996. The legislation created an access regime and allowed the State Rail Authority (SRA) to be restructured into four independent entities. |
| | 1996-97 | Four new entities commenced operation on 1 July. The new entities were the Rail Access Corporation (RAC), FreightCorp, Rail Services Authority (RSA) and a new SRA. |
| Vic | 1993-94 | Public Transport Corporation restructured into five business units and three Commercial Services Groups. |

(continued on next page)

Table D.1 (continued) **Key reforms in the 1990s: industry structure**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| Vic (cont.) | 1995-96 | *Rail Corporations Act 1996* passed. The Act allowed for the establishment of V/Line Freight and Victorian Rail Track Access (VicTrack) as body corporates. |
| | 1997-98 | VicTrack assumed responsibility for train control and signalling operations on non-electrified intrastate track, the maintenance and management of related land and infrastructure, and the marketing and negotiation of access to the intrastate network. |
| | 1998-99 | Establishment of five vertically integrated businesses to operate Victoria's passenger train and tram businesses. They are Bayside Trains, Hillside Trains, Yarra Trams, Swanston Trams and V/Line Passenger (regional train and coach services). |
| SA | 1994-95 | TransAdelaide established in July 1994 and assumed the operating functions of the State Transit Authority (STA). Planning functions of the former STA assumed by the Passenger Transport Board (PTB). |
| | | Majority of TransAdelaide's bus depot and workshop assets transferred to the SA Department of Transport and control of the ticketing system transferred to the PTB. |
| Tas | 1997-98 | Freight operations of AN in Tasmania were separated in preparation for privatisation. |

*Sources:* PC 1998c; Australian Rail Track Corporation sub. 74; VicTrack 1998; Victorian Government sub. 82.

Table D.2 **Key reforms in the 1990s: governance arrangements (including financial arrangements)**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| Cwlth | 1997-98 | Freight and passenger rail operations of AN sold. The buyers were Australia Southern Railroad, Great Southern Railway and Australian Transport Network (Tasrail). |
| | | Commonwealth announced its intention to sell its share of NRC. |
| NSW | 1991-92 | Funding arrangements for community service obligations introduced. |
| | | New South Wales became a shareholder in NRC. |
| | 1996-97 | RAC and FreightCorp corporatised on establishment. |
| | | Phased removal of 'de-facto' royalties on export coal to be completed by 2000. |
| | 1997-98 | Rail Services Authority renamed Rail Services Australia and corporatised. |

(continued on next page)

Table D.2 (continued) **Key reforms in the 1990s: governance arrangements (including financial arrangements)**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| Vic | 1991-92 | Victoria became a shareholder in NRC. |
| | 1998-99 | Bayside Trains, Hillside Trains, Yarra Trams, Swanston Trams and V/Line Passenger (regional train and coach services) corporatised on establishment. |
| | | Freight Victoria announced as the successful bidder for V/Line Freight. |
| | | National Express announced as the successful bidder for the V/Line Passenger and Bayside Trains franchises. |
| | 1999-2000 | Melbourne Transport Enterprises announced as the successful bidder for the Hillside Trains franchise. |
| Qld | 1991-92 | *Transport Infrastructure (Railways) Act 1991* established QR as a corporate body and made provision for the establishment of a Board of Directors. |
| | 1993-94 | Review of the Government's export coal royalty rail haulage policy resulted in a phased removal of 'de-facto' royalties collected through rail freight rates to be completed by 2000. |
| | | Funding arrangements for community service obligations introduced. |
| | 1995-96 | QR corporatised. |
| | 1997-98 | Review of corporatisation distinguished commercial activities from the community service obligations and access functions of QR. |
| | 1998-99 | Refinements of purchaser-provider arrangements between QR and Queensland Transport. |
| WA | 1994-95 | Corporatisation of Westrail abandoned in favour of financial reforms under the 'Right Track' program (commercialisation). |
| | 1997-98 | WA Government announced its intention to privatise the freight operations of Westrail as a vertically integrated entity. |
| SA | 1994-95 | *Passenger Transport Act 1994* established the PTB with responsibility for regulation, coordination and funding of public transport services including bus, rail, tram and taxi services. |
| | 1998-99 | TransAdelaide corporatised. |
| Tas | 1997-98 | Australian Transport Network announced as successful bidder for AN's freight operations in Tasmania. |

*Sources:* PC 1998a and 1998c; Department of Transport and Regional Services sub. 76; Victorian Government sub. 82; WA Government sub. 60; Queensland Rail sub. 59; Queensland Transport sub. 75.

Table D.3 **Key reforms in the 1990s: access**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| Cwlth | 1995-96 | AN established the Track Access Unit to manage the mainline interstate rail network owned by the Commonwealth. |
| | 1997-98 | ARTC established to manage access and infrastructure development on the interstate network. |
| | 1998-99 | ARTC commenced operation. |
| NSW | 1996-97 | RAC established to negotiate the use of the rail track and fund the upkeep of the rail track. |
| | | NSW rail access regime commenced operation. |
| | | NSW Government applied to the National Competition Council (NCC) to recommend certification of the effectiveness of the regime. |
| | | SCT sought declaration of the Sydney to Broken Hill rail service. |
| | | NSW Minerals Council sought declaration of the Hunter Valley rail line service. |
| | 1998-99 | NCC issued *Draft recommendation on effectiveness of NSW rail access regime*. |
| | | NSW Government released an amended NSW rail access regime for public comment. |
| | | NSW rail access regime gazetted in February 1999. |
| Vic | 1995-96 | *Rail Corporations Act 1996* passed to establish VicTrack and allow access to rail infrastructure for private freight and passenger operators. |
| | 1997-98 | VicTrack commenced operation. |
| | 1998-99 | Access to interstate network through ARTC. |
| Qld | 1996-97 | Carpentaria Transport sought declaration of specified rail services on the Brisbane to Cairns rail corridor. |
| | 1997-98 | Queensland access regime for rail services commenced operation. |
| | | Queensland Government applied to the NCC to recommend certification of the effectiveness of the regime. |
| | | Network Access Group established within QR to deal with access issues. |
| | | Queensland Competition Authority established. |
| | 1998-99 | A voluntary access undertaking for rail infrastructure developed. |

Queensland Government withdraws application to NCC.

(continued on next page)

Table D.3 (continued) **Key reforms in the 1990s: access**

| *Jurisdiction* | *Date* | *Nature of reform or policy initiative* |
|---|---|---|
| WA | 1996-97 | Westrail established an Infrastructure Division responsible for access.<br>Interstate operators allowed access to government rail infrastructure services. |
| | 1997-98 | SCT sought declaration for certain WA rail services. |
| | 1998-99 | Robe River Iron Ore Associates sought declaration of a rail service in the Pilbara region operated and owned by Hamersley Iron.<br><br>Federal Court found that the rail service operated by Hamersley Iron was exempt from Part IIIA of the Trade Practices Act. The NCC and Hope Downs Management Services appealed the Federal Court's decision.<br><br>Upon proclamation, the *Government Railways (Access) Bill 1998* provided for a formal regime for access to government railways.<br>The subsidiary legislation in the form of a Code developed.<br><br>WA Government applied to the NCC to recommend certification of the effectiveness of the regime. |
| SA | 1997-98 | *Railways (Operations and Access) Act 1997* imposed access obligations on operators who control the intrastate network. |
| | 1998-99 | Access to interstate network through the ARTC.<br>SA/NT Governments applied to the NCC to recommend certification of the effectiveness of the regime relating to the track between Tarcoola and Alice Springs. |
| Tas | | A rail specific access regime does not exist in Tasmania. Australian Transport Network as owner of the rail track is required to enter into negotiations with other operators under its contract of sale. |

Table D.4 **Key reforms in the 1990s: safety regulation and operating procedures and standards**

| *Date* | *Nature of reform or policy initiative* |
|---|---|
| 1993 | *A National Approach to Rail Safety Regulation* report recommended, among other things, an intergovernmental agreement be developed to achieve consistent national rail safety regulation. Recommendations endorsed by Ministers.<br><br>New South Wales was the first State to amend its rail safety legislation to include safety accreditation, onus on the industry to perform to agreed standards, and accountability and transparency. |
| 1995 | Part I of Australian Standard on Rail Safety Management (AS 4292) published. |

(continued on next page)

Table D.4 (continued) **Key reforms in the 1990s: safety regulation and operating procedures and standards**

| *Date* | *Nature of reform or policy initiative* |
|---|---|
| 1996 | Intergovernmental Agreement signed by Commonwealth, State and Territory Ministers.[a] Agreement set out principles and guidelines for the establishment of a consistent approach to rail safety. |
| 1997 | National Rail Summit: Commonwealth and State Ministers signed Heads of Agreement on Interstate Rail Reform.[b] Ministers agreed, among other things, to develop a decision making process to speed up harmonisation of standards and to commission a report on rail safety and operating standards (the Maunsell report). |
| | Parts 2-5 of Australian Standard 4292 published. |
| | Priorities determined and principles for reform agreed on. Various jurisdictions in the process of amending rail safety legislation to incorporate safety accreditation and mutual recognition. One body nominated as the safety regulator in each jurisdiction. |
| 1998 | Endorsement by Ministers of the *Study of Rail Standards and Operational Requirements* (Maunsell report). |
| 1998-99 | Task groups established to progress the recommendations of the report and the Intergovernmental Agreement. Industry was also involved in this process. |
| | Ministers at Australian Transport Council meeting agreed to an independent review of rail safety arrangements and the establishment of a national body to facilitate and implement arrangements for the adoption of uniform operating requirements. |

[a] The ACT was not a signatory. [b] Tasmania and the Territories were not signatories.

*Sources:* ATC 1993; IGA 1996; Heads of Agreement 1997; Maunsell 1998.

Table D.5 **Key reforms in the 1990s: heavy vehicle charging**

| *Date* | *Nature of reform or policy initiative* |
|---|---|
| 1991 | National Road Transport Commission (NRTC) established. |
| 1992 | NRTC recommendation on heavy road vehicle charges. |
| 1994-95 | In South Australia, national heavy road vehicle charges implemented. |
| 1995 | In Queensland, heavy road vehicle charges implemented. |
| 1995-96 | In Victoria, Western Australia, Tasmania and ACT heavy road vehicle charges implemented. |
| 1996-97 | Implementation of uniform heavy road vehicle registration charges completed across Australia. |
| 1998-99 | Revised set of national heavy road vehicle charges proposed by NRTC. |

*Sources:* IC 1991a (various years); NRTC 1998b.

# E International railways

This appendix describes the experience of a selection of countries that have undergone significant change in aspects of their organisational structure, ownership and access arrangements in railways. The motivation for change is also considered. This appendix concentrates on identifying and reporting experiences of particular interest, such as the experience of franchising in Great Britain and investment issues in Sweden.

Countries covered in this appendix are:

- Argentina (section E.1);
- Canada (section E.2);
- Germany (section E.3);
- Great Britain (section E.4);
- Japan (section E.5);
- Netherlands (section E.6);
- New Zealand (section E.7);
- Sweden (section E.8); and
- United States (section E.9).

Table E.1 provides an overview of the structure and ownership of these railways.

Table E.1 **Overview of structure and ownership of overseas railways**

| *Country* | *Structure* | *Train operator* | *Track infrastructure* |
|---|---|---|---|
| Argentina | Horizontally separated and vertically integrated | Franchisees | Government |
| Canada | Horizontally separated (by function) and vertically integrated with access for passenger services | Various private | Various private |
| Germany | Horizontal and vertical separation of accounts | Governments and various private | Government |
| Great Britain | Horizontally and vertically separated | Franchisees | Private |
| Japan | Horizontally separated and vertically integrated with access for freight services | Franchisees and government freight operator | Government with franchisees having control of track |
| Netherlands | Horizontally and vertically separated | Government and various private | Government |
| New Zealand | Horizontally and vertically integrated | Private | Government (leased for nominal rent) |
| Sweden | Horizontally and vertically separated | Government and various private | Government |
| United States | Horizontally separated (by function) and vertically integrated with access for passenger services | Various private | Various private |

## E.1 Argentina

Railways in Argentina have been horizontally separated on a geographic basis and individually franchised as vertically integrated operations.

Most of the problems in the Argentinian rail industry were caused by a lack of commercial orientation (World Bank 1996). Prior to restructuring, the Argentinian rail network was particularly run down as a result of poorly targeted investment decisions by Ferrocarriles Argentinos (FA), the Argentinian railway. FA had weak management and a production oriented culture which paid little attention either to satisfying customer needs or the increasing competition from other modes (Kopicki and Thompson 1995). The restructuring of Argentina's rail system had the objective of generating private investment (Brooks and Button 1995).

## Reform and structural organisation

Between the mid-1980s and 1994, restructuring of FA occurred in two stages:

- the unbundling of the fully integrated and centralised network by dividing the company into:
  - freight services;
  - intercity passenger services; and
  - urban passenger services.
- franchising of railways (World Bank 1996).[1]

Freight and passenger services were separated because there was an opportunity for the freight businesses to become commercially sustainable while passenger businesses were going to require continual subsidies from government (World Bank 1996).

The approaches taken in the franchising of services differed for freight, intercity passenger and urban passenger services.

### *Freight services*

In 1990, the freight service was separated into six sub networks and franchised. The conditions of the franchises were that:

- each franchise would be operated by a private company;
- franchises would be for a period of 30 years with the option of a 10 year extension;
- the franchises would be vertically integrated and include freight marketing, train operation, equipment and track maintenance and rehabilitation responsibilities;
- franchises would include the exclusive right to the infrastructure and no other operator could carry freight in the region without the franchisee's permission;
- the franchisee could also opt to provide passenger services, but if it chose not to it would be compelled to allow someone else to operate the passenger service and would be compensated fairly;
- the franchisee was obliged to hire FA staff, but only as many staff as were required;

[1] World Bank refers to this arrangement as concessioning. See chapter 6 for a definition.

- freight rates were deregulated but a maximum rate had to be submitted to the Secretary of Transportation for approval; and
- each franchisee would rent a set number of locomotives and wagons.

Five rail freight franchises have been awarded, leaving only the metre gauge Belgrano Railway under government operation. The franchises have included the use of all infrastructure and rollingstock plus access to the workshops (ECMT 1996).

The Government no longer subsidises the freight business and the volume of traffic has grown (Thompson 1997).[2]

### *Intercity passenger services*

A study commissioned by the Argentinian Government in 1991 analysed the profitability of intercity passenger services and found that only one service was commercially viable. The report recommended the retention of commercial services and some of the other marginal services (on social grounds). In 1992, the Government decided not to continue to subsidise intercity passenger services and offered the services to the Provinces to provide them at their own expense (World Bank 1996). Seven Provinces agreed to the transfer of services and these were franchised under the conditions that:

- the franchisee should provide minimum service levels as outlined in the schedule;
- the franchisee should improve services to a specified level in a given period of time;
- at least 20 per cent of seating should be allocated 'tourist class' and prices should be in US dollars;
- the franchisees would give preference to FA employees but should only employ as many as required; and
- each franchisee would rent a set number of locomotives and passenger cars (Kopicki and Thompson 1995).

[2] Bolivia, Brazil, Chile, Cote d'Ivoire and Burkina Faso have had similar experiences.

*Urban passenger services*

Urban passenger services were separated into seven businesses and franchised. It was anticipated that the farebox revenue collected by franchisees would be insufficient to cover the cost of providing the services.

A three envelope model was used for the bidding process for the franchises. Envelope one contained information about technical and operating experience, envelope two contained a detailed business and operating plan and envelope three contained the financial proposal for the franchise, including the subsidy required from the Government to run the services.

The franchises were awarded on the basis of a single criterion, the lowest subsidy required to operate the railway and undertake a specified investment and rehabilitation program (envelope 3).[3] The franchises were awarded to three bidders — two of the three bidders were awarded franchises for three rail businesses each.

### Access

Provisions for access were incorporated into the franchising agreements. Freight railways and urban passenger railways are required to allow access to the track for intercity passenger operators in exchange for a 'toll' (World Bank 1996).

Argentina's seven major passenger companies (all privatised) have formed an association in an attempt to reduce the high track access charges being charged by the major freight companies. The association will also set common standards for Argentinian passenger fares (Australian Association of Timetable Collectors 1999).

## E.2 Canada

Railways in Canada are vertically integrated and horizontally separated by function. Canadian railways are characterised by profitable freight operations, unprofitable intercity passenger railways and locally funded commuter rail services.

The motivation for reform of the railways in Canada differs substantially from other countries in that it has been initiated by the industry, rather than the Government. Industry initiated reform to facilitate improvements in efficiency. While the issues

[3] The lowest subsidy was measured as the first ten year present value of the annual subsidy flow required to operate the line and undertake investment plans, net of the annual flow of the fee offered to be paid for the use of fixed assets such as track and stations (World Bank 1996).

facing management (such as restructuring of services, network assets and liabilities) are similar in the United States and Canada, reform in Canada has been much slower because of the high level of restrictive regulation (Kopicki and Thompson 1995).

The constraints to reform included:

- labour laws which limit opportunities for productivity gains;
- the need for substantial cross-subsidies between passenger and freight services; and
- regulations which limit ownership rights (such as through the structure of access arrangements).

In 1987 the Canadian transportation industry was deregulated under the National Transportation Act 1987 (Statistics Canada 1993; Statistics Canada 1996). The 1987 Act is distinguished by its explicit concern for safety standards, emphasis on intramodal competition, consideration of regulation as a last resort and identification of transport as the key to regional economic development (IC 1991b). (See appendix G for a summary of safety regulation reform in Canada.)

## Reform and structural organisation

Canadian railways are dominated by a longstanding duopoly — Canadian National (CN) and Canadian Pacific (CP) (Brooks and Button 1995). CN and CP are primarily freight railways. It is a unique rail system in that CP and CN operate a parallel track system across most of Canada. In addition, there are approximately 23 other mainly small rail operators, including some larger regional railways such as British Columbia Rail.

The railway restructuring in Canada over the past 25 years has been characterised by:

- the creation of VIA Rail in 1977 to manage passenger rail services previously provided by CN and CP;
- the application of private sector principles to the administration of VIA Rail to facilitate efficiency;
- infrastructure rationalisation by CN and CP — for example, the sale of operations in the Maritime Provinces;
- strategic restructuring of CN and CP to coordinate operations, engage in mergers and swap rail lines; and
- development of shortline railways (Statistics Canada 1996).

VIA Rail provides 90 per cent of Canada's intercity passenger rail services, including a transcontinental service and corridor services between Windsor and Quebec City (Statistics Canada 1996). VIA Rail was designed to remove the burden of providing uneconomic intercity passenger services from private freight railways. The Canadian Government owns, operates and directly subsidises VIA Rail. VIA Rail then contracts other companies to provide services — 92 per cent are provided by CN.

In 1998, the Canadian Government announced its intention to franchise VIA Rail. The Government will provide Can$170 million for rail passenger services per year and limit payments for essential remote social services to Can$30 million (*Transport 2000 Canada* 1998, vol. 20, no. 6, p. 2). In November 1998, the operation of passenger services on Vancouver Island was transferred from VIA Rail to a private operator (Australian Association of Timetable Collectors 1999).

VIA Rail pays access charges for operating on CN and CP rail lines. These charges are paid on a pro rata basis and were renegotiated in 1995 for a 13 year period.

## E.3 Germany

Railways in Germany are characterised by horizontal separation of freight and passenger services and the establishment of separate business units (with their own accounts) for track infrastructure and train operations. Most rail services are still provided by an integrated railway.

The motivation for reform in Germany was a need to improve efficiency and to solve the debt problem faced by the rail industry. German reunification acted as a catalyst for change. The reform process commenced in 1989 when a commission was established to examine the future of East and West German railways (Jahanshahi 1998).

### Reform and structural organisation

The German Rail Act 1994 led to the merger of the East and West German railways and the subsequent reorganisation of the new national railway, Deutsche Bahn Aktiengensellschaft (DBAG), into four business units. The units are responsible for track, long distance passenger transport, local passenger transport, and freight.[4] The sole shareholder of DBAG is the Republic of Germany. By the end of 1999, DBAG

[4] The freight business, DB Cargo, has merged with the Netherlands freight business, NS Cargo (Briginshaw 1999).

will become a holding company with five independent state-owned joint stock units. Each unit has its own budget and is responsible for its own financial performance. The business units include:

- DB Travel and Tourism responsible for long distance passenger traffic;
- DB Regio responsible for regional and local passenger services;
- DB Station and Service responsible for stations and maintenance;
- DB Cargo responsible for freight operations; and
- DB Network responsible for infrastructure (*International Railway Journal*, January 1999, p. 44).

Dissolution of the holding company and complete separation will take place at a later date (Jahanshahi 1998).

The German rail reforms have also led to a large number of local private rail operators. Regional transport authorities are responsible for local services. There are 150 private short haul rail operators providing mainly local passenger services.

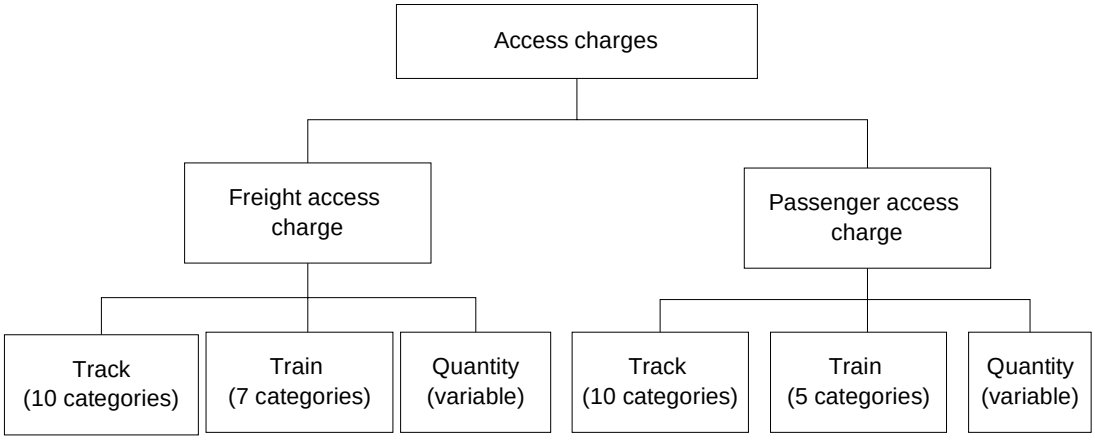
## Access

DBAG retains control of the rail infrastructure which is accessible to operators, including the local shortline railways. All railways, including DBAG, are required to pay access charges which are regulated by the Federal Railway Office. DBAG determines and administers the access charges.

It publishes two sets of access charges, one for freight operations and another for passenger operations. Different charges are applied to different track categories, train categories and quantities (figure E.1). If the maximum class load is exceeded, the operation requires special planning or specific track is reserved, then a supplementary fee is paid. DBAG provides rebates for long term commitments, large contracts (total network kilometres), empty wagons and single locomotives.

In general, the revenue received does not cover the infrastructure costs. Even so, the OECD (1998) has suggested that the access charging regime has discouraged entry because of high charges and quantity discounts. Consequently, only a handful of new operators have entered the market in recent years — these have been predominantly short haul private railways (OECD 1998).

Figure E.1 **Structure of access charges in Germany[a]**




**a** Track categories incorporate regional differences in route quality and demand. Train categories incorporate maximum train gross weight, maximum speed and desired degree of service planning in terms of travel time.

### Investment

A separate division under DBAG is responsible for investment. In some instances, regional authorities are also responsible for investment in track.

Investment in new lines is financed by interest free public debt. Some commuter services are subsidised and are funded via agencies appointed by state authorities which receive funds from the Federal Government.

## E.4 Great Britain

The railways in Great Britain[5] are horizontally and vertically separated by:

- function — track infrastructure, train operations and rollingstock provision;
- business — passenger, freight and maintenance services; and
- geography.

In 1992, the British Government embarked on a national privatisation policy. A Government White Paper on rail proposed using economic incentives and contracts to encourage competition at a moderate pace.

[5] The term Great Britain is used instead of the United Kingdom, since the latter includes Northern Ireland. The reforms that are described are confined to Great Britain, that is England, Wales and Scotland.

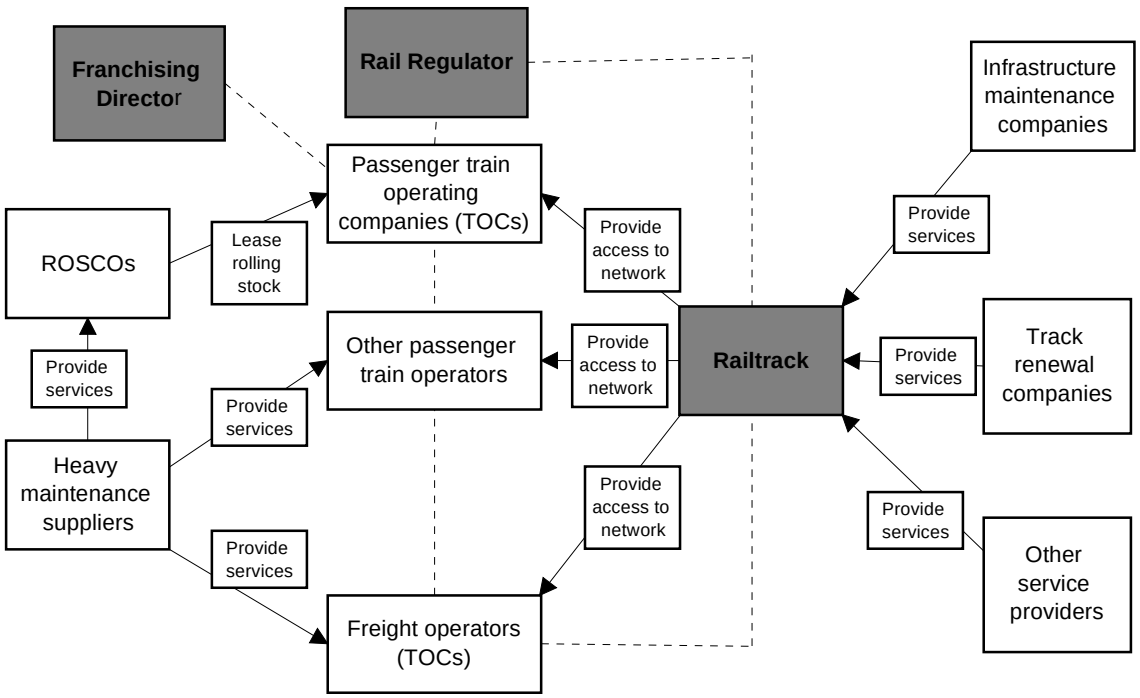
The impetus for this change was the need to:

- reduce subsidies at a time when investment was required;
- make railways more responsive to customer needs; and
- increase the attractiveness of rail transport as roads become more congested and the level of environmental damage increases (OECD 1998).

## Reform and structural organisation

Following the Railways Act 1993, British Rail was horizontally and vertically separated to allow for competition at all levels of business except the provision of infrastructure capacity. This led to the creation of about 100 businesses, including 25 passenger operators (train operating companies (TOCs)), six freight companies (TOCs), three equipment leasing companies (ROSCOs) and numerous small scale associated businesses (figure E.2). By 1997, these enterprises were either sold or franchised.

Figure E.2 **The structure of the rail system of Great Britain**




*Source:* Kain 1998, p. 249.

The organisations that were sold included:

- Railtrack (see below);
- British Rail's infrastructure support including seven infrastructure maintenance, seven service design and six track renewal companies;
- three ROSCOs[6];
- central service operations; and
- six freight operations — three geographic bulk companies, one container company, one non-bulk international operator and one postal services company (Kain 1998).

Since the initial separation, the structure and ownership of rail businesses have changed. The rail freight companies have been rationalised from six to two. English Welsh Scottish Railways (EWS) has acquired five of the companies and carries about 90 per cent of the rail freight, while Freightliner Limited remains separately owned and competes in the intermodal container market (sub. DR95).[7]

Initially Railtrack was a government-owned commercial organisation. In 1996, it was sold to the private sector through a stock exchange float. It continues to own and manage all infrastructure, including 39 000 kilometres of track, signalling, about 2500 stations and 90 depots. All stations, except 14, have been leased and all maintenance work is performed by contractors. Railtrack is also responsible for setting access charges (Kain 1998).

Two organisations have been established to support structural separation: the Rail Regulator and the Franchise Director.

The Rail Regulator is the independent agency responsible for supervising access to track and markets. It was established to protect the public interest by ensuring nondiscriminatory access at reasonable prices. The Rail Regulator evaluates access prices based on published criteria.

The Franchise Director manages relations with passenger service operators and was initially responsible for franchising passenger services. Franchises have been awarded for periods between five and 15 years. These were awarded in a market where it was known that there was a possibility of a gradual introduction of

6 The ROSCOs combined to purchase the vehicle spare parts pool. The stock is maintained by heavy maintenance suppliers.

7 EWS Railways is a rail freight company majority owned by the US railway, Wisconsin Central, which also owns Tranz Rail (NZ) and Tasrail.

competition from 1 April 1999.[8] They were awarded on the basis of lowest subsidy or highest franchise fee offered. The franchise agreements may stipulate renewal of rollingstock. The Franchise Director administers subsidies to franchisees and in 1998 all but one passenger service was subsidised (Jahanshahi 1998). It is anticipated that the level of subsidies will decline over time and there is some evidence that this has happened already (Kain 1998).

In August 1998, the British Government announced its intention to create a 'Strategic Rail Authority' to provide strategic planning for the rail industry. A shadow Strategic Rail Authority is currently operating and it will be fully operational once legislation is passed. It operates in conjunction with the Rail Regulator and the Franchise Director. The Strategic Rail Authority will be responsible for managing the 25 passenger franchises (including the allocation of subsidies) and providing grants for freight transport. It will also determine how much competition is permitted between passenger operators. The Strategic Rail Authority will take over some of the responsibilities of the Rail Regulator, including consumer protection powers and the monitoring of Railtrack's performance and investment delivery (*Railway Gazette International*, August 1998, p. 497).

The reforms will not be complete until at least 2002, when it is anticipated that there will be largely unrestricted access for passenger train operators. The experience of Great Britain to date suggests that although the costs of transition have been high, the demand for services has increased. In addition, there have been some difficulties associated with the reform, such as coordination problems with passenger services and disagreement between the Rail Regulator and Railtrack over the level of investment required (Thompson 1997).

## Access

Access to rail infrastructure is provided through agreements between Railtrack and service operators. These agreements specify the route to be followed, the number and timetable of trains, equipment types, service standards and access charges. Where an agreement cannot be reached between parties (Railtrack and the operator) the Rail Regulator may intervene. The condition of track and level of investment is also monitored by the Rail Regulator.

Railtrack and the Rail Regulator are currently designing the access charging system. It is anticipated that access charges will cover all system costs (including time and capacity costs). Therefore track infrastructure is not subsidised by government. The

[8] The Franchising Director sought agreement from the Rail Regulator to modify competitive entry for an initial period because the market had no experience of franchising. This enabled franchisees to establish their businesses and reduce the risk of failure.

British rail network is primarily used for passenger services and thus 90 per cent of overhead costs are borne by passenger services.

Freight access charges are individually negotiated with each operator. An agreement between Railtrack and the freight operator, EWS, provided a formula for calculating track access charges. This has enabled instant price quotations for rail freight customers. New access contracts have to be approved by the Rail Regulator, who determines whether the terms are reasonable or whether they are harmful to the interests of other users of the network or those who depend on it. It is anticipated that these access arrangements may facilitate the entry of other freight operators.

Track access charges are to be reviewed by 31 July 2000. The review will consider whether capacity is allocated on an appropriate basis, whether congestion charges should apply and whether low additional access charges give the right incentives to enhance capacity (OECD 1998).

## E.5 Japan

The railways in Japan are characterised by horizontal separation and vertical integration. Horizontal separation has occurred on a geographic basis and has been accompanied by franchising.

Despite several attempts to control the railway deficit, by 1985 it had reached US$13 billion. The OECD (1998) argued that the deficits were caused by Japanese National Railways (JNR) focusing on management, engineering and operating issues and not considering budgetary conditions.

Furthermore, JNR was unable to respond to the structural change in the industrial sector in Japan. The OECD (1998) suggested that this was because the railway was organised as a public corporation without managerial discretion, and its scale exceeded a manageable size.

### Reform and structural organisation

In 1987, the privatisation process of JNR commenced. JNR was divided into six geographically based passenger services: one freight service; the Shinkansen (Bullet Train) Leasing Corporation which owns high speed right of way leased to passenger railways; and JNR Settlements Corporation which carries the unapportioned, unfunded obligations of JNR. The passenger services are operated privately, while the freight service has been gradually privatised since 1990.

In restructuring the railway there was a significant number of surplus staff (approximately 93 000). To ease the adjustment burden there was a major program

of outplacement of staff. Most of these were transferred to the Japanese Government, municipalities and other private companies (Fukui 1992).

There is yardstick competition between franchisees for the type of services provided. The Japanese Government regulates train fares.

### Access

Access charges are negotiated between the incumbent operator and the entrant, so that, for example, freight trains using passenger lines would pay access fees to the franchisee. The access charges are based on avoidable costs. The difficulty with this arrangement is that where the capacity on the rail line is limited, there is no incentive for the infrastructure provider to augment capacity as the freight operator only pays marginal cost for access (ECMT 1996).

## E.6 Netherlands

The railways in the Netherlands are characterised by horizontal (by function) and vertical separation.

Until the early 1990s the Netherlands Railway, Nederlandse Spoorwegen (NS), was subject to a high degree of government regulation. NS did not have the freedom to determine its own fares, levels of service or investment plans. A report by the Wijffels Committee in 1992 recommended that the Government allow NS to operate as an independent business, to create separate organisational divisions within NS and to adopt European policy measures (Nash and Toner 1999).

The primary motivations for the structural reform of NS were to:

- achieve growth in the number of passengers using rail transport services; and
- improve rail transport services (ECMT 1998).

### Reform and structural organisation

In 1994, NS was separated into track infrastructure and train operations. The train operations of NS became four business units responsible for:

- passenger services (NS Reizigers) — established in 1994 operating as an independent entity;
- freight (NS Cargo) services — established in 1994 operating as an independent entity;

- railway stations (NS Stations) — established in 1993 to charge rent to NS businesses and external agencies and to improve the environment of stations; and
- real estate (NS Vastgoed) — established in 1994 to pursue the commercial development of NS property (Harris 1998).

In addition, three organisations were established to provide specialised services (on a commercial basis) to the freight and passenger businesses:

- NS Materieel comprises rollingstock workshops and depots and manages the railway's traction and rollingstock;
- NS Beveiliging Services comprises police, protection and advisory services; and
- NS Facilitaire Bedrijven comprises personnel administration, documentation and research services (Harris 1998).

The track infrastructure is funded by government (Infrafonds, the government infrastructure fund) and managed by:

- NS Railinfrabeheer — a technically focused organisation, responsible for maintenance of infrastructure and building new infrastructure;
- Railned — responsible for managing capacity and regulating access. As part of this function Railned:
  - specifies the future rail infrastructure requirements to government;
  - allocates capacity to the different railway operators;
  - operates in a transparent, auditable and nondiscriminatory way; and
  - supervises safety.
- NS Verkeersleiding — responsible for the efficiency and safety of rail traffic management including signalling and systems control (ECMT 1998; Harris 1998).

Since 1996, NS Reizigers has had the freedom to set fares and establish timetables. From 2000, passenger services will no longer be subsidised.[9] Rather, when there are services which the Dutch Government wishes to continue, these will be funded by community service obligations through a purchaser-provider framework. The Dutch Government also intends to competitively tender 30 loss-making lines (Harris 1998).

There have been a number of new entrants and mergers in the Dutch rail market. Since 1996, Lovers Rail has offered passenger services to tourists between

[9] Freight services provided by NS Cargo are not subsidised.

Amsterdam and Ijmuiden, and later in 1998, between Haarlem and Leiden. From May 1998, Oostnet has operated the Almelo-Marienbergine line using NS rollingstock. In June 1998, it was announced that NS Cargo would merge with the German freight business, DB Cargo. At this stage the Dutch Government has no plans to privatise its railways (Harris 1998).

### Access

Third party train operators may enter the rail market to compete for both passenger and freight services. The Dutch Government encourages competition by creating facilities for new train operators. The Government provides this assistance in order to:

- facilitate an efficient market for rail freight services; and
- assist in achieving competitive neutrality with road (ECMT 1998).

Track infrastructure capacity is allocated by Railned through a 'standard procedure' (ECMT 1998). Access fees will be charged from 2000 and the charge will only be related to the cost of maintenance of the infrastructure.

## E.7 New Zealand

The railways in New Zealand are horizontally and vertically integrated.

Prior to restructuring, the New Zealand railways were unprofitable, inefficient, production rather than customer focused, lacking commercial management skills and not prepared to meet potential competition (Kopicki and Thompson 1995).

The main objective of the rail reform in New Zealand has been to inject greater efficiency through privatisation of New Zealand Rail. The scale and network benefits of coordinated services, such as linking ferry services with rail services, were considered integral to improving efficiency (Brooks and Button 1995).

### Reform and structural organisation

Before privatisation the Railways Corporation was restructured into two entities, New Zealand Rail Limited (NZRL) and New Zealand Railways Corporation

(NZRC).[10] NZRL operated the core rail freight, rail passenger and inter-island ferry services. NZRC had landlord responsibilities and was also responsible for administration of the debt.

The New Zealand rail system is now characterised by private monopoly operations of rail services and public ownership of the right of way. In July 1993, NZRL (both freight and passenger operations) was sold to a New Zealand-United States consortium and now operates as Tranz Rail. Tranz Rail has entered into a long term lease with the New Zealand Government for use of the track. The Regional Governments subsidise urban passenger services in Auckland and Wellington.

Tranz Rail operates six businesses:

- Tranz Link — markets and manages all freight services;
- Tranz Scenic — markets and operates long distance passenger travel;
- Tranz Metro — operates the commuter services in Wellington and Auckland;
- The Interislander — manages all inter-island ferry operations;
- Operations — manages infrastructure; and
- Corporate office — covers safety, personnel and planning, corporate relations, security, and financial and business services.

Since privatisation, profits have risen substantially, from NZ$54 million in 1993 to NZ$105 million in 1995 (adjusting for redundancy payments) and were NZ$82 million in 1997-98 (King 1996; Tranz Rail 1998). Performance has also improved. Freight rates have decreased by about one quarter since deregulation (Bollard and Pickford 1998).

## Access

The control of access is defined in the lease between Tranz Rail and NZRC. When freight and passenger traffic fall below critical levels, the New Zealand Government may allow access to other operators (Brooks and Button 1995). Thus access to track by other operators is not encouraged if minimum volumes are met by Tranz Rail. This reflects the Government view that competition from road and shipping is enough to ensure efficiency (OECD forthcoming).

[10] The privatisation of New Zealand Rail was predated by two rounds of corporatisation. New Zealand Rail was first corporatised in 1982. However, the Government still exerted influence over the organisation. In 1990, NZRL was created under the State Owned Enterprises Act 1986.

There is no specific rail regulator in New Zealand. Disputes between potential entrants and Tranz Rail are subject to arbitration by general competition authorities. In addition, the New Zealand Commerce Commission has the power to investigate the abuse of market power.

## E.8 Sweden

The railways in Sweden are characterised by horizontal and vertical separation.

Prior to 1988, Swedish railways (train operations and track infrastructure) were operated by one integrated public service enterprise, Swedish State Railways (Statens Jarnvagar (SJ)). In 1988, the Government restructured Swedish railways under the Transportation Policy Act. Subsequent legislation, passed in 1995, opened the rail network to private providers (Jahanshahi 1998).

The restructuring of the Swedish railways occurred because:

- Swedish railways were experiencing relatively poor financial performance;
- there were differences in the treatment of road and rail (chapter 10 discusses this issue in more detail);
- the perceived environmental and safety benefits were thought to be greater for rail than road; and
- there was the view that the Government railway was inhibiting market oriented activities (Jahanshahi 1998).

### Reform and structural organisation

In 1988, SJ was organised into two separate organisations — Banverket (BV), the national track authority and SJ, the national operator. BV is responsible for maintaining track infrastructure (including land), signalling and telephone services, and electricity supply. SJ and BV are not privatised (Jahanashahi 1998).

There is limited competition in the national network. A private operator, BK-Tag, operates services on two passenger lines. SJ has been commercialised and operates profitable services without operational subsidies. The regional networks have been contracted and tendered by regional transport authorities.

Swedish railways operate within the framework established in the European Commission's (EC) 1991 Directive on the vertical structure of railways (box E.1).

Box E.1 **European experience**

Since 1990, the EC has adopted a series of directives designed to 'liberate' rail services. The first Directive of the EC (Directive 91/440/EEC) specified that accounts for all member countries' railways should be divided into below and above track operations and that open access should be provided on a nondiscriminatory basis. The impetus for such reform was twofold — to facilitate the fair treatment of road and rail, and to establish government entities to facilitate competition. The Directive excluded urban and regional services. In addition, the EC has adopted two other Directives of relevance to structural reform and access. Directive 95/18/EC described conditions on the licensing of railway undertakings and established the need for a separate access unit. Directive 95/19/EC related to the allocation of infrastructure and the charging of access fees.

Directive 91/440/EEC is limited in scope. Some member states have decided to go beyond the Directive and establish separate bodies for infrastructure management and transport operations, either within a single undertaking or in a separate undertaking. Some member states have also established wider access rights than those in the Directive and have introduced competitive tendering and contracting. Despite this, there has been limited opening of the market and the incumbent rail operator remains dominant in most member states.

The experience of reform in safety regulation and operating procedures and standards is outlined in appendix G.

*Sources:* EC 1998b; OECD 1998; Galenson and Thompson 1994; Kritzinger 1998.

## Access

Access charges are paid by SJ to BV. Variable track access charges were implemented to create conditions similar to roads. The access charge comprises a fixed component, and a variable component in five classes — weighted by rollingstock type, wagon handling costs, catenary system usage, accident costs and environmental costs of diesel fuel usage. However, the access charge is not designed to enable full cost recovery — it is designed to recover one third of the cost. Hence, the Swedish Government continues to provide a large (indirect) subsidy to rail.

In addition, there are a number of facilities which are regarded as common or essential facilities — stations and terminals, land for railway purposes and maintenance facilities. These are administered by the Swedish Railway Inspectorate in accordance with EC Directive 95/18/EC.

The Swedish Government indicated that from 1 January 1999 many of the track access charges were to be removed (*Railway Gazette,* August 1998, p. 529).

SJ has a monopoly position in interregional passenger services and retains grandfather rights for freight services. However, new operators have entered the market. The new operators include Malmtraffik I Kiruna AB (established in 1996 as a joint venture between mining company LKAB, SJ and Norwegian Railways (Norges Statsbaner BA (NSB) to haul iron ore), two small companies operating regional passengers and eight small freight operators (Harris 1998; ECMT 1998).

### Investment

BV owns tracks and platforms and SJ owns 'ground' and stations. The rail network is owned by SJ, private companies and municipalities.

The State, through BV, is responsible for investing in infrastructure. Its level of investment is not limited by the revenue collected from access charges. The Government has increased funding to BV since the separation. The rationale for this increase is to give equal treatment to both road and rail.

In 1993, BV was asked by the Ministry of Transport to develop a 10 year plan for mainline investments. A long term plan was approved (1994 to 2003) which was expected to result in significant railway investment (ECMT 1996). However, to date, investment has been less than planned.

Thompson (1997) suggested that investment is not market driven. Costs and revenues have been separated into two organisations (BV and SJ respectively) and consequently the signals for efficient investment are distorted. Because there is no mechanism linking the demand for investment by SJ to the supply of funding by BV, there is a lack of coordination of investment. SJ wants to determine which track requires investment, while BV funds investment based on political direction.

## E.9 United States

The railways in the United States are vertically integrated and horizontally separated by function. The rail industry is characterised by profitable privately owned freight railways, an unprofitable publicly owned intercity passenger service, and locally financed commuter networks.

The US rail freight industry's share of the total freight transported has declined due to competition from road transport. The decline was compounded by restrictive regulation which attempted to force railways to subsidise passenger and rural freight through higher charges for higher valued merchandise. By the early 1970s, much of the rail system was close to bankruptcy. Structural reform ensued, culminating in the

Staggers Rail Act 1980, which deregulated the rail industry (box E.2). Since deregulation some 40 Class I railways have been consolidated into nine Class I railways.[11]

Box E.2 **The Staggers Rail Act 1980**

The Staggers Rail Act 1980 enabled railways to market their product in terms of quality and price. The Act included provisions which:

- relaxed the method of regulating freight rates;
- explicitly legalised contract rate making;
- permitted abandoning unprofitable lines; and
- removed antitrust limitations.

These reforms led to an increase in the productivity of labour and physical assets and a decrease in freight rates. Over half the rail freight business in the United States travels under contract freight rates.

*Source:* Carbajo 1993.

## Reform and structural organisation

Freight services are undertaken by approximately 500 private freight rail companies comprising Class I, II and III railways. Of these, seven railways undertake about 80 per cent of the nation's rail freight. Intercity passenger services are undertaken by Amtrak. These are partly funded by government.

The main structural reforms of the US rail system include:

- the creation of Amtrak in 1970 (box E.3);
- the nationalisation, reorganisation and privatisation of seven of the railways in the North-East to form Conrail in 1970;
- substantial deregulation to permit railways to adapt services to customers in 1980 (box E.2); and
- the separation and sale of Conrail (approximately half to CSX Transport and the other half to Norfolk Southern) in 1998-99.

[11] Class I railways are defined as railways with revenue over US$250 million, Class II railways have revenues over US$20 million but less than US$250 million. Class III railways have a maximum revenue of US$20 million (Kopicki and Thompson 1995).

Box E.3 **Amtrak, the United States intercity passenger service**

Amtrak was created in 1970 under the Rail Passenger Services Act and began services in May 1971. It is nationally owned and was created to:

- place decision making and funding responsibility for passenger services in the public sector;
- improve the quality and cost effectiveness of passenger services; and
- allow private railways to concentrate on providing freight services.

Amtrak is funded by the US Congress through federal capital and operating grants, which are determined by Congress on an annual basis. The subsidy is to be eliminated by 2002. The US Department of Transportation is the holder of the common stock in Amtrak which is operated as a for-profit corporation and managed as a private corporation. It is free of regulatory constraints on pricing and service frequency.

In 1996, Amtrak was restructured and organised into three business units:

- North-East;
- West coast; and
- Intercity.

In 1997, a number of reforms relaxed labour market arrangements allowing Amtrak to contract out some functions, such as food services. It is anticipated that over time Amtrak will be permitted to choose the routes and services it will provide based on demand for services.

*Sources:* Galenson and Thompson 1994; Harris 1998; OECD 1998.

In addition, the US freight railways have undergone rationalisation which has resulted in a number of other mergers, the biggest of which were:

- Burlington Northern merged in 1995 with Atchison, Topeka and Sante Fe to become Burlington Northern Sante Fe Corporation (BNSF) (BNSF 1999);
- Union Pacific merged in 1996 with Southern Pacific to become Union Pacific Corporation (UP) (UP 1999); and
- CN merged in 1999 with Illinois Central to become a major international railway in North America.

All railway mergers are subject to the approval of the Surface Transportation Board. The US market for rail freight transport is now dominated by four Class I railways: two western railways — BNSF and UP — and two eastern railways — CSX and Norfolk Southern.

There has also been reform of the smaller railways (Class II and Class III). The freedom to contract with shippers to customise services and the removal of

mandatory labour protection has resulted in the emergence of some small rail operators. This is referred to as the 'shortline revolution'. Kopicki and Thompson (1995) suggested that the success of the small rail operators has hinged on their ability to pay lower wages, make minimum capital investment, control costs, utilise technology and introduce greater flexibility in work arrangements.

## Access

There are a number of contractual arrangements which provide limited access to facilities owned by other railways. Access is arranged through the use of shared infrastructure and contractual arrangements (box E.4). These arrangements, however, do not introduce competition into all segments of the market and there is growing concern about bottleneck facilities (Jahanshahi 1998).[12]

The Surface Transportation Board supervises access and antitrust issues. The law requires that any access arrangements be nondiscriminatory. Where contracts have not been upheld or the conditions (including price) are perceived to be discriminatory they can be appealed to the Surface Transportation Board.

Amtrak owns about 20 per cent of the rail track on which it operates, particularly the North-East corridor track between Washington DC and Boston, Massachusetts. For the remaining 80 per cent of track, Amtrak pays access fees to operate passenger trains over the track owned by freight companies (OECD 1998; ECMT 1996). The original track access contracts between Amtrak and the freight railways expired in April 1996 after 25 years. Most of these contracts were renegotiated quickly. However, after the Surface Transportation Board was required to resolve a dispute between Amtrak and BNSF, a 15 year agreement was signed in October 1996. Many freight companies have commented publicly that freight and passenger services are incompatible (Harris 1998).

Access payments are made by Amtrak in the form of performance incentive payments. The access charge is based on an exponential formula based on avoidable costs which comprise a cost for gross tonnage and speed, linked to incentive and penalty payments (OECD 1998).

[12] In some circumstances competing railways may serve numerous origins, but there is only one rail track to the final destination. In this case, the single segment of rail track to the destination is referred to as a 'bottleneck facility'. In the United States there have been a number of disputes between energy companies and railways transporting coal regarding the access charges for the use of the bottleneck facilities (Jahanshahi 1998).

Box E.4 **Contractual arrangements in the United States**

The contractual arrangements used in the United States to facilitate access to privately owned track include:

- trackage rights — one railway uses the tracks of another railway and pays an agreed charge based on tonnage or a fee for service;
- paired track arrangements — where two railways have parallel track they may agree to integrate their tracks to increase operating efficiency by forming a double track line. As the benefits are mutual no financial compensation is made;
- joint track arrangements — the track is co-owned by two or more railways. In these instances railways take 'turns' for dispatch and maintenance. Each operator is responsible for scheduling its own trains;
- joint subsidiaries — a new corporation is established to undertake track maintenance and some operations. It is a variation on joint track arrangements;
- joint facilities — where the railway is owned by two or more operators;
- reciprocal operating agreements — the operator provides rollingstock and the track owner provides other equipment necessary for the incremental rail service. The track owner undertakes maintenance and other responsibilities are shared based on agreements. The track owner is paid a fee;
- reciprocal switching — a mutual exchange of wagons from one line to another;
- detours — permits the use of tracks of another railway to avoid temporary service disruption due to unforseen events, such as natural disasters and derailments;
- pooling — aggregation of several rail operators to serve large industries; and
- haulage and car-handling contracts — one rail operator hauls another rail operator's wagons when it is not permitted or economically justified to run a separate train.

*Source:* Jahanshahi 1998.

Statistics Canada (1996) suggested that Amtrak has more favourable terms and lower access charges than VIA Rail — Canada's intercity passenger service. Harris (1998) found that the access charges paid by Amtrak are very low, only one third of the potential access charge.

# F Australian access regimes

In Australia, new and existing operators can seek to gain access to rail facilities through:

- private access arrangements; and
- formal mechanisms, such as:
  - provisions under the National Access Regime contained in Part IIIA of the *Trade Practices Act 1974* (Cwlth) (TPA); and
  - provisions under state-based regimes.

This appendix outlines the formal mechanisms for seeking third party access to rail services. It supports the analysis of access arrangements presented in chapter 8.

## F.1 The National Access Regime

In April 1995, the Commonwealth, State and Territory Governments agreed to establish a National Competition Policy (NCP) and to work cooperatively on competition issues within their jurisdictions. The NCP has several elements, including legislation to amend the TPA and the *Prices Surveillance Act 1983* (Cwlth), as well as Intergovernmental Agreements setting out aspects of the NCP that could not readily be legislated.

The National Access Regime is contained in Part IIIA of the TPA. Under Part IIIA, a party can seek to gain access to certain infrastructure services through one of three mechanisms. They can:

- request that the National Competition Council (NCC) recommend that the Minister 'declare' access to the services of a particular infrastructure facility. If the infrastructure facility is declared, the infrastructure operator and the third party are required to try to negotiate mutually acceptable terms of access;
- seek access based on the terms and conditions of a legally binding undertaking made by the infrastructure operator and approved by the Australian Competition and Consumer Commission (ACCC); or
- seek access through an 'effective' State or Territory access regime already in existence.

## The declaration and arbitration process

Under the declaration and arbitration process a party seeking access to an infrastructure service can request that the NCC recommend that the relevant Minister 'declare' access to the services of a particular infrastructure facility. Once a service is declared, the parties are required to attempt negotiations for terms and conditions of access. In the event that negotiations fail, the parties can seek legally binding arbitration.

### *The declaration process*

Any person — parties seeking access for themselves, an infrastructure owner or operator or a Minister — may apply to the NCC to have an infrastructure service declared (TPA, s. 44F(1)).

The NCC assesses the application and makes a recommendation to the relevant Minister who then decides whether or not to declare the infrastructure services. The decision is appealable to the Australian Competition Tribunal (the Tribunal) (NCC 1996b).

### *Criteria for assessment*

In making its recommendations, the NCC must be satisfied that a number of criteria are met before recommending that a service be declared. These are that:

- access (or increased access) to the service would promote competition in at least one market (whether or not in Australia), other than the market for the service;
- it would be uneconomical for anyone to develop another facility to provide the service;
- the facility is of national significance, having regard to:
  - the size of the facility; or
  - the importance of the facility to constitutional trade or commerce; or
  - the importance of the facility to the national economy.
- access to the service can be provided without undue risk to human health or safety;
- access to the service is not already the subject of an effective access regime; and
- access (or increased access) to the service would not be contrary to the public interest (TPA, s. 44G(2)).

The NCC must also consider 'whether it would be economical for anyone to develop another facility that could not provide part of the service' (TPA, s. 44F(4)).

On receiving the NCC's recommendation, the Minister must also consider these matters (TPA, ss. 44H(2), 44H(4)).

There has been substantial discussion and critical analysis of these criteria both in broad terms and in their specific application to rail (for example IC 1997b; NCC 1997d; NCC 1997e; NCC 1997f).

The NCC has considered a number of applications for declaration of rail infrastructure, including declaration of:

- rail freight, track and other services in the Brisbane to Cairns rail corridor by Carpentaria Transport (NCC 1997b);
- rail track service provided by Rail Access Corporation (RAC) from Sydney to Broken Hill by Specialized Container Transport (SCT) (NCC 1997e);
- rail track service provided by RAC in the Hunter Valley by the NSW Minerals Council (NCC 1997d); and
- rail track service and freight support services provided by Westrail from Kalgoorlie to Perth by SCT (NCC 1997f).

On 24 September 1998, the NCC received an application for the declaration of rail track services provided by Hamersley Iron in the Pilbara region of Western Australia. However, Hamersley Iron applied to the Federal Court for a ruling on whether its railway is a service which can be considered for declaration under Part IIIA (NCC 1998d).

On 28 June 1999, the Federal Court ruled in favour of Hamersley, finding that the use of the private rail line used to transport iron ore from Hamersley's Pilbara mines to port was integral to the mine production process and therefore should be exempted from Part IIIA of the Trade Practices Act. On 19 July 1999, the NCC and Hope Downs Management Services (a prospective iron ore company) appealed the decision.

### *The arbitration process*

If a service is declared, the parties are required to negotiate terms and conditions of access. If the parties cannot reach an agreement, they may either:

- decide to refer the dispute to private arbitration; or
- seek arbitration through the ACCC (NCC 1996b).

If a private arbitrator is chosen, the arbitrator hears the dispute and the parties may then enter into a contract in accordance with the arbitrator's decision.

In this case the parties may request that the ACCC register the resultant contract. In deciding whether to register a contract, the ACCC must take into account the public interest and the interests of all those with rights to use the infrastructure service (TPA, s. 44ZW). If the ACCC decides not to register the contract, the parties may appeal to the Tribunal within 21 days of the publication of the ACCC's decision (TPA, s. 44ZX).

If the arbitrated outcome is registered by the ACCC, it is enforceable in the Federal Court as if it were an ACCC determination and cannot be enforced by any other means (TPA, s. 44ZY). If the parties do not seek registration, the arbitrated outcome can be enforced in accordance with usual contractual principles (NCC 1996b).

If the parties seek arbitration through the ACCC, the ACCC may terminate the arbitration if it thinks that the dispute is trivial, the parties have not acted in good faith or an existing arrangement should continue (TPA, s. 44Y). Otherwise the ACCC will arbitrate the dispute and make a written determination including a statement of reasons for it (TPA, s. 44V).

A party to an arbitration may apply to the Tribunal for a review of the ACCC's determination. Any application for a review must be made within 21 days of the ACCC's determination or decision. The review of a determination is a re-arbitration of the dispute in which the Tribunal may affirm or vary the ACCC's determination (TPA, s. 44ZP).

A party to an arbitration may appeal to the Federal Court on a question of law (not an issue of fact) concerning the Tribunal's decision on a determination. The appeal application must be made within 28 days of the Tribunal's decision, unless an extended period is allowed by the Court (TPA, s. 44ZR).

No applications for rail services have proceeded to arbitration.

## Certification

The National Access Regime overrides other access regimes, including those established by State and Territory Governments unless such regimes are 'certified as effective'.

A State or Territory Government can ask the NCC to recommend that the relevant Commonwealth Minister decide that a regime for access to a service is an effective access regime (TPA, s. 44M). If the Commonwealth Minister decides that an access

regime is effective, the terms of access will be governed exclusively by that regime rather than the National Access Regime.

After receiving an application, the NCC recommends that the regime be either certified or not certified. If recommending certification, it must also recommend a period for which certification should remain in force.

In making its recommendation, the NCC must apply the relevant principles set out in the Competition Principles Agreement (CPA), in particular:

- the broad circumstances in which the National regime should apply to infrastructure services rather than a State or Territory regime (CPA, Clause 6.2);
- the type of infrastructure services for which a State or Territory access regime can be deemed effective (CPA, Clause 6(3)); and
- the features an access regime must exhibit to be effective (CPA, Clause 6(4)).

The NCC has proposed to avoid adopting a narrow interpretation of the relevant provisions of the CPA and will 'apply the principles so as to ensure that State or Territory access regimes reflect the policy objectives underlying the CPA' (NCC 1996b, p. 44).

The NCC has also proposed to consider the effectiveness of access regimes in the context of the need of States and Territories to ensure the continued provision of community service obligations. The NCC also intends to accommodate, in special circumstances, the provision of transitional arrangements (NCC 1996b).

After receiving the NCC's recommendation, the Commonwealth Minister must decide whether or not to certify the regime as effective. In reaching a decision, the Minister must consider the principles set out in the CPA. Moreover, the decision must specify the period for which certification, if granted, will be in force (TPA, s. 44N).

The State or Territory Minister can appeal to the Tribunal within 21 days if the Commonwealth Minister decides not to certify the regime. The Tribunal may affirm, vary or reverse the original decision and, once decided, the Tribunal's decision has the same effect as the Commonwealth Minister's decision (TPA, s. 44O).

Decisions recognising effective access regimes will be held on a public register at the ACCC (TPA, s. 44Q).

The NSW Government (NCC 1998a; NCC 1998b) has applied to have its rail access regime certified. However, it has not yet been certified. The Queensland Government applied for certification but withdrew the application in February 1999

(NCC 1998c).[1] The WA Government has lodged an application for certification of its rail access regime. The NT and SA Governments have lodged an application for the certification of a rail access regime for the rail line between Tarcoola and Alice Springs and the proposed rail line from Alice Springs to Darwin.

## Undertakings

An infrastructure owner can avoid being open to declaration by submitting an access undertaking to the ACCC for registration. This allows the owner to control the manner in which access is granted over its facility.

Undertakings specify in advance precise terms and conditions of having access to a service, including access prices (or pricing methodologies), service standards, connection and disconnection arrangements and capacity constraints and extension of capacity. As the needs of different users — and consequently the costs of providing services to them — can vary, it may not be possible for the service provider to anticipate all these needs (and costs) in advance. Consequently, undertakings can also establish procedures and clearly defined boundaries for negotiations (such as maximum and minimum prices).

### *Criteria for assessment*

In assessing undertakings, the ACCC's overriding objective is to 'ensure that access to facilities covered by undertakings is provided in a way that promotes competition and economic efficiency consistent with the objectives of Part IIIA [of the TPA] and the criteria it establishes' (ACCC 1997a, p. 4). Division 6 of the TPA outlines a number of criteria that the ACCC must consider in assessing undertakings.

The criteria are general in nature, focusing on the interests of the various parties as well as the public interest. According to the ACCC, the open ended nature of the criteria gives:

> … service providers considerable scope to design and implement an undertaking suitable to their circumstances and the needs of service users and potential service users. Similarly, such openness gives the Commission flexibility in analysing and assessing the undertaking and its impact on different stakeholders. (ACCC 1997a, p. 3)

However, this flexibility may create some uncertainty about the ACCC's approach. The ACCC has published a draft guide to access undertakings (ACCC 1997a) to

[1] The Queensland Government has advised the NCC that it is committed to the certification process and will continue to work with it on this matter.

assist in clarifying the framework for interpretation and application of the s. 44ZZA criteria.

In applying the guidelines, an important role for the ACCC will be to give appropriate weighting to the various concerns raised by interested parties and achieve a workable balance between the diverse interests represented by the criteria.

There have been no undertakings for rail services.

## F.2 Australian Rail Track Corporation

The Australian Rail Track Corporation (ARTC) was incorporated in February 1998, commencing operations on 1 July 1998. It is fully owned by the Commonwealth Government through shareholder representatives of the Commonwealth Department of Transport and Regional Services, and the Commonwealth Department of Finance and Administration.

Its formation was an integral part of the rail reform process and sought to establish an organisation that could provide a 'one stop shop' service to rail users on the interstate network between Perth, Alice Springs, Adelaide, Melbourne, Sydney and Brisbane. The one stop shop approach concept arises from an Intergovernmental Agreement (IGA) between the Commonwealth and mainland States. The IGA was adopted by the Australian Transport Council in November 1997. The IGA envisaged that each state track authority would facilitate the one stop shop through the exclusive provision of selling rights to ARTC and the development of common access terms and conditions across the interstate network.

The ARTC publishes reference prices and standard terms and conditions for obtaining access to the track which it owns or manages. It currently owns the interstate track in South Australia, plus the extensions to Broken Hill, Alice Springs and to Kalgoorlie, and has a lease over the interstate track in Victoria. The ARTC in conjunction with the track owners (the NSW, Queensland and WA Governments) is negotiating wholesale arrangements for reselling track access. A draft wholesale agreement is close to finalisation and consultation with train operators will take place by the end of 1999.

The ARTC is in the process of developing an industry code for interstate access that provides a framework for considering access issues regardless of whether the ARTC is the track owner or manager. The industry code will incorporate relevant aspects of the wholesale arrangements.

## F.3 State-based access regimes

Each jurisdiction has developed or is developing an access regime for rail. Some of these are rail specific and others are more general, applying to major infrastructure.

### New South Wales

The *New South Wales (NSW) Rail Access Regime* was established under s. 19B of the *Transport Administration Act 1988* (NSW) and commenced operation in August 1996.

The regime operates in conjunction with the *Commercial Arbitration Act 1984* (NSW), *Transport Administration Act 1988* (NSW), *Rail Safety Act 1993* (NSW), *State Owned Corporations Act 1989* (NSW) and *Independent Pricing and Regulatory Tribunal Act 1992* (NSW).

In June 1997, the NSW Government approached the NCC to consider the effectiveness of the *New South Wales Rail Access Regime* in accordance with the CPA.

The NCC made a draft recommendation outlining changes to the regime agreed by the NSW Government and additional changes required before it could recommend it be certified as effective.

In February 1999, the NSW Government gazetted an amended *New South Wales Rail Access Regime*. In March 1999, the NCC provided a recommendation to the Commonwealth Minister for Financial Services and Regulation and is awaiting a decision. The Minister has requested further information from the NSW Government.

#### *New South Wales Rail Access Regime*

The RAC is responsible for managing access to the NSW rail network.

The key features of the NSW regime are contained in provisions in the *New South Wales Rail Access Regime* and include:

- a requirement that prices for general usage be negotiated between a 'floor' and 'ceiling' (Schedule 3, (i));
- a separate pricing regime for coal freight which operates until June 2000 (Schedule 3, (ii));

- a requirement for RAC to negotiate with an access seeker 'in good faith' for the purposes of entering the agreement (s. 3.1) and in relation to new investment (s. 3.2);
- a requirement for RAC to provide specified information to the access seeker (s. 8, Schedule 5);
- a requirement that RAC must not engage in the business of rail operations 'for reward' (s. 7.3);
- a compulsory dispute resolution process with a nominated arbitrator (Independent Pricing and Regulatory Tribunal, IPART) (s. 6.2);
- a requirement that the agreement not inhibit RAC or access seeker providing information regarding access, new investment or the agreement to the arbitrator, any relevant regulatory agency or the Minister (s. 4.6); and
- both an operator or access purchaser (end user) has the capacity to enter into an access agreement (s. 3.1).

### *Coverage*

The regime applies to railway and associated infrastructure owned by or vested in RAC so it covers all train services, both interstate and intrastate.

### *Operation*

The RAC will only permit access to the network through an agreement, except where required by law (s. 4.1).

Under the regime, 'access seekers' negotiate access with RAC.[2] There is an obligation for RAC to negotiate with an access seeker in good faith (s. 3.1 and s. 3.6). RAC must provide information to the access seeker relevant to its request regarding the regime including the pricing policy, the network configuration, recurrent costs, capital costs, the cost methodology, system usage, operational information, under-utilised capacity and information of any determinations published by the arbitrator in relation to the regime (s. 8.3, Schedule 5).

Section 6 establishes the arbitration processes of the regime. IPART, or an alternative arbitrator appointed by IPART, will act as arbitrator and Part 4A of the

[2] An access seeker could be a current or prospective rail operator, a current or prospective rail purchaser (who has contracted, or can potentially contract, with a rail operator to operate/move rollingstock) or the ARTC (Schedule 7).

*Independent Pricing and Regulatory Act 1992* (NSW) will govern the arbitration (s. 6.2). IPART will also publish the determination and any information before the arbitrator that it considers appropriate (s. 6.3 and s. 6.4).

The regime contains pricing principles for general usage and coal freight (Schedule 3). Under these principles, access prices for general usage are negotiated subject to a 'floor' and 'ceiling' test.

- The floor test requires that:
  - any access revenue must at least meet the direct costs imposed by the access seeker(s); and
  - all sectors should recover their incremental costs, including incremental fixed costs (Schedule 3 (i)).
- The ceiling test requires that any access revenue must not exceed the full economic cost of the sector(s) for which access is required on a stand alone basis (Schedule 3 (i)). It is calculated on a combinatorial basis so that no combined group of users pays more than the relevant ceiling for that group.

In addition, RAC's total revenue must not exceed the stand alone full economic cost of the entire network (Schedule 3 (i)).

Access prices for coal freight are on an origin-destination basis and are subject to an 'adjustment component' on some sectors.

- On those sectors where no adjustment is made, the access price is negotiated consistent with the principles for general usage (Schedule 3 (ii)).
- On those sectors where an adjustment is made, the access price is the ceiling price plus an adjustment component reflecting a share of the amount that rail freight haulage revenue exceeded costs (access and rail operations) on that line in 1996-97. The relevant share will be reduced to 50 per cent in 1998-99 and 25 per cent in 1999-2000 (Schedule 3 (ii)).

The cost definitions and methodology for asset valuation and permitted rates of return on assets will be published in the Gazette and by IPART (Schedule 3 (iii)).

The regime also 'establishes "passenger priority" provisions for the use of the network' (sub. DR128, p. 9). These provisions ensure that passenger trains have priority over freight trains when negotiating access to the network.

## Victoria

The access arrangements in Victoria differ depending on the network being considered — intrastate, or interstate and urban network.

### *Intrastate and urban networks*

The *Rail Corporations (Amendment) Act 1998* (Vic) established a regime to allow for access to certain rail (and tram) infrastructure in Victoria.

Under the regime, rail infrastructure operators (or lessees) must provide access, on fair and reasonable terms, to 'declared' rail services.

The Victorian Government has sold Victoria's rail freight operations together with a long term lease over the non-urban intrastate track and its workshops. However, Victorian Rail Track Access Corporation (VicTrack) will retain ownership (landlord responsibilities) for the non-urban intrastate track and country passenger stations (sub. 82).

The key features of the Victorian regime are contained in provisions in s. 38 of the Act and include:

- a requirement that users have 'fair and reasonable' access to declared services (s. 38B);
- the Minister can recommend that a rail transport service be 'declared' to be subject to the regime (s. 38C);
- a requirement for the access provider to provide specified information to the access seeker (s. 38E);
- a compulsory dispute resolution process with a nominated arbitrator (s. 38F);
- a requirement that the terms and conditions not vary simply because of the identity of the access seeker (s. 38E); and
- a requirement that no person should be prohibited or hindered from exercising their reasonable right to access on declared services (s. 38N).

### *Coverage*

Under the Victorian regime, services can be 'declared' to be subject to the access regime on the recommendation of the Minister. In making a recommendation, the Minister must be satisfied that it is necessary to do so to promote competition or increase efficiency or the level of services to the public (s. 38C).

It is intended that the Minister will declare rail freight services in October 1999 and passenger services in January 2000.

### *Operation*

Under the regime, an access seeker negotiates directly with an infrastructure 'operator' (the access provider). According to the Victorian Government, franchised passenger rail services will have priority over freight services in obtaining access to the rail network, unless this results in 'serious and unreasonable' interference in freight business (sub. 82, p. 14).

The access provider has several obligations to meet in negotiation, including the requirement to 'use all endeavours to meet the requirements of a person seeking access to declared rail transport services'. The access provider must also provide information to the access seeker. The terms and conditions of access cannot vary simply because of the identity of the persons seeking access (s. 38E).

If a dispute arises, the matter can be referred to the Office of the Regulator General (ORG) (s. 38F). In its determination, the ORG may:

- require that access to the service be granted;
- specify the terms and conditions of access; or
- specify the extent that the determination overrides earlier determinations on the matter (s. 38F).

A determination by the ORG cannot be challenged, appealed against or reviewed (s. 38Q).

### *Interstate network*

Access to interstate rail operations in Victoria is through the ARTC which has been granted a five year lease for the control of standard gauge track (sub. 82).

## Queensland

The *Queensland Competition Authority Act 1997 (QCA Act)* sets out a process for gaining access to services provided by significant infrastructure in Queensland.

The Queensland regime for access to rail services commenced operation in March 1998. It is part of the broader access regime under the *QCA Act* and followed

amendments to the *QCA Act* contained in the *Queensland Competition Authority Amendment Regulation (No. 1) 1998*.

In June 1998, the Queensland Government approached the NCC to consider the effectiveness of the Queensland rail access regime in accordance with the CPA, for the purposes of the TPA. This application was subsequently withdrawn in February 1999.

### *Framework*

The *QCA Act* sets out a process for gaining access to services provided by significant infrastructure, including certain rail services. The key features include:

- the creation of the QCA to administer the access regime established under the *QCA Act* (Part 2);
- a declaration process to determine whether services ought to be subject to the access regime (Part 5, Divisions 2 and 3);
- a requirement for an access provider (in this case, Queensland Rail, (QR)) to negotiate with an access seeker and, in doing so, to satisfy the seeker's reasonable requirements in relation to information required for negotiation (Part 5, Division 4);
- 'access undertakings', which provide a framework setting out conditions under which the infrastructure owner undertakes to provide access (Part 5, Division 7);
- a compulsory dispute resolution process with a nominated arbitrator (Part 5, Division 5); and
- a prohibition on preventing or hindering access when an access agreement has been reached (Part 5, Division 5).

The *QCA Act* allows the responsible Ministers (the Premier and the Treasurer) to 'tailor' the access regime by making an 'access code' that applies to a class of infrastructure (Part 5, Division 6). However, according to Queensland Transport 'there is no intention to make an access code for rail infrastructure at this point' (sub. 75, p. 6).

### *Coverage*

Under the Act, services can be 'declared' to be subject to the access regime either:

- by the relevant Ministers (the Premier and the Treasurer) on the recommendation of the QCA, where the Ministers must also be satisfied that certain threshold criteria have been met (Part 5, Division 2); or

- by regulation, without the application of threshold criteria (Part 5, Division 3).

Rail services have been 'declared' by regulation under the *Queensland Competition Authority Amendment Regulation (No. 1) 1998*. The declared services are railway and associated infrastructure managed by QR, or a successor or subsidiary of QR (s. 4). The regime excludes the standard gauge interstate rail infrastructure in Queensland (s. 2).

### *Operation*

Part 5, Division 4 of the QCA Act provides that once a service is declared, there is an obligation on the access provider to negotiate with an access seeker (s. 99) and, in so doing, attempt to satisfy the access seeker's reasonable requirements in relation to information required for negotiation (s. 101). In addition, both parties are obliged to negotiate in good faith (s. 101).

The QCA Act provides for the owner of a declared service to submit a draft undertaking to the QCA for its approval. QR has submitted to the Authority an access undertaking covering certain services relating to the use of the rail transportation infrastructure it owns. The draft undertaking addresses the following issues:

- scope and administration;
- ring-fencing guidelines;
- negotiation framework;
- pricing principles;
- capacity management; and
- interface considerations.

Box F.1 briefly outlines the matters that may be included in an undertaking.

In deciding whether to accept a draft undertaking, the QCA will consider the legitimate business interests of the owner, the interests of persons who may seek access and the public interest. The QCA may also consider any other matter it desires (s. 138(2)). Before approving a draft undertaking, the QCA is required to publish and consider submissions on it and be satisfied that the undertaking is consistent with any access code for the service (s. 138(3)).

Box F.1 **Access undertakings**

The content and degree of specification of undertakings will vary from service to service. The QCA Act indicates that the type of matters to be included in an undertaking *may* include (s. 137(2)):

- how charges for access to the service are calculated;
- information to be provided to access seekers and to the QCA;
- time frames for providing information in the conduct of negotiations about access to the service;
- how excess capacity is allocated;
- arrangements relating to the operation of secondary markets;
- accounting requirements for owners and users in relation to the service or parts of the service;
- arrangements for separating operations, including the separation of commercial activity;
- terms relating to extending the facility;
- requirements for the safe operation of the facility;
- methods for calculating charges for access to the service where users have contributed to the cost of establishing or maintaining the facility;
- provisions to be included in access agreements in relation to the service; and
- the process for the review of the undertaking.

*Source:* QCA Act 1997 (Qld).

The QCA commenced a formal public consultation process in April 1999 as part of its assessment of QR's draft undertaking. The QCA is considering submissions received in response to the paper.

The QCA will consult on issues relevant to the development of below rail access charges (for example, asset valuation, rate of return, contributed assets, the structure of reference tariffs, etc.) through a series of specific papers. In addition, the QCA has yet to receive from QR a number of documents associated with the undertaking, including ring-fencing guidelines, scheduling and train control protocols and cost allocation arrangements. The QCA will consult on these matters once QR provides details of its proposed approach. These factors will affect the timing of the release of the QCA's Draft Determination.

Once the QCA has approved an access undertaking, the undertaking sets a benchmark for parties in negotiations (although parties are free to depart from its

terms if they agree to do so), because the outcome of any dispute resolution undertaken by the Authority must be consistent with the undertaking (s. 119(1)).

Parties have an enforceable right to ensure that the QCA is independent and that it does not exhibit bias in its process or decisions through the *Judicial Review Act 1991* (Qld). The QCA also has in place procedures to ensure procedural fairness, so that its role as a regulator (in recommending whether a service should be declared) does not compromise its role and independence as an arbitrator.

There are three triggers for a review of an approved undertaking. First, an undertaking itself may define a review event. Second, an infrastructure owner is free to request the QCA to reconsider or amend an access undertaking (s. 142). Third, a review may be triggered by a change in a provision of the QCA Act or an access code (given that access undertakings need to be consistent with the Act and such codes) (s. 139). Any changes resulting from a review of an undertaking would not affect existing access agreements.

## South Australia

The access arrangements in South Australia differ depending on the network being considered — intrastate (Australian Southern Railroad's regional network) or the interstate (ARTC network). It is intended that a separate regime may apply to the SA/NT network (Tarcoola to Darwin).

### *Intrastate network*

The *Railways (Operations and Access) Act 1997* (SA) *(RA Act)* imposes access obligations on infrastructure owners who control the intrastate network and includes:

- a means of assigning the functions of the regulator (s. 9);
- a means for the regulator to establish pricing principles for the provision of railway services (s. 27);
- a requirement for the access provider to provide industry participants with information regarding the terms and conditions on which it is prepared to make the infrastructure available to others (s. 28);
- a requirement for the access provider to provide access seekers with information, subject to a reasonable charge for providing such information (s. 29);
- a dispute resolution process for seeking access based on conciliation or arbitration (Part 6); and

- a prohibition on preventing or hindering access to railway services including negative conduct such as a failure or refusal to act, or delay (s. 24).

### *Coverage*

Under the *RA Act*, operators and railway services can be 'declared' to be subject to the regime by proclamation (s. 7). Proclamation applies to certain railway infrastructure, including yards and sidings, terminals and stations on the intrastate network (HORSCCTMR 1998b).

### *Operation*

Under the *RA Act*, 'industry participants' (access seekers) negotiate access directly with the 'operators' of the railway service (access providers). [3]

The access seeker submits a proposal to the access provider regarding the nature and extent of the access and the proposed terms and conditions for the provision of access (s. 31). Following this, the access provider must negotiate with the participant in 'good faith' with a view to reaching agreement on whether the requirements could reasonably be met and if so, the terms and conditions for the provision of access (s. 32).

The access provider must also provide the access seeker with information reasonably requested by the applicant about the extent that the infrastructure is currently being utilised, the extent that it would be feasible to add or extend the infrastructure to meet the access seeker's requirements and the general terms and conditions to provide a service of a specified description (s. 29). This information must be provided on a nondiscriminatory basis (s. 32).

Part 6 of the Act sets out the dispute resolution procedures in instances when agreements cannot be reached. If the regulator becomes involved, it may attempt to settle the dispute by conciliation but if this fails the regulator must appoint an arbitrator (s. 36). In hearing and determining a dispute, the arbitrator has a statutory duty to act as quickly as the proper investigation of the dispute allows (s. 42) and must take into account certain matters defined in the Act (s. 38). The Minister may participate in the arbitration proceedings by calling for evidence and making representations on the questions subject to the arbitration (s. 41).

[3] An 'industry participant' is an operator, or a person who operates or proposes to operate railway rollingstock on the railway network (s. 4). An 'operator' is a person who provides, or is in a position to provide railway services in relation to the railway network (s. 4).

Currently, the regulator is proclaimed to be the Executive Director of Transport South Australia. The arbitrator must be a person who is properly qualified and independent (s. 37).

The regulator may establish pricing principles for fixing a 'floor' and 'ceiling' price for the provision of railway services in general or railway services of a particular class.

- The floor price reflects 'the lowest price at which the operator could provide the relevant services without incurring a loss' (s. 27).
- The ceiling price reflects 'the highest price that could fairly be asked by an operator for provision of the relevant services' (s. 27).

The principles do not prevent the access seeker and operator reaching a negotiated access contract on terms that do not reflect the pricing principles. However, an arbitrated price cannot be less than the floor price and cannot exceed the ceiling price (s. 27).

### *Interstate network*

Access to interstate rail operations in South Australia, including the Tarcoola to Alice Springs line is through the ARTC which owns the track.

### *Northern Territory/South Australia Access Regime for Rail Services*

The Commonwealth Government has undertaken to transfer the Tarcoola to Alice Springs line to the eventual developer of a new line from Alice Springs to Darwin. The access regime will only come into place if the Alice Springs to Darwin rail line is constructed.

In March 1999, the SA and NT Governments submitted a rail access regime for the Tarcoola to Darwin line to the NCC for certification. The NCC has released an issues paper and has yet to make its draft recommendation.

### *Coverage*

The regime would establish access arrangements for rail services provided by existing track between Tarcoola and Alice Springs and the proposed track between Alice Springs and Darwin. It applies to railway track, stations and platforms, signalling systems, train control and communication systems and 'such other facilities as may be prescribed' (NCC 1999, p. 9).

*Operation*

The legislation — AustralAsia Railway (Third Party Access) Bill (SA) and AustralAsia Railway (Third Party Access) Bill (NT) — supporting the regime (including an Access Code) was introduced to the SA and NT parliaments in early 1999 and has yet to be passed. However, the access regime will only come into effect when construction of the rail line commences.

Access to rail services will be negotiated with the track owner. The NT and SA Governments have sought submissions from the private sector to design, construct, finance, operate and maintain a new railway linking the existing railway between Tarcoola and Alice Springs with the deepwater port at East Arm, Darwin.

The Access Code establishes rules governing third party access to rail infrastructure from Tarcoola to Darwin. Part 1, Division 2 of the Code sets out the powers and functions of the regulator. Part 2, Division 1 establishes the Access Seeker's right to negotiate an access with the Access Provider and Divisions 2 and 3 establish dispute resolution procedures. Division 5 establishes the pricing principles for calculating access charges.

The access pricing approach adopted by the Code is based on the Competitive Imputation Pricing Rule (CIPR). CIPR access prices are market based and 'set at a level where the Railway owner earns the same net income from the transport of freight on the Railway whether or not the freight is transported by the Railway owner' or by a third party (Northern Territory and South Australian Governments 1999, p. 11).

## Western Australia

Access to Government rail infrastructure services for interstate operators has been granted since 1997 following an amendment to the *Government Railways Act 1904* (WA).

Western Australia is developing a formal regime for access to government railways through the *Government Railways (Access) Act 1998* (WA) and subsidiary legislation in the form of a Code. The Act was assented on 30 November 1998 but is not yet proclaimed.

The regime does not cover the private iron ore railways in the Pilbara area. The companies involved (Hamersley Iron, BHP Iron Ore and Robe River Mining Company) are subject to individual agreements with the WA Government.

Western Australia has submitted the regime to the NCC for certification as an effective regime. The NCC is assessing the submission.

### *Government railways*

The *Government Railways (Access) Act 1998* (WA) imposes access obligations on the infrastructure owner of the intrastate network. The key features of the Act include:

- provisions for the establishment of a Rail Access Code to govern the use of Government railways by persons other than the Western Australian Government Railways Commission (Westrail) (Part 2);
- provisions designating a regulator with monitoring and enforcing functions relating to the implementation of the code (Part 3);
- provisions specifying the kind of administrative arrangements (ring-fencing) that Westrail is to have in place for the purposes of implementation (Part 4); and
- amending the *National Rail Corporation Agreement Act 1992* to enable National Rail Corporation to compete for intrastate services on equal footing with other operators (Part 6).

The Act was based on Westrail continuing as a government-owned integrated rail service. Amendments will be made to take account of the sale of the Westrail freight business.

### *Coverage*

The Government Railways Access Code 1999 establishes which parts of the railway network (track and associated infrastructure) are available for access. In the code submitted to the NCC for approval all operating lines in the Westrail network have been included.

### *Operation*

Under the regime, the Government Railways Rail Access Code will:

- establish the railway network and infrastructure opened to access;
- outline the negotiation process, including avenues for dispute resolution;
- specify the matters to be considered in access agreements;
- identify the information requirements of the Regulator; and

- outline the pricing principles to be applied (sub. 60).[4]

The Director General of Transport is the regulator of the regime (s. 14).

## Tasmania

A rail specific access regime does not exist in Tasmania. However, Tasrail (the infrastructure owner) is required to enter into negotiations with other operators wishing to use its infrastructure through obligations contained in its contract of sale. The Tasmanian Government suggested that:

> … access arrangements between Tasrail and a number of State operators have been negotiated successfully and on terms agreeable to both parties. Anecdotal evidence from tourist and heritage rail suggests that set costs and conditions of access have been established … (Tasmanian Government, sub. 81, p. 1).

[4] The Government Railways Access Code is still being developed.

# G Safety regulation and operating procedures and standards

This appendix outlines progress in regulatory reform in Australia and examines safety regulation and operating procedures and standards in other countries. It also describes the features of best practice regulation.

## G.1 Key reforms in Australia

Since the Industry Commission's 1991 inquiry, the Commonwealth, State and Territory Governments, and industry have undertaken several joint initiatives to improve rail safety regulations, and operating standards and procedures.[1] These are summarised in appendix D and elaborated on below.

The first major step occurred in 1993 when the Australian Transport Council (ATC), comprising Commonwealth, State and Territory Ministers, endorsed a report, *A National Approach to Rail Safety Regulation* (ATC 1993).[2] The report concluded that consistent rail safety regulation was required, particularly for interstate operations. It recommended that Ministers agree, among other things:

- that an Intergovernmental Agreement (IGA) be developed to achieve consistent national rail safety regulation and be based on agreed aims and principles;
- that the agreement focus on efficient and safe interstate operations, but also provide a framework for intrastate rail safety regulation;
- that the Railways of Australia, which was in the process of developing rail standards covering technical, maintenance and operational issues, be given the opportunity to play a key role in the proposed national arrangements;[3] and

[1] The Northern Territory, but not the ACT has been involved in progressing reform in this area.

[2] The report was prepared by an ATC working group of Commonwealth, State and industry representatives.

[3] The Railways of Australia comprised all state rail authorities, but excluded National Rail Corporation and private owners. In 1994 it was changed and broadened to become the Australasian Railway Association which is the peak industry body with broad representation in the rail sector in Australia and New Zealand.

- that a national approach to rail safety could include features present in the NSW Rail Safety Bill, including separation of regulator and operator, accreditation as distinct from prescriptive regulation, and onus on the operator for safety (ATC 1993).

The report also set out a timetable and process for achieving the proposed IGA, scheduling the Ministers' approval for around April 1995. The recommendations were endorsed by Ministers.

Adhering to the recommended process, a Commonwealth/State task group was formed to develop the draft IGA. A government/industry taskforce was also established from which a committee was formed to continue developing, in conjunction with Standards Australia, various rail standards to form parts of the Australian Standard on Railway Safety Management (AS 4292).

The IGA was signed in July 1996 (approximately one year after the scheduled time) by Commonwealth, State and Northern Territory Ministers. The IGA contained several principles:

> … the Commonwealth, the States and the Territories of Australia have agreed to establish a cost effective nationally consistent approach to rail safety which ensures there is no barrier to the entry of third party operators, based on:
>
> - safety accreditation of railway owners and operators;
> - mutual recognition of accreditation between accreditation authorities;
> - development and implementation of performance based standards;
> - greater accountability and transparency; [and]
> - facilitating competition and technical and commercial innovation consistent with safe practice. (IGA 1996, p. 1)

In particular, the Agreement set out guidelines for the establishment of a safety accreditation system for interstate operations and noted that provision for accreditation would be made under existing or future legislation. This included the requirement for the Australian Standard (although not complete) to form a basis for accreditation.

The next significant initiative took place in September 1997 when Commonwealth and State Ministers signed the Heads of Agreement on Interstate Rail Reform (the National Rail Summit).[4] Among other things, the parties agreed that there was an urgent need to reform interstate rail. One of the means of achieving reform was to investigate the 'organisational arrangements required to achieve these objectives and

[4] Tasmania and the Territories were not signatories.

harmonisation of technical standards' (Heads of Agreement 1997, p. 2). Ministers agreed to develop a process to speed up the harmonisation of standards and to commission a report on safety and operating standards — the Maunsell report (ATC 1997).

By the end of 1997 the issues had been prioritised and the principles for reform agreed on. The Standing Committee on Transport (SCOT), as the main advisory body to the ATC, established a Rail Group to facilitate rail reform and advance uniformity of regulations and operating procedures and standards. The SCOT Rail Group, in turn, established a number of specific Task Groups to address the rail reform tasks nominated by Ministers at the National Rail Summit. States and Territories were in the process of implementing the IGA — various jurisdictions were amending rail safety legislation to incorporate safety accreditation and mutual recognition, and one body had been nominated as the safety regulator by each jurisdiction.

The Maunsell report provided a detailed assessment of the safety and operational issues that needed to be addressed and implementation options. It was endorsed by Ministers at the ATC meeting in April 1998 (box G.1).

The SCOT Rail Group established a number of Working Groups to address the priority action tasks identified in the Maunsell report. The Rail Safety Committee of Australia (RSCA), chaired by the Commonwealth and comprising State and Territory accreditation authorities and industry representatives, was formed in 1998 specifically to address safety issues.

An Industry Reference Group (IRG), comprising representatives nominated by the Australasian Railway Association, was established to develop nationally consistent standards and operational requirements. One of the IRG's tasks was to develop codes of practice to facilitate more efficient interstate train operations.

Both the IRG and RSCA report progress directly to the SCOT Rail Group on a regular basis. However the industry, rather than the SCOT Rail Group, will endorse the IRG's work on the codes of practice. Both of these groups developed action plans, including specific tasks and timelines to address the relevant priority action tasks identified in the Maunsell report (RSCA 1998; IRG 1999). The RSCA intends to finalise its work by August 1999 and implementation of the IRG's major task, the codes of practice, is still some time away.

Box G.1 **The Maunsell report**

Nine key issues were identified in the Maunsell report as requiring action: safeworking, crew management and training; communication requirements; management information systems; train operating standards; axle load requirements; rollingstock design specification; rollingstock gauge; safety accreditation; and access arrangements. For each of these issues the report examined existing standards and procedures, planned changes, industry perceptions, and recommended priority action for improvement and implementation options.

Key themes which emerged in the report included:

- leadership is needed to drive the reform process;
- improvements in interstate operations should be consistent with intrastate operations;
- although uniformity is not essential in every area, it is essential at the interface between rollingstock and infrastructure, and between operating personnel on trains and personnel controlling the infrastructure;
- standards that affect safety should be set on a national basis in consultation with intrastate interests;
- mechanisms are required for the enforcement of uniform standards;
- commitment is needed by both industry and government to implement priority actions; and
- the accreditation process should be streamlined by simplifying the application processes, reducing overly prescriptive accreditation requirements, reducing the time required to gain accreditation, eliminating duplication and standardising reporting requirements.

*Source:* Maunsell 1998.

In April 1999, the ATC agreed to SCOT establishing an independent review of safety arrangements and the development of a framework for an IGA which would include the establishment of a national non-statutory unit attached to the Commonwealth Department of Transport and Regional Services to facilitate and coordinate implementation of uniform operational requirements (ATC 1999).

## States and Territories

This section provides more detail on various regulatory changes undertaken by the States and Territories since 1991. Jurisdictions provided the following information to the Commission.

### *New South Wales*

A review of the *Rail Safety Act 1993* (NSW) commenced in mid 1998. Industry consultation is being finalised and submission of legislation to Parliament is anticipated in September 1999. Rewriting of the Act is expected to be comprehensive, addressing issues such as mutual recognition.

In late 1998 and early 1999 the NSW Department of Transport held discussions with the government-owned railways on managing interfaces between infrastructure owners, rail operators and contractors. Full accreditation for NSW government-owned railways is expected to be granted in 1999, embodying the agreed interface requirements (NSW Department of Transport, pers. comm., 3 March 1999).

The Independent Pricing and Regulatory Tribunal released its report on rail safety accreditation costs in March 1999. The recommendations will feed into the review of the Act.

### *Victoria*

The Public Transport Corporation Rule Book was implemented in 1994 and safety accreditation required by law from November 1998 (Department of Infrastructure, Victoria, pers. comm., 1 February 1999).

### *Queensland*

The *Transport Infrastructure Act 1994* (Qld) was amended in 1995, in part to provide a framework for access by other railway operators to the rail system, to introduce a rail safety accreditation system and to provide generic rail legislation (Queensland Department of Transport, pers. comm., 2 November 1998).

### *South Australia*

The Rail Safety Act came into effect in 1998, establishing a safety regulatory regime for all rail owners and operators in South Australia, and a coregulatory accreditation scheme.

Apart from this, and the establishment of the Operations and Access Act, the SA Government has not had direct involvement in non-urban rail since the sale of the South Australian Railways to the Commonwealth in 1975 (Department of Transport, Urban Planning and the Arts, South Australia, pers. comm., 19 February 1999).

### *Western Australia*

The *Rail Safety Act 1998* (WA), which has recently been proclaimed, establishes the WA Department of Transport (Rail Safety Unit) as the independent regulator of rail safety in Western Australia. Legislation is based on the coregulation model and is consistent with the IGA on rail safety. Features include: mutual recognition; AS 4292 as the applicable rail standard; powers to conduct independent investigations; and administrative procedures consistent with national procedures (Westrail, pers. comm., 15 December 1998).

### *Tasmania*

The *Rail Safety Act 1997* (Tas) is to be proclaimed in 1999. The Act mirrors the SA and WA rail safety acts and prescribes AS 4292 through legislation. It also allows for the establishment of an Accreditation Authority, which will be able to grant mutual recognition, and a rail safety accreditation system (Department of Transport, Tasmania, pers. comm., 17 November 1998, 29 July 1999).

### *Northern Territory*

The NT (Self Government) Regulations were amended by the Commonwealth Government as from 1 September 1998 to include rail safety specifically.

The *Rail Safety Act 1998 (NT),* gazetted in February 1999, provides the legislative basis for the administration of rail safety in the Territory (Department of Transport and Public Works, Northern Territory, pers. comm., 30 October 1998, 3 August 1999).

## G.2 Safety regulation and operating procedures and standards in other countries

It is useful to examine how other countries are progressing the issue of inconsistent safety regulation and operating procedures and standards where trains traverse country borders and State or Provincial borders. Different approaches to regulatory reform in other countries may be applicable to the Australian reform process.

## European Union

Inconsistent rail safety regulation and operating procedures and standards exist within the European Union (EU) and between the EU and countries in eastern Europe. Inconsistencies cover similar technical areas to those in Australia, and include signalling and communication systems.

The EU recognised that inconsistencies adversely affect the efficient inter-country operation of freight and passenger operations, thereby restricting trade.

The issue is being addressed by governments, through forums such as the European Conference of Ministers of Transport, and by industry, through organisations such as the International Union of Railways (UIC). The EU (1996) issued a Directive (96/48/EC), outlining technical specifications, systems verification and other matters, for greater consistency for high speed rail but has not yet issued a formal plan for freight. One of the first steps in the process towards greater consistency was the release of a report on the integration of conventional rail systems in 1998 (EC 1998a) (box G.2).

Industry is cooperating with several other agencies, including governments, to progress consistency. For example, the UIC is, or has been, involved in developing:

- technical standards for systems required by the EU Directive on interoperability of the trans-European high speed rail system (96/48/EC);
- a common rail traffic management and control system for commissioning in 2000;
- a common radio control system (30 rail organisations have signed a memorandum of understanding with the UIC on its application); and
- a 'UIC Code' comprising more than 500 technical leaflets on rail operations as a basis for consistency between countries (UIC 1997; UIC 1998).

While some progress has been made, it is likely to be some time before the issue of consistency is satisfactorily resolved as agreement to change must be reached and regulatory initiatives then implemented across Europe.

Box G.2 **Report on the integration of national railways in Europe**

A report, prepared by Symonds Travers Morgan for the European Commission (EC 1998a) addressed international freight and passenger services. It noted inconsistencies in operating procedures and standards in Europe which are substantially more complex than in Australia. Some of the latest locomotives are fitted with six signalling systems and four electrification systems. Track gauge, axle load, signalling and communication systems, electrification and electromagnetic compatibility all vary widely across Europe. However, signalling was considered to be the greatest technical barrier to international rail operations. Language was considered to be the major social barrier.

The report concluded, among other things, that:

- there have been improvements in reducing international inconsistencies, but this has been for high speed passenger services rather than for freight;
- operators providing international services require clarity in respect of operating, safety and training standards, and certification (among other things). This is often not the case at present;
- there should be a long term vision for Europe's railways focusing on track geometry, signalling, electrification, electrical and mechanical systems, and axle loads and permitted configurations;
- a strategy should be developed for achieving harmonisation with medium term goals (5 to 10 years). Harmonisation across all areas is very long term (up to 40 years). This is because it is more cost effective to move towards harmonisation as the relevant parts become due for renewal;
- there are many bodies working on these issues, with a consequent lack of coordination. The establishment of one body should be considered; and
- standards should be performance based, rather than prescriptive to allow freedom to innovate.

*Source:* EC 1998a.

## Canada

Rail safety in Canada is regulated nationally by the Railway Safety Directorate in Transport Canada. It regulates the federal mainline companies, Canadian National and Canadian Pacific, and international carriers. It does not regulate the provincial rail companies, such as British Columbia Rail, or shortline companies, such as Central Western Railway which are regulated by the provinces.

Federal and provincial safety regulations are often inconsistent. This is a problem for several reasons:

- there has been an increase in the number of new, less experienced provincial shortline rail operators;
- provincial operators provide feeder services to federal mainline operators;
- operators on the federally regulated track occasionally traverse provincial regulated track and vice versa; and
- federal rail safety inspectors are contracted to undertake inspection services in a number of provinces.

Inconsistent safety regulation has been an issue in Canada for some years. In 1989 a key piece of federal legislation, the Rail Safety Act 1989 (Canada), came into effect with the purpose of ensuring the safe operation of railways. It established a new regulatory regime founded on the principle that:

> Railway management must be responsible and accountable for the safety of operations and that the regulator must have the power to protect public and employee safety. (Transport Canada 1998, p. 6)

A federal-provincial Working Group on Railway Safety Regulation was formed in 1994 to provide a forum for harmonisation of regulations between federal and state jurisdictions (Churcher 1995). It suggested various techniques by which provincial jurisdictions could adopt federal regulation, such as incorporation by reference and interdelegation by agreement.[5] An example of progress in this area is an interdelegation agreement between the federal authorities and the Province of Ontario to apply the safety regulation of the Act to the province's shortline railways.

This working group continues to progress harmonisation, focusing on proposed amendments to the Act and information exchange on various provincial initiatives.

A review of the Act in 1994 noted that:

- 'a consistent and national scheme is clearly needed both to ensure safety and to provide a framework in which this segment of the industry may flourish';
- the regulatory system should be changed to one that is non-prescriptive and industry-driven and out-of-date regulations should be eliminated;
- flexibility should be encouraged; and

[5] Interdelegation by agreement refers to a government entering into agreement with another jurisdiction whereby the later jurisdiction 'would perform all tasks relating to rule making, monitoring for compliance and enforcement on behalf of the original' (Churcher 1995, p. 4).

- the federal government should show leadership by clarifying roles of various parties (Railway Safety Act Review Committee 1994).

However, the recommendations were never incorporated into the Act because Parliament was dissolved prior to an election in 1997. Another review of the Act in 1998 covered similar ground. This review stressed the need for regulatory change, modernising the regulatory regime and review of the federal regulator's capabilities. Recommendations included:

- in developing regulation, performance oriented requirements should be used and the principles of Federal Regulatory Policy (similar to the Council of Australian Governments principles of best practice regulation) be adhered to;
- there should be clarification of roles and responsibilities of regulators, railways and other stakeholders; and
- railways should be required to implement a safety management system, with detailed requirements to be developed by Transport Canada in consultation with the railways so that the system is tailored to different operations (Transport Canada 1998).

### The United States

In the United States inconsistent regulation does not appear to be as significant an issue as it is in Europe or Canada.

Inconsistencies in operating procedures and standards developed between private rail operators rather than between government-owned railways. Most Class I railways use one of two standard operating 'rulebooks'. These are also used by several shortline railways. Some railways have their own rulebooks.

Rail safety is regulated nationally by the Federal Railway Administration in the US Department of Transportation. Over the years there has been an effort by railways to remove inconsistencies between rulebooks in order to improve efficiency and safety. Although most Class I railways have revised their rulebooks to reduce inconsistencies, some remain (Federal Railroad Administration, United States, pers. comm., 16 January 1999).

## G.3 Best practice regulation

In 1995 the Council of Australian Governments (COAG) endorsed the principles of best practice regulation, to be applied to making new regulations and reviewing existing regulations (box G.3).

Box G.3 **Features of best practice regulation**

The Council of Australian Governments (COAG) noted that best practice regulation should incorporate the following principles:

- minimising the impact of regulation (regulatory measures should be the minimum required to achieve the desired outcomes);
- minimising the impact on competition (regulation should avoid imposing barriers to entry, exit or innovation);
- regular review of regulation; and
- flexibility.

In applying these principles, best practice regulation should take account of several practical objectives including: minimising regulatory burden on the community; minimising the financial impact of administration and enforcement; accountability; compliance strategies and enforcement; performance-based regulations; and public consultation (COAG 1997).

Best practice regulation also includes a Regulatory Impact Statement (RIS) which should be undertaken for all proposed regulation. A RIS should assess many of the features of best practice regulation noted above and should include among other things:

- the key problem to be resolved;
- the objectives;
- options to achieving the desired objectives (both regulatory and non-regulatory) for example, standards and codes (voluntary or mandatory, prescriptive or performance-based), or self regulation;
- an assessment of the impact (benefits and costs) on consumers, business, government and the community of each option;
- a consultation statement;
- a recommended option; and
- an implementation strategy.

*Sources:* ORR 1998; COAG 1997.

# H The network manager and investment in the interstate track

Central to this inquiry is the issue of investment in the rail network. As noted in this report, existing institutional arrangements have failed to secure adequate investment in some parts of the rail network. In the case of the interstate track, the Commission has proposed a mechanism that would take into account (or internalise) network effects and facilitate appropriate investment in the system on a timely and self-financing basis (chapter 10).

This appendix outlines — at a conceptual level — how investment would occur in the interstate network under the single network manager model. Determining the full detail of the manager's responsibilities and functions would require further development.

Under this approach, a network manager would be established to manage the operation of the interstate track on behalf of both train operators and track owners. To prevent conflicts of interest, the manager would not be permitted to own (or lease) any track or rollingstock. A formal code of conduct would be developed, setting out the manager's functions. This code would need to be approved by the Australian Competition and Consumer Commission. It is envisaged that, among its key responsibilities, the manager would:

- administer pricing and allocation of train schedules; and
- facilitate planning and investment in the network.

There is an important interdependency between these functions — information derived from the process of schedule allocation can be used to signal when and where investment in the network is warranted.

Where train schedules are allocated by auctioning or other market trading methods (as suggested in chapter 8), prices reflect the value that bidders place on their use of the track. The prices bid for a given capacity are a direct measure of the strength of user demand. For instance, where there is excess demand for schedules, auctioning would result in rising prices. As prices surpass costs so that higher profits are being earned, this acts as a trigger for further investment.

An important role of the network manager would be to disseminate the price data generated by auctioning as well as other planning information. These data would assist potential investors — be they existing track owners or other parties — in identifying profitable investment opportunities. The onus is on potential investors to assess the viability of projects and bear the risks if the projects are undertaken. The network manager does not bear any investment risks and would not be held liable for the use of its planning information in project evaluations.

Once proponents are satisfied that a project is viable, they would prepare investment plans for the purpose of public consultation — a process that could be coordinated by the network manager. Following this process and providing that any major concerns are addressed, the investment would then proceed.

To facilitate commercial investment, the code of conduct for the manager would need to allow for different pricing and allocation arrangements depending on the extent to which new investment is expected to meet or exceed user demand.

- For projects aimed at addressing congestion problems, it may be possible for investment to be undertaken up to a point where some demand pressures remain. Although congestion would be eliminated (as auctioning 'clears' the market), excess demand still persists owing to the targeted level of investment. Because the access prices obtained from auctioning reflect an 'excess demand' component, they are still likely to generate a reasonable rate of return for the investor.
- As some infrastructure is large and indivisible, investment in such assets may eliminate congestion and extinguish excess demand. Where there is significant spare capacity, the use of auctioning would be likely to result in prices falling below the cost of provision and investors incurring losses (at least in the short term). In such cases, it may be appropriate to introduce posted prices which are set in relation to average costs incorporating a return on capital. Over time, as demand grows and spare capacity is taken up, auctioning could then be re-introduced.

In sum, flexible pricing arrangements would facilitate investment by taking into account the characteristics of infrastructure assets. In both cases, the methods for determining access prices provide scope for a normal rate of return to be earned. Importantly, these arrangements do not necessarily guarantee revenue streams or returns — investors still bear all of the commercial risks.

# I The purchaser-provider framework

This appendix describes the purchaser-provider approach to the provision of subsidised transport services. Issues associated with the provision of such services are discussed in chapter 11.

## I.1 The framework

The purchaser-provider framework separates the responsibility for deciding which goods and services are provided to the community from the responsibility for delivering the services.[1] The framework can improve accountability, transparency and efficiency (box I.1).

Box I.1 **Purchaser-provider framework**

The purchaser-provider framework aims to clarify a government's role as purchaser. When applied effectively, the framework yields the following benefits:

- improved accountability — by providing a clear delineation of responsibilities and through the use of performance monitoring;
- transparency — with the introduction of formal contracts between the government and its providers, potentially the community can have access to improved information on the cost and quality requirements of the services purchased;
- resource allocation — purchasers have greater freedom and incentives to determine those goods and services that most effectively and efficiently promote the government's stated objectives; and
- efficiency — the provider is given greater freedom and incentives to seek new ways of delivering a service, resulting in more output for a given level of resources, or reduced unit costs for a given output.

[1] Variations of the purchaser-provider framework include *output-based management* and *managing for outcomes.* A general discussion of output-based management can be found in Abrams, Cribbett and Gunasekera (1998).

### Who should be the purchaser?

An appropriate government purchaser is one which has no conflict of interest in determining the most cost effective way to achieve stated objectives. As argued by the Independent Pricing and Regulatory Tribunal:

> The best value for the CSO [community service obligation] dollar is most likely to be established by negotiation between the transport agency and a CSO purchasing agency which has no interest other than to achieve the best value for money for the CSO dollar — a purchaser-provider model. (IPART 1996, p. 21)

Appropriate purchasers are likely to be those agencies with the greatest knowledge of the needs of end users. For example, concessions for school children could be administered by an education department. This does not preclude the purchasing agency seeking assistance from other organisations (such as a department of transport) in the planning, specification and purchase of required services.

Purchasers should not be the provider of any potential goods and services, own assets used in production or be responsible for any debt liability (including deficit funding) of providers.

The performance of the purchaser should be assessed in regard to the appropriateness of the goods and services purchased (whether they are the most cost effective means of promoting the government's stated objectives).

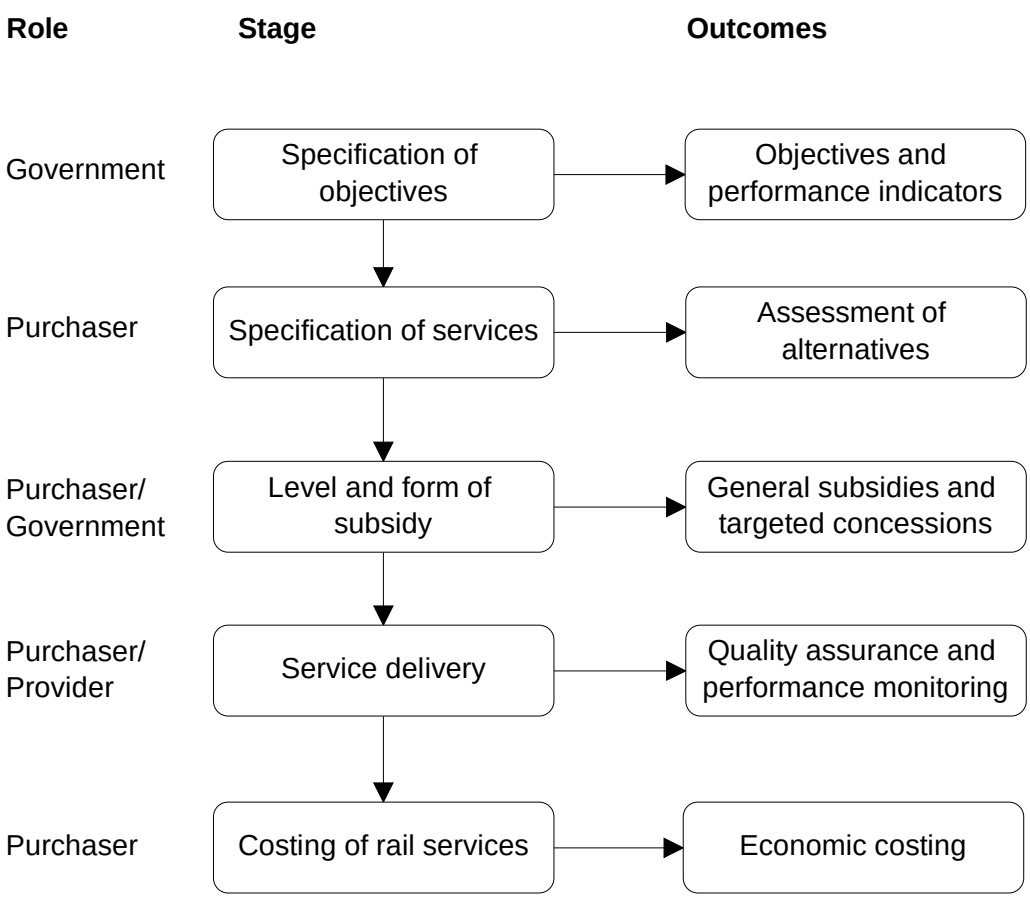
## I.2 Stages of the purchaser-provider framework

In the context of subsidised rail services, the Commission has identified five stages in the implementation of the purchaser-provider framework:

- the specification of policy objectives;
- the specification of rail services required to promote the stated objectives;
- the determination of the level and form of subsidy;
- the delivery of specified services; and
- the costing of rail services.

The five stages of the framework are presented in figure I.1, including the party responsible for implementing each stage (government, purchasing agency or provider) and expected outcomes. The five stages are elaborated upon below.

Figure I.1 **The purchaser-provider framework**




## Specification of policy objectives

The first step in the purchaser-provider framework involves the government clearly specifying its objectives to the purchasing agency. Table I.1, reproduced from the Australian Urban and Regional Development Review (AURDR 1995) provides a list of suggested transport-related policy objectives.

To give substance to policy objectives, performance indicators (preferably quantitative) need to be developed. As argued by Australian Urban and Regional Development Review:

> … setting objectives and developing policies and programs is an inadequate response without a method of monitoring their various (and perhaps unintended) outcomes. (AURDR 1995, p. 24)

Making stated objectives and performance indicators available for public scrutiny can strengthen the accountability of both the government and purchasing agency.

Table I.1 **Transport policy objectives**

| *Policy area* | *Specific objectives* |
|---|---|
| **Environmental and urban amenity quality** | Increase air quality and reduce emissions |
| | Reduce traffic noise and impact |
| | Improve safety and reduce accidents, injuries and deaths |
| | Reduce transport energy and consumption |
| | Reduce CO2 emissions |
| | Improve visual, aesthetic and other aspects of urban amenity |
| | Reduce air pollution costs associated with congestion |
| **Accessibility** | Improve accessibility to work (people with cars) |
| | Improve accessibility to work (people without cars) |
| | Improve accessibility to other activities (people with cars) |
| | Improve accessibility to other activities (people without cars) |
| **Economic efficiency** | Reduce costs for urban freight and commercial traffic, including costs of congestion |
| | Reduce travelling times and costs for work trips |
| | Reduce travelling times for non-work trips |
| | Reduce capital and other subsidies for providing transport except where these form part of a wider pricing policy |
| | Increase opportunities for economic integration |

*Source:* AURDR 1995.

## Specification of services

Once the government has specified its objectives, it is then the role of the purchasing agency to assess and choose the most cost effective and efficient services to achieve these objectives. It is here that the purchasing agency makes the *allocative* decision on the level, quality and choice of transport services to be subsidised.

Railways are only one transport mode that can be subsidised to promote non-commercial objectives. In addition, there may be alternatives to subsidising transport, such as parking restrictions, road pricing and car emission standards. As noted by the National Capital Planning Authority:

> Evidence from overseas suggests that there are four components of a balanced urban transport strategy: appropriate investment in public transport 'hardware', investment in complementary 'software' such as passenger information systems and training; the application of appropriate transport policies such as restrictions on parking, use of toll roads and traffic demand measures; and the use of complementary land use policies such as urban consolidation and the focussing of development on centres with good public transport links. (NCPA 1993, p. 2)

Techniques such as cost-benefit analysis, when applied in a consistent and rigorous manner, are tools that purchasers can use to determine the most appropriate goods

and services to provide to the community. Public consultation and disclosure of any such analysis can strengthen the purchaser's accountability to the government and wider community.

## Level and form of subsidy

Once the purchaser has specified those transport services to be subsidised, it is then necessary to decide the contribution users make to the cost of provision (within budget constraints determined by government).

Subsidies for public transport are commonly provided as general subsidies for all users with additional concessions for targeted groups. Subsidies for freight are usually directed to the transport of specific commodities as well as payments for the maintenance of unprofitable branch lines.

Rail subsidies directly affect the price paid by users. To estimate the appropriate level of subsidy, the purchaser should determine first the level of output (such as passenger numbers or freight levels) required from the railway. The role of the subsidy is then to 'bridge the gap' between what users are willing to pay at the level of output chosen by the purchaser and the cost of providing the service.

The level of the subsidy required to induce sufficient passengers or freight to use rail depends on the price elasticity of demand and this needs to be taken into account by the purchaser.

The Independent Pricing and Regulatory Tribunal commissioned the University of Sydney's Institute of Transport Studies to conduct a survey within the Sydney region to estimate the sensitivity of travel choice to fare changes (IPART 1996). The study indicated that demand for urban passenger rail services is quite inelastic with respect to price (table I.2). For example, a 1 per cent increase (decrease) in the price of a weekly train ticket would lead to a reduction (increase) in the purchase of this ticket of 0.25 per cent.

Table I.2 **Price elasticities for CityRail in New South Wales**

| *Ticket type* | *Elasticity* |
|---|---|
| | per cent |
| Train single | -0.08 |
| Train off-peak | -0.12 |
| Train weekly | -0.25 |
| Train travel pass | -0.53 |

*Source:* IPART 1996.

## Service delivery

Purchasers should seek to obtain specified services at least cost to taxpayers. For railways, this objective can be promoted primarily through 'competition for the market' (chapters 6 and 11).

Once a suitable provider has been selected, it is up to the provider to meet its obligations under the contract. The purchasing agency is responsible for ensuring that an adequate quality assurance system is in place to enable the contractor to meet these obligations. Discussion on quality assurance and performance monitoring can be found in the Industry Commission's (IC 1996) report, *Competitive Tendering and Contracting by Public Sector Agencies*, and is not repeated in this appendix.

## Costing of rail services

An accurate costing of subsidised rail services involves an *economic costing* of each service, based on the *opportunity cost* of all of the resources used in delivery. This provides a basis for making valid comparisons between the cost of providing different transport services (such as buses, taxis, trams and trains) within and across jurisdictions.

Economic costing covers all variable operating costs, such as labour and fuel, plus a rental charge based on an appropriate rate of return on the assets used. The difference between the economic cost of the service and the payments made by users accurately represents the subsidy by the community in providing non-commercial transport services.

### *Government funded assets*

In the case of railways, the government often provides the funding to purchase the assets used in production (through either government equity or borrowings). For example, the NSW Government provided $350 million in capital grants to the State Rail Authority of New South Wales in 1997-98 (chapter 11). In most instances, as is the case in New South Wales, governments choose not to recoup a return on the capital invested. However, the opportunity cost of the assets still exists; the government (and ultimately taxpayers) incur this cost.

It is therefore important that the opportunity cost of assets funded by the government is added to negotiated subsidy payments to providers when presenting information on the cost of providing non-commercial transport services.

# J The railway workforce

This appendix provides a statistical overview of Australia's railway workforce, covering employment levels and workforce characteristics. Issues regarding employment in railways are discussed in chapter 11.

## J.1 Employment

Railway employment data were obtained from the Steering Committee on National Performance Monitoring of Government Trading Enterprises (SCNPMGTE) (1998) *Performance Indicators* and the Australian Bureau of Statistics (ABS) *Labour Force Survey*. Both of these sources have limitations and care needs to be exercised in interpreting the data.

SCNPMGTE employment data are collected on a full-time equivalent basis for monitored government rail authorities. These data underestimate the absolute level of employment because private sector employment in railways is not included — only government rail authorities are monitored by SCNPMGTE. The data are also likely to overestimate the rate of decrease in employment because of the transfer of functions and contracting out of activities that has occurred within government rail authorities.

The ABS *Labour Force Survey* follows the Australian and New Zealand Standard Industrial Classification (ANZSIC). Data are collected on the number of full-time and part-time employees. ANZSIC defines employment in the rail industry (class 6200) as 'units mainly engaged in operating railways (except tramways) for the transportation of freight or passengers, in operating railway terminal or depot facilities for receiving, dispatching or transferring rail freight or cargo, or in providing services allied to transport n.e.c. [not elsewhere classified]' (ABS 1993a, p. 178).

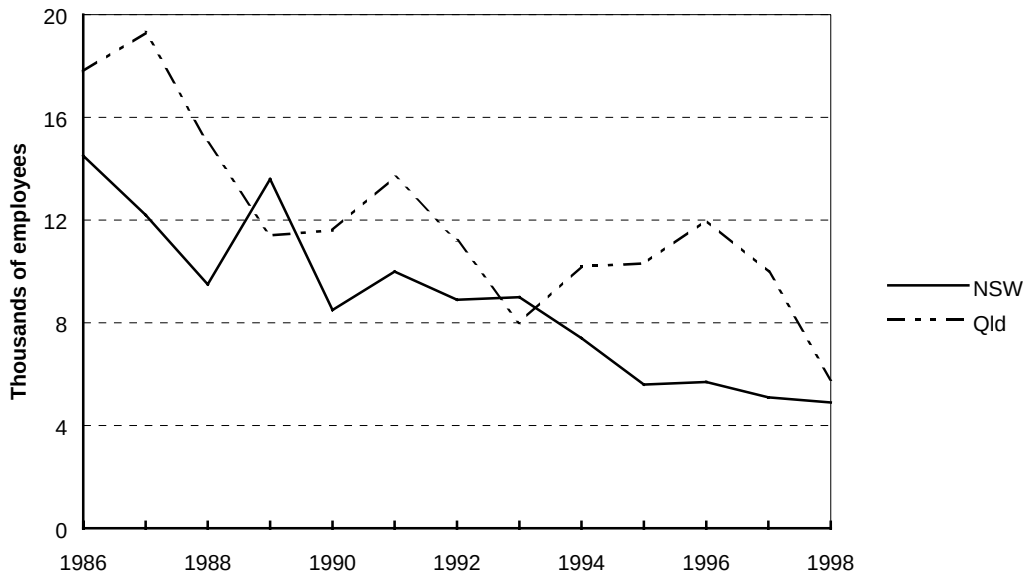
The ANZSIC classification for rail transport (equivalent to its former Australian Standard Industrial Classification) is also likely to understate the level of employment in the rail industry. Class 6200 excludes persons mainly engaged in the maintenance of rollingstock and locomotives and the construction and maintenance of track and associated infrastructure.

There is greater variability in the ABS estimates compared to those of SCNPMGTE. This variability can in part be explained by the fact that the ABS *Labour Force Survey* is based on a sample of 0.5 per cent of households and is therefore subject to sampling error.

## Employment outside capital cities

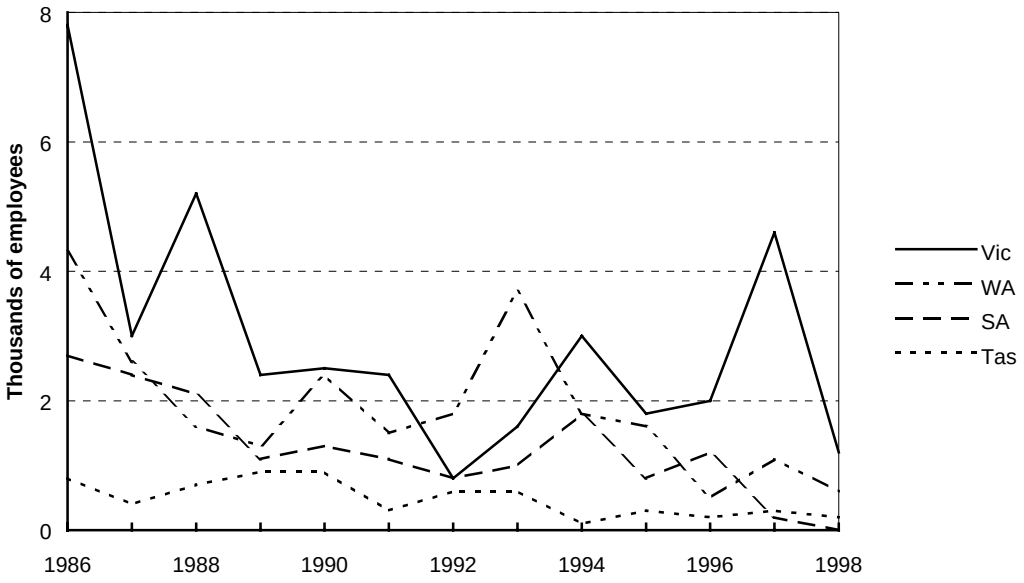
The ABS *Labour Force Survey* indicates that railway employment outside Australia's capital cities has fallen more rapidly than within capital cities. The largest absolute reductions in employment outside capital cities between 1986 and 1998 occurred in New South Wales and Queensland — 9600 and 12 000 workers respectively (figure J.1). However, reductions in employment were also recorded in Victoria, Western Australia, South Australia and Tasmania (figure J.2).

Figure J.1 **Non-metropolitan full-time railway employment, New South Wales and Queensland, 1986 to 1998**




*Source:* ABS (*Labour Force, Australia,* Cat. no. 6203.0, unpublished, various years).

Figure J.2 **Non-metropolitan full-time railway employment, Victoria, Western Australia, South Australia and Tasmania, 1986 to 1998**




*Source:* ABS (*Labour Force, Australia,* Cat. no. 6203.0, unpublished, various years).

## J.2 Workforce characteristics

A railway employee is likely to be:

- an older male;
- less 'mobile' than workers in other industries; and
- a member of a trade union.

### Age and gender

Railway employees on average tend to be older compared to those in the 'all industries' category. In 1998, over 65 per cent of railway employees were greater than 35 years of age compared to around 55 per cent for 'all industries' (figure J.3). Conversely, only 6 per cent of railway employees are aged less than 24 years compared to 19 per cent for 'all industries'.

Railway workers are predominantly male. Over 90 per cent of railway workers are male compared to around 56 per cent for employees across 'all industries' (ABS 1998b).

Figure J.3 **Age distribution, rail and all industries, 1998**


*Source:* ABS (*Labour Force, Australia,* Cat. no. 6203.0, unpublished, various years).

## Educational attainment

In 1998, just under one half of railway employees had completed the highest level of secondary school. Around one third of railway employees had also completed post-school qualifications — with around two thirds of these employees undertaking some form of basic or skilled vocational training. The remaining third had undertaken some form of diploma or degree (ABS 1998f).

## Labour mobility

Labour mobility data provide information on the extent to which railway workers are able to adapt to structural change. The more 'mobile' a railway worker is, the more readily adaptable a worker may be to moving to either a new employer (either within or outside the rail industry) or changing the location of employment.

Employees in the rail industry appear to be less 'mobile' than the average for 'all industries'. In the twelve months to February 1998, 4 per cent of all persons employed in the rail industry changed their employer/business and/or location of employment compared with around 14 per cent for 'all industries' (table J.1).

Table J.1 **Persons who changed employer/business or locality in previous twelve months, February 1998**

| *Whether changed employer/business or location* | *Rail* | *All industries* [a] |
|---|---|---|
| | % | % |
| Changed employer/business only | 2 | 10 |
| Changed employer/business and location | 1 | 1 |
| Changed location only | 1 | 3 |
| Did not change employer/business or location | 96 | 87 |

[a] Totals do not add due to rounding.

*Source:* ABS (*Labour Mobility, Australia,* Cat. no. 6209.0, unpublished, various years).

Most employment flows over the twelve months to February 1998 occurred within industries rather than between industries. A worker is classified to have changed industry if the new position is outside his or her previous industry of employment as categorised by the two digit ANZSIC subdivision. The proportion of railway employees who changed their industry of employment between 1997 and 1998 was below that for 'all industries' — 2 per cent compared with 6 per cent respectively (table J.2).

Table J.2 **Employees who changed industry between 1997 and 1998**

| | *Changed industry* | | *Total industry employment* |
|---|---|---|---|
| | *Employees* | *Proportion* | |
| | number | % | number |
| Rail industry | 652 | 2 | 38 864 |
| All industries | 453 052 | 6 | 7 670 078 |

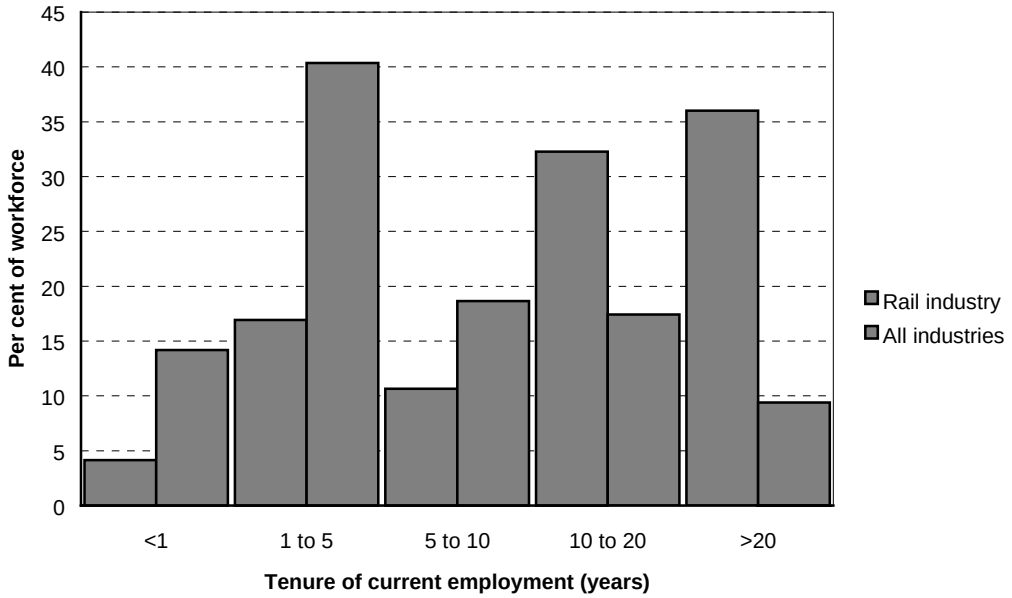
*Source:* ABS (*Labour Mobility, Australia,* Cat. no. 6209.0, unpublished, various years).

## Employment tenure and unionisation

Overall, employment tenure tends to be higher in the rail industry compared to 'all industries'. In 1998, 36 per cent of railway workers had been in the same job (which may have changed responsibility and skill levels over time) for over 20 years compared to around 9 per cent for 'all industries' (figure J.4).

The level of unionisation in railways is high. In 1998 around 85 per cent of railway employees were members of a trade union compared to 31 per cent for 'all industries' (ABS 1998e).

Figure J.4 **Employment tenure, rail and all industries, 1998**




*Source:* ABS (*Labour Mobility, Australia,* Cat. no. 6209.0, unpublished, various years).

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