
TRANSPORT AND COMMUNICATIONS

This chapter contains information on transport and communications and the government bodies concerned with these activities. More detailed figures and particulars for earlier years are included in the publications listed in the bibliography at the end of the chapter.

TRANSPORT ORGANISATIONS

The Australian Transport Advisory Council—ATAC

In April 1946, Commonwealth and State Governments agreed to establish a coordinating and advisory council at ministerial level with the principal function of reviewing annually the various laws and regulations deemed necessary to safeguard the interests of the State governments and road users generally, and to consider matters of transport policy. The Australian Transport Advisory Council comprises Federal, State and Territory ministers responsible for transport, roads and marine matters. The New Zealand Minister of Transport and Civil Aviation is also represented on the Council as an observer.

At present, the Council meets annually and its primary role is to review and coordinate various aspects of transport policy, development and administration. The Council functions through initiating discussion and reports on any matter raised by Council members, and by providing advice on matters which will promote better coordination and development of transport to the benefit of Australia. The Council has one policy advisory group reporting directly to it, the Standing Committee on Transport (SCOT). The Committee comprises a representative of each ATAC minister, usually the heads of the relevant departments, and deals with overall issues of policy coordination and development. The Committee is supported by four groups of specialist advisers covering the interests of road, rail, road safety and marine and ports.

In addition, the following technical committees and subsidiary bodies report to the Marine and Ports Group and the Road Safety Group:

- Ship Standards Advisory Committee
- Marine Pollution Advisory Committee
- Road User Safety Advisory Committee
- Licensing and Traffic Codes Committee
- Advisory Committee on Transport of Dangerous Goods
- Vehicle Standards Advisory Committee
- Advisory Committee on Vehicle Emissions and Noise
- Advisory Panel on Recall and Unsafe Parts
- Australian Motor Vehicle Certification Board.

Australian Road Transport Advisory Committee—ARTAC

ARTAC comprises representatives of all sectors of the road freight industry and others with relevant specialist expertise. This Committee provides a specific channel of road freight industry advice to the Commonwealth Minister. Membership of the Committee is drawn from the Transport Industries Advisory Council.

Bureau Of Transport And Communications Economics—BTCE

The Bureau is a centre for applied economic research in the Department of Transport and Communications. It undertakes studies and investigations that contribute to an improved understanding of the factors influencing the efficiency and growth of the transport and communications sector and the development of effective transport and communication policies.

The Bureau regularly publishes the results of its research work and its publications are available through the Commonwealth Government Bookshops in capital cities.

Civil Aviation Authority—CAA

The CAA was established under the *Civil Aviation Act 1988* and commenced operations on 1 July 1988.

The Authority is responsible for safety regulations of civil aviation in Australia and of Australian aircraft operating outside Australia. It also provides air route and airway facilities and associated services to the aviation industry, i.e. air traffic control, flight service, rescue and fire fighting, search and rescue and aeronautical information.

Costs for the provision of these services are recovered through charges to the industry, but the major part of the costs related to the Authority's safety regulatory functions are funded through the Federal Budget by means of a contract between the Government and the Authority.

The Authority's 7,100 staff are employed under the Public Service Act.

The Authority represents Australia on the Council of the International Civil Aviation Organization based in Montreal and is authorised to provide consultancy and management services to other countries.

Federal Airports Corporation—FAC

The Federal Airports Corporation is a Commonwealth Statutory Authority established by, and incorporated under, the *Federal Airports Corporation Act 1986*. The Act was passed by the Commonwealth Parliament on 14 February 1986, and proclaimed on 13 June 1986.

On 1 January 1988 the FAC assumed ownership, management and development of Australia's major airports and for the commercial activities on the airports, including arrangements with airlines and other operators for the use of airports and for leasing of property and the letting of business concessions.

The Federal Airports Corporation has responsibility for the following airports:

- NSW—Sydney (Kingsford Smith) Airport, Bankstown, Hoxton Park and Camden
- Vic.—Melbourne, Essendon and Moorabbin
- Qld—Brisbane, Archerfield, Townsville, Mount Isa and Coolangatta
- SA—Adelaide and Parafield
- WA—Perth and Jandakot
- Tas.—Hobart, Launceston and Cambridge
- NT—Darwin, Alice Springs and Tennant Creek
- ACT—Canberra

The Corporation is a statutory transport business undertaking of the Commonwealth and is required to act in accordance with sound commercial practice. It is commercially flexible and responsive in order to make changes and act in a timely manner to meet the requirements of a dynamic market.

To allow it to do this, the Corporation is not bound by many of the constraints that apply to a Government Department.

Like any business, the Corporation is required to be financially self-supporting. It has been established with a capital base and debt/equity ratio determined by the Commonwealth Government in accordance with the FAC legislation.

Independent Air Fares Committee

The *Independent Air Fares Committee Act 1981*, which came into operation in January 1982, is part of the 'two-airline policy' legislation which will terminate on 30 October 1990.

The Act established the Independent Air Fares Committee with responsibility for approving the passenger fares charged on domestic air services by trunk route, regional and commuter operators.

The Committee's principal functions are, subject to criteria specified in the Act, to undertake cost allocation reviews for nominated operators to determine how domestic air service costs should be recovered from passenger fares, to determine the level of economy air fares after conducting reviews for any operator, and to approve discount air fares on application from operators. Details of the Committee's determinations and decisions are notified in the *Commonwealth of Australia Gazette*.

Following abolition of the Committee in October 1990, interstate air fares will be made subject to surveillance by the Prices Surveillance Authority.

Transport Industries Advisory Council—TIAC

The Council was formed following the March 1971 Australian Transportation Conference. The Council advises the Commonwealth Minister for Transport and Communications on national transport issues.

The members of TIAC are drawn from senior management of authorities representing all modes of transport, including user groups, government bodies and unions. The Minister appoints members on the basis of personal expertise and the contribution they may be able to make to Council affairs. The full Council, which meets four times a year, operates through an Executive Committee and subject-specific Project Committees. A report of TIAC activities is published annually in the Department of Transport and Communications Annual Report.

THE TRANSPORT INDUSTRY

Transport Industry Survey

This section contains statistics obtained from a survey of transport establishments conducted in respect of 1983-84 (referred to as the Transport Industry Survey). This survey was the first of its kind conducted in Australia and included establishments predominantly engaged in providing passenger or freight transport services for hire or reward by road, rail, water and air transport (collectively referred to as the modal transport industries) plus freight forwarding.

The survey was conducted as a component of the Australian Bureau of Statistics integrated economic statistics system and the results are comparable with economic censuses and surveys undertaken annually for the mining, manufacturing and gas industries and periodically for the wholesale, retail and selected service industries.

Summary of operations

The following table shows key items of data by industry mode for transport establishments in Australia, for the year 1983-84. The industries described are based on the 1983 edition of the Australian Standard Industrial Classification (ASIC).

TRANSPORT ESTABLISHMENTS: SUMMARY OF OPERATIONS BY INDUSTRY MODE, AUSTRALIA, 1983-84

ASIC Code	Description	Establishments at 30 June 1984	Average employment over whole year (a) salaries (b)	Wages and	Stocks		Total purchases, transfers in and selected expenses	Value added	Fixed capital expenditure less disposals	
					Turnover	Opening				Closing
		No.	No.	\$m	\$m	\$m	\$m	\$m	\$m	
511	Road freight transport	32,943	99,606	902.5	5,187.3	47.4	49.8	2,921.8	2,267.8	237.6
512	Road passenger transport	10,615	45,841	571.2	1,528.6	34.0	37.4	593.5	938.5	56.4
5200	Rail transport	12	86,721	1,688.5	3,314.8	178.9	179.4	1,417.5	1,897.8	406.9
53	Water transport	165	8,978	212.7	1,238.9	14.9	14.7	814.5	424.3	23.2
54	Air transport	334	23,597	600.8	2,958.0	20.4	19.9	1,747.9	1,209.6	178.1
51-54	Total modal transport	44,069	264,743	3,975.7	14,227.6	295.6	301.2	7,495.2	6,738.0	902.2

(a) Includes working proprietors and partners. (b) Excludes the drawings of working proprietors and partners.

Business Vehicle Survey

Concurrent with the Transport Industry Survey (TIS), the Bureau conducted a Business Vehicle Survey (BVS) to obtain a more complete picture of road freight transport activity in Australia. This involved the collection of road freight transport information from a sample of private enterprises whose main activity was not road freight transport but who operated at least one truck with a gross vehicle mass of 2.7 tonnes or more and used that truck to carry freight on public roads.

Results from the TIS and BVS were combined to produce estimates of road freight activity as shown in the following table.

ROAD FREIGHT ACTIVITY OF PRIVATE ENTERPRISES: SUMMARY OF ACTIVITY BY INDUSTRY DIVISION, AUSTRALIA, 1983-84

ASIC Code	Description	Enterprises at 30 June 1984	Trucks operated at 30 June 1984			Truck drivers at 30 June 1984			Wages and salaries paid to truck drivers(a)	Freight carried on trucks (b)
			Rigid	Articulated	Total	Working proprietors/partners	Employees	Total		
A	Agriculture, forestry, fishing and hunting	85,796	105,446	8,163	113,609	11,727	3,416	15,143	35.3	58.5
B	Mining	557	2,151	424	2,575	62	1,810	1,872	37.6	17.3
C	Manufacturing	8,109	21,545	2,867	24,413	694	16,049	16,743	279.0	43.8
E	Construction	12,383	18,327	1,494	19,822	2,066	4,860	6,926	79.8	40.1
F	Wholesale and retail trade	19,333	34,222	3,544	37,766	4,070	16,885	20,955	297.9	55.8
511	Road freight transport	32,616	36,535	21,307	57,842	28,147	27,818	55,966	501.5	362.1
512-580	Other transport and storage	742	1,237	251	1,488	157	684	841	13.0	5.2
G	Total transport and storage	33,358	37,772	21,558	59,330	28,305	28,502	56,807	514.5	367.3

For footnotes see end of table.

ROAD FREIGHT ACTIVITY OF PRIVATE ENTERPRISES: SUMMARY OF ACTIVITY BY INDUSTRY DIVISION, AUSTRALIA, 1983-84—continued

ASIC Code Description	Enter- prises at 30 June 1984	Trucks operated at 30 June 1984			Truck drivers at 30 June 1984			Wages and salaries paid to truck drivers(a)	Freight carried on trucks (b)
		Rigid	Artic- ulated	Total	Working proprietors/ partners	Employees	Total		
I Finance, property and business services	1,718	3,725	922	4,647	97	2,612	2,710	51.0	11.4
K Community services	1,055	2,277	42	2,319	500	1,187	1,688	20.4	6.5
L Recreation, personal and other services	1,773	2,523	159	2,682	247	677	924	10.0	6.2
Total	164,081	227,988	39,174	267,161	47,769	75,999	123,768	1,325.5	606.9

(a) Excludes the drawings of working proprietors and partners. (b) Estimates of freight carried relate to freight uplifted by trucks and therefore, to the extent that transshipment occurs (i.e. the transfer of freight from one truck to another), estimates of freight carried will overstate the actual physical quantity of freight moved.

NOTE: Road freight activity data collected from road freight establishments included in the TIS has been tabulated against the industry to which the enterprise of the road freight transport establishment is classified, e.g. the figures for a road freight establishment of a manufacturing enterprise would be tabulated against ASIC Division C.

SHIPPING

Control of Shipping

Commonwealth Government navigation and shipping legislation

Commonwealth Acts concerned with shipping are: the *Navigation Act 1912*, the *Sea Carriage of Goods Act 1924*, the *Seamen's Compensation Act 1911*, the *Seamen's War Pensions and Allowances Act 1940*, the *Protection of the Sea (Civil Liability) Act 1981*, the *Protection of the Sea (Powers of Intervention) Act 1981*, the *Protection of the Sea (Shipping Levy) Act 1981*, the *Protection of the Sea (Shipping Levy Collection) Act 1981*, the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, the *Navigation (Protection of the Sea) Amendment Act 1983*, the *Australian Coastal Shipping Commission Act 1956*, the *Environment Protection (Sea Dumping) Act 1981*, the *Submarine Cables and Pipelines Protection Act 1963*, the *Lighthouses Act 1911*, the *Explosives Act 1961*, the *King Island Shipping Service Agreement Act 1974*, the *Bass Strait Sea Passenger Service Agreement Act 1984*, the *Ship Construction Bounty Act 1975*, the *Bounty (Ships) Act 1980*, the *Bounty (Ship Repair) Act 1986*, the *Australian Shipping Commission (Additional Capital) Act 1985*, the *Ships (Capital Grants) Act 1987*, the *Trade Practices Act 1974 Part X* (as amended by the *Trade Practices (International Liner Cargo Shipping) Amendment Act 1989*), the *Shipping Registration Act 1981*.

Navigation Act

The *Navigation Act 1912* (as amended), provides for various regulatory controls over ships and their crews, passengers and cargoes, mainly for the preservation of life and property at sea. Substantial penalties are provided for serious offences. The Act gives effect to a number of important international conventions produced under the aegis of the International Maritime Organization (IMO).

Regulations and Orders under the Act give legislative effect to various safety and technical requirements in respect of ships, their cargoes and persons on board.

Taken in the order in which they appear in the Act, the main substantive matters dealt with are as outlined below.

Masters and seamen

Some sections deal with the examination of masters, mates and engineers for certificates of competency. Other sections ensure that appropriate conditions apply to crews serving

on ships by providing for the engagement, discharge and payment of wages; discipline at sea; the settlement of wages and other disputes; the return to their home port of distressed seamen; taking charge of wages and effects of deceased seamen and of those who have been left behind; and inquiries into deaths at sea. The health of seamen is cared for by the prescription of scales of medicines and medical stores to be carried by ships, and there are provisions to give effect to International Labour Organisation Convention requirements for the accommodation of crews. Plans for new or altered accommodation in ships have to be approved.

The Act provides for a Marine Council to advise the Minister on the suitability of persons for engagement as seamen.

Ships and shipping

There are particularly important provisions dealing with ship safety in such matters as survey of ships, load lines, life-saving and fire appliances, prevention of collisions, and carriage of potentially dangerous cargoes. While in Australia, all ships which trade interstate or overseas come under the survey provisions of the Navigation Act and require certificates issued or recognised by the Department of Transport and Communications, unless they are registered in a country which is a party to the Convention concerned and hold valid certificates issued by their governments and conforming to the requirements of the Safety of Life at Sea and Load Lines Conventions. There is power to detain any ship, the condition of which does not conform with the conditions set out in its certificate, or which appears to be overloaded or otherwise unseaworthy or substandard.

Passengers

These provisions deal with matters necessary or convenient for regulating the carriage of passengers in respect of such matters as numbers that may be carried, accommodation and health aspects.

Offshore industry

These provisions deal with offshore industry vessels and offshore industry mobile units. Marine Orders give effect to IMO resolutions on this sector of the marine industry.

Coasting trade

Under the coasting trade provisions of the Navigation Act, the Australian coastal trade is reserved for licensed vessels, i.e. those which employ seamen at Australian wage rates and are not subsidised by foreign governments. The Act does not restrict the class of ships which may obtain a licence. It is open to any vessel, irrespective of the registry, to obtain a licence on compliance with these conditions and to operate in the Australian coastal trade. Provision exists for unlicensed vessels to carry interstate cargoes under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade.

Wrecks and salvage

There are provisions in relation to wrecks and salvage, covering preservation of life and of the wreck and its cargo and related matters.

Limitation and exclusion of shipowners' liability

These sections give effect to an international convention and make provision on the widest possible basis for the limitation of shipowners' liability in Australia.

Courts of Marine Inquiry

There are provisions for the holding of Courts of Marine Inquiry to investigate the circumstances attending any casualties to ships that come within Commonwealth legislative authority, usually following a preliminary investigation.

Shipping Registration Act

The *Shipping Registration Act 1981* received Royal Assent on 25 March 1981 and was proclaimed on 26 January 1982. This Act replaces Part I of the Merchant Shipping Act

1894 (UK) under which ships in Australia were registered as British ships. The Act provides for all ships on the British Register in Australia to be automatically transferred to the new Australian Register. The Act has two basic objectives, namely the conferring of Australian nationality on Australian-owned ships and the registration of ownership and encumbrances.

The Act was amended in 1985 to improve the general administration and the protection of registered and unregistered interests.

Taken in order in which they appear in the Act, the main substantive matters are as follows.

Registration of ships

This part deals with the obligation to register Australian-owned ships, the ships permitted to be registered, the application for registration, particulars to be entered in the Register, the issue of Registration Certificates, Provisional Registration Certificates and Temporary Passes, changes in ownership, marking and naming of the ship, nationality of ships, flags to be flown, assuming and concealing Australian nationality.

Transfers, transmissions and mortgages

This part deals with the transfer, transmission of ship and shares, the taking out, transfer, transmission and discharge of mortgages and the entry of this information into the Register. Caveats can be lodged to protect unregistered interests.

Administration

This part deals with the appointment of the Registrar, delegation of the powers of the Minister and Registrar, the establishment of the Shipping Registration Office and Branch Offices.

Register of ships

This part deals with the maintenance, rectification and inspection of the Register.

Miscellaneous

This part deals with liabilities of ships not registered, the appointment of registered agents, alterations to a registered ship, forfeiture and detention of ships, taking officers to sea, false statements, offences, evidentiary provisions, review, jurisdiction and appeals, preservation of State and Territory legislation and regulation making powers.

Transitional provisions

This part deals with the change over from the previous law to the new legislation. This includes the completion of transactions commenced under the previous law and the acceptability of documents prepared under the previous law. This part is now largely non-operative.

Ships (Capital Grants) Act

The *Ships (Capital Grants) Act 1987* provides shipowners with a taxable grant of 7 per cent of the purchase price of eligible new, or newly acquired second-hand trading ships. The legislation defines the conditions and procedures under which a grant may be paid. Briefly, the Act requires that ships hold a category certificate and be crewed in accordance with crewing benchmarks specified for that category, be registered in Australia and crewed with Australian residents. As part of its Shipping Reform Strategy the government has agreed to extend the grant provisions to new vessels introduced before 30 June 1997—a five year extension of the Act. Existing Australian vessels which undergo structural or equipment changes which allow a reduced crew level will also be eligible for grants. In this case a grant is payable at a rate of 7 per cent of the cost of the modifications. Grants are also payable for newly acquired second-hand ships less than five years old which commence operation under the Australian flag between 1 July 1987 and 30 June 1990.

ANL Limited

ANL Limited is an incorporated public company, all the shares of which are owned by the Commonwealth. It is Australia's national shipping line.

ANL Limited was created on 1 July 1989 under the *ANL (Conversion into Public Company) Act 1988*. The Company is the successor to the Australian Shipping Commission (trading as the Australian National Line) which was created in 1956 as the Australian Coastal Shipping Commission.

Incorporation has enhanced the Line's freedom to manage itself on a day-to-day basis and its ability to compete on equal terms with private shipping operators. Accountability is maintained through strategic oversight, by monitoring corporate plans and financial targets.

As at 30 June 1989, ANL operated a fleet of 14 ships comprising ten ships in overseas trades and four in coastal trades and having a combined deadweight tonnage of 651,000 tonnes. The overseas fleet includes seven liner ships totalling 171,000 deadweight tonnes, a specialised car carrier of 9,000 deadweight tonnes and two bulk carriers totalling 279,000 deadweight tonnes. On the coast, ANL operates three bulk carriers totalling 185,000 deadweight tonnes and a roll-on roll-off ship of 7,500 deadweight tonnes.

On 1 November 1988, ANL merged its container terminal and stevedoring operations with those of James Patrick and Company Pty Ltd to form National Terminals (Australia) Limited (NTAL). ANL is the majority shareholder with 60 per cent of the shares and Patricks holds the other 40 per cent. NTAL is Australia's largest container terminal operator with terminals at Sydney, Melbourne, Brisbane and Tasmanian Ports.

From 1983 to 1988, affected by the general downturn experienced by the shipping industry, ANL implemented a program of rationalisation and withdrew from unprofitable services. This saw fleet numbers fall from 33 in 1983 to 12 in early 1989. With the current upturn in the shipping industry, ANL is now aiming to replace its ageing fleet with modern, fuel-efficient, low-crewed vessels and to expand its business base. Two additional ships joined the fleet in May and June 1989. ANL has also placed orders for two cellular container vessels to be built in Korea for use in its Asian liner trades and two roll-on roll-off vessels, one to be built in Singapore and one in Newcastle, for the coastal trade.

The Line has also been moving into shipping-related activities, particularly container management, freight forwarding, ship agency, customs agency and ship management services in an effort to broaden its revenue base and provide a more integrated transport service.

Shipbuilding assistance

The shipbuilding industry has been assisted by the Government since the introduction of the shipbuilding subsidy scheme in 1947.

In the 1970s shipbuilding was a highly protected industry seeking principally to maintain its market position against highly competitive overseas builders. It endeavoured to achieve this by producing a broad range of vessels. However, since the closure of facilities in Whyalla and Newcastle, Australia no longer produces large ships.

Under the *Bounty (Ships) Act 1980*, bounty is paid to registered shipbuilders on the cost of construction of bountiable vessels, i.e. vessels exceeding 150 gross construction tonnes (gct), and to fishing vessels exceeding 21 metres in length or 150 gct. Currently bounty is paid at a rate of either 15 or 20 per cent.

As a result of a restructuring plan introduced in 1984, the shipbuilding industry has improved its performance dramatically. Orders currently exceed \$600 million of which half are for export. In 1984 no Australian ship of bountiable size was exported.

The Australian industry has successfully entered a number of international markets with high quality, innovative designs. New technology catamarans, luxury motor yachts and specialised fishing vessels have given Australia a competitive advantage in some previously untapped markets.

The success in the restructuring plan led to the Government's decision, in November 1988, to continue bounty assistance for another six years, but with revised registration criteria for shipbuilders and with a phasing down in bounty rates until June 1995, when the bounty assistance is to cease.

These changes in the policy were announced following the Government's consideration of an Industries Assistance Commission's report of 29 June 1988. The *Bounty (Ships) Act 1989* provides assistance to shipbuilders from 1 July 1989 to 30 June 1995.

As at 30 June 1989, 24 shipbuilders were registered for bounty purposes. In 1988-89, 58 vessels were completed, valued at \$179.7 million compared with 49 completed vessels, valued at \$132 million, in the previous year.

Total financial assistance to the Australian shipbuilding industry in 1988-89 amounted to \$45.0 million (compared with \$37.2 million in 1987-1988 and \$42.0 million in 1986-87).

Total financial assistance to registered ship repairers in 1988-89 amounted to \$3.2 million (compared with \$2.3 million in 1987-88).

Ship repair

In October 1986, the Government announced a 3 year, \$6 million ship repair assistance package aimed at strengthening the ship repair industry. Two major elements of the package were the bounty payable to registered ship repairers, and the extension of the Department of Transport and Communication's official ship safety inspection system which gave effect to internationally accepted health and safety standards based on the International Labour Organisation (ILO) Convention 147. The bounty applied to international trading vessels of at least 6,000 deadweight tonnes, whether Australian or foreign owned, and was payable up to 30 per cent of the repair contract price. The bounty has now expired.

Importation of ships

The restrictions on the importation of ships under the Customs (Prohibited Imports) Regulations were removed on 21 December 1988. As a result, the permission of the Minister for Transport and Communications is no longer required for the importation of ships.

This decision followed the Government's consideration of the Industries Assistance Commission's August 1988 report on the ship building industry.

Stevedoring industry

In December 1977, legislation was introduced which provided for new administrative, financial and industrial arrangements for the stevedoring industry, and abolished the Australian Stevedoring Industry Authority. The arrangements give the parties directly involved in the industry greater responsibility for the industry's affairs.

The Stevedoring Industry Finance Committee is responsible for the disbursement of funds collected through statutory man-hour and cargo levies.

A federal coordinating committee, comprising representatives of the employers and the Waterside Workers' Federation (WWF), Broken Hill Pty Ltd (BHP) and the Australian National Line, oversees the operation of arrangements agreed to in the General Agreement between employers and the WWF. At the port level such matters are handled by Port Co-ordinating Committees set up in the major ports.

Under section 168 of the *Industrial Relations Act 1988*, a Port Conciliator Service was established to assist parties to an industrial award to implement the procedures of that award for the prevention or settling of disputes.

The Statutory provisions relating to the industry are contained in the *Stevedoring Industry Finance Committee Act 1977*, the *Stevedoring Industry Levy Act 1977*, the *Stevedoring Industry Levy Collection Act 1977*, the *Port Statistics Act 1977* and part VI, division 9, of the *Industrial Relations Act 1988*.

Waterfront reform

In June 1989 the Government outlined a comprehensive plan for reform of Australia's waterfront.

The Government broadly accepted the findings of the Inter-State Commission (ISC) Waterfront Report which was released on 6 April 1989 following more than two years of intensive investigations into the means of improving the waterfront's efficiency, productivity, reliability and industrial relations record.

Reforms are being made in three major areas:

- (a) The reform of the stevedoring and container depot industries, will proceed in accordance with the provisions of an in-principle agreement with the ACTU, stevedoring unions and employers. Major changes flowing from the agreement which will be implemented over a 3 year period include:
 - introduction of enterprise employment at major ports;
 - a one-off special retirement/redundancy package for 3,000 employees and a recruitment program for 1,000 new entrants over the next three years to rejuvenate the workforce;
 - Government funding of up to \$154 million towards redundancy payments, training, skills audits and job redesign projects with a similar employer contribution;
 - award restructuring for the development of skills related career paths and a greater emphasis on training;
 - introduction of arrangements for a supplementary workforce to meet fluctuating labour demands on a daily hire basis; and
 - phasing out of cross-subsidisation of stevedoring labour costs in small ports.The Waterfront Industry Reform Authority (WIRA) will have responsibility for overseeing the Agreement implementation, monitoring and reporting to government on progress in the introduction of the new arrangements and the disbursement of restructuring assistance.

- (b) Port authority reforms. A meeting with State and Northern Territory government ministers was held on 11 August 1989 at which the States endorsed the Federal Government's approach and indicated their commitment to reform of port authority operations consistent with the ISC's recommendations. A joint Commonwealth-State review of progress is to occur in early 1990.
- (c) Ensuring a more competitive commercial environment on the waterfront. Additional resources have been allocated to the Trade Practices Commission to enable it to effectively apply the Trade Practices Act to the waterfront industry, including the scrutiny of uncompetitive practices in the container depot industry. The Prices Surveillance Authority is being directed to review pricing practices in the stevedoring industry.

Tasmanian Freight Equalisation Scheme

The Tasmanian Freight Equalisation Scheme was first introduced on 1 July 1976 following the Nimmo Commission of Inquiry into transport to and from Tasmania. It was revised in 1985 following the government's consideration of the Inter-State Commission's March 1985 report.

The Scheme is designed to alleviate the comparative freight cost disadvantage of shipping certain non-bulk goods by sea between Tasmania and the mainland. Responsibility for administration of the Scheme lies within the Transport and Communications portfolio.

The northbound component of the Scheme covers eligible goods produced or manufactured in Tasmania for use or sale on the mainland. The southbound component covers eligible non-consumer raw materials, machinery and equipment for use in manufacturing, mining, agriculture, forestry and fishing industries in Tasmania. In 1988-89, \$30.1 million in assistance was paid on the northbound component and \$4.3 million on the southbound component.

Trade Practices Act

Part X of the Trade Practices Act (as amended by the *Trade Practices (International Liner Cargo Shipping) Amendment Act 1989*) provides a regulatory framework for Australia's international liner trades and encourages a more competitive shipping environment for the benefit of Australian exporters. Under the amended legislation, which came transitionally into effect by Proclamation on 1 August 1989 and which will fully replace the previous part X of the Trade Practices Act on 1 February 1990, shipping conferences (cartels) now receive only limited exemption from the Act's competition provisions for registered agreements.

The objectives of the new law are to:

- ensure that Australian exporters have continued access to outwards liner cargo shipping services of adequate frequency and reliability at freight rates that are internationally competitive;
- promote conditions in the international liner cargo shipping industry that encourages stable access to export markets for exporters in all States and Territories; and
- ensure that efficient Australian flag shipping is not unreasonably hindered from normal participation in any outwards liner cargo shipping trade.

The creation of a more competitive liner shipping environment is being encouraged by the introduction of a number of important mechanisms. Exemption from the restrictive trade practice provisions of the Trade Practices Act is limited to conduct by conference shipping services which is of benefit to Australian exporters. Appropriate pro-competitive provisions of the Trade Practices Act are applied to ocean carriers, including section 46 which prohibits misuse of market power and a provision based on section 49, which prohibits discrimination between like placed shippers.

There is also a requirement for conference agreements to be publicly available and to comply with minimum standards, and for conferences to take part in negotiations with a designated shipper body over minimum service levels, freight rates and service arrangements.

The Trade Practices Commission and the Trade Practices Tribunal have investigating and reporting powers in relation to conference agreements, non-conference ocean carriers with a substantial degree of market power and unfair pricing practices.

Sea Carriage of Goods Act

The *Sea Carriage of Goods Act 1924*, provides for regulation of carriers' responsibilities and liabilities in sea borne trades. The Act is based on an international convention, known as the Hague Rules, which came into effect in 1924.

The Hague Rules, and consequently the Act, have become technically deficient in a number of areas and in June 1988 the Government announced it would amend the Act to take into account international trends in marine cargo liability regulation. Australia will formally adopt and implement the Visby and SDR Protocols to the Hague Rules. This will bring Australian legislation into line with practices in the major European countries. The amended Act will also provide a mechanism for the future implementation of the Hamburg Rules, a United Nations Convention on the Carriage of Goods by Sea, when these Rules have gained wider international acceptance and represent a viable alternative for Australia.

Marine pollution

The *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, the *Navigation (Protection of the Sea) Amendment Act 1983*, the *Protection of the Sea (Powers of Intervention) Act 1981*, the *Protection of the Sea (Civil Liability) Act 1981*, the *Protection of the Sea (Shipping Levy) Act 1981* and the *Protection of the Sea (Shipping Levy Collection) Act 1981* currently provide the Commonwealth with the power to deal with matters relating to marine pollution.

The Acts respectively provide for the control of discharges at sea and provision of control equipment and procedures on ships; empower the Minister to intervene to take action to prevent or reduce pollution, make provision relating to limitation of liability of oil tankers for oil pollution damage; and provide for the collection of a levy to finance the National Plan to Combat Pollution of the Sea by Oil.

Collection and Presentation of Statistics

Statistics relating to shipping and cargo are compiled from information provided to the Australian Customs Services (ACS) by importers, exporters, shipping companies and their agents. This information is supplied to the Australian Bureau of Statistics by ACS on a regular basis and is used to produce transport oriented statistics via the following two collections:

- *Shipping and Cargo (B380)*. A direct collection from shipping companies of details of ship movements and cargo carried.
- *Shipping and Air Cargo Commodity Statistics (SACCS)*. A collection which combines information from import and export documents submitted to the ACS with transport and shipping information to provide a comprehensive picture of the transport base of Australia's foreign trade.

Shipping and Cargo Statistics

The scope of the statistics

The statistics relate to ships calling at or departing from Australian ports for the purpose of carrying cargo from or to overseas ports. Details are not required for:

- (i) naval ships;
- (ii) yachts and other craft used for pleasure;
- (iii) foreign fishing ships visiting Australian ports for purposes other than the loading or discharge of cargo;
- (iv) Australian registered fishing ships operating from Australia ports;
- (v) geographical survey ships, seismic survey ships, oceanographic survey ships;
- (vi) offshore oil drilling rigs and ships servicing them; or
- (vii) ships of 200 registered net tonnes and under.

Period covered by the statistics

Shipping and cargo statistics are compiled, on a financial year basis, according to the period during which ships actually arrived or departed Australian shores.

Ship characteristics

Ship recording

Ship movement statistics are recorded as 'Ship Number' and 'Ship Calls'. 'Ship Number' relates to the number of overseas direct arrivals to, or departures from Australia. 'Ship Calls' relates to the number of port visits that an overseas ship makes in Australia. For example, an overseas ship which arrives direct in Brisbane and makes a further call in Sydney before departing for an overseas port from Melbourne is counted as one under 'Ship Number' for both arrivals (Brisbane) and departures (Melbourne) and as one arrival call and one departure call for each of the three ports.

Ship type

All ships are classified from *Lloyd's Register of Shipping* according to one of 11 ship types which describe them in terms of their structure or design. These 11 ship types are amalgamated into four broad categories.

<i>Category</i>	<i>Ship types</i>
General cargo ships	Container ships Conventional cargo ships Roll-on/roll-off ships Other cargo ships
Tankers	Gas carriers Liquid tankers
Bulk carriers	Dry bulk carriers Dry/wet bulk carriers
Other ships	Multi-purpose ships Passenger ships Other ships

Type of service

Ships are also classified according to the type of service they provide. The two types of service for which statistics are shown are:

- (a) *liner service*, (according to conference and non-conference) relates specifically to a ship which is operated by a carrier providing services on a specified route on a relatively regular basis;
- (b) *other service*, which refers to all ships operating in other than a liner service.

Conference ships—A 'conference' is an association of shipowners which regulates the freight rates and terms and conditions of carriage of goods in any particular trade. Conferences only operate liner services and not charter services. Conference arrangements normally include provisions for sharing the trade, rationalising sailing schedules and pooling arrangements for resources and revenue.

Country of registration

The country of registration or flag of the ship refers to the country in which the ship is registered according to *Lloyd's Register of Shipping*.

Units of quantity

Cargo statistics are recorded in terms of revenue tonnes and gross weight tonnes.

A *revenue tonne* is the unit of quantity predominantly used in the shipping industry. It is the basis on which freight is charged and may be measured by mass (tonnes) or volume (cubic metres). Revenue tonnes statistics are consequently a mix of mass and volume units and should be used with care.

Gross weight is the total weight in tonnes of cargo, excluding the weight of containers, irrespective of the basis on which freight is charged.

Deadweight tonnage (DWT), which is the total weight in tonnes of cargo, stores, fuel, passengers and crew carried by the ship when loaded to its maximum summer loadline, is also used in the following tables.

Container cargo

Statistics of container cargo refer only to cargo shipped in international containers (including flats but not pallets). To provide a standard measure, all statistics relating to containers are expressed in terms of twenty-foot units. A forty-foot container is therefore recorded as 2 twenty-foot equivalent units (or TEUs).

Country of loading or discharge of overseas cargo

In statistics of overseas shipping and cargo, the country of loading or discharge of overseas cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting ship. The countries shown are not necessarily the countries of origin or ultimate destination of cargo because previous or subsequent trans-shipments of cargo are not taken into account. The statistics of cargo classified by the country in which it was loaded or discharged cannot therefore be compared directly with statistics of overseas trade classified by country of origin or consignment.

Trade area

Ports at which ships load or discharge cargo are allocated to their respective countries, which are in turn allocated to trade areas in accordance with the Classification of Trade Areas for Cargo Statistics.

It should be noted that a revised trade area classification became effective on 1 July 1984. Care should therefore be taken when comparing trade area statistics for earlier periods with those published using the revised trade area classification.

Shipping and Air Cargo Commodity Statistics—SACCS

The scope of the statistics

Inward cargo statistics relate to cargo loaded overseas which is discharged from ships and aircraft at Australian ports and in respect of which Customs import documents have been received. Similarly, outward cargo statistics relate to cargo loaded on ships and aircraft at Australian ports for discharge at overseas ports and in respect of which Customs export documents have been received. Details are not included for:

- (i) goods of small value imported and exported by parcel post;
- (ii) direct transit trade, i.e., goods being trans-shipped or moved through Australia for purposes of transport only;
- (iii) migrants' and passengers' effects for which Customs documents are not required;
- (iv) certain materials under inter-governmental agreements for defence and similar projects for which Customs documents are not required;
- (v) ships and aircraft entering and departing Australia under their own power;
- (vi) to the extent that they can be identified, ships and aircraft purchased for use on overseas routes and any subsequent sales made of such vessels and aircraft;
- (vii) fish and other sea products landed in Australia and abroad directly from the high seas by Australian ships (such products landed in Australia directly from the high seas by foreign ships are included);
- (viii) ships' and aircraft's stores; or
- (ix) export consignments where the value of the goods in each transaction was less than \$250 for entries lodged prior to 1 July 1986, and less than \$500 for entries lodged from that date, and import entries lodged on Informal Clearance Documents (ICDs) for values not exceeding \$250. In addition, from 21 October 1985 onwards, ICDs for postal articles valued between \$250 and \$1,000 are excluded.

Period covered by the statistics

SACCS data are compiled according to the date of arrival at, or departure from, Australian ports of the ship or aircraft concerned. SACCS are therefore not directly comparable to foreign trade statistics which are compiled according to the month in which relevant documents are finalised by ACS and passed to the ABS for further processing.

Commodity classification

Commodities are classified according to the Australian Transport Freight Commodity Classification (ATFCC). The ATFCC is the Australian standard for classifying goods transported by any of the transport modes: sea, rail, road, air or pipeline. It is a four level classification based on the second version of the United Nations Standard International Trade Classification (SITC Rev 2).

Valuation

The recorded value of inward cargo is the free on board (f.o.b.) Customs value. The value of outward cargo is the f.o.b. transactions value of the goods expressed in Australian dollars.

Unit of quantity

SACCS records commodity movements in gross weight tonnes which is the total weight of cargo irrespective of the basis on which the freight is charged. It includes the weight of moisture content, wrappings, crates, boxes and containers (other than standard international containers used for containerised cargo). Gross weight is not available by commodity for inward cargo.

Australian Trading Ships

SUMMARY OF THE AUSTRALIAN TRADING FLEET OF SHIPS 150 GROSS TONNES OR MORE, 30 JUNE 1989

(Source: Department of Transport and Communications)

<i>Ships</i>	<i>Number</i>	<i>DWT</i>	<i>Gross tonnes</i>
Major Australian fleet(a)			
<i>Coastal—</i>			
Australian owned and registered	32	1,268,313	881,986
Australian owned, overseas registered	1	35,244	20,570
Overseas owned, Australian registered	7	78,725	54,492
Overseas owned and registered	3	17,056	10,303
<i>Coastal fleet</i>	<i>43</i>	<i>1,399,338</i>	<i>967,351</i>
<i>Overseas—</i>			
Australian owned and registered	18	1,600,785	964,627
Australian owned, overseas registered	1	41,151	29,223
Overseas owned, Australian registered	13	609,433	458,185
Overseas owned and registered	1	2,925	2,610
<i>Overseas fleet</i>	<i>33</i>	<i>2,254,294</i>	<i>1,454,645</i>
<i>Major Australian fleet</i>	<i>76</i>	<i>3,653,632</i>	<i>2,421,996</i>
Other trading ships			
Australian owned and registered	18	9,868	10,848
Australian trading fleet	94	3,663,500	2,432,844

(a) 2,000 DWT and over.

The above table shows particulars of all Australian trading ships of 150 gross tonnes or more engaged in the regular overseas, interstate or intrastate services at 30 June 1989.

Ships registered in Australia

The following table shows the number of ships registered in Australia at 30 June 1989.

SHIPS REGISTERED IN AUSTRALIA AT 30 JUNE 1989
(Source: Department of Transport and Communications)

Location	Nature of registration					Total
	Demise chartered (a)	Other (b)	Government	Fishing	Pleasure	
New South Wales	7	221	4	275	1,299	1,806
Victoria	2	106	6	174	433	721
Queensland	1	263	27	604	855	1,750
Western Australia	5	129	3	378	396	911
South Australia	—	43	4	258	199	504
Tasmania	—	55	4	213	167	439
Northern Territory	—	18	1	64	149	232
Total	15	835	49	1,966	3,498	6,363

(a) A demise chartered ship is a foreign owned ship chartered by way of a charter party to an Australian based operator, who is an Australian national and who under the charter party has whole possession and control of the ship, including the right to appoint the master and crew of the ship. (b) Relates to vessels used for commercial purposes.

Harbour Boards and Trusts

For detailed information see the individual State Year Books.

Overseas Shipping

Ship movements into and out of Australia

The following table shows the movement of ships and cargo to and from overseas countries, for the years 1981-82 to 1986-87

OVERSEAS SHIPPING: SHIP AND CARGO MOVEMENTS

	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
Arrivals—						
<i>ship details</i>						
ship number	5,839	5,516	6,131	6,904	6,824	6,707
DWT ('000 tonnes)	232,370	223,817	263,614	310,228	307,406	300,348
<i>cargo discharged</i>						
revenue tonnes ('000)	31,300	27,904	28,516	29,778	27,600	26,825
gross weight ('000 tonnes)	25,741	23,028	22,859	23,582	22,055	23,418
Departures—						
<i>ship details</i>						
ship number	5,798	5,706	6,025	6,760	6,622	6,507
DWT ('000 tonnes)	235,635	230,396	267,264	309,152	304,839	296,952
<i>cargo loaded</i>						
revenue tonnes ('000)	176,449	170,429	198,406	225,119	237,446	234,796
gross weight ('000 tonnes)	175,634	169,483	197,041	224,182	234,688	233,747

The following table shows particulars of overseas shipping which arrived at or departed from Australian ports according to the country of registration of ships.

OVERSEAS SHIPPING: SHIP DEPARTURES AND ARRIVALS BY COUNTRY OF REGISTRATION, 1986-87

<i>Country of registration</i>	<i>Departures</i>		<i>Arrivals</i>	
	<i>Ship number</i>	<i>DWT ('000 tonnes)</i>	<i>Ship number</i>	<i>DWT ('000 tonnes)</i>
Australia	244	12,710	251	12,506
China	340	13,877	340	13,725
Denmark	77	1,275	81	1,329
Germany, Federal Republic of	164	3,057	182	3,141
Greece	278	12,438	291	13,185
Hong Kong	232	12,338	243	12,147
India	90	3,388	89	3,418
Japan	1,206	96,461	1,244	97,196
Korea, Republic of	228	15,880	224	15,776
Liberia	468	21,358	477	21,996
Malaysia	96	2,270	95	2,225
Netherlands	116	1,537	108	1,475
New Zealand	98	1,600	138	2,246
Norway	78	3,593	82	3,667
Panama	1,037	30,066	1,047	29,855
Philippines	340	13,321	335	13,036
Singapore	199	8,203	180	7,319
Sweden	13	384	15	440
Taiwan	149	12,396	154	12,574
United Kingdom	247	9,341	257	9,498
United States of America	13	335	10	244
USSR	156	2,935	161	2,916
Other countries	638	18,188	703	20,431
Total all countries	6,507	296,952	6,707	300,348
<i>With cargo</i>	<i>5,887</i>	<i>279,889</i>	<i>2,466</i>	<i>55,805</i>
<i>In ballast</i>	<i>620</i>	<i>17,063</i>	<i>4,241</i>	<i>244,542</i>

Overseas cargo according to country of registration of ships

The following table shows total overseas cargo, loaded and discharged, according to the country in which the ships were registered.

OVERSEAS CARGO LOADED AND DISCHARGED BY COUNTRY OF REGISTRATION OF SHIPS
(*'000 revenue tonnes*)

<i>Country of registration</i>	<i>1984-85</i>		<i>1985-86</i>		<i>1986-87</i>	
	<i>Loaded</i>	<i>Discharged</i>	<i>Loaded</i>	<i>Discharged</i>	<i>Loaded</i>	<i>Discharged</i>
Australia	6,875	2,310	7,993	2,177	10,148	1,708
China	8,267	376	10,511	373	10,439	349
Denmark	835	355	947	396	743	561
Germany, Federal Republic of	1,584	1,343	1,206	1,040	1,377	1,191
Greece	12,282	1,253	10,318	1,288	9,688	1,410
Hong Kong	7,059	873	9,513	628	9,494	727
India	868	114	1,744	50	2,689	20
Japan	83,926	3,761	88,694	4,042	86,182	3,220
Korea, Republic of	12,312	330	15,773	747	13,977	384
Liberia	24,155	4,300	17,721	2,671	14,530	3,869
Malaysia	1,864	376	1,942	381	1,576	449
Netherlands	1,223	294	784	294	800	420
New Zealand	530	849	780	1,112	675	701
Norway	5,768	1,294	3,939	888	2,030	906
Panama	18,356	2,720	20,819	3,245	23,286	2,897
Philippines	5,647	789	8,753	811	11,126	1,026
Singapore	4,701	847	5,534	1,242	6,059	1,958
Sweden	606	353	240	229	162	237
Taiwan	7,352	108	10,000	183	11,107	93
United Kingdom	7,237	4,130	6,264	3,873	4,251	2,517
United States of America	51	—	100	14	115	5
USSR	1,797	409	2,359	412	1,782	366
Other countries	11,823	2,593	11,513	1,504	12,562	1,812
Total all ships	225,119	29,778	237,446	27,600	234,796	26,825

Shipping at principal ports

The following two tables show the movement of overseas shipping and cargo at Australian ports during 1986-87. The first provides details of the ships calling at Australian ports and the gross weight of cargo loaded and discharged. The second classifies cargo loaded and discharged in terms of whether or not it was transported in ISO containers.

OVERSEAS SHIP AND CARGO MOVEMENTS AT AUSTRALIAN PORTS, 1986-87

Australian port	Departures		Cargo loaded	Arrivals		Cargo discharged
	Ship details			Ship details		
	Ship calls	DWT ('000 tonnes)	Gross weight ('000 tonnes)	Ship calls	DWT ('000 tonnes)	Gross weight ('000 tonnes)
New South Wales—						
Sydney	1,192	28,529	6,352	1,185	27,901	3,028
Botany Bay	504	11,951	443	552	13,340	2,084
Newcastle	765	41,297	31,877	760	40,428	1,334
Port Kembla	244	15,450	9,906	254	16,099	720
Other	51	1,123	895	54	1,186	6
Total	2,756	98,349	49,473	2,805	98,954	7,171
Victoria—						
Melbourne	1,479	28,857	2,776	1,452	28,382	3,181
Geelong	304	9,583	2,923	307	9,615	1,985
Westernport	124	7,193	4,942	124	7,129	23
Other	130	4,289	1,322	130	4,289	207
Total	2,037	49,922	11,963	2,013	49,415	5,395
Queensland—						
Brisbane	965	19,851	4,726	996	20,412	1,293
Gladstone	355	22,716	16,605	353	22,539	912
Hay Point	429	35,272	29,633	430	35,040	—
Townsville	256	4,275	1,556	262	4,335	266
Weipa	87	3,403	2,365	87	3,342	49
Other	422	11,505	8,632	430	11,661	196
Total	2,514	97,021	63,517	2,558	97,329	2,715
South Australia—						
Port Adelaide	405	8,564	1,192	397	8,269	403
Port Lincoln	97	2,725	1,145	99	2,661	102
Port Pirie	74	1,733	729	72	1,658	37
Port Stanvac	46	1,939	443	51	2,307	1,044
Thevenard	51	1,061	693	52	1,008	—
Whyalla	45	1,097	523	47	1,152	223
Other	81	2,997	1,502	82	3,030	29
Total	799	20,115	6,227	800	20,086	1,839
Western Australia—						
Fremantle	1,057	25,445	7,097	1,069	25,549	3,287
Bunbury	172	5,752	3,825	174	5,812	497
Dampier	442	37,521	32,099	451	38,274	245
Geraldton	137	3,868	1,703	131	3,766	75
Port Hedland	408	38,510	32,299	403	37,783	129
Port Walcott	91	12,926	11,314	91	12,722	20
Yampi Sound	37	3,154	2,358	38	3,295	1
Other	227	5,544	2,611	223	5,374	226
Total	2,571	132,720	93,308	2,580	132,574	4,479
Tasmania—						
Hobart	178	3,797	598	181	3,870	231
Launceston	170	5,080	2,321	176	5,124	161
Port Latta	21	1,754	1,408	20	1,647	34
Other	156	3,551	762	153	3,462	84
Total	525	14,182	5,089	530	14,102	509
Northern Territory—						
Darwin	164	2,693	445	151	2,348	543
Other	158	5,471	3,724	159	5,398	766
Total	322	8,164	4,169	310	7,746	1,309
Total all ports	11,524	420,473	233,747	11,596	420,206	23,418

**OVERSEAS CONTAINER AND NON-CONTAINER CARGO LOADED AND DISCHARGED
AT AUSTRALIAN PORTS, 1986-87**
(*'000 revenue tonnes*)

<i>Australian port</i>	<i>Loaded</i>			<i>Discharged</i>		
	<i>Container cargo</i>	<i>Other cargo</i>	<i>Total</i>	<i>Container cargo</i>	<i>Other cargo</i>	<i>Total</i>
New South Wales—						
Sydney	783	5,775	6,558	1,340	2,594	3,934
Botany Bay	390	128	518	1,101	1,489	2,590
Newcastle	385	31,542	31,927	4	1,330	1,334
Port Kembla	13	9,913	9,926	2	726	728
Other	—	895	895	1	6	7
<i>Total</i>	<i>1,571</i>	<i>48,253</i>	<i>49,824</i>	<i>2,449</i>	<i>6,144</i>	<i>8,594</i>
Victoria—						
Melbourne	2,289	794	3,083	2,573	1,637	4,210
Geelong	39	2,888	2,927	10	1,978	1,987
Westernport	—	4,942	4,942	—	23	23
Other	—	1,322	1,322	1	207	207
<i>Total</i>	<i>2,328</i>	<i>9,946</i>	<i>12,274</i>	<i>2,583</i>	<i>3,844</i>	<i>6,427</i>
Queensland—						
Brisbane	860	4,029	4,889	425	1,197	1,622
Gladstone	—	16,605	16,605	1	911	912
Hay Point	—	29,633	29,633	—	—	—
Townsville	34	1,526	1,560	8	285	293
Weipa	—	2,365	2,365	—	49	49
Other	24	8,628	8,652	1	195	196
<i>Total</i>	<i>917</i>	<i>62,786</i>	<i>63,703</i>	<i>434</i>	<i>2,638</i>	<i>3,072</i>
South Australia—						
Port Adelaide	255	1,001	1,257	96	486	583
Port Lincoln	—	1,145	1,145	—	102	102
Port Pirie	—	729	729	—	37	37
Port Stanvac	—	443	443	—	1,044	1,044
Thevenard	—	693	693	—	—	—
Whyalla	—	525	525	—	223	223
Other	—	1,502	1,502	—	29	29
<i>Total</i>	<i>255</i>	<i>6,039</i>	<i>6,294</i>	<i>96</i>	<i>1,922</i>	<i>2,018</i>
Western Australia—						
Fremantle	654	6,543	7,197	571	3,065	3,637
Bunbury	3	3,846	3,848	—	500	500
Dampier	—	32,099	32,099	16	243	258
Geraldton	—	1,703	1,703	—	75	75
Port Hedland	—	32,299	32,299	2	131	133
Port Walcott	1	11,314	11,315	—	20	20
Yampi Sound	—	2,358	2,358	—	1	1
Other	5	2,606	2,611	1	226	226
<i>Total</i>	<i>662</i>	<i>92,769</i>	<i>93,430</i>	<i>589</i>	<i>4,260</i>	<i>4,849</i>
Tasmania—						
Hobart	80	522	602	2	236	239
Launceston	41	2,281	2,322	9	158	167
Port Latta	—	1,408	1,408	—	34	34
Other	99	666	765	20	69	89
<i>Total</i>	<i>219</i>	<i>4,877</i>	<i>5,097</i>	<i>32</i>	<i>497</i>	<i>529</i>
Northern Territory—						
Darwin	9	440	449	9	561	570
Other	—	3,724	3,724	—	766	766
<i>Total</i>	<i>9</i>	<i>4,164</i>	<i>4,173</i>	<i>9</i>	<i>1,327</i>	<i>1,336</i>
Total all ports	5,962	228,834	234,796	6,192	20,632	26,825

Overseas cargo according to trade area and ship type

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the various trade areas of the world and by ship type.

OVERSEAS CARGO BY TRADE AREA OF PORT OF DISCHARGE/LOADING BY SHIP TYPE, 1986-87 ('000 revenue tonnes)

<i>Trade area</i>	<i>General cargo ships</i>	<i>Tankers</i>	<i>Bulk carriers</i>	<i>Other ships</i>	<i>All ships</i>
OUTWARD CARGO					
Europe	1,328	93	45,501	20	46,941
East Asia	1,276	335	27,832	35	29,478
Japan and North Asia	2,410	2,188	111,081	41	115,720
North America—East Coast	299	1,185	3,225	230	4,940
North America—West Coast	352	1,572	3,731	96	5,752
Central America and Caribbean	21	—	8	—	29
South America—East Coast	16	36	1,955	—	2,007
South America—West Coast	51	16	424	—	490
Africa—Mediterranean	5	9	2,377	—	2,392
West Africa	19	—	224	—	243
South and East Africa	58	21	276	1	356
Red Sea and Mediterranean Middle East	173	43	2,955	—	3,170
Middle East Gulf	206	2	4,307	—	4,515
West India	91	37	3,022	—	3,150
East India	56	12	765	—	833
South-East Asia	1,346	1,276	3,818	49	6,489
New Zealand	666	341	872	2	1,882
Papua New Guinea and Solomon Islands	409	508	800	5	1,723
Pacific Islands and other countries	223	655	86	—	964
Trade area not available for publication	29	—	3,696	—	3,724
Total outward overseas cargo	9,036	8,328	216,954	478	234,796
INWARD CARGO					
Europe	1,932	505	148	96	2,682
East Asia	1,176	96	246	—	1,518
Japan and North Asia	1,261	334	2,847	8	4,450
North America—East Coast	619	711	760	5	2,096
North America—West Coast	932	484	1,456	8	2,879
Central America and Caribbean	1	1	20	—	22
South America—East Coast	74	15	25	—	115
South America—West Coast	12	—	9	—	22
Africa—Mediterranean	—	—	12	—	12
West Africa	—	15	66	—	81
South and East Africa	105	15	7	1	128
Red Sea and Mediterranean Middle East	58	625	142	—	824
Middle East Gulf	56	4,785	480	—	5,320
West India	22	143	59	64	288
East India	3	—	—	—	3
South-East Asia	762	2,789	612	97	4,261
New Zealand	717	275	169	1	1,162
Papua New Guinea and Solomon Islands	71	6	3	1	82
Pacific Islands and other countries	23	16	837	6	882
Trade area not available for publication	—	—	—	—	—
Total inward overseas cargo	7,824	10,814	7,898	289	26,825

Overseas cargo according to trade area and type of service

The following table shows details of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the various trade areas of the world and by type of shipping service.

OVERSEAS CARGO LOADED AND DISCHARGED IN AUSTRALIA BY TRADE AREA OF PORT OF DISCHARGE/LOADING BY TYPE OF SERVICE, 1986-87 (^{'000} revenue tonnes)

Trade area	Outward overseas cargo			Inward overseas cargo		
	Liner service			Liner service		
	Conference	Non-conference	Other ships	Conference	Non-conference	Other ships
Europe	703	365	45,873	1,259	478	945
East Asia	386	482	28,610	336	645	537
Japan and North Asia	900	420	114,400	487	187	3,775
North America—East Coast	219	249	4,472	382	88	1,626
North America—West Coast	219	267	5,266	423	515	1,942
Central America and Caribbean	17	2	10	1	1	21
South America—East Coast	1	26	1,981	3	13	99
South America—West Coast	—	—	490	1	8	13
Africa—Mediterranean	—	1	2,392	—	—	12
West Africa	—	1	243	—	—	81
South and East Africa	1	31	324	—	56	73
Red Sea and Mediterranean Middle East	81	49	3,040	3	53	769
Middle East Gulf	58	119	4,338	11	1	5,308
West India	47	68	3,035	12	6	269
East India	17	37	779	2	—	1
South-East Asia	698	158	5,633	524	125	3,612
New Zealand	144	459	1,279	131	559	472
Papua New Guinea and Solomon Islands	198	77	1,448	20	11	51
Pacific Islands and other countries	135	37	792	4	13	865
Trade area not available for publication	—	14	3,710	—	—	—
Total overseas cargo	3,821	2,859	228,116	3,598	2,758	20,469

Overseas cargo commodity details

The following three tables classify inward and outward overseas cargo according to the Australian Transport Freight Commodity Classification (ATFCC). The second and third tables also provide details of the type of shipping service by which cargo was transported.

**INWARD AND OUTWARD OVERSEAS SEA CARGO: BY SELECTED
COMMODITIES, 1985-86
(\$'000)**

<i>ATFCC Division</i>	<i>Title</i>	<i>Inward cargo</i>	<i>Outward cargo</i>
00	Live animals	51	300,762
01	Meat and meat preparations	14,281	2,156,225
02	Dairy products and eggs	80,296	457,281
03	Fish, crustaceans and molluscs and preparations thereof	403,338	489,767
04	Cereals and cereal preparations (a)	72,067	2,673,878
05	Fruit and vegetables; sugar cane (b)	264,795	498,866
06	Sugar, sugar preparations and honey	27,943	51,696
09	Coffee, tea, cocoa, spices, margarine and miscellaneous edible products and preparations (a) (b)	415,896	105,258
11	Beverages, tobacco and manufactures (a)	323,455	104,085
21	Hides, skins and furskins, raw (a)	1,993	428,324
24	Wood, timber and cork (a)	294,103	16,157
25	Pulp and waste paper	164,437	27,644
26	Textile fibres (not wool tops) and wastes (not manufactured into yarn or fabric)	150,168	3,889,010
27	Crude fertilizers and minerals (excluding coal, petroleum and precious stones) (a) (b)	214,683	88,679
28	Metalliferous ores and metal scrap (a)	39,664	2,953,827
32	Coal, coke and briquettes (a)	2,802	5,346,861
33	Petroleum, petroleum products and related materials (b)	1,715,347	1,330,670
51	Organic and inorganic chemicals (a) (b)	934,480	72,282
53	Dyeing, tanning and colouring materials (a)	176,581	32,799
54	Medicinal and pharmaceutical products (a)	263,962	43,975
55	Essential oils, perfume materials, toilet, polishing and cleaning preparations (b)	182,304	48,832
56	Fertilizers, manufactured	138,089	5,332
58	Plastic materials, artificial resins and cellulose esters and ethers (a) (b)	579,969	71,638
59	Explosives and other chemical materials and products (a) (b)	366,916	83,973
62	Rubber manufactures, n.e.s.	430,898	39,639
63	Cork and wood manufactures (excluding furniture) (a) (b)	158,765	7,009
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard (b)	980,767	98,462
65	Textile yarns, fabrics, made-up articles, n.e.s. and related products (a) (b)	1,658,328	60,196
66	Non-metallic mineral manufactures, n.e.s. (a) (b)	557,517	67,113
67	Iron and steel (a) (b)	573,166	538,144
68	Non-ferrous metals (a) (b)	129,311	1,378,774
69	Manufactures of metal, n.e.s. (b)	863,019	203,894
71	Machinery, equipment, apparatus and appliances (a) (b)	7,306,964	836,924
78	Road vehicles and other transport equipment	2,725,493	456,980
82	Furniture and parts thereof	223,310	27,632
84	Articles of apparel and clothing accessories and footwear	705,406	11,817
87	Professional, scientific and controlling apparatus, n.e.s.; photographic apparatus, equipment and supplies; optical goods, n.e.s.; watches and clocks (b)	733,854	116,567
89	Printed matter, plastic wares, toys and other miscellaneous manufactured articles (a) (b)	1,746,780	127,737
93	Special transactions and commodities not classified by kind	1,294,229	247,494
99	Coins, n.e.s. temporary ships/structures (c)	1,082,082	5,254,441
	Other	415,562	397,542
Total all commodities		28,413,071	31,148,189

(a) Excludes export commodities regarded as confidential. These items are included in Division 99. (b) Excludes import commodities regarded as confidential. These items are included in Division 99. (c) Includes commodities regarded as confidential.

**INWARD OVERSEAS SEA CARGO BY COMMODITY BY TYPE OF SERVICE
(\$'000)**

ATFCC Section and title	Year ended 30 June	Liner Service			Total
		Conference	Non-conference	Other	
0 Food and live animals (a)	1986	752,781	310,869	126,050	1,189,700
	1987	850,058	360,330	122,315	1,332,703
1 Beverages and tobacco (a)	1986	162,016	90,991	36,880	289,887
	1987	175,541	119,722	28,192	323,455
2 Crude materials, inedible, except fuels (a)	1986	337,118	305,606	345,192	987,915
	1987	401,049	337,512	295,218	1,033,779
3 Mineral fuels, lubricants and related materials (a)	1986	22,125	16,816	1,707,105	1,746,047
	1987	35,526	31,394	1,655,349	1,722,268
4 Animal and vegetables oils, fats and waxes (a)	1986	31,399	8,686	50,656	90,741
	1987	34,551	11,773	43,174	89,498
5 Chemical and related products, n.e.s. (a)	1986	1,130,930	628,311	629,621	2,388,863
	1987	1,352,053	724,936	565,312	2,642,300
6 Manufactured goods classified chiefly by material (a)	1986	2,755,513	1,354,252	850,254	4,960,019
	1987	3,113,412	1,674,311	651,388	5,439,111
7 Machinery and transport equipment (a)	1986	5,526,850	1,861,316	3,486,775	10,874,942
	1987	5,410,942	2,098,204	2,523,311	10,032,457
8 Miscellaneous manufactured articles (a)	1986	1,872,010	961,890	251,369	3,085,268
	1987	2,134,161	1,114,768	160,421	3,409,350
9 Commodities and transactions, n.e.s. (b)	1986	1,045,398	349,806	672,150	2,067,354
	1987	1,351,350	451,529	585,271	2,388,149
Total all commodities	1986	13,636,141	5,888,544	8,156,052	27,680,737
	1987	14,858,643	6,924,478	6,629,951	28,413,071

(a) Excludes commodities regarded as confidential. These items are included in Section 9. (b) Includes commodities regarded as confidential.

**OUTWARD OVERSEAS SEA CARGO BY COMMODITY BY TYPE OF SERVICE
(\$'000)**

ATFCC Section and title	Year ended 30 June	Liner service			Total
		Conference	Non-conference	Other	
0 Food and live animals (a)	1986	2,265,578	494,878	4,279,532	7,039,988
	1987	2,938,248	776,497	3,192,197	6,906,942
1 Beverages and tobacco (a)	1986	27,073	11,665	4,908	43,646
	1987	53,159	35,158	15,769	104,085
2 Crude materials, inedible, except fuels (a)	1986	2,488,206	1,135,051	3,118,662	6,741,919
	1987	3,191,835	1,492,751	2,840,459	7,525,045
3 Mineral fuels, lubricants and related materials (a)	1986	28,779	11,375	6,956,182	6,996,336
	1987	41,170	19,961	6,616,423	6,677,555
4 Animal and vegetables oils, fats and waxes (a)	1986	18,516	13,364	46,900	78,779
	1987	13,851	11,095	23,168	48,114
5 Chemical and related products, n.e.s. (a)	1986	132,293	100,904	50,103	283,299
	1987	187,205	127,762	43,864	358,831
6 Manufactured goods classified chiefly by material (a)	1986	514,531	435,512	671,719	1,621,762
	1987	791,655	599,080	1,050,392	2,441,126
7 Machinery and transport equipment (a)	1986	520,913	241,784	94,202	856,899
	1987	741,291	376,468	176,144	1,293,903
8 Miscellaneous manufactured articles (a)	1986	155,503	70,400	23,543	249,446
	1987	171,412	94,219	18,124	283,754
9 Commodities and transactions, n.e.s. (b)	1986	976,024	487,526	3,899,133	5,362,682
	1987	1,042,328	623,014	3,843,491	5,508,834
Total all commodities	1986	7,127,414	3,002,458	19,144,884	29,274,757
	1987	9,172,154	4,156,003	17,820,032	31,148,189

(a) Excludes commodities regarded as confidential. These items are included in Section 9. (b) Includes commodities regarded as confidential.

Coastal Shipping Cargo

The following table shows the gross weight of cargo loaded at an Australian port for discharge at another Australian port. Both interstate and intrastate cargo movements are included. Cargo loaded at, or to be discharged at, an overseas port is excluded.

COASTAL CARGO LOADED AND DISCHARGED AT AUSTRALIAN PORTS, 1987-88 (^{'000} gross weight tonnes)

(Source: Department of Transport and Communications)

Australian port	Loaded			Discharged		
	Interstate	Intrastate	Total	Interstate	Intrastate	Total
New South Wales—						
Sydney	122	—	122	3,603	758	4,362
Port Kembla	1,379	97	1,467	6,253	71	6,324
Botany Bay	403	279	682	2,606	—	2,606
Other	506	1,329	1,835	1,806	876	2,682
Total	2,410	1,705	4,106	14,268	1,705	15,974
Victoria—						
Melbourne	1,595	—	1,595	2,025	—	2,025
Geelong	1,188	235	1,423	216	—	216
Westernport	6,808	—	6,808	634	—	634
Other	9	125	134	493	360	853
Total	9,600	360	9,960	3,368	360	3,728
Queensland—						
Brisbane	1,215	1,291	2,506	4,736	575	5,311
Gladstone	1,404	541	1,945	160	6,782	6,942
Other	1,041	6,922	7,963	248	1,397	1,645
Total	3,660	8,754	12,414	5,144	8,754	13,898
South Australia—						
Adelaide	460	59	519	570	970	1,540
Port Stanvac	379	—	379	432	707	1,139
Other	2,676	1,893	4,569	1,389	275	1,664
Total	3,515	1,952	5,467	2,391	1,952	4,343
Western Australia—						
Fremantle	876	859	1,735	984	166	1,150
Other	6,734	181	6,915	26	874	900
Total	7,610	1,040	8,650	1,010	1,040	2,050
Tasmania—						
Hobart	435	14	449	978	120	1,098
Burnie	527	120	647	547	14	561
Devonport	412	—	412	373	1	374
Launceston	315	14	329	970	4	974
Other	555	6	561	100	15	115
Total	2,244	154	2,398	2,968	154	3,122
Northern Territory—						
Darwin	2	24	26	190	4	194
Other	303	4	307	4	24	28
Total	306	28	333	194	28	222
Total all ports	29,345	13,993	43,328	29,343	13,993	43,337

RAILWAYS

Government Railways

The six government owned railway systems are operated by the State Rail Authority of New South Wales (SRA), 'V/Line' operated by the State Transport Authority of Victoria, Queensland Government Railways (QR), Western Australian Government Railways Commission (WAGRC), the State Transport Authority of South Australia (STA), and the Australian National Railways Commission (ANRC).

Data contained in the following tables have been compiled from a number of sources. These sources include annual reports of the various rail authorities; data supplied by the Rail Industry Council; and data collected directly by the Australian Bureau of Statistics.

As the Australian National system includes routes in more than one State, and the Victorian system extends into New South Wales, the system route-kilometres shown in the following table do not represent route-kilometres within each State and Territory.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY SYSTEM (kilometres)

30 June	NSW	Vic.	Qld	SA	WA	Australian National	Aust.
1983	9,883	5,815	9,979	152	5,610	7,647	39,086
1984	9,884	5,783	10,231	152	5,623	7,450	39,123
1985	9,908	5,748	10,231	153	5,563	7,465	39,068
1986	9,909	5,372	10,244	153	5,553	7,333	38,544
1987	9,909	5,257	10,210	149	5,553	7,315	38,393
1988	9,917	5,150	10,089	127	5,553	7,187	38,023

Summary of Operations

Particulars of train-kilometres, passenger journeys, freight-tonnes carried, and freight tonne-kilometres included in this section refer only to operations for which revenue is received.

GOVERNMENT RAILWAYS: SUMMARY OF OPERATION, SYSTEMS, 1987-88

	NSW	Vic.	Qld	SA	WA	Australian National	Aust.
Train-kilometres ('000) (a) (b)—							
Suburban passenger	29,272	13,800	6,174	n.a.	2,314	—	n.a.
Country passenger	10,298	7,045	3,565	—	1,091	2,477	24,476
Goods (b)	22,384	6,590	24,361	—	6,060	8,203	67,598
Total	61,954	27,435	34,100	n.a.	9,465	10,680	n.a.
Passenger journeys ('000) (c)—							
Suburban	242,589	88,609	44,953	8,651	9,564	—	394,366
Country (d)	3,950	5,478	1,275	—	288	353	11,344
Total	246,539	94,087	46,228	8,651	9,852	353	405,710
Freight—							
Tonnes carried ('000) (d)	54,412	10,901	74,893	—	21,946	11,269	173,421
Net tonne-kilometres (million) (e)	14,212	3,351	20,676	—	4,203	7,622	50,024

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purposes. (b) Includes mixed train-kilometres. (c) Based on ticket sales making allowances for periodical tickets. Tickets sold at concession rates are counted as full journeys. (d) Inter-system traffic is included in the total for each system over which it passes. (e) One tonne carried one kilometre.

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES (a)
(*000 kilometres)

<i>Year</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Australian National</i>	<i>Aust.</i>
1982-83	61,507	30,166	30,885	3,894	10,560	10,795	147,806
1983-84	61,659	30,702	33,303	3,697	10,333	10,238	149,932
1984-85	66,025	30,794	34,293	n.a.	11,098	11,306	n.a.
1985-86	62,237	29,809	35,116	n.a.	10,364	10,513	n.a.
1986-87	n.a.	28,399	35,051	n.a.	9,436	10,581	n.a.
1987-88	61,954	27,435	34,099	n.a.	9,465	10,680	n.a.

(a) One train (i.e. a complete unit of locomotive and vehicles, electric train set, or rail motor) travelling one kilometre for revenue purpose.

GOVERNMENT RAILWAYS: FREIGHT CARRIED, NET TONNE-KILOMETRES, AND FREIGHT EARNINGS, SYSTEMS

<i>Year</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>WA</i>	<i>Australian National</i>	<i>Aust.</i>
FREIGHT CARRIED (*000 tonnes)						
1982-83	41,350	8,570	43,706	19,791	10,676	124,093
1983-84	46,594	10,486	53,150	19,870	12,083	142,183
1984-85	47,800	11,892	65,452	22,085	12,870	160,099
1985-86	53,800	10,516	73,599	20,877	13,049	171,841
1986-87	54,747	10,597	75,169	21,264	12,900	174,530
1987-88	54,412	10,901	74,893	21,946	11,269	173,421
NET TONNE-KILOMETRES (million)						
1982-83	9,117	2,468	13,177	4,384	5,348	34,494
1983-84	11,131	3,111	15,391	3,903	5,912	39,448
1984-85	12,393	3,543	18,438	4,328	6,270	44,972
1985-86	13,415	3,094	20,450	4,005	7,081	48,370
1986-87	13,540	3,531	20,871	4,062	6,873	48,877
1987-88	14,212	3,351	20,676	4,203	7,165	49,607
FREIGHT EARNINGS (\$*000)						
1982-83	452,626	108,803	508,223	183,632	161,480	1,414,764
1983-84	559,876	160,841	669,362	180,439	192,223	1,762,741
1984-85	641,100	182,259	828,926	209,627	213,698	2,075,610
1985-86	736,795	168,641	905,494	200,974	237,345	2,249,249
1986-87	739,250	174,700	960,950	200,731	238,097	2,313,728
1987-88	767,820	176,161	910,409	203,790	236,782	2,294,962

GOVERNMENT RAILWAYS: GROSS EARNINGS, SYSTEMS (a)
(\$ million)

<i>Year</i>	<i>NSW</i>	<i>Vic.(b)</i>	<i>Qld</i>	<i>SA (c)</i>	<i>WA National (d)</i>	<i>Aust.</i>
1982-83	694.8	248.1	549.9	6.3	229.4	1,922.4
1983-84	823.1	301.7	718.0	8.1	228.3	2,311.0
1984-85	938.6	343.7	882.5	10.7	258.3	2,699.4
1985-86	1,082.4	326.7	966.0	14.6	256.0	2,943.3
1986-87	1,121.2	384.2	1,028.9	14.4	258.2	3,187.3
1987-88	(a)1,248.9	384.2	991.4	15.4	266.3	3,168.2

(a) Excludes Commonwealth contributions and superannuation reserve. (b) Includes operating revenue for VLINE and fares for VLINE and MTA. (c) Includes urban rail operations only. (d) Includes Tasmania.

Non-government Railways

The Australian non-government railways covered in this section are those which operate outside industrial estates, harbour precincts, mines and quarries with a route distance exceeding two kilometres.

The figures in the following table have been compiled from information supplied to the Bureau of Transport and Communications Economics (BTCE) by the various railway operators. All operators provided details of tonnes carried and most provided details of tonne-kilometres performed. In a few cases, the tonne-kilometre figures have been estimated by the BTCE using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS

<i>Year</i>	<i>Iron ore railways</i>	<i>Sugar tramways</i>	<i>Coal railways (a)</i>	<i>Other non-government railways</i>	<i>Total (a)</i>
TONNES CARRIED (million)					
1982-83	78.2	20.9	7.1	8.0	114.1
1983-84	71.5	21.6	7.0	10.9	111.0
1984-85	86.9	24.0	7.9	11.1	129.9
1985-86	86.8	21.6	8.1	10.3	126.8
1986-87	91.1	23.1	7.8	11.1	133.1
1987-88	94.6	23.6	8.5	10.7	137.3
TONNE-KILOMETRES (million)					
1982-83	24,432	355	86	171	25,045
1983-84	22,646	366	85	226	23,324
1984-85	27,649	408	98	223	28,378
1985-86	28,517	368	116	201	29,202
1986-87	29,552	393	116	220	30,281
1987-88	30,218	425	126	230	30,998

(a) Includes transfers to and from government railways.

TRAM, BUS, AND FERRY SERVICES

Trams

At 30 June 1988, tram services were in operation in Melbourne and in Adelaide. Regular tram services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972. However, services are operated in both cities, on an irregular basis, but generally during holiday periods, as a tourist attraction.

In many parts of Australia, private lines used for special purposes in connection with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways, and the traffic on them has nothing in common with that of the street tram used for the conveyance of passengers.

Buses

Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services which are located in all capital cities and Newcastle, New South Wales; Rockhampton, Queensland; Launceston and Burnie, Tasmania; and for country road services operated by the Victorian Railways, the State Rail Authority of New South Wales, the Western Australian Government Railways, and the Australian National Railways.

Ferries

Ferry passenger services are operated in the following States: New South Wales, at Sydney, Newcastle and various other waterways; Western Australia, on the Swan River at

Perth; Tasmania, on the Mersey River at Devonport and on the Derwent River at Hobart; and Queensland, on the Brisbane River at Brisbane. Control is exercised by both government authorities and private operators.

Government and municipal tram and bus services

Because of the development in recent years of the various forms of public road transport under the control of single authorities and the gradual replacement of tram services by bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL, STATES AND TERRITORIES, 1987-88

	NSW	Vic.	Qld	SA	WA(a)	Tas.	NT	ACT	Aust.
Route-kilometres at 30 June									
Tram (kilometres)	..	332	..	11	..	..	..	..	343
Bus (kilometres)	1,237	n.a.	822	1,020	7,556	486	576	1,220	n.a.
Vehicle-kilometres									
Tram ('000)	..	23,800	..	821	..	..	..	..	24,621
Bus ('000)	68,743	n.a.	27,926	39,024	48,619	9,829	2,508	18,038	n.a.
Rolling stock at 30 June									
Tram (number)	..	620	..	21	..	..	..	..	641
Bus (number)	1,646	1,335	617	699	911	262	46	446	5,962
Passenger journeys									
Tram ('000)	..	115,600	..	2,276	..	..	..	..	117,876
Bus ('000)	204,406	n.a.	44,492	47,313	52,269	12,668	2,353	24,100	n.a.
Gross revenue (b)									
Tram and bus (\$'000)	180,440	n.a.	36,956	66,672	63,235	8,372	1,929	20,730	n.a.
Working expenses (c)									
Tram and bus (\$'000)	257,861	n.a.	68,695	120,000	n.a.	22,647	5,733	38,997	n.a.
Net revenue									
Tram and bus (\$'000)	-77,421	n.a.	-31,739	-53,328	n.a.	-14,275	-3,804	-18,267	n.a.
Employees at 30 June									
Tram and bus (number)	6,079	n.a.	1,616	(d)2,487	2,154	557	110	977	n.a.

(a) Excludes operations of Eastern Goldfields Transport Board. (b) Excludes government grants. (c) Includes provision of reserves for depreciation, etc. where possible. (d) Bus and tram crew only.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

	1982-83	1983-84	1984-85(a)	1985-86	1986-87	1987-88
Route-kilometres at 30 June						
Tram (kilometres)	232	n.a.	340	340	343	343
Bus (kilometres)	13,553	n.a.	n.a.	n.a.	n.a.	n.a.
Vehicle kilometres						
Tram ('000)	24,958	n.a.	24,747	24,778	24,863	24,621
Bus ('000)	212,423	n.a.	252,038	255,753	266,516	(b)214,687
Rolling stock at 30 June						
Tram (number)	713	n.a.	683	663	648	641
Bus (number)	5,018	n.a.	5,942	5,918	5,939	5,962
Passenger journeys						
Tram ('000)	n.a.	n.a.	112,071	115,111	115,758	117,876
Bus ('000)	(b)(c)325,649	n.a.	454,460	460,281	463,670	(b)387,601

(a) Excludes operations of Eastern Goldfields Transport Board in Western Australia. (b) Excludes details of metropolitan tram and bus services in South Australia. (c) Excludes details of metropolitan tram and bus services in Victoria.

MOTOR VEHICLES

Tables in this section include vehicles owned by private individuals, local government authorities, State governments, and the Commonwealth Government (excluding those belonging to the defence services).

Survey of Motor Vehicle Usage

The triennial Survey of Motor Vehicle Usage (SMVU) is undertaken by the ABS in response to a wide range of users' needs to monitor the details for motor vehicle usage within Australia. Details obtained determine the total distance travelled by vehicles, classified according to area of operations and purpose of travel. Information is also obtained on tonne-kilometres, average load carried, vehicle usage (i.e. business or private), fuel consumption, driver characteristics, bus passengers carried and other important variables.

The statistics are used for many decisions regarding the monitoring, planning and policy issues that affect all Australian motorists.

The 1988 SMVU consisted of some 67,000 vehicles (including for the first time since 1979 details pertaining to buses) selected from State/Territory motor registry files. Preliminary results from this survey were released in July 1989.

The following table, taken from the 1988 SMVU publication, shows that motor vehicles in Australia travelled a total of 153,915 million kilometres. Cars and station wagons travelled 116,640 million kilometres. Of this 21 per cent was for business purposes, a further 26 per cent for travel to and from work and 53 per cent for private purposes. Rigid trucks travelled a total of 7,840 million kilometres, while articulated trucks travelled 3,836 million kilometres in total.

The standard errors (SE %) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE AND PURPOSE OF TRAVEL AUSTRALIA, TWELVE MONTHS ENDED 30 SEPTEMBER 1988

Type of vehicle	Laden business		Unladen business		Total business (a)		To and from work paid and unpaid		Private		Total	
	Million kilo-metres	SE %	Million kilo-metres	SE %	Million kilo-metres	SE %	Million kilo-metres	SE %	Million kilo-metres	SE %	Million kilo-metres	SE %
Cars and station wagons	..	..	..	..	24,761.9	2	29,743.4	2	62,134.5	1	116,639.8	1
Motor cycles	..	..	..	..	195.2	10	696.5	4	1,032.3	5	1,924.0	3
Utilities and panel vans	9,834.0	3	3,284.7	4	13,333.6	3	3,470.9	4	5,177.1	4	21,981.6	2
Rigid trucks	5,441.5	2	1,857.6	3	7,299.1	2	280.6	7	260.3	8	7,839.9	2
Articulated trucks	2,892.4	1	932.2	1	3,824.6	1	10.0	8	1.2	15	3,835.7	1
Non freight-carrying trucks	..	..	..	..	237.1	5	13.9	69	10.1	48	261.1	7
Buses	..	..	..	..	1,409.2	3	7.7	18	15.9	28	1,432.8	3
Total	18,167.9	2	6,074.5	3	51,060.5	1	34,223.0	2	68,631.4	1	153,914.9	1

(a) Includes the total kilometres travelled for business purposes of cars, station wagons, motor cycles and utilities and panel vans predominantly used for private purposes. The dissection of business travel into laden/unladen was not sought for these vehicles.

The following table relates the State or Territory of vehicle registrations to the area vehicles actually operated in. For vehicles registered in New South Wales, 86 per cent

of the tonne-kilometres travelled were within the State, whereas for the ACT 62 per cent was for Interstate travel.

TOTAL ANNUAL TONNE-KILOMETRES (a) BY AREA OF OPERATION: STATE/TERRITORY OF REGISTRATION, TWELVE MONTHS ENDED 30 SEPTEMBER 1988

State of registration	Area of operation											
	Capital city(b)		Provincial urban		Other areas of State or Territory		Total within State of registration		Interstate		Australia	
	Million tonne-km	SE %	Million tonne-km	SE %	Million tonne-km	SE %	Million tonne-km	SE %	Million tonne-km	SE %	Million tonne-km	SE %
New South Wales	7,741.4	5	3,194.9	4	10,546.9	2	21,483.2	3	3,443.7	3	24,926.9	2
Victoria	6,927.9	4	1,677.1	7	8,089.4	4	16,694.5	2	6,190.3	4	22,884.8	2
Queensland	2,797.7	3	2,631.3	4	4,750.7	3	10,179.7	2	3,154.0	4	13,333.8	2
South Australia	1,631.4	5	..	..	3,725.4	5	5,356.8	3	3,056.3	5	8,413.0	3
Western Australia	2,504.7	4	..	..	7,120.9	8	9,625.7	6	536.4	13	10,162.1	6
Tasmania	490.1	10	914.1	6	1,078.3	8	2,482.5	4	40.4	44	2,522.8	4
Northern Territory	262.6	21	..	..	1,727.9	7	1,990.5	6	696.6	15	2,687.0	6
Australian Capital Territory	226.0	7	..	..	..	..	226.0	7	372.3	6	598.3	5
Australia	22,581.9	2	8,417.4	3	37,039.6	2	68,038.8	1	17,490.1	2	85,528.8	1

(a) Total annual tonne-kilometres is the product of reported average load and total business kilometres travelled while laden, for each vehicle. (b) Includes all of ACT for ACT registered vehicles.

Motor vehicles on register

Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971, 1976, 1979, 1982, 1985 and 1988. At these census dates considerably more information concerning the particulars shown in the tables following is available. Summary details of motor vehicles on the register are compiled as at 30 June each year from information made available by the various motor vehicle registration authorities in the States and Territories. Figures from the censuses differ from the corresponding year's figures compiled for the annual vehicles on register series. These inconsistencies result from different dates of recording and because, for some States and Territories, the annual figures include vehicles where the registration has lapsed but the details have not been removed from the register, whereas the census excludes such vehicles.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1988
(^{'000})

State or Territory	Motor cars and station wagons	Utilities and panel vans	Trucks			Buses	Motor cycles	Total (a)
			Rigid	Articulated	Non-freight-carrying			
New South Wales	2,258.7	390.0	171.8	14.9	14.2	54.1	89.9	2,993.6
Victoria	2,042.8	196.0	205.1	13.7	13.4	14.3	70.8	2,556.0
Queensland	1,131.1	297.7	53.8	8.4	5.4	10.5	60.4	1,567.2
South Australia	681.5	90.0	48.7	4.1	7.4	3.0	34.4	869.1
Western Australia	679.1	136.7	74.5	5.1	8.7	7.5	35.4	947.0
Tasmania	211.0	43.2	17.1	1.6	3.2	1.9	6.4	284.3
Northern Territory	35.7	18.2	1.7	1.0	0.3	0.7	3.1	60.7
Australian Capital Territory	118.9	11.7	3.7	0.3	0.7	1.2	3.7	140.2
Australia	7,158.8	1,183.5	576.3	48.9	53.4	93.2	304.0	9,418.0

(a) Excludes tractors, plant and equipment, caravans and trailers.

**MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE, AUSTRALIA
(*000)**

<i>30 June</i>	<i>Motor cars and station wagons</i>	<i>Utilities, trucks, panel vans, other truck type vehicles and buses</i>	<i>Total (excludes motor cycles)</i>	<i>Motor cycles</i>
1984	6,636.2	1,798.2	8,434.4	398.4
1985	6,842.5	1,886.6	8,729.1	389.2
1986	6,985.4	1,930.7	8,916.0	374.5
1987	7,072.8	1,949.8	9,022.7	351.0
1988	7,243.6	1,977.6	9,221.1	323.3
1989	7,442.2	2,047.3	9,489.5	n.a.

**MOTOR VEHICLES (a) ON REGISTER PER 1,000 OF POPULATION
STATES AND TERRITORIES**

<i>30 June</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>ACT</i>	<i>Aust.</i>
1984	509.3	554.1	574.2	555.8	574.0	571.1	453.9	486.1	542.2
1985	520.7	571.1	573.7	572.0	589.4	588.0	467.4	488.8	553.9
1986	526.0	575.1	574.3	582.5	590.7	596.8	478.1	483.2	558.2
1987	522.3	581.0	562.6	575.5	582.0	598.1	459.7	497.3	555.3
1988	523.8	589.8	568.0	580.3	587.4	607.2	440.5	498.5	559.9
1989	532.7	583.3	574.9	584.9	597.0	617.0	465.8	512.3	564.6

(a) Excludes motor cycles, tractors, plant and equipment, caravans and trailers.

Drivers' and riders' licences

At 30 June 1989, the numbers of licences in force to drive motor vehicles or ride motor cycles respectively were: New South Wales—3,589,794 and 323,946; Victoria—2,650,700 and 140,612; Queensland—1,385,793 and 326,938; Western Australia—838,201 and 124,357; South Australia—883,652 and 141,663; Tasmania—277,374 and 333; Northern Territory—73,302 and 20,206; Australian Capital Territory—172,402 and 20,321.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type of vehicle in preliminary monthly publications, and by type and make of vehicle in monthly and annual publications of motor vehicle registrations.

In these statistics 'registrations' means registrations processed by the motor vehicle registration authorities in the States and Territories during the period.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

<i>State or Territory</i>	<i>Motor cars and station wagons</i>		<i>Trucks</i>		<i>Other truck type vehicles (a)</i>	<i>Buses</i>	<i>Total (excludes motor cycles)</i>	<i>Motor cycles</i>	
	<i>Utilities</i>	<i>Panel vans</i>	<i>Rigid</i>	<i>Articulated</i>					
<i>1988-89</i>									
NSW	156,467	13,357	18,296	12,561	1,259	519	4,113	206,572	6,081
Vic.	119,216	6,717	1,171	12,320	930	426	714	141,494	4,219
Qld	74,731	13,807	3,318	3,070	706	304	729	96,665	3,922
SA	31,920	2,649	1,462	2,017	277	247	164	38,736	1,364
WA	44,100	4,578	2,798	5,766	256	95	656	58,249	2,522
Tas.	10,009	1,385	471	802	103	47	98	12,915	369
NT	3,511	1,246	181	114	116	24	101	5,293	415
ACT	7,957	521	373	323	21	6	96	9,297	184
Aust.	447,911	44,260	28,070	36,973	3,668	1,668	6,671	569,221	19,076

For footnotes see end of table.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE—continued

State or Territory	Motor cars and station wagons	Utilities	Panel vans	Trucks		Other truck type vehicles (a)	Buses	Total (excludes motor cycles)	Motor cycles
				Rigid	Articu- lated				
1987-88	384,204	29,820	18,295	28,592	2,812	1,602	5,495	470,820	18,532
1986-87	376,080	32,485	20,143	28,693	3,149	1,664	6,587	468,801	23,199
1985-86	476,488	46,499	33,138	39,033	4,029	2,159	10,868	612,214	35,906
1984-85	510,893	54,507	45,582	44,422	3,627	1,952	13,847	674,830	45,879
1983-84	461,018	46,140	(b)46,779	33,397	2,581	1,630	(b)12,169	603,714	46,684
1982-83	453,523	43,682	52,364	31,514	2,426	1,834	4,680	590,023	61,061

(a) Non-freight carrying vehicles. (b) From August 1983 in NSW, the body-type classification applied by the registration authority for small bus-type vehicles changed from panel vans to buses.

Road Traffic Accidents

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES (a) (ADMISSIONS TO HOSPITALS):
NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1987

State or Territory	Number			Per 100,000 of mean population			Per 10,000 motor vehicles registered (b)		
	of accidents	Persons killed	Persons injured	of accidents	Persons killed	Persons injured	of accidents	Persons killed	Persons injured
NSW	7,882	959	8,787	141.4	17.1	156.5	25.9	3.2	28.9
Vic.	8,246	705	9,892	197.0	16.8	235.0	32.6	2.8	39.1
Qld	3,432	442	3,986	129.5	16.5	148.9	21.8	2.8	25.3
SA	2,406	256	2,912	173.3	18.4	208.8	28.8	3.1	34.9
WA	2,236	213	2,634	151.2	14.2	175.6	24.7	2.4	29.1
Tas.	651	77	783	145.6	17.2	176.1	23.7	2.8	28.5
NT	439	84	508	282.1	53.6	324.0	57.0	4.7	66.0
ACT	208	36	196	79.2	13.5	73.6	15.5	2.7	14.6
Aust.	25,500	2,772	29,698	158.0	17.0	182.6	27.2	3.0	31.7

(a) Accidents reported to the police or other relevant authority which occurred in public thoroughfares and which resulted in death within thirty days or personal injury to the extent that the injured person was admitted to hospital. (b) Number of motor vehicles (excluding tractors, plant and equipment) on register at 30 June 1987.

ROAD TRAFFIC ACCIDENTS INVOLVING FATALITIES

Year	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
Accidents involving fatalities—									
1983	877	610	437	235	191	63	45	27	2,485
1984	910	584	448	205	203	77	45	35	2,507
1985	954	605	452	239	219	69	59	30	2,627
1986	908	610	421	259	208	78	63	30	2,577
1987	858	626	400	230	193	67	80	33	2,487
1988p	912	615	483	204	199	68	46	32	2,559
Persons killed—									
1983	966	664	510	265	203	70	49	28	2,755
1984	1,037	657	505	232	220	83	50	37	2,821
1985	1,067	683	502	268	243	78	67	33	2,941
1986	1,029	668	481	288	228	91	71	32	2,888
1987	959	705	442	256	213	77	84	36	2,772
1988p	1,037	701	539	222	229	75	51	32	2,886

ROADS

Summary of roads used for general traffic

Proclaimed or declared roads

The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1988. The central road authority in each State assumes responsibility under the Act for the whole or a proportion of the cost of construction and maintenance of these roads, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, consideration is given, in general, to the following points: availability of funds; whether the road is, or will be, within one of several classes of main trunk routes; the value of the roads as connecting links between centres of population or business; whether the district is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main roads. The absence of a particular class in any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes (e.g. insufficiency of funds, labour or materials), construction or maintenance may not keep pace with gazettal of roads, and, therefore, the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, STATES, 30 JUNE 1988
(kilometres)

<i>Class of road</i>	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>Aust.</i>
State highways and freeways	10,397	7,537	10,417	—	7,949	1,919	38,219
Trunk roads		—	225	12,449	—	—	n.a.
Ordinary main roads	(a)25,124	14,793	8,224	—	7,460	1,259	n.a.
<i>Total main roads</i>	<i>35,521</i>	<i>22,330</i>	<i>18,866</i>	<i>12,449</i>	<i>15,409</i>	<i>3,178</i>	<i>107,753</i>
Secondary roads	n.a.	n.a.	6,373	—	8,645	296	n.a.
Development roads	n.a.	n.a.	8,712	—	—	45	n.a.
Tourist roads	n.a.	n.a.	—	—	—	211	n.a.
Other roads	n.a.	n.a.	—	—	—	—	n.a.
<i>Total other roads</i>	<i>n.a.</i>	<i>n.a.</i>	<i>15,085</i>	<i>—</i>	<i>8,645</i>	<i>552</i>	<i>n.a.</i>
Total	35,521	22,330	33,951	12,449	24,054	3,730	107,753

(a) A combination of trunk and ordinary main roads.

Total roads

The following table represents an attempt to classify all the roads open for general traffic in Australia, at the latest dates available, according to States and Territories and to certain broad surface groups. The figures in the table for the States are obtained from the Deputy Commonwealth Statistician in each State, and are derived mainly from local government sources.

ALL ROADS OPEN FOR GENERAL TRAFFIC LENGTHS, STATES AND TERRITORIES, 30 JUNE 1988
(kilometres)

<i>Surface of roads</i>	<i>NSW(a)(b)</i>	<i>Vic.(c)</i>	<i>Qld</i>	<i>SA</i>	<i>WA(d)</i>	<i>Tas.(e)</i>	<i>NT(f)</i>	<i>ACT</i>	<i>Aust.</i>
Bitumen or concrete	77,041	n.a.	56,700	23,474	41,193	9,236	5,649	2,445	n.a.
Gravel, crushed stone or other improved surface	64,979	n.a.	44,397	—	40,613	13,203	5,808	170	n.a.
Formed only	34,953	n.a.	51,855	72,505	40,262	271	4,507	—	n.a.
Cleared only	19,207	n.a.	16,637	—	19,889	176	4,148	—	n.a.
Total	196,180	n.a.	169,589	95,979	141,957	22,886	20,112	2,615	n.a.

(a) Excludes roads designated but not trafficable. Excludes Lord Howe Island and the unincorporated area of the Western Division. (b) Figures as at 31 December 1986. (c) Excludes roads coming under the responsibility of the State Electricity Commission and Forests Commission. (d) Excludes Forests Department roads. (e) Forestry roads have been reclassified from cleared only to gravel. (f) Excludes roads in towns and Local Government Areas.

AUSTROADS

AUSTROADS, the national association of Australian Road Authorities, was established in July 1989 to replace the National Association of Australian State Road Authorities (NAASRA) which was established in 1934.

The present members of AUSTROADS are: the Roads and Traffic Authority, New South Wales; Vic Roads, Victoria; Main Roads Department, Queensland; Main Roads Department, Western Australia; Department of Road Transport, South Australia; Department of Roads and Transport, Tasmania; Department of Transport and Works, Northern Territory; Australian Capital Territory Administration and the Commonwealth Department of Transport and Communications.

AUSTROADS mission is 'to pursue the effective management and use of the nation's roads as part of the Australian transport system, by the development and promotion of national policies and practices'.

AUSTROADS maintains a national perspective and provides strategic direction for the development, management and use of Australia's road system, involving consultation and discussion with peak bodies that have a stake in the road industry. It provides a forum which enables a national approach to the effective development and management of the Australian road system. This results in the coordination of road research, preparation of road and bridge design standards, improvements in operating practices and reporting on the current status of the road network.

The operating structure is based on four key programs:

- **Road and Road Transport Policy**—develops policy proposals addressing national road issues, e.g. major road issues, intermodal issues, environment, national social and economic developmental role of roads in land transport policy;
- **Road Use Management**—contributes to the safe and efficient use of roads, e.g. registration and licensing, road safety, traffic management, and freight industry policy;
- **Business Efficiency**—improves efficiency and effectiveness in the management and development of roads; and
- **Road Technology**—develops national standards and transfers technology, harmonises standards, and promotes international cooperation.

These programs are outcome oriented and are regularly evaluated to determine how effectively they meet the objectives of AUSTROADS.

The National Office arranges publication of policies and standards which are widely used by road authorities, local government, consultants and universities.

AUSTROADS cooperates with Standards Australia on the preparation of national standards, provides direction for road research, including research by the Australian Road Research Board and is a member of the Permanent International Association of Road Congress (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board—ARRB

The Australian Road Research Board is a non profit-making company founded in 1960 by NAASRA, and is located at Vermont in Victoria. It is financed mainly by Federal and State Government Road Authorities whose permanent heads, along with a representative of the Australian Council of Local Government Associations, make up ARRB's Board of Directors. The Executive Director, a full-time employee and member of the Board, is responsible for administering the Director's policies.

The ARRB regularly undertakes and sponsors road and road transport research over a comprehensive range of subjects and disseminates results to appropriate organisations, engineers and scientists involved in the design, location, construction, upkeep and use of roads.

The ARRB disseminates road research information through its major biennial conferences and regular symposia, seminars and workshops and through its publications which include the ARRB Conference Proceedings, a quarterly journal *Australian Road Research*, symposium and workshop papers and various reports and technical manuals arising out of its many research projects. ARRB also maintains a unique library of road literature and operates a computer-based information service which abstracts and indexes road-related literature and research in progress. In 1987 the Information on Roads (INROADS) data base was made publicly accessible on CSIRO's AUSTRALIS system. The INROADS data base lists all ARRB publications from 1960, significant Australian road-related literature from 1977, publications catalogued for the ARRB Library, including some retrospective conversion of a card catalogue from 1984, and an annual update of current research in progress. INROADS supersedes the ARRD and ROAD data bases.

The ARRB acts as the Australian member of the Organisation for Economic Co-operation and Development's International Road Research Documentation (IRRD) system, contributing information on Australian literature and projects. IRRD information from all member countries is available to Australians through ARRB's computer search services. ARRB also maintains close contacts with road research organisations in other countries.

AIR TRANSPORT

The Commonwealth imposes safety and operational controls on the Australian aviation industry under the *Civil Aviation Act 1988* and the Civil Aviation Regulations. Under this legislation, a central Commonwealth agency, the Civil Aviation Authority, was established with effect from 1 July 1988 and vested with sole responsibility for the administration and enforcement of aviation safety within Australia. The Bureau of Air Safety Investigation, which is directly responsible to the Minister and performs a safety audit function, remains within the Department of Transport and Communications.

In addition, the Commonwealth imposes a range of economic regulatory controls administered by the Department of Transport and Communications. These controls cover such matters as the import and export of aircraft, the negotiation of international air transport agreements, the approval of international fares and freight rates, and the operation of scheduled passenger air services across State or Territory boundaries. Fares charged for the carriage of passengers on domestic scheduled air services are required to be approved by a Commonwealth statutory body, the Independent Air Fares Committee.

International activity

International organisations

Australia is one of the 161 (as at 30 June 1989) members of the International Civil Aviation Organisation (ICAO). Australia has continued its membership of the (governing) Council since ICAO was established in 1947. Australia is also represented on the 15 member Air Navigation Commission which is responsible for drawing up international standards and procedures for the safety, regularity and efficiency of air navigation. In addition, Australia participates in the Commonwealth Air Transport Council, the South Pacific Regional Civil Aviation Council and the Airport Operators Council International.

International agreements

Australia as at 30 June 1989 had air service agreements with 28 countries. These agreements have full treaty status. Australia also had 6 air service arrangements, with less than treaty status, as of 30 June 1989. Under these agreements or arrangements Qantas, Australia's designated airline, and the foreign carriers of Australia's bilateral partners are entitled to operate services to and/or through each others territories. A commercial agreement exists between Qantas and Air Zimbabwe for services between Australian and Zimbabwe. Qantas and the Government of Bahrain have an arrangement to enable services to operate between Australia and Bahrain. Australia also has an agreement with the USSR relating principally to over-flight rights and charter services.

International scheduled services

At 30 June 1989, 33 international airlines were operating regular scheduled air services to Australia. The carriers (and contracting states) were: Aerolineas Argentinas (Argentina), Air Caledonie International (France), Air China International (People's Republic of China), Air India (India), Air New Zealand (New Zealand), Air Niugini (Papua New Guinea), Air Pacific (Fiji), Air Vanuatu (France), Alitalia (Italy), All Nippon Airways (Japan), British Airways (UK), Canadian Airlines International (Canada), Cathay Pacific Airways (UK), Continental Airlines Inc. (USA), Flying Tiger Line Inc. (USA), Garuda Indonesian Airways (Indonesia), Hawaiian Airlines (USA), Japan Airlines (Japan), JAT (Yugoslavia), KLM-Royal Dutch Airlines (Netherlands), Lauda Air (Austria), Lufthansa German Airlines (Federal Republic of Germany), Malaysian Airline System (Malaysia), Merpati Nusantara Airlines (Indonesia), Olympic Airways (Greece), Philippine Airlines (Philippines), Polynesian Airlines Ltd (Western Samoa), Royal Brunei Airlines (Brunei), Singapore Airlines Ltd (Singapore), Thai Airways International (Thailand), Union de Transports Aeriens (France), and United Airlines (USA). Polynesian Airlines Ltd also operates services on behalf of Cook Islands International (Cook Islands) and Air Pacific operates services on behalf of Solomon Islands Airlines (Solomon Islands) and Qantas.

Qantas, Australia's international airline, operated a fleet of 25 Boeing 747 and 7 Boeing 767 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International non-scheduled services

Australia's passenger and freight charter policies encourage in-bound tourism and freight carriage particularly over routes not served by the scheduled carriers.

International traffic

The table following shows particulars of scheduled international airline traffic during 1987-88 moving into and out of an area which embraces Australia and Norfolk Island. These figures do not include traffic between Australia and Norfolk Island.

AIR TRANSPORT: SCHEDULED INTERNATIONAL AIRLINE TRAFFIC TO AND FROM AUSTRALIA (a) 1987-88

<i>Type of traffic</i>	<i>Number of flights (b)(c)</i>	<i>Passengers</i>	<i>Freight tonnes</i>	<i>Mail tonnes</i>
Traffic to Australia—				
Qantas Airways Limited	7,238	1,581,895	47,774	1,009
Other airlines	9,781	2,092,245	80,981	6,682
All airlines	17,019	3,674,140	128,755	7,691
Traffic from Australia—				
Qantas Airways Limited	7,229	1,503,385	57,406	4,606
Other airlines	9,628	1,996,108	106,522	1,631
All airlines	16,857	3,499,493	163,928	6,237

(a) Australia and Norfolk Island. (b) Includes Qantas flights using aircraft leased from other airlines. (c) Difference between in/out numbers arises because some outward flights are operated as non-scheduled, and thus not counted in above tables.

Statistics covering the operations of Australia's regular overseas services are shown in the following table. These operations include all stages of Qantas flights linking Australia with overseas countries.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S SCHEDULED OVERSEAS SERVICES

		1982-83	1983-84	1984-85	1985-86	1986-87	1987-88
Hours flown	number	82,409	83,551	89,952	100,653	117,383	126,851
Kilometres flown	'000	64,898	65,670	71,046	79,050	91,874	98,999
Passengers—							
Embarkations	number	2,101,788	2,189,669	2,449,596	2,671,486	3,052,411	3,612,197
Passenger-kilometres	'000	14,477,756	15,247,801	16,858,595	18,233,088	21,258,519	24,535,745
Freight—							
Tonnes uplifted	tonnes	75,375	84,844	90,357	91,961	110,389	119,202
Tonne-kilometres	'000	485,549	563,268	637,590	691,352	811,627	855,260
Mail—							
Tonnes uplifted	tonnes	4,219	4,410	4,744	4,869	5,327	5,858
Tonne-kilometres	'000	40,058	40,324	43,231	45,370	51,819	57,946

AIR CARGO BY TRADE AREA, INWARD AND OUTWARD OVERSEAS, 1986-87

<i>Trade area</i>	<i>Inward cargo</i>		<i>Outward cargo</i>	
	<i>Gross weight</i>	<i>Value</i>	<i>Gross weight</i>	<i>Value</i>
	tonnes	\$'000	tonnes	\$'000
Europe	28,347	2,569,358	7,227	1,053,645
East Asia	9,224	350,016	17,620	767,140
Japan and North Asia	7,617	752,369	15,274	944,632
North America—East Coast	15,034	1,549,266	2,621	273,096
North America—West Coast	11,120	1,393,284	13,054	525,425
Central America and Caribbean	60	9,990	89	3,322
South America—East Coast	633	54,483	30	4,153
South America—West Coast	48	3,298	41	1,817
Africa—Mediterranean	—	8	5	521
West Africa	44	8,447	36	423
South and East Africa	483	317,398	459	17,828
Red Sea and Mediterranean				
Middle East	175	32,689	985	11,811
Middle East Gulf	22	13,118	17,855	62,409
West India	797	39,902	539	9,787
East India	1,384	37,968	176	31,359
South-East Asia	4,506	306,146	30,101	396,067
New Zealand	21,942	460,271	29,721	645,072
Papua New Guinea and Solomon Islands				
Pacific Islands and other countries	952	29,276	5,210	62,579
Trade area not specified	16	2,762	8,421	203,882
Total	102,673	8,054,995	152,336	5,100,705

The air cargo statistics set out in the above table have been compiled from information contained in import and export documents submitted by importers and exporters, or their agents to the Australian Customs Service as required by the *Customs Act 1901*.

Domestic activity

Economic regulation and deregulation

The Commonwealth Government has announced its intention to deregulate domestic aviation in Australia and to open the nation's interstate air services to free competition, effective from 31 October 1990.

The Commonwealth's regulation on economic grounds of domestic interstate air transport has been conducted through arrangements commonly known as the 'two-airline policy'. Under the policy the operation of regular passenger air services over the main domestic or 'trunk' routes has been restricted generally to the Commonwealth-owned Australian Airlines Ltd and the privately-owned Ansett Airlines of Australia.

The Commonwealth has maintained the policy essentially by using the Customs (Prohibited Imports) Regulations to restrict operators' access to aircraft which could then be used to compete with Australian Airlines or Ansett over the trunk routes. Since 1981, the policy has also been based on the following Commonwealth legislation: the *Airlines Agreement Act 1981*, the *Airlines Equipment Amendment Act 1981* and the *Independent Air Fares Committee Act 1981*.

Effective from 31 October 1990, the Government will withdraw from detailed economic regulation of domestic air fare setting, aircraft imports, capacity controls and route entry, and the above Commonwealth legislation will be repealed. Commonwealth regulation will be replaced by an environment where new entrant airlines will be allowed access to interstate trunk routes, and airlines in general will be free to make their own decisions concerning air fares and capacity on interstate routes.

Customers' interests will be maintained through the application of the Trade Practices Act and scrutiny of the Prices Surveillance Authority which apply to industry generally.

Major airlines

The major airlines providing domestic air services in Australia are the Ansett group, comprising Ansett Airlines of Australia, Air NSW, Ansett WA and Ansett NT; East-West Airlines; Australian Airlines; and IPEC Pty Ltd, a cargo operator. TNT and News Ltd jointly own both the Ansett group and East-West.

At 30 June 1989 the Ansett group's fleet consisted of 7 Airbus A320s, 5 Boeing 767-200s, 7 Boeing 727-200s, 16 Boeing 737-300s, 7 Fokker F28-1000s, 1 Fokker F28-4000, and 10 Fokker F50s.

Australian Airlines operated a fleet of 4 Airbus A300s, 1 Boeing 727-100, 9 Boeing 727-200s, 16 Boeing 737-300s, and 2 McDonnell-Douglas DC9s.

East-West Airlines operated a fleet of 6 Fokker F27 Series, 2 Fokker F28-3000s, and 5 Fokker F28-4000s.

The Interstate Parcel Express Company Australia Pty Ltd, trading as IPEC Aviation, operates cargo airline services using 3 Argosy aircraft and 1 DC9 aircraft.

Commuter services

Some 45 commuter operators provided regular public transport air services to approximately 250 ports in Australia at 30 June 1989.

The aircraft types currently used by commuter operators are predominantly in the 6-9 seat category, such as the Piper PA31 and Cessna 310, 402 and 404 series. Larger types used include Twin Otter, Beech King Air, Metroliner, Embraer Bandeirante, British Aerospace Jetstream 31 and Shorts 330 and 360. During 1988 commuter operators carried an estimated 1.3 million passengers.

General aviation

In addition to scheduled services, there is a wide range of other activities undertaken by the aviation industry, including business flying, aerial work, aerial agriculture, charter, training and private flying. Hours flown by general aviation during 1987-88 were estimated at 1.7 million. Charter operation made up 21.8 per cent of general aviation hours flown in 1987-88, the highest proportion of any activity. Charter operations involve the use of aircraft in operations for the carriage of passengers and cargo for hire or reward which are not scheduled or available to the public. Approximately 650 operators in Australia hold charter licences.

Scheduled domestic airline services

Statistics of all regular domestic airline services are set out in the following table.

**AIR TRANSPORT: OPERATIONS OF SCHEDULED DOMESTIC AIRLINE SERVICES
AUSTRALIA (a)**

		1983-84	1984-85	1985-86	1986-87	1987-88	1988-89p
Hours flown	number	242,075	247,158	264,076	276,745	285,335	289,891
Kilometres flown	'000	126,087	132,087	143,081	152,141	160,240	169,896
Passengers—							
Passenger uplifts	number	10,597,651	11,329,708	12,099,813	12,506,706	13,647,756	14,008,631
Passenger-kilometres	'000	9,684,589	10,397,723	11,293,375	12,046,635	13,267,045	13,726,785
Freight—							
Tonnes uplifted	tonnes	149,879	151,226	150,470	135,572	143,324	147,992
Tonne-kilometres	'000	137,819	135,590	138,615	127,429	136,290	139,401
Mail—							
Tonnes uplifted	tonnes	17,571	18,411	18,056	18,726	20,793	21,788
Tonne-kilometres	'000	17,621	18,575	18,182	19,135	20,853	22,636

(a) Includes flights of all domestic airlines, between airports located within Australia and includes flights by East-West Airlines and Airlines of New South Wales between Australia and Norfolk Island.

Airport activity—domestic passengers

The statistics set out in the next table have been compiled by aggregating all domestic airline passenger traffic loaded and unloaded at each airport. They include passengers on flights between Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

**SCHEDULED MAJOR AIRLINES PASSENGER UPLIFTS AND DISCHARGES AT
PRINCIPAL AUSTRALIAN AIRPORTS**

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89p
Sydney	5,501,492	5,900,743	6,330,523	6,660,129	7,374,065	7,541,281
Melbourne	4,550,568	4,851,880	5,155,985	5,313,403	5,827,494	5,999,957
Brisbane	2,554,622	2,684,608	2,799,420	2,973,743	3,312,524	3,581,535
Adelaide	1,684,281	1,762,845	1,824,983	1,704,871	1,833,001	1,876,691
Perth	1,049,567	1,127,184	1,245,409	1,352,214	1,437,035	1,478,055
Canberra	838,175	931,673	990,222	1,006,652	1,087,595	1,073,519
Coolangatta	567,623	630,474	731,145	844,581	1,005,622	1,080,222
Cairns	404,168	426,206	495,434	627,703	777,316	823,262
Hobart	448,549	481,612	493,411	474,345	511,308	519,055
Townsville	388,752	404,463	410,260	415,870	400,439	379,362
Launceston	352,494	390,867	361,797	351,432	351,004	371,327
Darwin	281,032	302,590	334,079	341,835	366,639	388,324

Aerodromes

As at 30 June 1989 there were 429 Commonwealth or licensed aerodromes in Australia and its Territories. Of these, 23 were owned and operated by the Federal Airports Corporation, a Commonwealth statutory authority, and 45 were owned by the

Commonwealth under the control of Commonwealth departments. The remaining 361 were either owned by local authorities or private organisations.

In 1988–89, capital expenditure on Commonwealth civil aerodromes was \$9.1 million. Development grants paid to licensed aerodromes under the Aerodrome Local Ownership Plan (ALOP) during the year totalled \$24.5 million, of which \$13.8 million was for transfer works at Kalgoorlie, Mackay, Mount Gambia and Camooweal where local authorities had accepted full responsibility for the aerodromes. A further \$6.3 million was paid for maintenance works at licensed aerodromes participating in the ALOP.

Airway facilities

A total of 567 navigation aids were in service at 31 October 1989. The Civil Aviation Authority maintains and operates a network of 252 non-directional beacons (NDB), 108 Australian Domestic Distance Measuring Equipment (DME-D), 29 International Distance Measuring Equipment (DME-I), 86 VHF omnidirectional range systems (VOR) and 18 instrument landing systems (ILS).

Included in this total are a number of facilities on licensed aerodromes and oil platforms—65 NDBs, 1 DME-D, 4 DME-Is and 2 ILS which are privately owned.

In addition, there are 11 NDBs operated by the Department of Defence and 11 NDBs operated by the Department of Transport and Communications.

There are 32 Air Traffic Control Centres, 42 Flight Service Units and 27 Rescue and Fire Fighting Units in operation throughout Australia.

Air transport registrations and licences in force in Australia

At 30 June 1989 there were 8,437 aircraft registered in Australia. At the same time there were 45,399 current aeroplane pilot licence holders, including 25,436 private pilots, 5,159 commercial pilots, 1,817 senior commercial pilots, 2,497 air transport pilots and 10,490 student pilots.

In addition, there were 2,135 current helicopter pilot licence holders of which 258 were private pilots, 1,017 commercial pilots, 126 senior commercial pilots and 734 student pilots. There were also 11 gyroplane, 73 commercial balloon, 527 flight engineer and 9 navigator licences in force.

Accidents and casualties

AIR TRANSPORT: ACCIDENTS INVOLVING CASUALTIES (a)
AUSTRALIA (b)

	1983	1984	1985	1986	1987	1988
Number	44	40	31	40	44	53
Persons killed	47	45	43	44	33	63
Persons seriously injured	29	25	27	31	42	32

(a) Accidents involving civil aircraft (including registered gliders) which resulted in death or serious injury. Excludes parachutists and casualties involving non-registered aircraft. (b) Excludes accidents outside Australia involving aircraft on the Australian register, includes all accidents to overseas registered aircraft that occur in Australia.

POSTAL, TELECOMMUNICATIONS AND RADIOCOMMUNICATIONS SERVICES

In this section, particulars for the Australian Capital Territory are included with those for New South Wales, and the South Australian figures include particulars for the Northern Territory, unless otherwise indicated.

Australian Postal Corporation

The Australian Postal Commission was established under the *Postal Services Act 1975*. It commenced operations on 1 July 1975 and traded under the name Australia Post.

In 1988–89 the Commission underwent a two stage conversion to Government Corporation Status. The *Postal Services Amendment Act 1988* established a new corporate structure for Australia Post. The *Australian Postal Corporation Act 1989* which marked the second and final change was proclaimed to commence at the beginning of the 1989–90 year.

The Corporation continues to trade under the name Australia Post, however, Australia Post's charter has been redefined. In addition to having a primary function to supply domestic postal services, it now has a subsidiary function to carry on any business or activity relating to postal services either domestically or overseas.

Australia Post provides surface and airmail services within Australia and to and from other countries. Special services provided include express courier, electronic mail, priority paid mail, business reply post, cash-on-delivery, certified mail, freepost, messenger delivery, a security mail service and a number of reduced rate services.

Australia Post operates a money transfer service, sells postal products such as padded post bags, postal stationery and philatelic items, and act as agent on behalf of Commonwealth, State and local government departments and authorities and for private sector principals.

Australia Post is the authority for the issue of postage stamps throughout the Commonwealth of Australia and its external territories.

The following tables give details of Australia Post's financial results, services and operation.

AUSTRALIAN POSTAL CORPORATION: PROFIT AND LOSS (\$'000)

Year ended 30 June	1984	1985	1986	1987	1988	1989
Revenue—						
Mail services	971,676	1,080,539	1,186,422	1,370,930	1,501,487	1,644,869
Commission on agency services	90,449	94,547	87,291	83,328	89,803	88,031
Postal money order service	11,632	11,940	11,846	12,384	13,242	16,792
Other revenue	21,993	24,269	39,832	38,440	51,847	61,516
Total	1,095,750	1,211,295	1,325,391	1,505,082	1,656,379	1,811,208
Expenditure—						
Labour and related expenditure	831,600	911,776	973,294	1,049,186	1,131,190	1,251,284
Carriage of mail by contractors	92,984	103,551	109,418	121,183	132,832	151,131
Depreciation and interest	15,299	17,159	22,294	27,744	38,454	39,748
Other expenditure	131,716	154,301	189,530	252,079	298,955	323,186
Total	1,071,599	1,186,787	1,294,536	1,450,192	1,601,431	1,765,349

**AUSTRALIAN POSTAL CORPORATION: PROFIT AND LOSS STATEMENT
FOR THE YEAR ENDED 30 JUNE 1989
(\$'000)**

Revenue—	
Mail services	1,644,869
Commission on agency services	88,031
Postal money order service	16,792
Other revenue	61,516
<i>Total</i>	<i>1,811,208</i>
Expenditure—	
Labour and related expenditure	1,251,284
Carriage of mail by contractors	151,131
Accommodation	79,334
Stores and supplies	101,801
Depreciation	34,466
Interest	5,282
Other operating expenditure	142,051
<i>Total</i>	<i>1,765,349</i>
Operating Profit	45,859
Appropriations—	
Accumulated profit brought forward	116,584
Operating profit for the year	45,859
Adjustments to provision	15,754
Accumulated profit carried forward	178,197

**AUSTRALIAN POSTAL CORPORATION: PERSONS ENGAGED IN PROVIDING POSTAL
SERVICES AT 30 JUNE 1988 AND 1989**

	HQ	NSW (incl. ACT)	Vic.	Qld	SA (incl. NT)	WA	Tas.	Aust. 1989	Aust. 1988
Official staff (a)—									
Full-time permanent	584	12,175	8,655	4,086	2,534	2,313	587	30,934	32,302
Full-time temporary	25	1,800	1,060	483	183	292	62	3,855	2,981
Part-time	—	1,452	763	571	225	624	189	3,824	3,130
Other staff (b)	—	2,569	1,732	1,797	745	756	280	7,879	8,077
Total	609	17,996	12,210	6,937	3,687	3,985	1,118	46,492	46,490

(a) 'Official staff' are those whose employment is governed by the *Australian Postal Corporation Act 1989*. (b) Includes persons who are not employed under the *Australian Postal Corporation Act*, but who are engaged on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Corporation.

**AUSTRALIAN POSTAL CORPORATION: MAIL DELIVERY NETWORK AND POST OFFICES
AT 30 JUNE 1988 AND 1989**

	NSW (incl. ACT)	Vic.	Qld	SA (incl. NT)	WA	Tas.	Aust. 1989	Aust. 1988
Households receiving mail	2,202,950	1,555,179	1,002,468	585,808	557,905	163,708	6,068,018	5,943,124
Business receiving mail	234,469	158,334	112,010	58,645	59,999	16,028	639,485	607,177
Post offices—								
At 1 July 1988	496	333	218	143	153	40	..	1,383
At 30 June 1989	490	330	218	141	153	40	1,372	..
Agencies—								
At 1 July 1988	925	840	521	390	247	183	..	3,106
At 30 June 1989	904	836	516	380	244	180	3,060	..
Total post offices and agencies	1,394	1,166	734	521	397	220	4,432	4,489

AUSTRALIAN POSTAL CORPORATION: TOTAL POSTAL ARTICLES HANDLED
(*000)

<i>Year ended 30 June</i>	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total postal articles handled</i>
1984	2,764,113	106,585	164,362	3,035,060
1985	2,877,476	107,783	163,074	3,148,333
1986	2,970,353	115,688	166,444	3,252,485
1987	3,143,251	125,995	169,306	3,438,552
1988	3,342,321	142,280	177,417	3,662,018
1989	3,564,366	157,605	193,988	3,915,959

AUSTRALIAN POSTAL CORPORATION: ORDINARY POSTAL ARTICLES (a)
(*000)

<i>Year ended 30 June</i>	<i>Standard articles</i>			
	<i>Posted for delivery within Australia</i>	<i>Posted for places abroad</i>	<i>Received from abroad</i>	<i>Total articles</i>
1987	2,689,440	108,228	122,379	2,920,047
1988	2,862,775	122,613	128,407	3,113,775
1989	3,033,166	136,039	141,055	3,310,260

STATES—YEAR ENDED 30 JUNE 1989

New South Wales (incl. ACT)	1,169,937	50,862	74,128	1,294,927
Victoria	860,007	37,997	40,635	938,639
Queensland	443,579	23,440	10,534	477,553
South Australia (incl. NT)	249,694	10,393	4,492	264,579
Western Australia	249,747	13,347	11,094	274,188
Tasmania	60,202	—	172	60,374

(a) Includes certified, messenger delivery and priority paid mail.

Telecommunications Services Within Australia

The Australian Telecommunications Corporation was established on 1 January 1989 after amendments to the Australian Telecommunications Act. A new Board of Directors was formed and this arrangement was continued under the Australian Telecommunications Corporation Act which came into force on 1 July 1989.

The formation of the new Corporation was in response to major Government policy changes which saw the abolition of the former Australian Telecommunications Commission, which was created on 1 July 1975 under the *Telecommunications Act 1975*.

The Australian Telecommunications Corporation operates under the trading name Telecom Australia.

The responsible Minister is the Minister for Transport and Communications, assisted by the Minister for Telecommunications and Aviation Support.

Functions

The main function of the Corporation is to supply telecommunications services within Australia. A subsidiary function is to carry on, outside Australia, any business or activity relating to telecommunications.

Telecom has several obligations:

- to perform its functions in a manner that is consistent with sound commercial practice;
- to ensure that, in view of its social importance, the public switched telephone service is reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business;
- to ensure the performance standards for the public switched telephone service reasonably meet the social, industrial and commercial needs of the Australian community; and
- to perform its functions, in a manner that is consistent with any general policies of the Commonwealth Government notified by the Minister, any directions given by the Minister, and Australia's obligations under any convention.

Subsidiary companies and joint ventures

As at 30 June 1989, Telecom subsidiary and joint venture companies were:

- Telecom Australia (International) Ltd—100 per cent owned
- Telecom Australia (Saudi) Ltd—50 per cent owned
- Telesoft Communications Pty Ltd—100 per cent owned
- QPSX Communications Pty Ltd—74 per cent owned
- QPSX Communications Australia Pty Ltd—100 per cent owned
- QPSX Systems Inc. (US)—100 per cent owned
- Information Switching Technology Pty Ltd—60 per cent owned
- Advanced Network Management Pty Ltd—60 per cent owned
- T-Net Pty Ltd—60 per cent owned
- Telecom Messagetech Pty Ltd—51 per cent owned
- Natsoft Communications Pty Ltd—50 per cent owned
- Telecom Technologies Pty Ltd—50 per cent owned
- National Registries Pty Ltd—50 per cent owned
- Telecom—Hewlett Packard Pty Ltd—50 per cent owned
- AUSSAT Pty Ltd—25 per cent owned
- Infonet Services Corporation—5 per cent owned.

Telecom also participates in two companies, National Protocol Support Centre Ltd and Australian Electronic Development Centre Ltd, which are limited by guarantee and have no share capital.

Statistics

The following table shows selected statistics relating to the latest three years of the Corporation's operations.

AUSTRALIAN TELECOMMUNICATIONS CORPORATION: SUMMARY OF SELECTED STATISTICS

<i>Year ended 30 June</i>		<i>1987</i>	<i>1988</i>	<i>1989</i>
FINANCIAL				
Revenue	\$ million	6,047.5	7,199.5	7,976.8
Expenses	"	5,604.2	6,423.3	7,003.7
Operating profit	"	443.3	776.6	973.1
Rate of return	%	10.6	12.0	13.8
Addition to fixed assets	\$ million	2,403.1	2,236.1	2,580.5
Net value of fixed assets	"	12,759.4	12,073.1	13,045.4

**AUSTRALIAN TELECOMMUNICATIONS CORPORATION: SUMMARY OF SELECTED
STATISTICS—continued**

Year ended 30 June	1987	1988	1989
TRAFFIC (million)			
Telephone calls			
Local	7,538.9	8,074.7	8,126.5
Trunk	1,328.1	1,488.5	1,652.8
To overseas	47.8	65.9	85.1
Cellular mobile telephone calls	n.a.	27.9	74.0
<i>Total</i>	<i>8,867.0</i>	<i>9,629.1</i>	<i>9,938.4</i>
Calls to recorded information services	129.7	137.2	124.0
NETWORK AND OPERATIONS			
Telephone			
Demand for new services	610,267	650,809	706,120
Connection of new services	617,806	643,834	682,907
Services in operation	6,816,301	7,091,549	7,419,982
Data services			
Modems in operation	103,726	103,962	97,890
Digital data service—network terminating units	35,210	52,489	68,117
AUSTPAC service—number of outstations	3,924	6,015	9,235
STAFF			
Average full-time staff	93,857	89,659	84,104

Australia's National Satellite System—AUSSAT

AUSSAT Pty Ltd

AUSSAT Pty Ltd was established by the Federal Government in November 1981 as a commercial company to own, operate and manage Australia's National Satellite System.

AUSSAT's Memorandum and Articles of Association and the *Satellite Communications Act 1984* require the company to:

- provide a telecommunications system for Australia by using space satellites and make available the facilities for use in telecommunications systems in neighbouring regions;
- provide service on a non-discriminatory basis and to set fair and equitable charges;
- operate as a commercial taxpaying enterprise paying reasonable dividends to the shareholders.

The company currently has a paid up equity capital of \$100 million. Seventy-five per cent of its shareholding is held by the Australian Government with the remaining 25 per cent being held by Telecom Australia.

AUSSAT has a board of nine directors and employs a staff of some 270 people, the majority of whom are highly qualified engineers, technicians and scientists.

The Australian National Satellite System

AUSSAT's first generation satellite system comprises three Hughes Aircraft Company HS 376 spin stabilised satellites. Geostationary orbit locations are: AUSSAT 1—160°E longitude, AUSSAT 2—156°E longitude with AUSSAT 3 at 164°E longitude, some 36,000 kilometres above the earth, directly over the equator.

Each satellite has a minimum design life of seven years. The first two satellites, launched by the Space Shuttle in August and November 1985 respectively, are expected to achieve a seven and a half-year life. It is expected that AUSSAT 3, launched in September 1987 by the European ARIANE rocket, will achieve an on-orbit life of some ten years.

Each satellite carries four high powered (30 watt) transponders and eleven standard power (12 watt) transponders, providing a total of 12x30 watt transponders and 33x12 watt transponders on the three satellite first generation system. The satellites operate in the 12-14 GHz KU Band, on a dual polarised basis to provide for re-use of band width.

The three dish antenna system used on the Australian satellites is a unique and distinguishing feature. The antenna array enables each satellite to provide national beam coverage of the entire Australian continent and its offshore regions and four spot beams covering:

- North-East (Queensland)
- Central Australia (Northern Territory and South Australia)
- West (Western Australia)
- South-East (New South Wales, Victoria and Tasmania)

The satellites also have the capability of providing a switched beam to cover Papua New Guinea, and AUSSAT 3 has a switched beam capability covering the south-west Pacific region and New Zealand.

AUSSAT also operates two telemetry, tracking command and monitoring ground stations. The main centre is located in the Sydney suburb of Belrose, and it is from this station that final positioning and maintenance of the satellites in the geostationary orbit is monitored and controlled. A backup to the Belrose Satellite Control Centre is located in the Perth suburb of Lockridge.

Ground segment

AUSSAT owns and operates a network of eight Major City Earth Stations (MCES) located in Melbourne, Hobart, Adelaide, Perth, Darwin, Brisbane, Sydney and Canberra.

These facilities are designed to provide 'gateway' access to the satellites for AUSSAT customers whose requirements for services do not warrant the purchase of their own satellite earth stations. Microwave or land line connection from each station to customer premises is available.

Applications

The first AUSSAT satellite was commissioned for service on 1 October 1985 with the second satellite coming on-line on 1 January 1986 and AUSSAT 3 in November 1987.

Since commencing operation, the satellite system has proven to be an outstanding success with demand for capacity being far greater than originally projected. More than 80 per cent of available capacity on the first two satellites has been contracted and is now in service.

The design of the satellite communications payload and beam configuration provides multi-purpose capabilities for the system. It allows for the provision of broadcast services for television and radio, as well as program distribution and interchange and for a full range of telecommunication services such as voice, video, telex and data.

Summary of current AUSSAT applications

Broadcasting direct-to-home

The single largest application at the present time is the provision of broadcasting services for television and radio directly into homes in remote outback regions of Australia. This service, known as the Homestead and Community Broadcasting Satellite Service (HACBSS) is being provided, initially, by the Australian Broadcasting Corporation (ABC). The HACBSS service provided by the ABC comprises television programming, two AM radio services and a stereo FM radio service.

With the launch and commissioning of AUSSAT 3, the service provided by the ABC is being supplemented by a similar commercial service known as the Regional Commercial Television Service.

Major network television

Australia's three major television networks are also large users. Each network has leased a standard power (12 watt) transponder and is using the satellite system for program distribution, news gathering and itinerant special program events, such as sporting fixtures.

Aviation

The Department of Transport and Communications has contracted for a total of four standard power transponders which will be used to establish a fully duplicated network of reliable voice and data links between 46 staffed air traffic control facilities and 55 unstaffed remote VHF air-to-ground facilities throughout Australia.

Commercial applications

Apart from the applications detailed above, AUSSAT has contracted with a number of government agencies and commercial organisations for the provision of a wide variety of services. Uses range from the provision of private network voice, video and data services to exciting applications in entertainment distribution, remote and long distance education, emergency services, health and medical services, including the use of slow scan television for diagnostic purposes.

The next generation

AUSSAT has contracted for the manufacture and in-orbit delivery of its second generation satellite system planned for launch in 1991-92.

The system, to be built by Hughes Communications International of Los Angeles, United States, will comprise two much larger satellites providing increased capacity and higher power.

Apart from ensuring continuity of established services the second generation satellites will carry L Band transponders to enable the establishment of a domestic mobile satellite service. This service will be operational by 1992 and could potentially be the first such domestic service in the world.

Overseas Telecommunications Services

OTC Limited

OTC Limited has provided Australia's telecommunications links with the world since 1946.

Formerly the Overseas Telecommunications Commission, OTC had its beginnings in the early 1940s, when the Australian Government decided it should control its own international communications services, which were then being provided by private enterprise companies.

The primary areas of activity for the infant OTC were international telegraph, radio telephone services and a coastal radio service which still provides commercial communications, weather, navigational and distress services to maritime traffic in Australian coastal waters.

Communications networks

From the 1950s, when the expansion of international business required the girdling of the globe with coaxial cable systems, OTC has been a major investor in new communications technologies. It is one of the world's largest owners of submarine cable systems and was early to recognise the potential of satellite communications.

OTC is a founding member of both the International Telecommunications Satellite Organisation (INTELSAT) and the International Maritime Satellite Organisation (INMARSAT).

It is now using its experience of more than 40 years to develop communications networks in other parts of the world. It has built satellite earth stations in locations as diverse as the Antarctic, Vietnam, the Cocos and Christmas islands, Malta and Laos.

From the beginning of 1990, it will provide the opportunity for 15 small nations in the South Pacific to gain access to modern, satellite-based communications systems, hubbed from the OTC Sydney Satellite Earth Station.

OTC became a company, OTC Limited, on 1 April 1989. All shares are held by the Australian Government.

Parallel changes to the industry's regulatory framework have introduced a more competitive marketplace. This new environment has led OTC to become a joint venturer with other companies in the Australian domestic value added services market with particular interests in electronic mail, electronic documents interchange, communications computer software and database access.

In the year ended 31 March 1989 OTC reported a record after-tax profit of \$189.1 million from total revenue of \$1,280 million. It paid a dividend of \$84 million to the Australian Government. The company expects to invest more than \$2,000 million on expanding Australia's international telecommunications capacity in the next decade.

Over 2,000 people are currently employed by OTC.

OTC has satellite earth stations in Sydney, Perth, Ceduna, and Melbourne; it has cable stations in Cairns, Sydney, Norfolk Island and Perth; international gateway exchanges in Sydney and Melbourne, with another under construction in Perth; international radio stations in Sydney; and 13 maritime communications stations around Australia's coastline.

OTC's corporate headquarters are in Sydney and it has business offices in Melbourne, Brisbane and Canberra. It also maintains international business offices in London, New York, Tokyo, Bangkok and Wellington.

Radiocommunication Stations

At 30 September 1989 there were 1,012,847 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 508,115 were associated with land mobile services, 49,023 were fixed services, 69,754 were for marine services, 322,281 were citizens band (CB) stations and 18,154 were amateur stations. Particulars of broadcasting stations are shown in the following section.

BROADCASTING AND TELEVISION

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting Act 1942* is one of the responsibilities of the Minister for Transport and Communications. Federal bodies which are involved include the Australian Telecommunications Corporation (Telecom), the Australian Broadcasting Corporation (ABC), the Special Broadcasting Service (SBS), the Australian Broadcasting Tribunal (ABT), the Department of Transport and Communications, the Overseas Telecommunications Corporation (OTC), AUSTEL and AUSSAT Pty Ltd.

Basically, the Australian broadcasting system comprises the following types of services:

- national radio and television services broadcasting programs produced by the Australian Broadcasting Corporation and the Special Broadcasting Service;
- commercial radio and television services operated by companies under licence;

- public radio services operated by corporations under licence on a non-profit basis; and
- services operated under the auspices of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Transport and Communications assumed responsibility for broadcasting planning, including all matters relating to the technical operation of stations, and for the investigation of interference to the transmission and reception of programs.

The commercial radio and television service

Commercial radio and television services are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Transport and Communications. The services obtain income from broadcasting advertisements. At 30 June 1989 there were 144 commercial radio services in operation in Australia (including 2 supplementary licences). Call signs for radio services are prefixed by numerals indicating each State of Australia (2—New South Wales, 3—Victoria, 4—Queensland, 5—South Australia, 6—Western Australia, 7—Tasmania, 8—Northern Territory). In addition, there were 47 commercial television services in operation in Australia, a reduction from 50 in the previous year because of consolidation of licences. Many of these services have one or more radiocommunications transmitters to enable the service from the principal transmitter to be provided to the entire service area.

A number of commercial radio and television transmitters known as rebroadcasting services were in operation at 30 June 1989. These have low power and are designed to receive and rebroadcast the signals of the service in whose area they are located. The permits are not held by the licensees of the service which is being rebroadcast but are held by a community group or a company in the area, a local council or some other government authority. The ABC and some SBS services are retransmitted in this manner.

At 30 June 1989, there were three remote commercial television services licensed, transmitting their programs via satellite to remote localities in the Western Zone (Western Australia), Central Zone (Northern Territory and South Australia) and North-East Zone (Queensland).

The public broadcasting service

The Broadcasting Act also makes provision for the granting of licences for the operation of public radio and television services. At 30 June 1989, 77 public radio services were broadcasting programs ranging from fine music to ethnic languages and programs produced by and directed towards specific communities. Some public radio services are associated with tertiary educational institutions. There are no public television services permanently operating in Australia.

The Special Broadcasting Service

The Special Broadcasting Service (SBS) was established by the Commonwealth Government on 1 January 1978 to provide multilingual radio services and, if authorised by regulations, to provide multilingual television services. A regulation authorising the provision of multilingual television services was gazetted in August 1978. The service is also empowered by the *Broadcasting Act 1942* to provide broadcasting and television services for such special purposes as are prescribed by the government.

In carrying out its functions, the SBS provides multilingual radio services to the Melbourne metropolitan area and Geelong through radio station 3EA which broadcasts in 55 languages for 126 hours per week; the Sydney metropolitan area through radio station 2EA which broadcasts in 59 languages for 126 hours per week; the provincial centres of Newcastle and Wollongong in NSW through 2EA translator services; plus on relay to a small number of public broadcasting stations throughout Australia.

It also provides Australia's sole national UHF-only television network. Since inception in October 1980, SBS-TV has grown from servicing Melbourne and Sydney only, to providing a television transmission in all capital cities (except Darwin) plus several major regional centres.

Transmitting solely on Ultra High Frequency (UHF), SBS-TV is seen on the following channels: Sydney, Melbourne, Canberra, Adelaide, Brisbane, Perth and Hobart on UHF 28; Bowral/Mittagong (NSW) and Stanwell Park (NSW) on UHF 30; Wyong (NSW) on UHF 39; Adelaide's foothills and Taroona (Tas.) on UHF 43; Wollongong (NSW) on UHF 44; Newcastle on UHF 45; Upwey (Vic.) on UHF 51; Wollongong (NSW) and Wagga Wagga (NSW) on UHF 53; Braidwood (NSW) and Tuggeranong (ACT) on UHF 54; Khancoban (NSW) on UHF 57; Cooma (NSW), Gosford (NSW), Goulburn (NSW), Tuggeranong (ACT), Warburton (Vic.), Marysville (Vic.) Safety Beach (Vic.) and Sydney's eastern suburbs on UHF 58; the Gold Coast on UHF 61; Ferntree Gully (Vic.) on UHF 68; and Belgrave/Selby (Vic.) on UHF 69.

SBS-TV operates to most of these centres via AUSSAT. SBS television and radio stations (2EA and 3EA) are also able to be received throughout New South Wales, Victoria and Tasmania by audiences with private AUSSAT satellite dishes.

The timetable proposed by the Federal Government for the extension of SBS Television is: 1991—Latrobe Valley; 1992—Bendigo, Ballarat, Darling Downs; 1993—Spencer Gulf, Darwin, north-east Tasmania; 1994—Cairns, Townsville.

Broadcasting Services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977. It is an independent statutory authority established by the *Broadcasting Act 1942* to regulate some aspects of commercial and public radio and commercial television in Australia. The Tribunal is empowered to grant, renew, suspend or revoke licences, to determine program and advertising standards applicable to licensed stations, to authorise changes to the ownership and control of licences, and to collect and make available information about broadcasting in Australia. In particular, the Tribunal is required to conduct public inquiries into the granting of licences following the invitation of applications by the Minister. The Tribunal may also conduct inquiries into the renewal of licences, the setting of standards of broadcasting practices, alleged breaches of licence conditions and other matters.

The National Broadcasting Service

Television and radio programs produced by the Australian Broadcasting Corporation (ABC) are broadcast through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Transport and Communications. The first national television station, (ABN Sydney), began regular transmission on 5 November 1956.

Technical facilities

At 30 June 1989, the ABC had 320 transmitting stations, of which 107 were medium frequency (AM), 191 frequency modulation (FM) and 6 high frequency (shortwave) excluding Radio Australia, which has 16 high frequency transmitters.

The medium frequency transmitters operate in the broadcast band 526.5 to 1,606.5 kilohertz. The high frequency stations using frequencies within the band of 3 to 30 megahertz provide services to listeners in sparsely populated parts of Australia such as the north-west of Western Australia, the Northern Territory, and northern and central Queensland.

Many of the programs provided by regional stations are relayed from the capital cities using high-quality program transmission lines. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia. When necessary, this system is extended to connect ABC stations with commercial broadcasters.

At 30 June 1989, 89 of the ABC's medium frequency stations were situated outside major metropolitan areas. The ABC also broadcasts parliamentary proceedings from stations in Sydney, Newcastle, Canberra, Melbourne, Brisbane, Adelaide and Perth.

Program facilities

ABC programs cover a wide range of subjects. The proportions of broadcasting time allocated on metropolitan stations to the various types of program during 1988-89 were as follows: news, 11.0 per cent; current affairs, 9.4 per cent; sport, 1.4 per cent; music, 45.5 per cent; and talk, 33 per cent. The ABC's Radio National network broadcasts programs in the following proportions: news, 10.1 per cent; current affairs, 9.6 per cent; rural, 3.4 per cent; drama, 4.7 per cent; Social History Unit, 1 per cent; Australian Women's Broadcasting Co-op., 3.1 per cent; science, 2.1 per cent; religious, 4.5 per cent; education, 10.7 per cent; music, 27.3 per cent; presentation, 12.1 per cent; and Radio Australia, 18.7 per cent.

International Broadcasting Service

Seven high frequency stations at Shepparton (Victoria), 3 on the Cox Peninsular at Darwin (Northern Territory), 3 at Carnarvon (Western Australia) and 2 at Brandon (Queensland), provide the international short wave service known as Radio Australia. The transmitters are maintained and operated by Telecom Australia, with programs arranged and presented by Radio Australia from its Melbourne studios. There is an emphasis on news and current affairs, informative features and topical interviews. Entertainment programs and sporting coverage are also presented.

The broadcasts—in English, Indonesian, Japanese, Tok Pisin, Thai, French, Standard Chinese, Cantonese and Vietnamese—are directed to the Pacific, Papua New Guinea and Asia. The English Service is also heard in the Middle East, United Kingdom, Europe and North America. Overall, the services reach an estimated 50 million regular listeners.

BROADCASTING STATIONS, 30 JUNE 1989

Type of station	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
National—									
Medium frequency (AM)	24	9	22	11	25	7	6	3	107
High frequency (HF)	—	—	2	—	1	—	3	—	6
Frequency modulation (FM)	22	8	79	12	52	7	10	1	191
International—									
Short wave (Radio Australia)	—	7	3	—	3	—	3	—	16
Commercial—									
Medium frequency (AM)	49	22	36	12	22	9	3	3	156
Frequency modulation (FM)	9	2	4	2	1	1	—	2	21
Public broadcasting—									
Medium frequency (AM)	(a)4	1	2	1	1	1	—	1	(a)12
Frequency modulation (FM)	31	16	9	7	5	5	3	1	81

(a) Includes the Special Broadcasting Service.

Television Services

The National Television Service

The National Television Service is provided by the ABC through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Transport and Communications. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956.

The proportions of television time allocated to the ABC's various departments during 1988-89 were as follows: Children's television 20.8 per cent; Drama 16.5 per cent; Education, Arts and Religion 18.1 per cent; Information 3.6 per cent; Light Entertainment 2.8 per cent; Music 13.1 per cent; News, Current Affairs, Documentaries 13 per cent; Games 1.52 per cent; Sport 6.7 per cent; and presentation and promotions 0.96 per cent.

During 1988–89, 17 new transmitters went into operation: six in New South Wales; one in Victoria; four in Queensland; five in Western Australia and one in South Australia.

Colour television

Colour television (PAL) was introduced in Australia late in 1974 and services became fully effective in March 1975.

TELEVISION TRANSMITTER STATIONS, 30 JUNE 1989

Type of station and location	NSW	Vic.	Qld	SA	WA	Tas.	NT	ACT	Aust.
National—									
Metropolitan television	6	12	4	4	2	4	1	6	39
Country television	74	29	114	21	69	21	26	—	354
<i>Total, National</i>	80	41	118	25	71	25	27	6	393
Commercial—									
Metropolitan television	9	21	9	6	3	2	1	7	58
Country television	76	25	68	18	71	20	7	—	285
<i>Total, Commercial</i>	85	46	77	24	74	22	8	7	343

BIBLIOGRAPHY

ABS Publications

Monthly Summary of Statistics, Australia (1304.0)

Commonwealth Government Finance (5502.0)

Transport Establishments: Summary of Operations by Industry Class, Australia and States, 1983–84 (9103.0)

Transport Establishments: Details of Operations by Industry Class, Australia, 1983–84 (9104.0)

Transport Establishments: Selected Items of Data Classified by Industry and Size Group, 1983–84 (9105.0)

Road Freight Activity of Private Enterprises by Industry Division, Australia and States, 1983–84 (9107.0)

Shipping and Air Cargo Commodity Statistics, Australia (9206.0)

Survey of Motor Vehicle Use, twelve months ended 30 September 1988 (9208.0)

Interstate Freight Movement, Australia (9212.0)

Rail Transport, Australia (9213.0)

Interstate Freight Movement, Australia (9214.0)

Motor Vehicle Registrations, Australia (9303.0)

Motor Vehicle Registrations, Australia (9304.0)

Motor Vehicle Census, Australia (9309.0)

Road Traffic Accidents Involving Fatalities, Australia (9401.0)

Road Traffic Accidents Involving Casualties (Admission to Hospitals), Australia (9405.0)

Other Publications

Information additional to that contained in ABS publications is available in the annual reports and other statements of the Department of Transport and Communications, the various harbour boards and trusts, the several government railway authorities, the Federal Airports Corporation, the Australian Postal Corporation, the Australian Telecommunications Corporation, and the Australian Broadcasting Corporation.