CHAPTER 20

TRANSPORT AND COMMUNICATION

This chapter contains information on motor vehicles; roads; road traffic accidents; railways; shipping; air transport; bus, train and ferry services; postal services, internal and overseas telecommunication services; radio communication stations; broadcasting and television; and 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

In April 1946, the State and Commonwealth Governments agreed to establish a co-ordinating and advisory committee at Ministerial level whose principal functions were to review 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 (ATAC), thus established now comprises the Commonwealth Minister for Transport and State/Territory Ministers responsible for transport, roads, marine and ports matters. The New Zealand Minister of Transport attends as an observer.

The Council has, on a number of occasions since its inception, reviewed and refined its procedures and operations. In July 1984, ATAC and the *Marine and Ports Council of Australia* (MPCA) agreed to amalgamate. At present it meets at least twice each year and . its primary role is to review and co-ordinate various aspects of transport policy, development and administration. Its decisions are reached by consensus of all members. Council's functions are to initiate discussion and report on any matter raised by Council members and to advise on matters which will tend to promote a better co-ordination of, or research in, all modes of transport development for the benefit of Australian transport authorities and agencies. The ATAC structure consists of one policy advisory group reporting directly to ATAC, the *Standing Committee on Transport* (SCOT). SCOT comprises a representative of each ATAC minister—usually principal ministerial advisers, such as the Permanent Heads of the relevant Department and deals with overall issues of policy co-ordination and development. SCOT is supported by four groups of specialist advisers which cover 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
- Advisory Committee on Promotion and Education for Road Safety
- Road User and Trauma Advisory 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
- Data Working Group
- Australian Motor Vehicle Certification Board.

Transport Industries Advisory Council

The Transport Industries Advisory Council (TIAC) was formed following the March 1971 Australian Transportation Conference. TIAC provides advice and comment to the Commonwealth Minister for Transport on policy issues as well as recommendations related to improving transport systems in Australia, including aviation.

The members of TIAC are drawn from senior management in all modes of transport, major consumers, Government bodies and unions. The Minister appoints members on the basis of personal expertise. New members, appointed annually, serve on the Council for
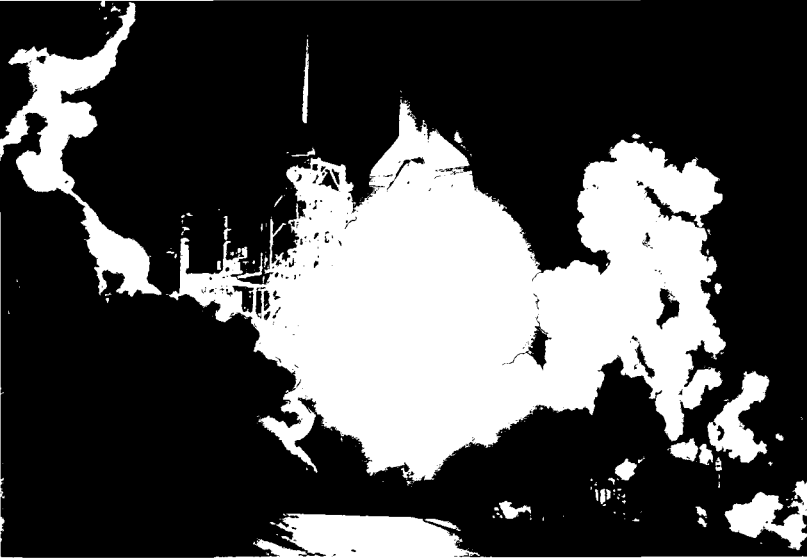
The launch of AUSSAT 1 on board the NASA Shuttle, *Discovery,* 27 August 1985.

AUSSAT, Australia's $350 million satellite communication system became operational in 1986. Two of the first generation AUSSAT satellites were launched in 1985, the third in 1986. They are expected to be in use until the 1990s.

About 350,000 Australians were beyond the reach of either radio or television before AUSSAT. For an outlay of about $3,000 they can now enjoy the same communication links as the rest of Australia.

Other uses include communications to over 100 remote air fields by the Department of Aviation, remote access to video medical advice and education facilities for isolated children.
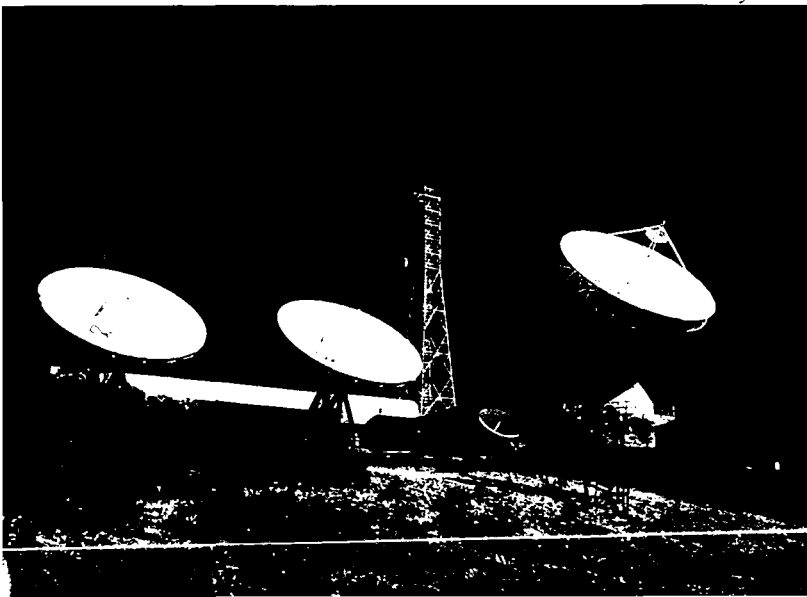

AUSSAT's main Control Centre at Belrose, Sydney. The larger antenna is used for command, control and telemetry, the smaller two for sending and receiving from the satellites. *AUSSAT Pty Ltd*

AUSSAT in space, as depicted on a postage stamp.

AUSSAT satellites orbit 35,780 kilometres above the equator, apparently stationary by keeping in step with the earth's rotation. Earth station antenna are kept trained constantly at the satellite to provide continuous communication. There are 8 major city earth stations, with the control centre at Belrose, just north of Sydney. Other business and communications organisations will progressively install earth stations of various sizes to suit their own purposes.

Some of AUSSATs staff of 250 are already working on design plans for the second generation satellites to take over in about 7 years time.

The opening ceremony.
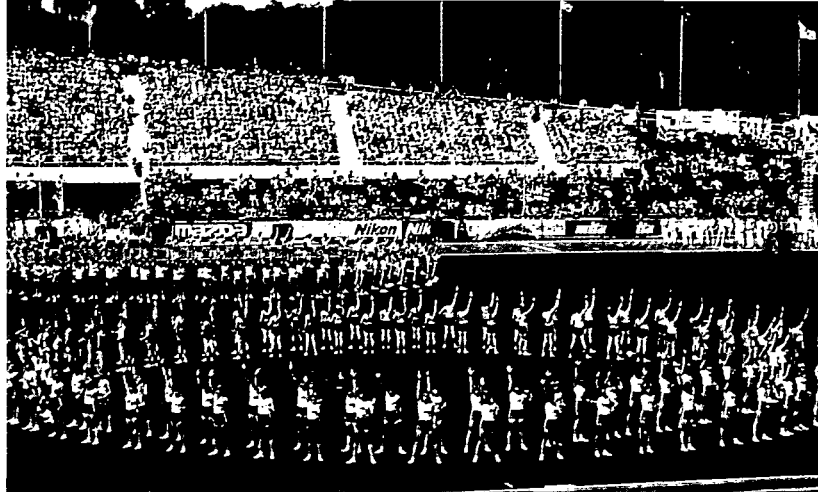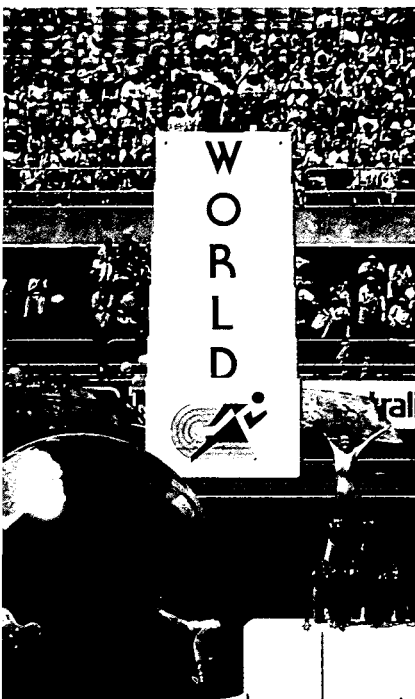
FOURTH WORLD CUP IN ATHLETICS
CANBERRA, 4-6 OCTOBER 1985

Photographs—Australian Information Service

3,000 metres steeplechase.

WORLD CUP ATHLETICS CANBERRA

Closing ceremony.

Medal presentation.

Autographs by Tonie Campbell, USA, winner 110 metres hurdles.

Womens 800 metres wheelchair event.

Murray 1 pumping station

Twenty years ago, in April 1966, the first diversion of water was made from the Snowy River to the Murray. This was just one of many achievements in the Snowy Mountains dual purpose hydro electric and irrigation scheme.

Murray switching yard

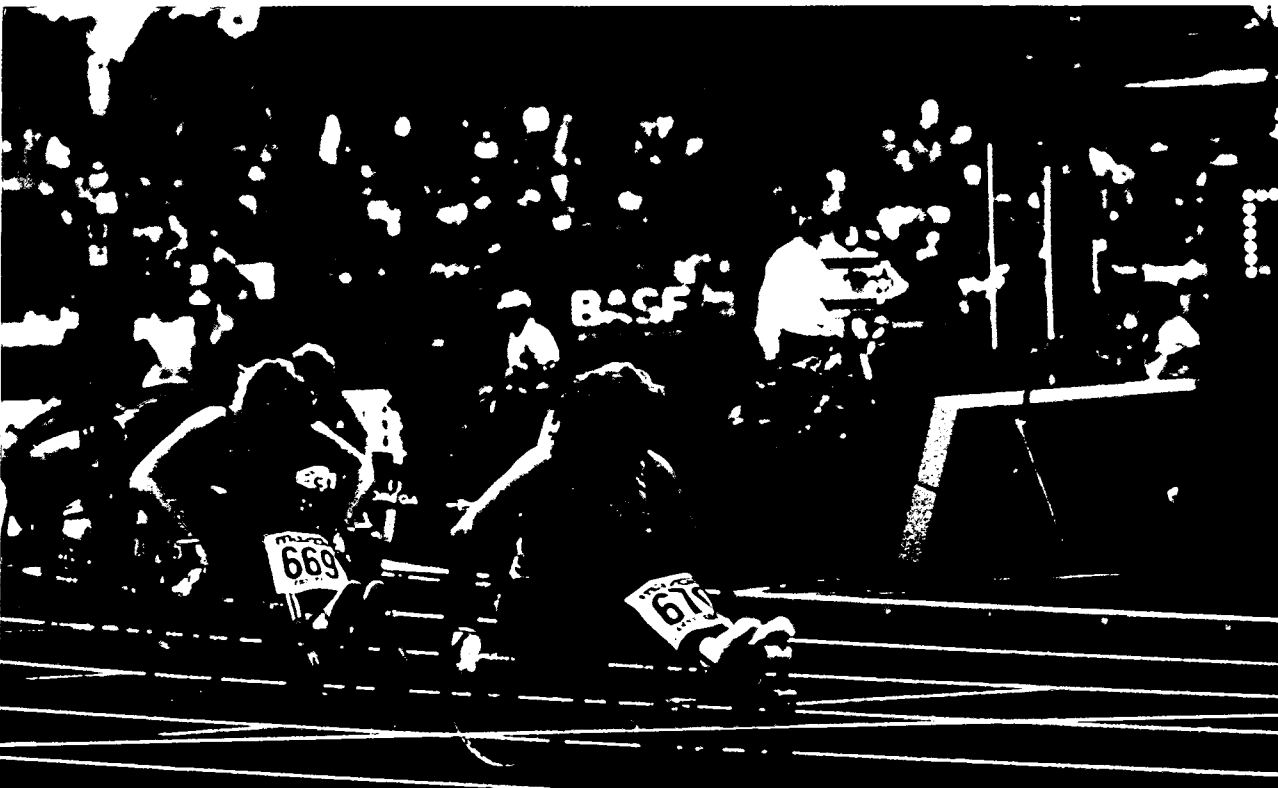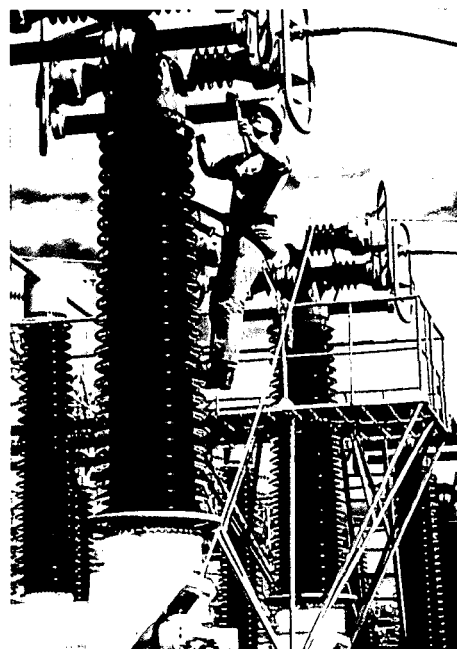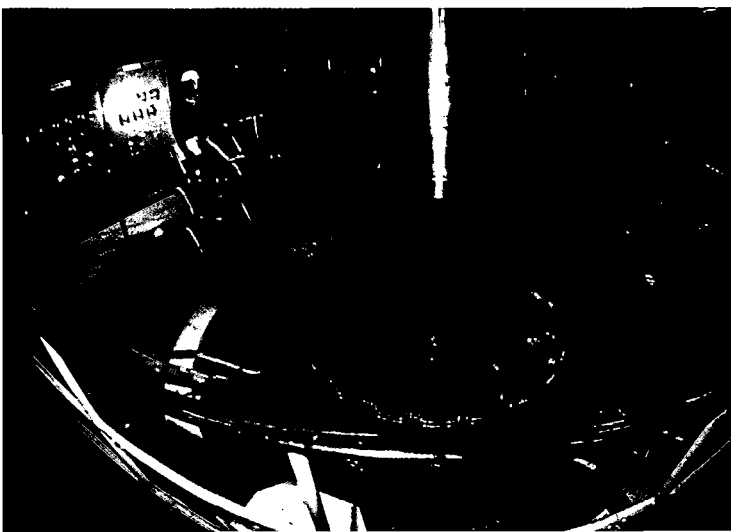
Turbine generator—Murray 2 power station

extendable terms of three years. 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's Annual Report.

Aviation Industry Advisory Council

The Aviation Industry Advisory Council (AVIAC) was established in 1978 to enhance the level of consultation between the aviation industry and the Government. The Council provides advice to the Commonwealth Minister for Aviation on policies, plans and programs relating to the aviation industry within Australia, promotes the continuing development of a safe, efficient, economic aviation industry, and provides a forum for discussion of important matters of joint concern to the aviation industry and Government.

Membership of the Council consists of the Commonwealth Minister for Aviation (Chairman); Secretary to the Department of Aviation; Chairman of Qantas Airways Ltd; Chairman of Australian National Airlines Commission (TAA); Chairman of Regional Airlines Association of Australia Ltd; Chairman of East-West Airlines; National Chairman of the General Aviation Association; Joint Chairman of Ansett Transport Industries Ltd; National President of the Royal Federation of Aero Clubs of Australia and President of the Aircraft Owners and Pilots Association of Australia.

The AVIAC has established a Committee of Advisers to assist in the analysis and preparation of matters to put to the Council for deliberation and decision.

National Airports Consultative Council

The National Airports Consultative Council was formed in 1984 to provide the Minister for Aviation with advice on

• aspects relating to the establishment of a National Airports Authority
• matters of national concern regarding airports
• aviation, commercial, social and environmental aspects of airports policy.

Membership of the Council comprises representatives of the *Australian Mayoral Aviation Council*, the aviation industry, industry and departmental unions, tourism interests, the travelling public, the Australian Airport Owners' Association, the Secretary to the Department of Aviation, and the Commonwealth Minister for Aviation (Chairman).

The Bureau of Transport Economics

The Bureau of Transport Economics (BTE) is a professional research body which undertakes independent studies and investigations to assist the Commonwealth Government in formulating policy relating to all modes of transport.

The primary function of the BTE is to advise the Commonwealth Government on the economic, financial and technical aspects of air, road, rail and sea transport in Australia. In pursuit of this overall function, the BTE analyses the nature, capacity, performance and financing of transport systems. It also investigates the economic and resource allocation implications of such systems. The BTE has a secondary function of providing assistance to State and local governments, Commonwealth and State instrumentalities and the private sector to identify and address transport problems.

Although formally linked to the Commonwealth Department of Transport, the BTE has a considerable degree of professional and administrative autonomy and reports directly to the Minister for Transport on its program of research work.

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 (Discharge of Oil from Ships) Act 1981*, 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 *Australian 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 *Inter-State Commission Act 1975*, the *King Island Harbour Agreement Act 1973*, the *King Island Shipping Service Agreement Act 1974*, the *Ship Construction Bounty Act 1975*, the *Trade Practices Act 1974* Part X, the *Shipping Registration Act 1981*.

Navigation Act 1912 as Amended

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

There are 25 sets of Regulations under the Act, and a system of Marine Orders which 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 follows:

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 supervision of 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 desserted or been left behind; and enquiries into deaths at sea. These matters are administered by Mercantile Marine Offices established at numerous ports. 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 by a Crew Accommodation Committee.

There are requirements for the manning of ships and manning disputes are often dealt with by statutory Committees of Advice. 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. Whilst in Austrália, all ships which trade interstate or overseas come under the survey provisions of the Navigation Act and require certificates issued by the Department of Transport 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.

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 giving effect to IMO resolutions on this sector of the marine industry were recently introduced.

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. 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 this condition and to operate in the Australian coastal trade subject to permission being given for the importation of the vessel under the Customs (Prohibited Imports) Regulations where necessary. Provision exists for unlicensed vessels to operate in the coasting trade under single voyage permits in certain circumstances where licensed vessels are not available or are inadequate to meet the needs of the trade. Strict control is exercised over the issue of permits for the carriage of coastal cargoes.

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 1981

The *Shipping Registration Act 1981* received Royal Assent on 25 March 1981 and was proclaimed on 26 January 1982. This Act replaces Part 1 of the *U.K. Merchant Shipping Act* 1894 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.

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 transfer and discharge of mortgages and the entry of this information into the Register.

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.

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.

Australian Shipping Commission

The Commission was established by the *Australian Coastal Shipping Commission Act 1956*. Its role has been to establish, maintain and operate interstate, overseas and territorial shipping services. In October 1974 the Commission's title was changed to the Australian Shipping Commission to reflect the increasing importance of its overseas trading activities. In 1980 the Australian Shipping Commission Act was amended to increase the Commission's borrowing powers and give it greater flexibility in determining freight rates. Further amendments to the Act were introduced in 1983 giving the Commission greater control over its day-to-day operations and allowing it to operate more commercially.

As at 30 June 1985 the Commission, trading as the Australian National Line, owned and operated a fleet of twenty five ships. The fleet included fourteen ships engaged in overseas trades comprising seven liner ships totalling 173,712 deadweight tonnes and seven bulk carriers totalling 518,134 deadweight tonnes.

The fleet also included 11 ships engaged in coastal trade, six liner ships totalling 51,136 deadweight tonnes and five bulk carriers totalling 215,694 deadweight tonnes.

The Line operated specialised terminals at Adelaide, Melbourne, Burnie, Bell Bay, Sydney, Port Kembla and Brisbane.

In recent times the Line has faced severe financial difficulties reflecting the general downturn experienced by the shipping industry, particularily in international trade. In 1984 it initiated a review of all its services. It instituted a major rationalisation and as a result disposed of eight obsolete vessels, including the Line's only passenger vessel, 'Empress of Australia'. ANL also withdrew from its unprofitable North Queensland coastal liner services and East and West Coast North American liner services.

Shipbuilding assistance

The shipbuilding industry in Australia has been assisted by the Government since the introduction of the shipbuilding subsidy scheme in 1947. The level of subsidy has been determined by the Government on the basis of inquiries into the industry by the former Tariff Board and, more recently, by the Industries Assistance Commission.

In May 1977, the Government sent a reference to the Commission on assistance to be accorded to the production of ships under 6,000 tg. The Commission reported to the Government on 25 July 1979 and on 29 November 1979 the Government announced new, simplified assistance arrangements for the Australian shipbuilding industry, with the introduction of the new Bounty (Ships) Act on 1 July 1980.

Under this Act, bounty continues to be accorded to the production in Australia of vessels over 150 gross construction tons, or over 21 metres in the case of fishing ships. Bounty is payable on a 'cost of construction basis' at a 1984-85 rate of 22.51 per cent, phasing down to a long-term rate of 20 per cent to apply from 1 July 1986.

Ships built at major yards include small cargo ships, offshore supply ships, passenger ferries, fishing ships, dredgers and barges. In addition, there are numerous smaller yards building non-bountiable ships such as pleasure craft, small fishing ships, and other small craft. Construction of large ships in Australia ceased in 1978.

In 1984-85 a total of 47 ships were completed at Australian yards (as compared with 85 in 1983-84 and 40 in 1982-83 and 55 in 1981-82).

Total financial assistance to the Australian shipbuilding industry in 1984-85 amounted to $28.3m (as compared with $26.6m in 1983-84, $25.6m in 1982-83 and $26.8m in 1981-82).

Importation of ships

The control of imports forms an integral part of the Government's shipbuilding assistance arrangements, complementing the bounty legislation. Under the Customs (Prohibited Imports) Regulations all ships are 'prohibited imports' and may not be imported into Australia except with the written permission of the Minister for Transport. For shipbuilding policy purposes, importation is permitted in the case of new ships, second-hand ships outside the size range 70 gross construction tonnes to 10,000 gross construction tonnes, and ships of a type not available new from Australian yards.

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 in 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 co-ordinating committee comprising representatives of the employers and the Waterside Workers' Federation (WWF) and 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 85A of the *Conciliation and Arbitration Act 1904* a Port Conciliator Service was created to assist parties to an industry award to implement the procedures of that award for the prevention or settling of disputes.

A non-statutory Stevedoring Industry Consultative Council chaired by Sir Alan Westerman, CBE, has been established to provide a forum for discussion and liaison between government(s), user interests and the operating sections of the industry. The Chairman is appointed by the Commonwealth Government.

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 sections 85A, 86 and 87 of the *Conciliation and Arbitration Act 1904*.

Tasmanian Freight Equalisation Scheme

The Tasmanian Freight Equalisation Scheme was introduced with effect from 1 July 1976 to provide assistance to the shippers of certain non-bulk goods between Tasmania and the mainland of Australia. The Scheme aims to alleviate the additional transport costs which have to be borne by Tasmanian shippers because of their separation from the mainland by sea. Responsibility for administration of the Scheme lies within the Transport portfolio.

The northbound component of the Scheme applies to specified goods produced in Tasmania which are shipped by sea to the mainland for use or sale. The southbound component covers certain raw materials, machinery and equipment used in Tasmania's manufacturing, mining and primary industries. In 1984-85 $28.5 million in assistance was paid on northbound cargoes and $1.6 million in assistance for southbound cargoes.

In 1984 the Federal Government requested the Inter-state Commission to investigate the Scheme. The Commission's report was published in March 1985. Following consideration of the report the Government decided to implement a number of changes to the Scheme recommended by the Commission with effect from 1 September 1985.

Trade Practices Act 1974 (Part X—Overseas Cargo Shipping)

The Overseas Cargo Shipping provisions of the Trade Practices Act (Part X) are administered by the Transport portfolio.

Part X establishes conditions for the operation of outwards shipping conferences and individual shipowners operating in Australia's outwards trades. Conference agreements between several shipowners in a particular trade make provision for the fixing of common freight rates. They may also include provisions for pooling arrangements and shares of the trade and rationalised sailing schedules.

Part X exempts conferences from the generally applicable anti-restrictive provisions of the Act, and seeks to ensure adequate safeguards to protect shippers through:

- requiring the filing of outwards conference agreements;
- requiring shipowners to give undertakings to hold meaningful negotiations with the designated shipper body, the Australian Shippers' Council (ASC);
- providing for disapproval of a conference agreement to be exercised by the Governor-General on a number of prescribed grounds, such as a failure on the part of the shipowner to comply with an undertaking, lack of due regard to the need for overseas shipping services to be efficient, economical and adequate, prevention or hindrance of an Australian flag operator from engaging efficiently in overseas cargo shipping to a reasonable extent.

Comparable provisions apply to individual shipowners who are not party to a conference agreement.

Marine pollution

The *Protection of the Sea (Discharge of Oil from Ships) Act 1981*, 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)* and *(Shipping Levy Collection) Acts 1981* currently provide the Commonwealth power to deal with matters relating to marine oil 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 and makes 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.

Two further important Acts which will apply the provisions of the International Convention for the Prevention of Pollution from Ships 1973-78 are expected to be proclaimed in 1986. The *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* and the *Navigation (Protection of the Sea) Amendment Act 1983* will implement improved provisions concerning the prevention and limitation of pollution by oil and specified noxious substances and the prohibition or control of discharges of oil or noxious liquid substances at sea. The Acts will also (when proclaimed) require the provision of control equipment and operational procedures on ships.

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 ABS 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 (B380)

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 that neither load nor discharge cargo; (iv) Australian registered fishing ships operating from Australian ports; (v)

geographical survey ships, seismic survey ships, oceanographic survey ships; (vi) offshore oil drilling rigs and ships servicing them; (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 as follows:

Category	Ship types
(a) General cargo ships	Container ships
	Conventional cargo ships
	Roll on—Roll off ships
	Other cargo ships
(b) Tankers.	Gas carriers
	Liquid tankers
(c) Bulk carriers	Dry bulk ships
	Dry/wet bulk ships
(d) 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; and
- (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/or 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.*

Recording of cargo loaded or discharged
Returns for arrivals show cargo discharged, and returns for departures show cargo loaded, 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.

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 20 ft units. A 40 ft container is therefore recorded as two twenty-foot equivalent units (or TEU's).

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 transhipments 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.

Units of measurement

The cargo carrying capacity of ships has in the past been measured in terms of registered net tonnage. However, as from 1 July 1979 this statistic has been replaced by deadweight tonnage (DWT).

Deadweight tonnage. A measure of the total mass (weight, in tonnes) of cargo, stores, fuel, passengers and crew carried by the ship when loaded to her maximum summer loadline.

Gross tonnage. A measure of the enclosed internal volume of a ship and its superstructure, with certain spaces exempt, in units of 1 ton per 2.83 cubic metres.

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 imported and exported by parcel post; (ii) direct transit trade, ie, 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 stores.

Period covered by the statistics

Although both foreign trade statistics and SACCS are compiled from the same source, imports and exports are recorded statistically in the month in which relevant documents are lodged with ACS, whereas SACCS are compiled according to the period during which goods were actually loaded and discharged in Australia.

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 defining commodities in terms of one or more categories of the Standard International Trade Classification (SITC) or the dissection of the SITC categories embodied in the Australian Import and Export Commodity Classification. At the lowest (the fourth) level of classification the ATFCC has 312 items.

Valuation

The recorded value of inward cargo is the free on board (f.o.b.) equivalent of the price when the sale of such cargo is conducted under open market conditions. This is in accordance with the provisions of the General Agreement on Tariffs and Trade (GATT) relating to

Customs valuation. The recorded value also includes the value of the outside package, other than international containers used for containerised cargo. As additional factors are also considered in arriving at the transaction value of goods for Customs purposes, the f.o.b. value may not always be the same as the Customs value.

For outward cargo, goods actually sold to overseas buyers prior to shipment are valued at the f.o.b. equivalent of the actual price paid to the exporter. Goods shipped on consignment are valued at the f.o.b. equivalent of the price that would have been paid to the exporter had he actually sold the goods to an importer in the country of final destination. As for inward cargo, the recorded value also includes the value of the outside package, other than international containers used for containerised cargo.

Units of quantity

SACCS statistics record gross weight tonnes for outward cargo only. Gross weight is the total weight in tonnes of cargo, excluding the weight of containers, irrespective of the basis on which freight is charged.

Australian trading ships

The following table shows particulars of all Australian trading ships of 150 gross tons or more engaged in the regular overseas, interstate or intrastate services at 30 June 1984.

AUSTRALIAN TRADING SHIPS OF 150 GROSS TONS OR MORE
30 JUNE 1984

(*Source:* Department of Transport)

Ships	Number	DWT	Gross Tons
Intrastate—			
Australian owned and registered	17	343,275	231,521
Overseas owned, Australian registered	1	3,333	2,880
Intrastate fleet	18	346,608	234,401
Interstate—			
Australian owned and registered	46	1,020,308	652,194
Overseas owned, Australian registered	7	119,645	89,730
Overseas owned and registered	4	110,712	65,544
Interstate fleet	57	1,250,665	807,468
Coastal fleet	**75**	**1,597,273**	**1,041,869**
Overseas—			
Australian owned and registered	21	911,333	586,775
Overseas owned, Australian registered	5	550,041	323,855
Overseas owned and registered	8	413,713	243,500
Overseas fleet	**34**	**1,875,087**	**1,154,130**
Total Australian fleet	**109**	**3,472,360**	**2,195,999**

Ships registered in Australia

The following table shows the number of ships registered in Australia at 30 June 1985.

SHIPS REGISTERED IN AUSTRALIA AS AT 30 JUNE 1985

(*Source:* Department of Transport)

Location	Nature of registration					
	Demise chartered(a)	Commercial	Government	Fishing	Pleasure	Total
New South Wales	6	232	1	323	1,385	1,947
Victoria	1	109	20	152	396	678
Queensland	6	146	30	576	616	1,374
Western Australia	6	123	4	455	339	927
South Australia	–	41	9	223	189	462
Tasmania	–	87	3	204	165	459
Northern Territory	–	15	2	68	109	194
Total Australia	**19**	**753**	**69**	**2,001**	**3,199**	**6,041**

(*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.

The following table shows the number and gross tonnage of trading ships of 150 tons or more registered in Australia at 30 June 1984, classified according to: (i) year of construction; (ii) type of trade in which the ships were engaged; and (iii) ships built in Australian or in overseas shipyards.

AUSTRALIAN TRADING SHIPS OF 150 GROSS TONS OR MORE
30 JUNE 1984
(*Source:* Department of Transport)

Year of construction	Overseas and interstate ships		Intrastate ships		Ships built in Australian yards		Ships built overseas		Total ships	
	No.	Gross tons	No.	Gross tons	No.	Gross tons	No.	Gross tons	No.	Gross tons
1976 and earlier . .	59	956,988	10	22,264	39	388,498	30	590,754	69	979,252
1977.	9	271,850	1	2,851	3	46,991	7	227,710	10	274,701
1978.	9	152,066	–	–	1	25,849	8	126,217	9	152,066
1979.	4	152,989	–	–	–	–	4	152,989	4	152,989
1980.	–	–	1	2,792	–	–	1	2,792	1	2,792
1981.	6	224,251	1	1,155	–	–	7	225,406	7	225,406
1982.	2	109,761	2	58,304	1	6,310	3	161,755	4	168,065
1983.	2	93,693	3	147,035	–	–	5	240,728	5	240,728
1984.	–	–	–	–	–	–	–	–	–	–
Registered in Australia .	91	1,961,598	18	234,401	44	467,648	65	1,728,351	109	2,195,999

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 1978–79 to 1983–84.

OVERSEAS SHIPPING: SHIP AND CARGO MOVEMENTS

	1978–79	1979–80	1980–81r	1981–82r	1982–83r	1983–84
Arrivals—						
ship details						
ship number.	5,677	6,249	5,965	5,839	5,516	6,131
DWT ('000 tonnes)	n.a.	247,218	236,721	232,370	223,817	263,614
cargo discharged						
revenue tonnes ('000)	28,637	31,028	32,469	31,300	27,904	28,516
gross weight ('000 tonnes)	n.a.	26,219	26,756	25,741	23,028	22,859
Departures—						
ship details						
ship number.	5,655	6,168	5,884	5,798	5,706	6,026
DWT ('000 tonnes)	n.a.	246,555	234,095	235,635	230,396	267,264
cargo loaded						
revenue tonnes ('000)	167,304	188,681	179,280	176,449	170,429	198,414
gross weight ('000 tonnes)	n.a.	187,778	178,381	175,634	169,483	197,048

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
1983–84**

	Departures		Arrivals	
Country of registration	Ship number	DWT ('000 tonnes)	Ship number	DWT ('000 tonnes)
Australia	216	10,907	236	11,251
China—excl. Taiwan	222	7,832	227	7,848
—Taiwan	98	6,043	101	6,028
Denmark	74	1,599	72	1,537
Germany, Federal Republic of	143	2,681	142	2,576
Greece	361	13,651	344	13,020
Hong Kong	193	8,326	207	8,720
India	46	1,720	56	1,868
Japan	1,351	95,542	1,355	92,833
Korea, Republic of	221	12,049	210	11,156
Liberia	548	26,786	555	27,117
Malaysia	82	2,618	77	2,484
Netherlands.	74	1,845	76	1,830
New Zealand	104	1,213	118	1,177
Norway	123	7,624	124	7,612
Panama	775	21,442	802	21,165
Philippines	113	3,898	120	3,986
Singapore, Republic of	176	4,856	179	4,857
Sweden	41	1,083	44	1,183
United Kingdom	387	15,262	396	15,353
United States of America	2	1	2	1
U.S.S.R.	133	2,147	133	2,040
Other countries	543	18,138	555	17,973
Total All Countries	**6,026**	**267,264**	**6,131**	**263,614**
With cargo	5,394	248,297	2,258	52,832
In ballast.	632	18 966	3,873	210,783

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)

	1981–82		1982–83		1983-84	
Country of registration	Loaded	Discharged	Loaded	Discharged	Loaded	Discharged
Australia.	6,644	1,378	7,689	1,860	7,855	2,158
China—excl. Taiwan	4,150	347	3,472	249	5,606	531
—Taiwan.	1,729	17	4,913	83	5,164	107
Denmark	544	513	711	415	840	443
Germany, Federal Republic of	1,419	1,096	838	1,024	1,116	1,102
Greece	10,452	2,720	7,233	1,679	10,173	1,598
Hong Kong	3,995	1,072	4,522	904	6,316	960
India	2,068	77	880	50	1,160	235
Japan	70,972	4,097	76,317	3,605	79,897	3,032
Korea, Republic of	5,712	375	6,235	259	9,321	433
Liberia	26,533	5,264	18,110	6,000	18,613	3,801
Malaysia.	494	341	702	422	1,893	343
Netherlands	501	407	605	292	1,168	401
New Zealand	476	735	383	561	589	710
Norway	5,777	1,409	3,378	1,003	4,862	1,319
Panama	15,730	1,789	13,701	1,565	16,151	2,562
Philippines	1,371	72	1,833	73	3,101	358
Singapore, Republic of	3,335	1,206	3,164	1,194	3,667	699
Sweden	560	477	724	370	483	425
United Kingdom	7,292	4,822	6,737	4,044	7,602	3,836
United States of America.	243	329	102	138	–	–
U.S.S.R.	1,223	532	1,011	508	1,408	382
Other Countries	5,231	2,230	7,169	1,607	11,427	3,081
Total All Ships.	**176,449**	**31,300**	**170,429**	**27,904**	**198,414**	**28,516**

Shipping at principal ports

The following two tables show the movement of overseas shipping and cargo at Australian ports during 1983-84. 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, 1983–84

| 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	1,268	27,118	6,321	1,263	26,686	2,463
Botany Bay . . .	411	10,491	456	443	11,368	2,200
Newcastle	646	29,207	21,797	638	28,118	1,143
Port Kembla . . .	217	11,448	8,050	211	10,934	492
Other	57	1,399	852	52	1,225	26
Total	2,599	79,663	37,475	2,607	78,331	6,324
Victoria—						
Melbourne. . . .	1,366	26,000	2,005	1,403	26,919	2,719
Geelong . . .	247	6,757	1,873	247	6,865	1,448
Westernport . . .	164	6,766	2,329	164	6,841	12
Other	88	2,760	1,029	89	2,783	141
Total	1,865	42,283	7,236	1,903	43,407	4,321
Queensland—						
Brisbane	944	19,241	3,531	956	19,453	1,340
Gladstone	316	17,512	13,921	313	16,563	740
Hay Point	234	22,633	16,542	232	21,862	—
Townsville. .· . .	230	4,375	1,434	230	4,337	84
Weipa	82	3,463	2,204	84	3,625	146
Other	326	5,726	2,875	327	5,485	103
Total	2,132	72,950	40,506	2,142	71,325	2,413
South Australia—						
Port Adelaide . .	445	8,709	1,532	446	8,520	479
Port Lincoln . .	86	2,173	829	90	2,246	137
Port Pirie	103	2,285	733	105	2,304	17
Port Stanvac . . .	47	2,376	256	51	2,752	1,463
Thevenard. . . .	55	900	537	53	832	—
Whyalla	34	1,020	547	34	995	189
Other	76	2,024	831	74	2,002	41
Total	846	19,487	5,264	853	19,651	2,326
Western Australia—						
Fremantle	1,006	24,979	5,788	1,015	25,059	3,736
Bunbury	149	4,362	2,491	152	4,507	256
Cape Cuvier . . .	10	523	457	9	466	—
Dampier	470	41,738	35,542	470	40,505	217
Geraldton	178	4,024	1,515	181	4,106	77
Port Hedland . . .	380	34,289	28,940	391	34,561	437
Port Walcott . . .	137	17,885	15,332	132	17,271	27
Yampi Sound . . .	34	2,934	2,290	35	2,794	—
Other	235	4,390	2,294	236	4,447	177
Total	2,599	135,124	94,651	2,621	133,714	4,928
Tasmania—						
Hobart	167	3,368	784	166	3,396	189
Launceston . . .	130	4,036	1,897	131	4,095	170
Port Latta	32	2,608	2,003	32	2,590	30
Other	141	2,544	342	140	2,509	85
Total	470	12,556	5,026	469	12,591	476
Northern Territory—						
Darwin.	90	1,205	13	90	1,254	426
Other	178	6,701	4,729	178	6,585	782
Total	268	7,906	4,742	268	7,839	1,208
Port not available for publication. . . .	—	—	2,148	—	—	864
Total all ports	**10,779**	**369,968**	**197,048**	**10,863**	**366,859**	**22,859**

OVERSEAS CONTAINER AND NON-CONTAINER CARGO LOADED AND DISCHARGED AT AUSTRALIAN PORTS, 1983–84

('000 revenue tonnes)

Australian port	Loaded			Discharged		
	Container cargo	Other cargo	Total	Container cargo	Other cargo	Total
New South Wales—						
Sydney	686	5,748	6,434	1,532	2,142	3,674
Botany Bay	381	126	507	1,731	1,327	3,058
Newcastle	31	21,801	21,831	17	1,128	1,145
Port Kembla.	–	8,104	8,104	–	492	492
Other.	2	875	877	1	26	27
Total	1,100	36,654	37,754	3,281	5,115	8,395
Victoria—						
Melbourne	1,634	715	2,349	2,560	1,990	4,549
Geelong	33	1,848	1,880	1	1,454	1,454
Westernport	26	2,346	2,372	–	12	12
Other.	16	1,018	1,034	–	141	141
Total	1,708	5,927	7,635	2,561	3,596	6,157
Queensland—						
Brisbane	487	3,106	3,593	389	1,643	2,033
Gladstone	–	13,921	13,921	–	740	740
Hay Point	–	16,542	16,542	–	–	–
Townsville	47	1,387	1,434	9	136	145
Weipa.	–	2,204	2,204	–	146	146
Other.	7	2,869	2,876	1	102	103
Total	541	40,028	40,569	400	2,767	3,167
South Australia—						
Port Adelaide	116	1,583	1,699	103	663	765
Port Lincoln.	1	828	829	10	127	137
Port Pirie.	–	740	740	–	17	17
Port Stanvac	2	254	256	–	1,463	1,463
Thevenard	–	537	537	–	–	–
Whyalla	–	547	547	–	189	189
Other.	–	831	831	–	41	41
Total	118	5,320	5,438	113	2,499	2,613
Western Australia—						
Fremantle	525	5,364	5,889	425	3,668	4,094
Bunbury	–	2,496	2,496	–	256	256
Cape Cuvier.	–	457	457	–	–	–
Dampier.	–	35,559	35,559	–	218	218
Geraldton	1	1,521	1,522	4	74	77
Port Hedland	–	28,941	28,941	–	444	444
Port Walcott.	–	15,454	15,454	–	27	27
Yampi Sound	–	2,290	2,290	–	–	–
Other.	2	2,301	2,303	6	173	179
Total	527	94,384	94,911	436	4,859	5,295
Tasmania—						
Hobart	1	787	787	1	218	219
Launceston	2	1,896	1,897	1	172	172
Port Latta	–	2,003	2,003	–	30	30
Other.	92	258	350	23	68	91
Total	94	4,944	5,037	25	488	513
Northern Territory—						
Darwin	–	10	18	2	471	473
Other.	–	4,729	4,729	–	782	782
Total	8	4,739	4,747	2	1,253	1,255
Port not available for publication	612	1,710	2,322	480	641	1,121
Total all ports	**4,708**	**193,705**	**198,414**	**7,296**	**21,220**	**28,516**

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, 1983–84

('000 revenue tonnes)

Trade area	General cargo ships	Tankers	Bulk carriers	Other ships	All ships
—Outward cargo—					
Europe	1,258	323	31,177	154	32,911
East Asia	797	164	13,684	139	14,784
Japan.	3,176	2,764	111,047	23	117,010
N. America—E. Coast. . .	551	214	2,608	3	3,375
N. America—W. Coast . .	371	639	2,754	9	3,773
Central America	10	82	85	—	177
S. America—E. Coast . . .	6	24	837	—	867
S. America—W. Coast. . .	13	—	69	—	83
West Africa	3	—	6	—	8
South and East Africa. . .	90	77	536	—	703
Red Sea	332	11	1,797	—	2,140
Persian Gulf.	395	27	3,830	—	4,252
West India	71	54	620	—	745
East India	82	35	752	—	869
South East Asia	1,570	659	5,245	90	7,564
New Zealand	832	625	741	123	2,322
Papua New Guinea . . .	415	249	557	—	1,221
Central Pacific	211	263	2	—	476
French Pacific	85	7	89	—	181
Pacific Islands	13	—	62	—	75
Trade area not specified . .	25	—	123	—	148
Trade area not available for publication	50	14	4,666	—	4,729
Total outward overseas cargo . . .	**10,356**	**6,232**	**181,286**	**540**	**198,414**
—Inward cargo—					
Europe	2,735	523	430	8	3,696
East Asia	1,008	10	238	60	1,316
Japan.	2,290	249	3,439	87	6,065
N. America—E. Coast. . .	613	517	1,046	15	2,191
N. America—W. Coast . .	861	507	1,303	12	2,683
Central America	—	130	30	—	160
S. America—E. Coast . . .	77	29	9	—	115
S. America—W. Coast. . .	1	5	—	—	6
West Africa	2	—	—	—	2
South and East Africa. . .	170	—	113	—	283
Red Sea	48	108	54	—	210
Persian Gulf.	25	5,777	512	—	6,313
West India	52	—	—	—	53
East India	62	—	—	—	62
South East Asia	720	1,801	594	22	3,138
New Zealand	720	56	271	74	1,121
Papua New Guinea . . .	62	3	27	—	92
Central Pacific	25	1	—	—	26
French Pacific	2	—	—	—	2
Pacific Islands	16	—	868	—	884
Trade area not specified . .	14	50	33	—	98
Total inward overseas cargo	**9,505**	**9,767**	**8,966**	**278**	**28,516**

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, 1983–84

('000 revenue tonnes)

Trade area	Outward overseas cargo			Inward overseas cargo		
	Liner service		Other ships	Liner service		Other ships
	Conference	Non-Conference		Conference	Non-Conference	
Europe	742	137	32,032	1,957	544	1,195
East Asia	345	230	14,208	495	478	343
Japan	775	269	115,965	1,029	115	4,922
North America—E. Coast	364	202	2,810	579	96	1,516
North America—W. Coast	303	137	3,333	769	429	1,486
Central America	10	–	167	–	–	160
South America—E. Coast	1	4	862	2	43	70
South America—W. Coast	–	–	83	1	–	5
West Africa	–	–	8	2	–	–
South and East Africa	1	86	616	29	94	159
Red Sea	29	21	2,090	1	44	165
Persian Gulf	109	8	4,134	2	4	6,308
West India	66	3	676	48	2	2
East India	39	–	830	52	–	10
South East Asia	622	284	6,658	497	109	2,532
New Zealand	572	56	1,694	622	33	466
Papua New Guinea	260	107	855	38	12	42
Central Pacific	136	29	311	14	10	1
French Pacific	49	12	120	2	–	–
Pacific Islands	9	16	49	2	340	542
Trade area not specified	–	8	140	1	10	87
Trade area not available for publication	19	–	4,710	–	–	–
Total overseas cargo	**4,449**	**1,611**	**192,353**	**6,141**	**2,365**	**20,009**

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 CARGO: SEA: BY SELECTED COMMODITIES, 1983–84
($'000)

ATFCC Division and Title		Inward cargo	Outward cargo
00	Live animals	232	263,189
01	Meat and meat preparations	9,391	1,328,696
02	Dairy products and eggs	67,710	361,570
03	Fish, crustaceans and molluscs and preparations thereof	246,067	340,120
04	Cereals and cereal preparations	46,071	2,873,974
05	Fruit and vegetables; sugar cane	216,243	195,835
06	Sugar, sugar preparations and honey	17,386	664,525
09	Coffee, tea, cocoa, spices, margarine and miscellaneous edible products and preparations(a)	203,934	58,912
21	Hides, skins and furskins, raw	1,487	259,922
24	Wood, timber and cork	231,787	15,531
26	Textile fibres (not wool tops) and wastes (not manufactured into yarn or fabric).	105,093	2,029,223
28	Metalliferous ores and metal scrap	17,525	2,528,293
32	Coal, coke and briquettes	4,163	3,462,822
33	Petroleum, petroleum products and related materials(a)	2,185,744	1,097,700
51	Organic and inorganic chemicals(a)	557,787	49,306
58	Plastic materials, artificial resins and cellulose esters and ethers . .	355,266	46,547
59	Explosives and other chemical materials and products.	268,263	57,263
62	Rubber manufactures, n.e.s.	287,244	10,447
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard	612,664	50,300
65	Textile yarns, fabrics, made-up articles, n.e.s. and related products(a)	1,197,740	29,699
66	Non-metallic mineral manufactures, n.e.s.(a)	302,858	46,269
67	Iron and steel(a).	389,070	378,361
68	Non-ferrous metals(a)	77,113	784,420
69	Manufactures of metal, n.e.s.(a)	520,998	161,921
71	Machinery, equipment, apparatus and appliances(a)	4,300,204	546,382
78	Road vehicles and other transport equipment	2,421,755	282,159
84	Articles of apparel and clothing accessories and footwear. . . .	445,277	8,583
87	Professional, scientific and controlling apparatus, n.e.s.; photographic apparatus, equipment and supplies; optical goods, n.e.s.; watches and clocks	407,334	96,264
89	Printed matter, plastic wares, toys and other miscellaneous manufactured articles(a).	1,111,723	92,552
99	Coins, n.e.s, temporary ships/structures; (includes commodities not available)(b)	790,999	3,281,349
	Other	1,969,733	685,451
	Total all commodities	**19,368,861**	**22,017,585**

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

INWARD OVERSEAS CARGO: SEA: BY COMMODITY BY TYPE OF SERVICE, 1982–83 AND 1983–84
($'000)

ATFCC Section and title	Year ended 30 June	Liner Service Conference	Liner Service Non-conference	Other	Total
0 Food and live animals (a)	1983	458,562	161,346	74,268	694,176
	1984	578,644	166,809	91,190	836,642
1 Beverages and tobacco	1983	123,376	34,804	20,096	178,276
	1984	133,849	47,169	15,184	196,201
2 Crude materials, inedible, except fuels (a)	1983	271,737	94,102	253,401	619,240
	1984	375,828	127,574	241,188	744,590
3 Mineral fuels, lubricants and related materials (a)	1983	35,900	6,236	2,887,521	2,929,657
	1984	17,068	8,321	2,165,812	2,191,201
4 Animal and vegetable oils, fats and waxes	1983	21,632	7,512	52,717	81,861
	1984	29,426	11,719	71,822	112,967
5 Chemical and related products, n.e.s. (a)	1983	697,801	239,757	374,795	1,312,353
	1984	920,154	289,175	420,897	1,630,226
6 Manufactured goods classified chiefly by material (a)	1983	1,877,900	545,679	645,494	3,069,073
	1984	2,345,542	635,180	561,537	3,542,259
7 Machinery and transport equipment (a)	1983	3,516,904	664,450	1,808,327	5,989,680
	1984	3,947,583	668,807	2,105,568	6,721,959
8 Miscellaneous manufactured articles (a)	1983	1,230,869	447,356	135,890	1,814,115
	1984	1,469,689	502,684	128,252	2,100,625
9 Commodities and transactions, n.e.s. (includes commodities not available) (b)	1983	397,691	106,364	435,352	939,408
	1984	769,968	174,559	347,665	1,292,191
Total all commodities	**1983**	**8,632,371**	**2,307,607**	**6,687,861**	**17,627,839**
	1984	**10,587,750**	**2,631,997**	**6,149,115**	**19,368,861**

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

OUTWARD OVERSEAS CARGO: SEA: BY COMMODITY BY TYPE OF SERVICE, 1982–83 AND 1983–84

ATFCC Section and title	Year ended 30 June	Liner Service Conference Gross weight (tonnes)	($,000)	Liner Service Non-conference Gross weight (tonnes)	($,000)	Other Gross weight (tonnes)	($,000)	Total Gross weight (tonnes)	($,000)
0 Food and live animals (a)	1983	1,800,840	2,098,959	721,591	402,190	12,581,936	2,697,085	15,104,367	5,198,234
	1984	1,813,867	2,235,380	536,661	279,912	18,727,435	3,665,919	21,077,962	6,181,211
1 Beverages and tobacco (a)	1983	20,457	21,945	9,214	11,172	2,512	2,825	32,184	35,942
	1984	21,092	28,494	5,674	8,524	1,464	1,985	28,230	39,003
2 Crude materials, inedible, except fuels (a)	1983	1,053,526	1,658,126	586,056	731,466	79,564,351	2,446,479	81,203,932	4,836,071
	1984	948,026	2,007,335	580,344	727,744	90,194,681	2,233,462	91,723,050	4,968,541
3 Mineral fuels, lubricants and related materials (a)	1983	220,482	25,932	47,204	8,308	55,745,420	3,697,168	56,013,106	3,731,408
	1984	276,422	29,411	160,879	16,433	70,293,224	4,514,678	70,730,525	4,560,522
4 Animal and vegetable oils, fats and waxes	1983	24,296	14,131	22,874	10,266	157,958	61,950	205,129	86,347
	1984	16,808	12,041	24,751	13,650	159,466	76,928	201,026	102,618
5 Chemical and related products, n.e.s. (a)	1983	267,507	161,327	31,539	45,675	116,795	39,954	415,841	246,955
	1984	115,569	177,344	29,225	41,324	108,988	39,464	253,783	258,132
6 Manufactured goods classified chiefly by material (a)	1983	837,747	637,316	293,468	195,014	1,916,850	710,232	3,048,065	1,542,561
	1984	719,458	684,562	186,725	170,281	1,345,076	587,600	2,251,259	1,442,443
7 Machinery and transport equipment (a)	1983	95,529	544,838	29,116	137,471	13,131	86,360	137,777	768,670
	1984	106,076	596,862	21,490	112,168	54,959	119,511	182,525	828,541
8 Miscellaneous manufactured articles (a)	1983	25,208	161,253	7,444	33,993	1,590	9,051	34,242	204,298
	1984	26,612	176,803	4,723	23,075	2,741	12,540	34,076	212,418
9 Commodities and transactions, n.e.s. (includes commodities not available) (b)	1983	495,934	784,488	177,764	202,811	17,303,105	2,002,574	17,976,804	2,989,873
	1984	612,507	940,595	109,621	147,616	22,631,206	2,335,945	23,353,334	3,424,156
Total all commodities	**1983**	**4,841,529**	**6,108,315**	**1,926,271**	**1,778,367**	**167,403,648**	**11,753,677**	**174,171,448**	**19,640,359**
	1984	**4,656,439**	**6,888,826**	**1,660,091**	**1,540,726**	**203,519,240**	**13,588,032**	**209,835,769**	**22,017,585**

(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 inter and intra-state 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, 1983–84

('000 gross weight tonnes)

(*Source:* Department of Transport)

Australian port	Loaded			Discharged		
	Interstate	Intrastate	Total	Interstate	Intrastate	Total
New South Wales—						
Port Jackson	104	2	106	2,593	1,734	4,327
Botany Bay	674	879	1,553	4,361	—	4,361
Newcastle	365	31	396	2,891	142	3,033
Port Kembla	1,983	52	2,035	5,278	201	5,479
Other	—	1,354	1,354	13	258	271
Total	*3,126*	*2,318*	*5,444*	*15,136*	*2,335*	*17,471*
Victoria—						
Melbourne	1,223	61	1,284	1,575	—	1,575
Geelong	1,261	161	1,422	554	—	554
Westernport	9,359	3	9,362	737	8	745
Other	38	284	322	52	237	289
Total	*11,881*	*509*	*12,390*	*2,918*	*245*	*3,163*
Queensland—						
Brisbane	368	1,077	1,445	3,885	404	4,289
Gladstone	424	377	801	317	6,732	7,049
Hay Point	—	—	—	—	—	—
Mackay	125	1	126	118	179	297
Townsville	134	4	138	278	229	507
Weipa	—	6,368	6,368	—	27	27
Other	659	59	718	106	542	648
Total	*1,710*	*7,886*	*9,596*	*4,704*	*8,113*	*12,817*
South Australia—						
Adelaide	259	80	339	529	621	1,150
Port Pirie	125	—	125	203	13	216
Port Stanvac	426	6	432	640	136	776
Whyalla	372	—	372	1,069	120	1,189
Other	1,699	916	2,615	106	101	207
Total	*2,881*	*1,002*	*3,883*	*2,547*	*991*	*3,538*
Western Australia—						
Fremantle	924	701	1,625	1,828	474	2,302
Bunbury	478	—	478	5	160	165
Dampier	—	—	—	—	—	—
Port Hedland	5,090	21	5,111	—	175	175
Port Walcott	—	—	—	—	46	46
Yampi Sound	908	1	909	—	18	18
Other	631	516	1,147	123	384	507
Total	*8,031*	*1,239*	*9,270*	*1,956*	*1,257*	*3,213*
Tasmania—						
Hobart	531	45	576	655	145	800
Burnie	318	138	456	339	58	397
Devonport	452	—	452	289	—	289
Launceston	311	16	327	1,025	5	1,030
Other	62	16	78	46	30	76
Total	*1,674*	*215*	*1,889*	*2,354*	*238*	*2,592*
Northern Territory—						
Darwin	8	16	24	264	6	270
Other	319	11	330	42	15	57
Total	*327*	*27*	*354*	*306*	*21*	*327*
Total all ports	**29,630**	**13,196**	**42,826**	**29,921**	**13,200**	**43,121**

RAILWAYS

Government railways

Government railways in Australia operate in all States and Territories and provide an important means of transportation. In 1983-84 a total of 142.2 million tonnes of freight was carried, an increase of 126.8 per cent over the 62.7 million tonnes carried in 1963-64. However, in the same twenty-year period, the number of passengers carried (mostly within the suburban areas of Sydney and Melbourne) declined by 22.8 per cent from 448 million in 1963-64 to 346 million in 1983-84. The number of train-kilometres run during 1983-84 (193 million) was an increase of 24.5 per cent since 1963-64 (155 million). Since the introduction of the first mainline diesel-electric locomotives in 1950, their numbers have increased greatly until at 30 June 1984 there were 1,657 throughout Australia.

The Australian National Railways Commission (ANRC) assumed full control over the Tasmanian and non-metropolitan South Australian railways, including those formerly managed by the Commonwealth Railways, on 1 March 1978. Urban rail services in South Australia remain the responsibility of the State Transport Authority (STA) and particulars of these are shown as the South Australian railway system.

Due to changes in accounting procedures and the introduction of a multi-modal system of travel, i.e. one ticket can cover a journey involving more than one mode, the STA cannot provide, in many instances, seperate particulars for train, bus and tram services operated by that authority. Where data is not separately identifiable it has been included in relevant tables in the railway section of this year book.

Railway development

Details outlining railway development in Australia are given in Year Book No. 61, page 380. One feature of the Australian government railways is the variety of gauges to which they are built. There are three principal gauges: 'broad' (1,600 mm), 'standard' (1,435 mm), and 'narrow' (1,067 mm). Extensive route-kilometres of 1,067 mm gauge railway were built in areas where traffic volumes were initially known to be small and where it was imperative to mimimise the costs of construction.

Government railway systems

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

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 GAUGE AND SYSTEM
30 JUNE 1984
(Kilometres)

System	Gauge				
	1600 mm	1435 mm	1067 mm	Dual (a)	Total
New South Wales.	—	(b) 9,884	—	—	(b) 9,884
Victoria.	(c) 5,458	313	—	12	(c) 5,783
Queensland	—	(d) 111	(e) 10,270	—	10;381
South Australia	130	—	—	—	130
Western Australia.	—	1,213	4,239	171	5,623
Australian National	2,001	3,636	1,813	—	7,450
Australia	**7,589**	**15,157**	**16,322**	**183**	**39,251**

(a) VR operates a 1600 mm/1435 mm dual guage line and WAGR operates a 1435 mm/1067 mm dual gauge line. (b) Includes 563 kilometres which are electrified. (c) Includes 452 kilometres of 1600 mm guage line operating in New South Wales. Includes 417 route-kilometres which are electrified. (d) Operated by the State Rail Authority of New South Wales which is reimbursed for the cost of operations. (e) Includes 150 route-kilometres which are electrified.

The following table sets out the route kilometres of each government railways system from 1979 to 1984.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY SYSTEM, 1979 TO 1984
(Kilometres)

30 June—	N.S.W.	Vic.	Qld	S.A.	W.A.	Australian National	Total
1979.	9,820	6,184	9,789	142	5,770	7,683	39,388
1980.	9,773	6,184	9,904	142	5,773	7,687	39,463
1981.	9,773	5,870	9,932	140	5,773	7,648	39,136
1982.	9,773	5,812	9,970	141	5,609	7,638	38,943
1983.	9,883	5,815	9,979	131	5,610	7,647	39,065
1984.	9,884	5,783	10,381	130	5,623	7,450	39,251

The SRA (1435 mm gauge) operates lines radiating southwest and west from Sydney, northwest from Newcastle, and north from Sydney to Brisbane. QR (1067 mm gauge) operates a coastal line from Brisbane to Cairns, with long branches inland from the major ports. V/Line (1600 mm gauge, with the 1435 mm gauge Albury to Melbourne line) operates a network throughout Victoria and extending into New South Wales. WAGR (1067 mm gauge) operates in south-western Western Australia, and also operates standard gauge (1435 mm) from Perth to Kalgoorlie, Esperance and Leonora. The STA (1600 mm gauge) operates railways in the Adelaide metropolitan area only. Australian National operates the non-metropolitan railways in South Australia (1600 mm, 1435 mm and 1067 mm gauge), including the isolated Eyre Peninsula system (1067 mm gauge), the Tasmanian main line from Hobart to Launceston, with its branches (1067 mm gauge) and the railways (1435 mm gauge) from Kalgoorlie to Port Augusta (the Trans Australian Railway) and from Port Augusta to Broken Hill, Port Augusta to Marree, the Central Australia Railway from Tarcoola to Alice Springs, and the A.C.T. railway (Queanbeyan to Canberra). Services on the line between Darwin and Larrimah, the North Australia Railway, (1067 mm gauge) were withdrawn on 30 June 1976 and the line was officially closed effective as from 11 February 1981.

With regard to urban rail, Sydney and Melbourne have major electrified suburban rail systems which include some underground lines. The Brisbane suburban system is being upgraded and electrified. Adelaide and Perth have smaller-scale, non-electric urban rail networks. Rail services in the urban and inter-urban areas of Sydney, Newcastle and Wollongong are provided by the SRA in conjunction with the Urban Transit Authority of New South Wales which has responsibility for co-ordination of transport services in these areas. Similarly, metropolitan rail services in Perth are operated by the WAGR on behalf of and at the direction of the Metropolitan Transport Trust.

Construction of a standard gauge connection between Adelaide and the east-west mainline at Crystal Brook was completed in December 1982, the project being undertaken by Australian National. All mainland State capital cities are now connected to the standard gauge network.

Australian National opened a new Passenger Terminal in Adelaide (at Keswick) for Interstate and South Australian country services in June 1984.

The all-weather standard gauge railway from Tarcoola to Alice Springs was officially opened in October 1980. Upon transfer of rail services to this new line, the narrow gauge section of the Central Australia Railway from Marree to Alice Springs was officially closed effective as from 1 January 1981.

Operations of Government railway systems

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.

Summary of operations

GOVERNMENT RAILWAYS: SUMMARY OF OPERATIONS, SYSTEMS, 1983–84

	N.S.W.	Vic.	Qld	S.A.	W.A.	Australian National	Aust.
Train-kilometres							
('000) (a) (b)							
Suburban passenger . .	24,196	14,483	4,853	3,697	2,384	—	49,613
Country passenger . .	12,052	7,048	4,280	—	932	1,789	26,101
Goods (b)	25,411	9,171	24,169	—	7,017	8,449	74,217
Total	**61,659**	**30,702**	**33,303**	**3,697**	**10,333**	**10,238**	**149,932**
Passenger journeys							
('000) (c) —							
Suburban	198,065	80,184	35,883	69,680	8,754	—	392,566
Country (d)	4,188	4,415	1,769	..	211	357	10,940
Total	**202,253**	**84,599**	**37,652**	**69,680**	**8,965**	**357**	**403,506**
Freight—							
Tonnes carried—							
('000) (d)	46,594	10,486	53,150	—	19,870	12,083	142,183
Net tonne-kilometres—							
(million) (e)	11,130.8	3,110.8	15,390.9	—	3,903.4	5,911.9	39,447.8

(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: ROLLING STOCK(a) INCLUDED IN CAPITAL ACCOUNT
(Number)

	Locomotives				Coaching stock	Goods stock	Service stock
System and date	Diesel-electric	Electric	Other(b)	Total			
30 June 1984—							
New South Wales . . .	541	72	38	651	2,022	10,096	1,267
Victoria	267	28	11	306	1,289	11,144	1,080
Queensland	627	—	4 .	631	1,307	22,383	2,571
South Australia . . .	—	—.	4	4	197	12	209
Western Australia . . .	196	—	2	198	131	9,117	480
Australian National . .	285	—	3	288	193	9,414	1,303
Australia	**1,916**	**100**	**62**	**2,078**	**5,139**	**62,166**	**6,910**
30 June—							
1983	1,701	81	215	1,997	6,514	62,154	6,752
1982	1,678	80	223	1,981	5,063	65,222	7,039
1981	1,722	82	193	1,997	5,036	66,386	7,201
1980	1,727	81	185	1,993	5,121	67,685	7,228
1979	1,695	74	203	1,972	5,055	67,163	7,192

(a) Excludes jointly-owned stock. (b) Includes non-passenger-carrying diesel power vans and steam locomotives.

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

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Australian National	Aust.
1978–79.	55,622	30,856	32,100	3,957	12,068	12,918	147,520
1979–80.	59,356	30,795	32,589	3,977	11,759	12,392	150,868
1980–81.	58,089	30,615	31,282	3,879	10,891	12,376	147,132
1981–82.	59,960	31,136	32,696	3,921	10,681	12,089	150,482
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

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

GOVERNMENT RAILWAYS: FREIGHT CARRIED(a), SYSTEMS
('000 tonnes)

Commodity and year	N.S.W.	Vic.	Qld	W.A.	Australian National	Aust.
1983–84						
Food and live animals.	6,274	3,849	4,985	3,622	1,784	20,514
Beverages and tobacco	47	106	74	36	—	263
Crude materials (inedible excl. fuels)	2,922	931	2,951	11,217	2,505	20,526
Mineral fuels, lubricants	31,199	997	41,973	2,516	1,273	77,958
Animal and vegetable oils, fats, waxes	—	—	1	—	—	1
Chemical products n.e.c.	136	408	206	987	—	1,737
Manufactured goods	2,693	2,115	1,379	67	1,192	7,446
Machinery and transport equipment	56	139	68	4	—	267
Miscellaneous	3,267	1,941	1,513	1,421	5,329	13,471
Total	**46,594**	**10,486**	**53,150**	**19,870**	**12,083**	**142,183**
1982–83	41,350	8,570	43,706	19,791	10,676	124,093
1981–82	40,393	11,623	43,659	19,776	11,882	127,333
1980–81	40,440	12,721	41,504	20,271	12,345	127,281
1979–80	39,685	13,454	38,440	21,937	12,704	126,220
1978–79	33,482	11,190	36,542	19,288	10,623	111,125

(a) Inter-system traffic is included in the total for each system over which it passes.

GOVERNMENT RAILWAYS: FREIGHT NET TONNE-KILOMETRES, SYSTEMS
(Million)

Commodity and year	N.S.W.	Vic.	Qld	W.A.	Australian National	Aust.
1983–84						
Food and live animals.	2,698.7	1,075.7	1,670.2	1,005.5	n.a.	n.a.
Beverages and tobacco	26.0	28.5	62.7	11.6	n.a.	n.a.
Crude materials (inedible excl. fuels)	623.6	162.9	1,032.9	1,183.0	n.a.	n.a.
Mineral fuels, lubricants	3,625.7	271.7	10,893.6	536.4	n.a.	n.a.
Animal and vegetable oils, fats, waxes	—	—	0.7	—	n.a.	n.a.
Chemical products n.e.c.	130.8	111.3	145.0	235.7	n.a.	n.a.
Manufactured goods	1,623.6	675.1	673.7	34.5	n.a.	n.a.
Machinery and transport equipment	59.7	32.0	36.2	2.3	n.a.	n.a.
Miscellaneous	2,342.7	753.6	876.0	894.5	n.a.	n.a.
Total	**11,130.8**	**3,110.8**	**15,390.9**	**3,903.4**	**5,911.9**	**39,447.8**
1982–83	9,116.6	2,467.9	13,176.8	4,384.4	5,347.8	34,493.5
1981–82	10,704.9	3,426.7	13,079.1	4,389.8	5,731.3	37,331.8
1980–81	10,543.4	3,703.7	11,981.7	4,488.6	5,750.9	36,468.3
1979–80	10,664.9	3,887.8	11,464.6	4,730.7	5,618.2	36,366.2
1978–79	8,776.7	3,145.3	10,925.2	4,178.8	5,029.5	32,055.5

GOVERNMENT RAILWAYS: FREIGHT EARNINGS, SYSTEMS
($,000)

Commodity and year	N.S.W.	Vic.	Qld	W.A.	Australian National	Aust.
1983–84						
Food and live animals.	n.a.	63,901	70,839	n.a.	22,678	n.a.
Beverages and tobacco.	n.a.	2,207	2,742	n.a.	—	n.a.
Crude materials (inedible excl. fuels)	n.a.	7,768	38,272	n.a.	22,362	n.a.
Mineral fuels, lubricants	n.a.	15,403	474,702	n.a.	6,650	n.a.
Animal and vegetable oils, fats, waxes	n.a.	—	32	n.a.	—	n.a.
Chemical products n.e.c.	n.a.	5,216	5,452	n.a.	—	n.a.
Manufactured goods	n.a.	29,442	35,323	n.a.	20,006	n.a.
Machinery and transport equipment.	n.a.	3,958	4,622	n.a.	—	n.a.
Miscellaneous	n.a.	32,946	37,378	n.a.	120,527	n.a.
Total	**559,876**	**160,841**	**669,362**	**180,439**	**192,223**	**1,762,741**
1982–83	452,626	108,803	508,223	183,632	161,480	1,414,764
1981–82	431,157	137,676	481,193	175,054	165,214	1,390,294
1980–81	364,406	140,187	383,695	148,422	150,205	1,186,915
1979–80	331,185	131,048	324,170	143,299	131,514	1,061,216
1978–79	252,300	101,815	284,699	128,172	108,109	875,095

GOVERNMENT RAILWAYS: GROSS EARNINGS, WORKING EXPENSES, AND NET EARNINGS, SYSTEMS

($,000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Australian National	Aust.
			GROSS EARNINGS				
1978–79	379,033	192,656	310,418	24,550	154,597	131,829	1,193,083
1979–80	495,833	230,549	352,700	26,943	174,258	157,971	1,438,254
1980–81	559,645	256,177	416,796	33,655	180,529	181,353	1,628,155
1981–82	663,216	260,049	520,265	37,714	211,385	195,267	1,887,896
1982–83	694,819	247,945	·549,859	41,908	223,925	193,854	1,952,310
1983–84	823,055	305,283	717,956	50,277	(a)228,339	227,063	2,351,973
			WORKING EXPENSES				
				(b)		(b)	
1978–79	679,999	347,802	365,070	71,043	159,737	204,738	1,828,389
1979–80	757,555	392,586	422,503	74,391	180,280	222,799	2,050,114
1980–81	870,378	447,761	486,126	84,998	193,166	244,043	2,326,472
1981–82	1,063,725	509,196	588,051	100,000	217,961	268,001	2,746,934
1982–83	1,157,486	625,848	664,548	116,884	235,211	300,410	3,100,387
1983–84	1,234,053	717,447	725,049	126,127	246,552	325,170	3,374,398

For footnotes see end of table

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Australian National	Aust.
			NET EARNINGS(c)				
1978–79	−300,966	−155,147	−54,652	−46,493	−5,141	−72,909	−635,308
1979–80	−261,722	−162,037	−69,803	−47,448	−6,022	−64,828	−611,860
1980–81	−310,734	−191,585	−69,331	−51,343	−12,637	−62,690	−698,320
1981–82	−400,509	−249,147	−67,786	−62,286	−6,576	−72,734	−859,038
1982–83	−462,667	−377,903	−114,689	−74,976	−11,286	−106,556	−1,148,077
1983–84	−410,998	−412,164	−7,093	−75,850	−18,213	−98,107	−1,022,425

(a) Includes road motor finances.　　(b) Includes provision of reserves for depreciation.　　(c) Excess of gross earnings over working expenses as shown in this table.

GOVERNMENT RAILWAYS: WORKING EXPENSES, SYSTEMS, 1983–84

($'000)

	N.S.W.	Vic.	Qld	S.A.	W.A.	Australian National	Aust.
Maintenance of way and works	179,216	74,114	191,231	n.a.	53,332	n.a.	n.a.
Motive power(a)	437,232	110,880	303,681	n.a.	59,218	n.a.	n.a.
Traffic.	263,722	267,746	167,072	n.a.	89,947	n.a.	n.a.
Other charges	353,883	264,707	63,065	n.a.	44,055	n.a.	n.a.
Total	1,234,053	717,447	725,049	(b)126,127	246,552	325,170	3,374,398

(a) Includes maintenance of rolling stock.　　(b) Includes provision of reserves for depreciation.

GOVERNMENT RAILWAYS: SURPLUS OR DEFICIT, SYSTEMS, 30 JUNE 1984

($'000)

System	Net earnings −excess of gross earnings over working expenses	Plus grants and other earnings payable to railways				Less other expenses charged to railways					Surplus or deficit (−)
		State Government grants	Road motor earnings	Other	Total	Interest and exchange	Sinking fund	Road motor expenses (a)	Other	Total	
New South Wales	−410,998	(b)16,050	..	172,910	188,960	81,945	15,055	..	75,910	172,910	−394,948
Victoria.	−412,164	309,665	–	–	309,665	38,658	–	–	–	38,658	−141,157
Queensland.	−7,093	–	–	..	–	108,648	–	–	(d)500	109,148	−116,241
South Australia	−75,850	68,800	–	2,575	71,375	–	–	–	12,429	12,429	−16,904
Western Australia	−18,213	–	–	–	–	35,988	–	..	–	35,988	−54,201
Australian National	−98,107	89,000	–	3,894	92,894	–	–	–	26,286	26,286	−31,499
Australia	−1,022,425	483,515	–	179,379	662,894	265,239	15,055	.–	115,125	395,419	−754,950

(a) Includes interest and exchange.　　(b) Grants to meet losses on country developmental lines, and the employer liability to the Government Railways Superannuation Account.　　(c) Depreciation.　　(d) Demolished assets written off.

GOVERNMENT RAILWAYS: NUMBER OF EMPLOYEES (AT 30 JUNE) AND SALARIES AND WAGES PAID, 1983–84

	N.S.W.	Vic.	Qld	S.A.(a)	W.A.	Australian National(b)	Aust.
Males	37,691	19,548	24,755	3,298	7,492	8,819	101,603
Females	3,060	1,299	1,024	236	331	460	6,410
Total Staff	**40,751**	**20,847**	**25,779**	**3,534**	**7,823**	**9,279**	**108,013**
Salaries and wages paid $'000 . .	868,453	449,291	472,745	53,666	145,555	206,519	2,196,229

(a) Includes staff made available to the State Transport Authority by A.N.   (b) Excludes staff made available to the South Australian STA.

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 Department of Transport 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 Department of Transport using the advised average length of haul.

TRAFFIC TASK PERFORMED BY AUSTRALIAN NON-GOVERNMENT RAILWAYS 1978-79 TO 1983-84

Year	Iron ore railways	Sugar tramways	Other non-government railways(a)	Total non-government railways(a)
TONNES CARRIED (million)				
1978–79	79.5	18.6	19.6	117.7
1979–80	88.3	18.3	20.6	127.2
1980–81	88.5	20.6	19.5	128.6
1981–82	. 83.0	21.6	20.9	125.6
1982–83	78.2	20.9	15.1	114.1
1983–84	71.5	21.6	17.9	111.0
TONNE-KILOMETRES (million)				
1978–79	24,930	299	324	25,553
1979–80	27,128	292	345	27,765
1980–81	28,264	351	319	28,934
1981–82	26,668	367	347	27,384
1982–83	24,432	355	257	25,045
1983–84	22,646	366	311	23,324

(a) Includes transfers to and from Government railways.

TRAM, BUS, AND FERRY SERVICES

Systems in operation

Trams. At 30 June 1984 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 at 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 State capital cities; Canberra, Australian Capital Territory; Newcastle, New South Wales; Rockhampton, Queensland; Eastern Goldfields area, Western Australia; Launceston and Burnie, Tasmania; Darwin, Northern Territory; 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. Particulars of bus services under the control of private operators for the States of New South Wales, Victoria, Queensland and South Australia are given in the annual publication *Rail, Bus and Air Transport, Australia* (9201.0) for years prior to 1976–77.

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: 1983–84

		N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Route-kilometres at 30 June										
Tram (a)	kilometres	..	n.a.	..	11	..	..	..	..	n.a.
Bus	"	1,117	n.a.	782	968	8,424	519	152	1,372	n.a.
Vehicle-kilometres										
Tram	'000	..	n.a.	..	751	..	..	..	..	n.a.
Bus	"	65,862	n.a.	23,763	38,607	46,724	9,500	1,920	15,493	n.a.
Rolling stock at 30 June										
Tram	number	..	n.a.	..	22	..	..	..	..	n.a.
Bus	"	1,698	n.a.	580	748	973	281	40	377	n.a.
Passenger journeys										
Tram	'000	..	n.a.	..	(b)	..	..	..	..	...
Bus	"	187,675	n.a.	43,924	(b)	47,365	14,538	2,087	23,225	n.a.
Gross revenue (c)										
Tram and bus.	$'000	111,667	n.a.	26,256	(b)	44,696	5,641	616	11,903	n.a.
Working expenses (d)										
Tram and bus	$'000	194,626	n.a.	46,670	(b)	67,133	16,715	4,382	26,180	n.a.
Net revenue										
Tram and bus	$'000	−82,960	n.a.	−20,414	(b)	−22,437	−11,074	−3,766	−14,277	n.a.
Employees at 30 June										
Tram and bus	number	6,272	n.a.	1,532	(b)	2,197	557	103	838	n.a.

(a) Gauge 1435 mm throughout.   (b) Not separately available. See page 20/16.   (c) Excludes government grants.   (d) Includes provision of reserves for depreciation, etc., where possible.   Minus sign (−) denotes deficit.

TRAM AND BUS SERVICES: GOVERNMENT AND MUNICIPAL

		1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
Route-kilometres at 30 June							
Tram	kilometres	231	231	231	231	232	n.a.
Bus	"	12,828	14,173	11,930	13,445	13,553	n.a.
Vehicle kilometres							
Tram	'000	24,967	24,330	24,864	24,836	24,958	n.a.
Bus	"	201,693	203,963	193,324	209,104	212,423	n.a.
Rolling stock at 30 June							
Tram	number	756	759	767	724	713	n.a.
Bus	"	5,070	5,112	4,941	4,973	5,018	n.a.
Passenger journeys							
Tram	'000	(a)101,070	(a)98,889	(a)100,474	(a)103,479	..	n.a.
Bus	"	(a)357,558	(a)356,638	(a)347,133	(a)343,216	(a)(e)325,649	n.a.
Gross revenue (b)							
Tram and bus	$'000	(a)123,741	(a)143,324	(a)184,596	(a)201,952	(a)225,236	n.a.
Working expenses (c)							
Tram and bus	$'000	(a)258,644	(a)277,865	(a)337,434	(a)397,394	(a)459,452	n.a.
Net revenue							
Tram and bus	$'000	(a)−134,902	(a)−134,542	(a)−152,838	(a)−195,441	(a)−232,015	n.a.
Employees at 30 June							
Tram and bus	number	(a)16,547	(a)16,244	(a)13,795	(a)15,195	(a)16,376	n.a.
Accidents							
Tram and bus (d)							
Persons killed	number	(e)27	(a)12	n.a.	n.a.	n.a.	n.a.
Persons injured	"	(a)1,885	(a)1,917	n.a.	n.a.	n.a.	n.a.

(a) Excludes details of metropolitan tram and bus services in South Australia. See page 20/16.   (b) Excludes government grants.   (c) Includes provision of reserve for depreciation, etc., where possible.   (d) Excludes accidents to employees.   (e) 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

A survey was conducted throughout Australia in late 1982 by the Australia Bureau of Statistics for the purpose of gathering information on the usage of motor vehicles. The owners of approximately 59,000 vehicles other than commercial buses and Australian Government owned vehicles were approached for information relating to the usage of their vehicles over the twelve months ended 30 September 1982. The framework from which the sample was drawn was obtained from the motor vehicle registration authorities in all States and territories. The survey was based on respondents' recollection of their usage of the selected vehicles over their period of ownership during the survey year.

The main purpose of the survey was to determine the total distance travelled by vehicles, classified according to area and purpose of travel. Information was also obtained from the survey on: (i) tonne-kilometres; (ii) average load carried; (iii) vehicle usage (i.e. for hire and reward, ancillary or other); (iv) main type of operation; (v) fuel consumption; (vi) occupant-kilometres; and (vii) driver characteristics.

The following table shows, for Australia, total annual kilometres travelled for the twelve months ended 30 September 1982 classified by vehicle type and purpose of travel. The percentage standard errors (S.E.%) indicate the extent to which the estimates can vary by chance because only a sample and not the total vehicle population was enumerated. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained from a comparable complete enumeration, and about nineteen chances in twenty that the difference will be less than two standard errors. For example, if an estimate of 3,000 million kilometres has a standard error of 5 per cent (i.e. 150 million kilometres), then there would be approximately two chances in three that a comparable complete collection would give a figure within the range of 2,850 million kilometres to 3,150 million kilometres and about nineteen chances in twenty that the figure would be within the range of 2,700 million kilometres to 3,300 million kilometres.

TOTAL ANNUAL KILOMETRES BY VEHICLE TYPE PURPOSE OF TRAVEL, TWELVE MONTHS ENDED 30 SEPTEMBER 1982

Type of vehicle	Laden business		Unladen business		Total business (a)		To and from work paid and unpaid		Private		Total	
	million kilometres	REL. S.E. (%)	million kilometres	REL. S.E. (%)	million kilometres	REL. S.E. (%)	million kilometres	REL. S.E. (%)	million kilometres	REL. S.E. (%)	million kilometres	REL. S.E. (%)
Cars and station wagons	..	..	..	..	19,469.6	3.3	23,206.8	2.0	53,431.7	1.3	96,108.9	1.0
Motor cycles	..	..	..	..	143.9	9.3	871.0	5.3	1,137.2	5.0	2,152.1	3.8
Utilities and panel vans	6,228.8	7.4	2,672.0	9.2	9,501.7	6.1	3,109.3	8.1	4,338.1	6.3	16,951.2	3.6
Rigid trucks	5,291.5	6.7	2,364.8	5.3	7,656.5	5.8	377.4	6.5	383.3	16.1	8,417.2	5.4
Articulated trucks	2,142.7	1.4	827.4	1.6	2,970.1	1.2	24.4	8.8	5.0	12.7	2,999.5	1.2
Other truck type vehicles	..	..	..	..	229.8	12.1	5.0	28.8	2.3	48.5	237.1	11.8
Total	13,663.0	4.1	5,864.3	4.6	39,971.5	2.4	27,593.9	1.9	59,297.6	1.3	126,866.0	0.9

(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.

Motor vehicles on register

Details of motor vehicles on the register are compiled by up-dating motor vehicles census data from information made available by the various motor vehicles registration authorities in the States and Territories. Censuses of motor vehicles have been conducted in respect of 31 December 1955 and 1962, and 30 September 1971, 1976, 1979 and 1982. At these census dates considerably greater information concerning the particulars shown in the tables following is available. Final detailed results of the 1982 census have been published in seperate census publications for each State and Territory and for Australia.

MOTOR VEHICLE CENSUS: 30 SEPTEMBER 1982 (FINAL)
('000)

State or Territory	Motor cars and station wagons	Utilities	Trucks Panel vans	Rigid	Articu- lated	Other truck type vehicles	Buses	Motor cycles	Total (a)
New South Wales	2,070.4	158.4	161.7	155.2	16.1	11.9	15.9	118.5	2,708.1
Victoria	1,700.7	118.5	55.2	146.9	11.5	11.4	11.4	71.7	2,127.2
Queensland	1,005.3	190.5	77.0	55.1	8.6	4.5	7.3	91.8	1,440.0
South Australia	580.4	43.5	28.0	41.5	4.4	5.7	3.6	36.8	744.0
Western Australia	561.3	59.0	53.8	59.6	4.3	6.0	4.9	34.6	783.4
Tasmania	188.1	21.2	11.9	12.8	1.4	1.7	2.1	5.1	244.3
Northern Territory	34.5	12.0	4.3	4.5	0.8	0.2	0.6	4.0	60.9
Australian Capital Territory .	92.6	4.5	3.4	3.5	0.2	0.6	0.5	4.4	109.7
Australia.	**6,233.4**	**607.6**	**395.3**	**479.0**	**47.2**	**42.0**	**46.2**	**366.9**	**8,217.7**

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

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

30 June	Motor cars and station wagons	Utilities, trucks, panel vans, other truck type vehicles and buses	Total (excludes motor cycles)	Motor cycles
1979	5,657.2	1,412.7	7,069.9	288.2
1980	5,800.6	1,462.4	7,262.9	310.3
1981	6,021.0	1,544.3	7,565.3	352.3
1982	6,293.8	1,661.5	7,955.3	390.8
1983	6,469.6	1,718.3	8,187.9	402.0
1984	6,636.2	1,798.2	8,434.4	398.4

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

30 June	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
1978	443.0	482.2	484.6	502.1	543.5	510.3	383.6	431.2	475.1
1979	454.3	494.0	500.2	507.0	555.8	r520.6	r381.8	468.8	r486.9
1980	467.9	487.0	518.8	515.8	563.8	530.7	r373.1	455.2	494.2
1981	480.0	499.6	539.1	522.3	r569.4	r544.1	408.6	464.4	r507.0
1982	499.8	525.1	554.3	532.9	·r576.5	r551.5	420.4	r463.8	r525.0
1983r	503.7	539.5	565.2	541.1	566.8	562.9	433.9	471.7	532.4
1984	509.9	554.5	574.6	556.2	574.4	571.2	453.6	484.1	542.6

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

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' mean 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

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				
1984-85									
New South Wales. . .	166,214	16,418	24,765	12,714	1,342	757	10,773	232,983	15,503
Victoria	143,279	7,487	1,767	17,884	843	551	1,030	172,841	9,878
Queensland.	81,670	16,588	6,408	3,646	519	194	948	109,973	8,534
South Australia . . .	45,809	4,103	3,661	3,266	353	195	217	57,604	4,956
Western Australia. . .	46,070	4,923	6,902	5,174	318	93	546	64,026	4,310
Tasmania . . . . . ,	13,840	1,999	1,046	1,256	170	127	134	18,572	991
Northern Territory . .	4,504	2,248	499	202	69	23	82	7,627	1,092
Australian Capital Territory.	9,507	741	534	280	13	12	117	11,204	615
Australia . . .	**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	33,396	2,581	1,630 (b)	12,169	603,713	46,684
1982-83	453,523	43,682	52,364	31,514	2,426	1,834	4,680	590,023	61,061
1981-82	471,255	52,035	48,009	40,062	3,665	2,218	4,998	622,242	71,691
1980-81	462,487	47,474	37,391	36,485	4,269	1,939	4,170	594,215	70,799
1979-80	451,950	43,826	30,169	33,541	4,282	1,611	3,045	568,424	53,947

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

Drivers' and riders' licences

At 30 June 1984, the numbers of licences in force to drive or ride motor vehicles were: New South Wales, 3,337,874; Victoria, 2,369,622; Queensland, 1,800,000 (est.); South Australia, 953,672; Western Australia, 799,769; Tasmania, 254,249; Northern Territory, 101,265; Australian Capital Territory, 151,016.

ROAD TRAFFIC ACCIDENTS

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(a) (ADMISSIONS TO HOSPITALS): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1984

State or Territory	Number of accidents	Persons killed	Persons injured	Per 100,000 of mean population			Per 10,000 motor vehicles registered (b)		
				Number of accidents	Persons killed	Persons injured	Number of accidents	Persons killed	Persons injured
New South Wales	8,095	1,037	9,100	149.6	19.2	168.1	28.0	3.6	31.5
Victoria	6,965	657	8,264	170.8	16.1	202.6	29.7	2.8	35.3
Queensland	3,669	505	4,168	146.3	20.1	166.2	23.9	3.3	27.2
South Australia	2,587	232	3,100	191.1	17.1	229.1	32.7	2.9	32.7
Western Australia	2,311	221	2,720	167.0	16.0	196.5	27.8	2.7	32.8
Tasmania	644	83	776	147.3	19.0	177.5	25.2	3.2	30.3
Northern Territory	351	50	420	252.7	36.0	302.4	52.3	7.5	62.7
Australian Capital Territory . .	240	37	247	98.2	15.1	101.1	19.4	3.0	20.0
Australia	**24,862**	**2,822**	**28,795**	**159.8**	**18.1**	**185.1**	**28.1**	**3.2**	**32.6**

(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 1984.

ROAD TRAFFIC ACCIDENTS INVOLVING FATALITIES

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia
Accidents involving fatalities—									
1979	1,125	750	544	277	257	83	43	24	3,103
1980	1,152	608	508	240	268	96	55	27	2,954
1981	1,130	677	510	196	217	97	63	24	2,914
1982	1,115	631	522	239	203	84	52	26	2,872
1983	877	610	437	235	191	63	45	27	2,485
1984	910	584	448	205	204	77	45	35	2,508
Persons killed—									
1979	1,290	847	613	309	279	93	53	24	3,508
1980	1,303	657	557	269	293	100	63	30	3,272
1981	1,292	766	594	222	238	111	70	29	3,322
1982	1,253	709	602	270	236	96	60	26	3,252
1983	966	664	510	266	203	70	48	28	2,755
1984	1,037	657	505	232	221	83	50	37	2,822

ROADS

An article dealing with the development of roads in Australia is given in Year Book, No. 60, pages 385-93.

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 1984. The central road authority in each State assumes responsibility under the Act for the whole, or a proportion, of the cost of construction and/or 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, man-power 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 1984

(Kilometres)

Class of road	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Total
State Highways and Freeways . .	10,465	7,552	10,444	—	7,765	1,960	38,186
Trunk roads	7,098	—	216	13,413	—	—	20,727
Ordinary main roads	18,352	14,847	8,131	—	7,476	1,290	50,096
Total main roads . . .	*35,915*	*22,399*	*18,791*	*13,413*	*15,241*	*3,250*	*109,009*
Secondary roads	(a)292	—	13,173	—	8,771	284	22,520
Development roads	3,474	—	8,789	—	—	45	12,308
Tourist roads	445	840	—	—	—	173	1,458
Other roads.	2,511	(b)1,013	—	—	—	—	3,524
Total other roads . . .	*6,722*	*1,853*	*21,962*	—	*8,771*	*502*	*39,810*
Grand total	**42,637**	**24,252**	**40,753**	**13,413**	**24,012**	**3,752**	**148,819**

(a) Metropolitan only.   (b) Forest 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 1984

(Kilometres)

Surface of roads	N.S.W.(a)(b)	Vic.(c)	Qld	S.A.	W.A.(d)	Tas.	N.T.(e)	A.C.T.	Total (a)
Bitumen or concrete .	73,674	64,728	51,563	22,322	38,634	8,354	5,289	2,122	266,686
Gravel, crushed stone or other improved surface	64,877	47,397	37,319	—	37,335	8,487	5,350	97	200,862
Formed only . . .	36,670	23,415	54,857	80,564	43,089	369	4,814	—	243,778
Cleared only . . .	20,300	21,771	20,442	—	21,273	4,988	4,627	—	93,401
Total(f) . . .	**195,548**	**157,311**	**164,181**	**102,886**	**140,330**	**22,198**	**20,080**	**2,219**	**804,753**

(a) Excludes road designated but not trafficable. Excludes Lord Howe Island and the unincorporated area of the Western Division.   (b) Figures as at 31 December 1983.   (c) Excludes roads coming under the responsibility of the State Electricity Commission (38 km), Melbourne and Metropolitan Board of Works (32 km) and Forests Commission (39,656 km).   (d) Excludes Forests Department roads.   (e) Excludes roads in towns and Local Government Areas.   (f) Rounding of figures by N.S.W. councils affects total for N.S.W. and Australia.

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (NAASRA) was established in 1934. The present member authorities are: Department of Main Roads, New South Wales; Road Construction Authority, Victoria; Main Roads Department, Queensland; Highways Department, South Australia; Main Roads Department, Western Australia; Department of Main Roads, Tasmania; Northern Territory Department of Transport and Works; Commonwealth Department of Housing and Construction.

The Association's objectives are to provide a central organisation where, by co-operative effort, a uniform approach to the improvement, planning and development of the Australian road system can be achieved. National standards for road and bridge construction and maintenance and improved administrative and financial control methods are developed by committees of experienced staff from the authorities, with secretarial services provided by a small staff located in Sydney.

This Secretariat arranges publication of the policies and standards which are widely used by road authorities, local government and universities; co-operates with the Standards Association of Australia on the preparation of national codes of practice; and acts as an Australian centre for contact with overseas road bodies and for the circulation of standards published by them.

The Association is a member of the Permanent International Association of Road Congresses (PIARC) and of the Road Engineering Association of Asia and Australasia (REAAA).

Australian Road Research Board

The Australian Road Research Board (ARRB) is a non-profit-making company founded in 1960 by the National Association of Australian State Road Authorities (NAASRA), and now located at Vermont in Victoria. It is financed by Federal and State Government Road Authorities whose permanent heads made 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. In selecting and monitoring its research projects, and developing a longer term research plan, ARRB is assisted by a senior advisory Steering Committee and four Technical Committees in the areas of Road Technology, Road Users, Road Transport and Local Government, the members of which are experts drawn from government, commerce and education.

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*, the *Source Book for Australian Roads*, 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 Australian road literature in the quarterly *Australian Road Index (ARI)*, and research projects in the annual *Australian Road Research in Progress (ARRIP)*. The machine-readable version of *ARI* and *ARRIP*, called Australian Road Research Documentation (ARRD), is available on AUSINET, the Australian Information Network.

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

Department of Aviation

The Commonwealth imposes safety and operational controls on the Australian aviation industry under the *Commonwealth Air Navigation Act 1920* and regulations made under the Act, which are administered by the Department of Aviation. In accordance with the Act and regulations, the Department determines the rules of the air and general conditions of flight over Australian territory, classifies and licenses air services, approves timetables, negotiates international air transport agreements, and approves international fares and freight rates.

The Department determines airworthiness requirements for civil aircraft and issues certificates of airworthiness, and licenses aircraft operating crews and flying training schools. It is responsible for the operation of the Australian air traffic control and air navigation network, provides (in conjunction with the Bureau of Meteorology) a national weather information service for aircraft, and co-ordinates search and rescue operations. It licenses all civil aerodromes and also operates Commonwealth owned civil aerodromes and related facilities.

In accordance with the *Air Navigation (Charges) Act 1952*, administered by the Department of Aviation, the Commonwealth currently imposes charges on aircraft operators for the use of the aerodromes, air route facilities, meteorological services, and search and rescue services it maintains and operates.

International Activity

International Organisations. Australia is one of the 156 (as at 30 June 1985) 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 a member of the 15 man 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 had air service agreements in force with twenty-eight countries at 30 June 1985. Under these agreements Australia is granted rights to operate services between Australia to and through the countries in question; these rights are exercised by Australia's international airline Qantas. In return, the designated airlines of the other countries which are partners to these agreements are granted traffic rights in Australia. Australia also had air service arrangements granting traffic rights with five other countries at 30 June 1985.

International air services. At 30 June 1985, twenty-nine overseas international airlines were operating regular scheduled air services to Australia. The carriers (and contracting states) were: Air Caledonie International (France), Air India (India), Air Nauru (Nauru), Air New Zealand Ltd International (New Zealand), Air Niugini (Papua New Guinea), Air Pacific (Fiji), Air Vanuatu (Vanuatu), Alitalia (Italy), British Airways (U.K.), CAAC (Peoples Republic of China), CP Air (Canada), Cathay Pacific Airways (U.K.), Continental Airlines Inc. (U.S.A.), Flying Tiger Line Inc. (U.S.A.), Garuda Indonesian Airways (Indonesia), JAL (Japan), JAT (Yugoslavia), KLM-Royal Dutch Airlines (Netherlands), Lufthansa German Airlines (Federal Republic of Germany), Malaysian Airline System (Malaysia), Olympic Airways (Greece), Pan American World Airways Inc. (U.S.A.), Philippine Airlines (Philippines), Polynesian Airlines Ltd (Western Samoa), Royal Brunei Airlines (Brunei), Singapore Airlines Ltd (Singapore), South African Airways (South Africa), Thai Airways International (Thailand), and Union de Transports Aeriens (France). Qantas, Australia's international airline, operates a fleet of 24 Boeing 747 jet aircraft. All shares in Qantas Airways Limited are owned by the Commonwealth Government.

International operations. The table following shows particulars of international airline traffic during 1984–85 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), 1984–85p

Type of traffic	Number of flights(b)(c)	Passengers	Freight tonnes	Mail tonnes
Traffic to Australia—				
Qantas Airways Limited	4,820	1,096,239	46,764	1,130
Other airlines	6,345	1,393,822	75,433	6,826 .
All airlines	**11,165**	**2,490,061**	**122,197**	**7,956**
Traffic from Australia—				
Qantas Airways Limited	4,686	1,044,710	33,972	3,326
Other airlines	6,248	1,372,411	65,394	1,801
All airlines	**10,934**	**2,417,121**	**99,366**	**5,127**

(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 table.

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

		1979–80	1980–81	1981–82	1982–83	1983–84	1984–85p
Hours flown	number	74,879	73,679	77,910	82,409	83,551	89,952
Kilometres flown	'000	59,109	58,188	61,052	64,898	65,670	71,046
Passengers—							
Embarkations	number	1,933,580	1,883,477	2,020,107	2,101,788	2,189,669	2,449,596
Passenger-kilometres . .	'000	16,296,416	14,876,509	14,818,491	14,477,756	15,247,801	16,858,595
Freight—							
Tonnes uplifted	tonnes	52,326	53,753	66,036	75,375	84,844	90,357
Tonne-kilometres. . . .	'000	412,518	418,849	479,996	485,549	563,268	637,590
Mail—							
Tonnes uplifted	tonnes	3,878	3,919	4,344	4,219	4,410	4,744
Tonne-kilometres. . . .	'000	36,226	36,581	39,244	40,058	40,324	43,231

The air cargo statistics set out in the following 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*.

AIR CARGO BY TRADE AREA: 1983–84

Trade area	Inward cargo		Outward cargo	
	Gross weight (tonnes)	Value ($'000)	Gross weight (tonnes)	Value ($'000)
Europe	28,111	1,310,965	3,616	523,187
East Asia	6,807	169,631	6,815	305,674
Japan	7,491	439,509	3,508	117,112
N. America—E. Coast	12,090	786,725	1,540	137,721
N. America—W. Coast	10,436	841,665	3,639	208,576
Central America	69	9,182	117	3,434
S. America—E. Coast	242	17,873	44	2,587
S. America—W. Coast	137	7,228	15	894
West Africa	2	214	19	552
South and East Africa	262	8,786	593	18,666
Red Sea	1	106	500	3,008
Persian Gulf	38	13,680	12,265	39,456
West India	610	22,563	191	3,853
East India	1,218	23,381	57	2,207
South East Asia	4,216	156,911	21,300	184,588
New Zealand	29,725	307,379	15,599	336,512
Papua New Guinea	230	22,238	2,672	59,546
Central Pacific	234	26,016	1,938	25,710
French Pacific	22	1,851	1,776	10,377
Pacific Islands	51	3,831	143	4,432
Trade area not specified	14	1,665	9,051	84,936
Other	—	—	—	—
Total.	**102,006**	**4,171,397**	**85,397**	**2,073,029**

Domestic activity

Both the Commonwealth and the State Governments may exercise controls over intrastate domestic aviation by virtue of their respective powers under the Constitution. The States of New South Wales, Queensland, Western Australia and Tasmania, and the Northern Territory, license air services within their borders, having regard to public interest and other considerations; in some cases approval of intrastate air fares is also required. Victoria and South Australia choose not to regulate air services and within these States, Commonwealth requirements only must be satisfied to conduct air services. (The Commonwealth alone regulates interstate aviation and negotiates the provision of international air services with the Governments of other countries.)

Trunk route services. The Commonwealth regulates domestic air transport on economic grounds in Australia through arrangements commonly known as the 'two-airline policy' which have existed in various forms for more than thirty years. Under the policy the operation of regular passenger air services over the main domestic or 'trunk' routes is, restricted generally to the Commonwealth-owned Australian National Airlines Commission, trading as Trans-Australia Airlines (TAA) and the privately owned Ansett (a division of Ansett Transport Industries (Operations) Pty Ltd, a wholly owned subsidiary of Ansett Transport Industries Ltd). The premises underlying the policy have been that the Australian domestic trunk route network could support no more than two major operators and that any move towards a private or public monopoly was not in the public interest.

As the Commonwealth is generally constrained to licensing domestic air services on operational grounds only, it maintains the policy essentially by using the Customs (Prohibited Imports) Regulations to restrict other operators' access to aircraft which could be used to compete with TAA and Ansett Transport Industries over the trunk routes. The policy in its present form is based on legislation passed by Parliament in 1981—namely the *Airlines Agreement Act 1981*, the associated *Airlines Equipment Amendment Act 1981* and the *Independent Air Fares Committee Act 1981*.

The *Airlines Agreement Act 1981* approved the 1981 Airlines Agreement, the parties to which are the Commonwealth, TAA and Ansett, on behalf of the Commonwealth. The Agreement provides that the Commonwealth or Ansett may give three years notice of termination no earlier than 1987. Accordingly, the Agreement and, therefore, the two-airline policy in its present form, will remain in force at least up until 1990, unless otherwise agreed by the parties.

The Commonwealth's present arrangements governing domestic air services, including specifically the two-airline policy, are the subject of the independent review of Economic Regulation of Domestic Aviation, headed by Mr Thomas E. May, the establishment of which was announced by the Minister for Aviation in January 1985. The review is to report to the Minister in time for the Government to consider its position by January 1987.

At 30 June 1985, the Ansett fleet included 5 Boeing 767s, 13 Boeing 727s, 12 Boeing 737s and 4 Fokker F27 Friendships. At the same date, Trans-Australia Airlines operated a fleet of 13 Boeing 727s, 4 Airbus A300s and 9 McDonnell-Douglas DC9s and 3 Fokker F27 Friendships. Both Ansett and TAA recently announced major fleet re-equipment programmes.

Regional services. In addition to their competitive trunk route services, both Ansett and Trans-Australia Airlines operate limited domestic regional services on non-competitive routes. There are also a number of smaller regional airlines so-called because in general they provide regular passenger air services in specific geographic regions.

However, in recent years East-West Airlines has considerably extended its network beyond its traditional services within New South Wales. Aside from East-West Airlines, these regional airlines are either owned by TAA (Air Queensland) or are in the Ansett group (Ansett of Western Australia, Airlines of New South Wales, Airlines of Northern Australia and Airlines of South Australia).

The predominant aircraft types used by regional airlines are the Fokker F28 turbo-jet and the Fokker F27 turbo-prop. East-West Airlines and Air New South Wales use both types; Ansett of Western Australia uses the F28 and has recently acquired BAe 146 turbo-jets; Airlines of Northern Australia, Airlines of South Australia and Air Queensland use only the F27.

Commuter services. Commuter operators are, in general, required to hold a supplementary airline licence which authorises regular passenger air services using aircraft with capacity to carry no more than 38 passengers or a 4,200 kg maximum payload. Like regional airlines they generally operate over routes other than trunk routes. However, they use smaller aircraft than the airlines and often operate into centres not served by an airline. At 30 June 1985, there were 44 operators of commuter services in Australia serving some 260 centres.

The aircraft types currently used by commuter operators are predominantly those in the 6-10 seat category, such as the Piper PA31 and PA32 and Cessna 310, 402, and 404 series. Many also operate the larger DHC6 Twin Otter, Beechcraft Super King Air, Swearingen Metroliner and Embraer Bandeirante. Recently developed commuter aircraft such as the British Aerospace Jetstream 31 and Shorts 330 and 360 are also used. During 1984–85, commuter operators carried 955,141 passengers and flew some 41 million kilometres.

General aviation. In addition to trunk route, regional and commuter services, there is a wide range of other activities undertaken by the aviation industry. Charter operations involve the use of aircraft in operations for the carriage of passengers and/or cargo for hire or

reward which are not both scheduled and available to the public. More than 600 operators in Australia hold charter licences.

Aerial work and private operations do not involve the commercial transport of passengers and/or cargo. Aerial work involves the use of aircraft in operations such as aerial survey, aerial agriculture, advertising and flying training. Holders of charter licences generally hold aerial work licences as well. Private operations include the use of aircraft for the personal transportation of the owner and the carriage of persons or goods without a charge being made for the carriage. In certain circumstances some operations which would otherwise be classified as aerial work may be considered private. No air service licence is required to conduct private operations.

Cargo services. Cargo, i.e. freight and mail, is also carried on the regular public passenger services operated by TAA, Ansett, regional airlines and commuters, as well as on charter services. Also TAA and Ansett each has a dedicated B727 cargo aircraft involved in regular interstate services. The Interstate Parcel Express Company (Australia) Pty Ltd, trading as IPEC Aviation, operates cargo airline services using three Argosy aircraft and domestic cargo charter services using a DC9 aircraft, also over interstate routes.

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

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

		1979–80	1980–81	1981–82	1982–83	1983–84	1984–85p
Hours flown.	number	284,381	277,199	268,339	245,567	242,075	250,779
Kilometres flown .	'000	138,185	137,264	136,769	127,952	126,087	n.a.
Passengers—							
Embarkations	number	11,504,957	11,380,798	11,396,510	10,332,934	10,597,651	11,359,700
Passenger-kilometres	'000	9,485,635	9,747,272	10,155,379	9,327,206	9,684,589	10,413,381
Freight—							
Tonnes uplifted .	tonnes	129,775	124,955	136,250	141,853	149,879	153,181
Tonne-kilometres	'000	109,603	107,851	117,936	124,796	137,819	139,597
Mail—							
Tonnes uplifted .	tonnes	15,053	17,302	16,841	16,767	17,571	18,467
Tonne-kilometres	'000	14,206	16,397	16,515	17,167	17,621	18,603

(a) Includes flights of all Australian-owned airlines, with the exception of those of Qantas Airways Limited, between airports located within Australia. The domestic carrier, East-West Airlines, commenced services between Sydney and Norfolk Island in March 1977 and particulars of these flights are included from that time.

Internal airline passenger embarkation and disembarkation. The statistics set out in the next table have been compiled by aggregating all internal 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 DOMESTIC AIRLINES PASSENGER UPLIFTS AND DISCHARGES AT PRINCIPAL AUSTRALIAN AIRPORTS

Airport	1979–80	1980–81	1981–82	1982–83	1983–84	1984–85p
Sydney	5,961,807	5,858,143	5,917,874	5,338,944	5,501,492	5,917,925
Melbourne	5,104,448	5,046,031	5,038,634	4,500,234	4,550,568	4,851,644
Brisbane	2,521,119	2,636,552	2,758,922	2,518,841	2,554,622	2,688,006
Adelaide	1,931,395	1,930,219	1,852,906	1,635,544	1,684,281	1,761,141
Perth	910,637	929,949	1,017,173	995,987	1,049,567	1,125,587
Canberra	967,803	872,223	820,943	786,449	838,175	931,734
Coolangatta	570,137	632,791	648,384	553,886	567,623	633,320
Hobart	473,567	474,115	475,127	433,910	448,549	485,523
Cairns	387,095	426,064	442,524	387,895	404,168	426,818
Townsville	378,884	384,587	396,622	377,186	388,752	410,903
Launceston	390,215	380,512	376,536	356,261	352,494	390,269
Darwin	278,669	290,789	287,210	266,268	281,032	305,013
Mackay	261,982	197,892	159,718	160,517	148,502	142,092

General aviation activity, which covers all flying other than scheduled airline operations has grown rapidly throughout Australia in recent years and is an important sector of the Australian aviation industry. Hours flown by general aviation during 1983–84 were estimated at 1.75 million.

Aerodromes

The number of aerodromes throughout Australia and its external territories at 30 June 1985 was 443. Sixty-eight were owned by the Commonwealth Government and 375 by local authorities and private interests. The number of licensed helipads throughout Australia and its territories is 6. Capital expenditure on aerodrome and building construction was $103.7 million in 1984–85. Maintenance expenditure on Commonwealth Government-owned aerodromes during 1984–85 was $13.2 million. Expenditure on development and maintenance grants to licensed aerodromes participating in the Local Ownership Plan totalled $17.5 million.

Airway facilities

A total of 471 navigational aids were in service at 30 June 1985. The total includes 224 non-directional beacons (NDB), 107 distance measuring equipment (DME), 13 international distance measuring equipment (DMEI), 75 VHF omni-directional ranges (VOR), 17 instrument landing systems (ILS), five twin locator approach systems and 30 ILS locators. In addition, there are 25 privately owned navigation aids which include one DME and 24 NDB's.

One hundred and ninety-six aerodromes are now equipped with night landing facilities. One hundred and twenty-six Australian-designed 'T' systems (T-VASIS) are operating. Seven long-range surveillance radars, two-short range and seven secondary surveillance radars are also in operation. There are thirty-two fully equipped Air Traffic Control Centres and forty-three flight service units in operation.

Air transport registrations, licenses, etc., in force in Australia

At 30 June 1985 there were 6,933 aircraft registered in Australia. At the same time there were also 63,442 aeroplane pilots' licences in force, of which 28,398 were private pilots' licences, 5,936 commercial pilots' licences, 2,012 senior commercial pilots' licences, 2,558 air transport pilots' licences, and 24,538 student pilots' licences. In addition there were 1,934 helicopter pilots' licences in force of which 158 were private pilots' licences, 821 commercial pilots' licences, 99 senior commercial pilots' licences and 856 student pilots' licences. There were also 868 flight engineer licences, and 7 flight navigator licences in force.

Accidents and casualties

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

	1979	1980	1981	1982	1983	1984
Number	37	48	39	51	44	40
Persons killed	35	61	53	53	47	45
Persons seriously injured	29	33	33	35	29	25

(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, TELECOMMUNICATION AND RADIOCOMMUNICATION 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.

Department of Communications

The Postal and Telecommunications Department was created on 22 December 1975. It replaced the Postmaster-General's Department, assuming those PMG functions remaining after the formation of the postal and Telecommunications Commissions on 1 July 1975. Following the Federal election in November 1980, the name of the Department was changed to the Department of Communications. A major activity of the Department is the administration of the *Wireless Telegraphy Act 1905* which concerns the regulation and management of the radio frequency spectrum for radiocommunications within the Commonwealth and its Territories.

The Department also undertakes planning for the development of broadcasting and television services in Australia and the determination of standards and practices for technical

equipment used in broadcasting and television services for which formal responsibility attaches to the Minister for Communications pursuant to the provisions of the Broadcasting and Television Act. The Department is closely involved in the development of the Australian Communications Satellite System (ACSS), in association with other government departments and agencies in particular AUSSAT PTY LTD, a government-owned company formed to own and operate ACSS.

Another function of the Department is to provide policy advice to the Minister on postal, telegraphic, telephonic, broadcasting and other like services which are subject to legislation for which the Minister for Communications is responsible.

Authorities responsible to the Minister for Communications have been established to provide within Australia a network of facilities which enable people and organisations:

- to send letters, printed matter, parcels and money in Australia and overseas and to receive such items within Australia from overseas;
- to converse by telephone in Australia and overseas;
- to send and receive written messages, data pictures and other visual matter by electrical means within Australia and to and from overseas;
- to relay on the telecommunications network, radio and television broadcasts emanating within Australia and those on relay to and from overseas.

Australian Postal Commission

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

Under the *Postal Services Act 1975*, the Australian Postal Commission is required to operate Australia's postal services in such a manner as will best meet the social, industrial and commercial needs of the Australian people. In performing its functions, the Commission is required to have regard for the special needs for postal services of Australian people who reside or carry out business outside the cities. It is also required to raise sufficient revenue to cover operating expenditure and to fund at least half of its capital expenditure.

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 acts as agent on behalf of Federal, 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 operations for 1984-85. Selected tables show figures for earlier periods.

AUSTRALIAN POSTAL COMMISSION: PROFIT AND LOSS, 1980 TO 1985

($'000)

Year ended 30 June—	1980	1981	1982	1983	1984	1985
Revenue—						
Mail services	582,200	668,676	767,843	870,719	971,676	1,080,539
Commission on agency services	82,189	83,471	86,935	90,113	90,449	94,547
Postal money order service	6,350	7,758	10,059	10,544	11,632	11,940
Other revenue	19,442	22,147	22,591	28,058	21,993	24,269
Total	690,181	782,052	887,428	999,434	1,095,750	1,211,295
Expenditure—						
Labour and related expenditure	n.a.	n.a.	n.a.	774,662	831,600	911,776
Carriage of mail by contractors	n.a.	n.a.	n.a.	83,665	92,984	103,551
Depreciation and interest	n.a.	n.a.	n.a.	15,056	15,299	17,159
Other expenditure	n.a.	n.a.	n.a.	117,257	131,716	154,301
Total	678,495	794,795 *(a)*	906,650	990,640	1,071,599	1,186,787

(a) .Includes an abnormal adjustment to implement new depreciating accounting arrangements.

AUSTRALIAN POSTAL COMMISSION: PROFIT AND LOSS STATEMENT FOR THE YEAR ENDED 30 JUNE 1985
($'000)

Revenue—	
Mail services	1,080,539
Commission on agency services.	94,547
Postal money order service	11,940
Other revenue	24,269
Total	*1,211,295*
Expenditure—	
Labour and related expenditure	911,776
Carriage of mails by contractors	103,551
Accommodation	46,803
Stores and supplies	47,784
Depreciation	11,733
Interest	5,426
Other operating expenditure	59,714
Total	*1,186,787*
Operating Profit	24,508
Appropriations—	
Accumulated loss brought forward	12,666
Operating profit for the year	24,508
Accumulated profit carried forward	37,174

AUSTRALIAN POSTAL COMMISSION: SUMMARY OF TRANSACTIONS AFFECTING FIXED ASSETS, 1984–85
($'000)

Class of assets	Balance at 1 July 1984	Additions in the year	Asset expenditure written out	Balance at 30 June 1985 (a)
Land	41,228	981	245	41,964
Buildings	284,518	21,063	1,611	303,970
Motor vehicles	23,855	8,950	4,161	28,644
Plant and equipment	58,694	10,190	4,118	64,766
Total of fixed assets	*408,295*	*41,184*	*10,135*	*439,344*
Less accumulated depreciation . .	77,087	—	—	81,336
Net book value of fixed assets . .	**331,208**	—	—	**358,008**

(a) At cost.

AUSTRALIAN POSTAL COMMISSION: ANALYSIS OF TRANSACTIONS AFFECTING ACCUMULATED DEPRECIATION, 1984–85
($'000)

Class of assets	Balance at 1 July 1984	Depreciation provided for in 1984–85	Accumulated depreciation written out	Balance at 30 June 1985
Buildings	50,218	5,157	684	54,691
Motor vehicles	9,833	3,186	2,934	10,085
Plant and equipment	17,036	3,390	3,866	16,560
Accumulated depreciation . .	77,087	11,733	7,484	81,336

AUSTRALIAN POSTAL COMMISSION: PERSONS ENGAGED IN PROVIDING POSTAL SERVICES AT 30 JUNE 1984 AND 1985

	H.Q.	N.S.W. (incl. A.C.T.)	Vic.	Qld	S.A. (incl. N.T.)	W.A.	Tas.	Aust. 1985	Aust. 1984
Official staff (a)—									
Full-time Permanent . .	617	12,115	8,420	4,202	2,639	2,341	676	31,010	30,078
Full-time Temporary . .	9	1,731	848	282	110	158	63	3,201	2,875
Part-time	—	1,234	543	296	327	318	95	2,813	2,700
Other staff (b)	—	2,994	1,788	1,620	846	634	380	8,262	8,417
Total	**626**	**18,074**	**11,599**	**6,400**	**3,922**	**3,451**	**1,214**	**45,286**	**44,070**

(a) 'Official Staff' are those whose employment is governed by the *Postal Services Act* 1975.   (b) Includes persons who are not employed under the Postal Services Act, but who are employed on the basis of business transacted. Also included are persons or organisations who hold road mail service contracts with the Australian Postal Commission.

AUSTRALIAN POSTAL COMMISSION: MAIL DELIVERY NETWORK AND POST OFFICES AT 30 JUNE 1984 AND 1985

	N.S.W. (incl. A.C.T.)	Vic.	Qld	S.A. (incl. N.T.)	W.A.	Tas.	Aust. 1985	Aust. 1984
Contract road services . .	1,511	736	1,079	288	396	186	4,196	4,243
Households receiving mail	2,052,667	1,418,860	893,515	538,114	499,901	150,189	5,553,246	5,488,220
Business receiving mail . .	199,910	136,775	97,603	49,591	48,201	13,409	545,489	519,726
Post Offices—								
At 1 July 1984 . . .	499	333	211	148	156	41	1,388	1,395
At 30 June 1985 . . .	502	336	213	147	156	41	1,395	1,388
Agencies—								
At 1 July 1984 . . .	1,072	877	538	443	280	192.	3,402	3,448
At 30 June 1985 . . .	1,052	863	534	438	255	190	3,332	3,402
Total post offices and agencies . .	*1,554*	*1,199*	*747*	*585*	*411*	*231*	*4,727*	*4,790*

AUSTRALIAN POSTAL COMMISSION: TOTAL POSTAL ARTICLES HANDLED

('000)

Year ended 30 June	Posted for delivery within Australia	Posted for places abroad	Received from abroad	Total postal articles handled
1980	2,379,953	94,826	156,573	2,631,352
1981	2,503,450	107,798	155,642	2,766,890
1982	2,606,124	105,154	165,276	2,876,554
1983	2,669,363	111,050	163,575	2,943,988
1984	2,764,113	106,585	164,362	3,035,060
1985	2,877,476	107,783	163,074	3,148,333

AUSTRALIAN POSTAL COMMISSION: ORDINARY POSTAL ARTICLES(a)

('000)

	Standard articles				Non-standard articles			
Year ended 30 June	Posted for delivery within Australia	Posted for places abroad	Received from abroad	Total articles	Posted for delivery within Australia	Posted for places abroad	Received from abroad	Total articles
1983	2,292,193	93,262	121,110	2,506,565	345,287	15,278	37,856	398,421
1984	2,376,733	89,544	122,084	2,588,361	355,599	14,356	37,395	407,350
1985	2,468,109	91,829	117,827	2,677,765	376,323	13,304	40,139	429,766

STATES—YEAR ENDED 30 JUNE 1985

New South Wales (incl. A.C.T.).	989,878	33,205	56,576	1,079,659	154,645	6,259	15,390	176,294
Victoria.	659,247	31,457	39,576	730,280	122,076	3,881	16,585	142,542
Queensland.	367,109	8,959	7,425	383,493	45,170	1,130	4,483	50,783
South Australia (incl. N.T.)	201,608	8,326	4,649	214,583	24,429	775	1,078	26,282
Western Australia . . .	198,302	9,372	8,392	216,066	23,718	1,210	2,201	27,129
Tasmania	51,965	510	1,209	53,684	6,285	49	402	6,736

(a) Includes Certified, Messenger Delivery and Priority Paid Mail.

COMMUNICATIONS

AUSTRALIAN POSTAL COMMISSION: REGISTERED ARTICLES(a) AND PARCELS

('000)

	Registered articles				Parcels			
Year ended 30 June	Posted for delivery in Australia	Posted for places abroad	Received from abroad	Total articles	Posted for delivery in Australia	Posted for places abroad	Received from abroad	Total articles
1983	2,956	1,296	2,696	6,948	28,927	1,214	1,913	32,054
1984	2,801	1,301	2,689	6,789	28,980	1,384	2,196	32,560
1985	2,764	1,280	2,620	6,664	30,280	1,370	2,488	34,138

STATES—YEAR ENDED 30 JUNE 1985

New South Wales (incl. A.C.T.).	913	653	1,640	3,206	11,611	557	1,074	13,242
Victoria	701	414	813	1,928	8,466	454	905	9,825
Queensland	497	66	41	604	4,993	156	207	5,356
South Australia (incl. N.T.)	293	67	19	379	2,326	86	91	2,503
Western Australia	252	78	107	437	2,310	109	164	2,583
Tasmania	108	2	—	110	574	8	47	629

(a) Totals include Certified, Messenger Delivery and Priority Paid Mail.

AUSTRALIAN POSTAL COMMISSION: SPECIAL SERVICES: ARTICLES HANDLED

('000)

Year ended 30 June	Certified mail	Messenger delivery	Priority paid mail
1983.	6,178	1,459	2,711
1984.	6,064	1,329	6,760
1985.	7,101	659	8,258

STATES—YEAR ENDED 30 JUNE 1985

	Certified mail	Messenger delivery	Priority paid mail
New South Wales (incl. A.C.T.)	2,435	362	5,344
Victoria.	2,111	167	1,682
Queensland	1,113	39	508
South Australia (incl. N.T.) .	659	46	359
Western Australia.	567	40	282
Tasmania	216	5	83

Telecommunications services within Australia

The Australian Telecommunications Commission (Telecom Australia) commenced operation on 1 July 1975, taking over the telecommunications functions of the former Postmaster-General's Department.

The functions of the Commission as set out in the *Telecommunications Act 1975* are:
• to plan, establish, maintain and operate telecommunications services within Australia;
• to operate such other services as the Commission is authorised by this Act to operate;
• to provide, at the request of the Australian Government, technical assistance outside Australia in relation to the planning, establishment, maintenance and operation of telecommunications services in countries outside Australia; and
• to do anything incidental or conducive to the performance of any of the preceding functions.

Financial results

The following tables show the earnings and expenses situation for the latest available three years of the Commission's operations.

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: REVENUE
($'000)

Year ended 30 June—	1983	1984	1985
Telephone rentals	1,001,212	1,165,912	1,290,545
Telephone calls	2,011,546	2,328,977	2,640,434
Telephone connections and installations	157,750	178,628	187,844
Other network services	n.a.	148,550	174,347
Product sales and advertising	n.a.	221,389	276,393
Contract work	n.a.	108,102	107,047
Other operating revenue	n.a.	69,172	88,248
Total	**n.a.**	**4,220,731**	**4,764,858**

AUSTRALIAN TELECOMMUNICATIONS COMMISSION: EXPENDITURE
($'000)

Year ended 30 June—	1983	1984	1985
Installation and maintenance of customer services	444,796	722,927	782,447
Maintenance of network plant	414,570	476,807	544,786
Marketing and operations	728,867	823,531	890,124
General and administrative	261,554	281,660	422,021
Accommodation	155,369	174,258	193,549
Depreciation	711,853	570,829	647,825
Interest	656,172	861,937	898,915
Total	**3,373,181**	**3,911,949**	**4,379,667**

A brief history of the development of telecommunications in Australia is shown in Year Book No. 59, pages 378–82. Common internal telecommunication operations comprise telephone, telegram, telex and data services. The following tables give details of these services.

TELEPHONE SERVICES IN OPERATION AT 30 JUNE 1985

	N.S.W. (Incl. A.C.T.)	Vic.	Qld	S.A. (Incl. N.T.)	W.A.	Tas.	Australia
Ordinary exchange services—							
Automatic	2,102,556	1,527,618	865,687	552,117	518,697	155,272	5,721,947
Manual	10,686	—	3,306	2,311	37	—	16,340
Total	2,113,242	1,527,618	868,993	554,428	518,734	155,272	5,738,287
Party line services—							
Automatic	382	—	462	25	25	—	894
Manual	989	—	680	150	4	—	1,823
Total	1,371	—	1,142	175	29	—	2,717
Private branch exchange services—							
Automatic	172,450	133,473	48,493	33,618	18,801	5,688	412,523
Manual	189	—	42	54	—	—	285
Total	172,639	133,473	48,535	33,672	18,801	5,688	412,808
Public telephones—							
Automatic	11,090	9,761	5,602	3,123	2,991	1,112	33,679
Manual	251	—	136	50	19	—	456
Total	11,341	9,761	5,738	3,173	3,010	1,112	34,135
Total all services—							
Business automatic	586,870	434,159	241,916	141,474	145,254	39,383	1,589,056
Business manual	5,144	—	2,292	1,235	50	—	8,721
Non-business automatic	1,699,608	1,236,693	678,328	447,334	395,260	122,689	4,579,912
Non-business manual	6,971	—	1,872	1,405	10	—	10,258
Total Services	**2,298,593**	**1,670,852**	**924,408**	**591,448**	**540,574**	**162,072**	**6,187,947**

TELEPHONE INSTRUMENTS IN SERVICE

At 30 June—	N.S.W. (Incl. A.C.T.)	Vic.	Qld	S.A. (Incl. N.T.)	W.A.	Tas.	Australia
1983	3,091,583	2,387,943	1,103,479	765,536	690,417	227,704	8,266,662
1984	3,069,260	2,357,539	1,169,522	729,228	771,795	231,370	8,328,714
1985	3,199,871	2,455,500	1,243,494	808,728	779,058	240,512	8,727,163
Number per 100 population at 30 June	58.9	54.3	48.8	59.6	55.9	54.7	55.8

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LOCAL AND TRUNK LINE TELEPHONE CALLS

Year ended 30 June—	1983	1984	1985
Effective paid local calls	5,596,916,000	6,174,595,000	6,500,000,000
Local calls per service	1,021	1,077	1,050
Trunk line calls	837,171,000	933,621,000	1,026,126,000
Trunk calls per service	153	163	166
Total calls	6,434,087,000	7,108,216,000	7,526,126,000

DATEL SERVICES (a)—DATA MODEMS IN OPERATION

At 30 June—	N.S.W. (Incl. A.C.T.)	Vic.	Qld	S.A. (Incl. N.T.)	W.A.	Tas.	Australia
1983	29,420	18,913	8,716	5,390	5,601	2,151	70,191
1984	34,867	22,570	10,516	6,581	6,318	2,397	83,249
1985	38,959	25,861	12,442	6,880	7,887	2,643	94,672

(a) A Datel service is a combination of a particular type of circuit (either switched network or private line) plus the necessary Modulator Demodulator (Modem) unit to provide data transmission facilities for a specified transmission rate.

Subscriber Trunk Dialling (STD) facilities were introduced during the year 1961–62. For the year ended at 30 June 1985, 97.0 per cent of trunk calls were made by STD.

Telegrams

Telegrams can be lodged at any post office or telephone office or from any public telephone equipped for multi-coin operation. In addition, telegrams can be dispatched from any subscriber's telephone or telex service. The number of telegrams of various types transmitted within Australia is set out in the following table.

TELEGRAM TRAFFIC

Year ended 30 June—	1983	1984	1985
Ordinary	3,525,243	3,201,625	2,905,874
Urgent	98,523	99,019	115,988
Meteorological	313,074	258,589	211,088
Service	113,900	109,674	124,924
Total telegrams	4,050,740	3,668,907	3,357,874

Telex

Particulars of the operations of the telex network, which are additional to the telegraph traffic shown above, are as follows.

TELEX NETWORK SERVICES AND INTERNAL CALLS

Year ended 30 June—	Number of services	Internal calls during the year
1983	40,810	45,492,000
1984	42,186	46,725,000
1985	44,851	49,371,000

Further detailed statistics are contained in the Australian Telecommunication Commission's Annual Reports.

Australia's National Satellite System (AUSSAT)

AUSSAT was formed in 1981 to own and operate Australia's National Satellite System. Shares are held in the Company—75% by the Commonwealth Government and 25% by Telecom. The *Satellite Communications Act 1984* commissions AUSSAT to operate profitably in providing internal satellite communications for Australia and neighbouring regions. The satellite system will complement, diversify and add resilience to Australia's existing ground-based communications systems, and will also provide a capability for services not presently considered economically justifiable.

Communications provided by the system will benefit not only those people living in isolated areas who have only limited access to broadcasting services, but also the business community generally.

AUSSAT's first two satellites were launched from NASA's Space Shuttle, in August and November 1985. Each satellite was ejected from the Shuttle at an altitude of approximately 250 kms above the earth. Special rocket motors then lifted them to their chosen orbits about 36,000 kms above the equator and slightly to the east of Australia. A third satellite will be launched in mid 1986.

Each satellite is capable of receiving signals, amplifying them and retransmitting the amplified signals back to any point in the coverage area. This function is performed by transponders; four 30 watt (high power) and eleven 12 watt (low power) on each satellite.

In orbit, the satellites are monitored by two control stations, one in Sydney and one in Perth. These are known as the Tracking, Telemetry Command and Monitoring (TTC & M) stations. The Sydney station performs the additional function of monitoring and controlling the status of the satellites while they are in orbit.

Overseas telecommunications services

The Overseas Telecommunications Commission (Australia) (OTC), established by the *Overseas Telecommunications Act 1946*, is a Commonwealth Statutory Authority responsible for the establishment, maintenance, operation and development of all public telecommunications services between Australia and other countries, between Australia and its external territories and with ships at sea. It has a specific responsibility, under section 38A, to make its services available at the lowest possibles rates of charges. OTC is responsible to the Commonwealth Parliament through the Minister for Communications.

Telephone, telex, public message telegram, switched data and leased circuit services are provided to most countries and places throughout the world by means of submarine cables, communications satellites and, in a decreasing number of cases, short wave radio. Television relay is provided to and from countries with access to satellite communications facilities. Other services include INTERPLEX (a large scale, common-use, leased-message switching system), MIDAS (a data search and retrieve service), OVERSEASFAX (an international facsimile service for document transfer), INTERTEL (a comprehensive public message service for small businesses), MINERVA (an electronic mail system) and OTC NET (an international corporate voice/data network using private leased circuits).

International consultation

OTC participates in the Commonwealth Telecommunications Organisation (CTO), the International Telecommunications Union (ITU), the International Telecommunications Satellite Organisation (INTELSAT) which owns and operates the international telecommunications satellite system, and the International Maritime Satellite Organisation (INMARSAT), which operates an international satellite system for the provision of high-grade telecommunications, including distress and search and rescue communications, with ships at sea. OTC also participates in the regional telecommunications organisations such as the Asia-Pacific Telecommunity and the South Pacific Regional Telecommunications Meetings (SPECTEL).

Establishments

The Commission's Head Office is in Sydney and it has offices in Canberra, Melbourne, Brisbane and Perth. Its only overseas office was opened in New York in October 1985. The Commission owns and operates International Gateway terminals at Paddington and Broadway in Sydney which interface with the national telecommunications network. A third International Gateway terminal is being established at Scoresby, near Melbourne, which will become operational in 1987.

The Commission also owns and operates cable stations at Sydney, Cairns (Qld), Guam in the Mariana Islands and at Norfolk Island; satellite earth stations at Carnarvon (W.A.), Ceduna (S.A.), Healesville (Vic.) and Moree (N.S.W.); international radio stations at Doonside and Bringelly (N.S.W.) and at Gnangara (W.A.); and fourteen coast radio stations at points around the Australian coast for communicating with ships at sea. A new cable station for the Australia–Indonesia–Singapore (A–I–S) cable system at Gnangara, Perth, will be brought into service in 1986.

Submarine cables

OTC is a part owner of the following submarine cables (the year in which they opened for service is in brackets): COMPAC, Auckland–Suva–Hawaii (1963); SEACOM, Sydney–Madang–Guam–Hong Kong (1967); TRANSPAC II, Hawaii–Guam–Okinawa (Japan)

(1975); HAW III, Hawaii–U.S. Mainland (1975); TASMAN, Sydney–Auckland (1976); A–PNG, Sydney–Port Moresby (1976); OLUHO, Okinawa (Japan)–Phillipines–Hong Kong (1977); ASEAN P–S, Phillipines–Singapore (1978); ASEAN I–S, Indoensia–Singapore (1980) and IOCOM, Penang–Madras (1981); ASEAN M–S–T, Malaysia–Singapore–Thailand (1983); and ANZCAN, Sydney–Norfolk Island–Aukland–Suva–Hawaii–Vancouver (1984).

In 1984 the Government gave approval for OTC to participate in the construction of three new Indian Ocean cable systems: A–I–S, Perth–Jakarta–Singapore; SIN–HON–TAI, Singapore–Hong Kong–Taipei; and SEA–ME–WE, Singapore–Middle East–Europe. OTC's investment in the three systems, which will enter service in 1985-86, is approximately $135 million. The Australian end of the A–I–S cable was landed in Perth in May 1985.

Satellites

OTC is the sixth largest shareholder in INTELSAT which operates communication satellites over the Indian, Pacific and Atlantic Oceans, and a major shareholder in INMARSAT (see above). INTELSAT satellites now carry approximately two-thirds of Australia's international telecommunications and, through OTC, provide capacity through which the remote area television service is provided by the ABC.

1984-85 Statistics

As at 31 March 1985, OTC staff totalled 2,281; revenue for the previous 12 months was $411 million and profit before tax was $92 million. Telephone service, which is available to more than 233 overseas destinations, provided about 70 per cent of revenue, telex about 8 per cent, leased services about 5 per cent and telegram about 4 per cent. International Subscriber Dialling (ISD) from Australia is available to more than 165 countries.

More detailed statistics are contained in OTC'S 1985 Annual Report.

Detailed information on OTC

The Commission reports on its operations to Parliament through its Minister about September each year. Traffic, financial and other information is contained in its Annual Report, copies of which are available on request from the OTC.

International telecommunication traffic

The following table shows particulars of overseas telecommunication traffic between Australia and overseas countries for the years ended 31 March 1984 and 1985.

INTERNATIONAL TELECOMMUNICATION SERVICES: YEARS ENDED 31 MARCH 1984 AND 1985

| Service | | *Transmissions* | | | | | |
| | | *From Australia* | | *To Australia* | | *Total* | |
		1983–84	*1984–85*	*1983–84*	*1984–85*	*1983–84*	*1984–85*
Telephone	'000 paid minutes	153,350	183,995	113,325	133,600	266,675	317,595
Telex	'000 paid minutes	28,000	30,021	28,725	30,924	56,725	60,945
Television programs . . .	paid minutes	12,591	23,444	53,880	58,362	(a)69,278	(b)100,594
Telegraph services . . .	'000 words	25,990	23,507	18,925	17,463	44,915	40,970

(a) Includes 2,807 paid minutes of television programs distributed within Australia by OTC. (b) Includes 18,788 paid minutes of television programs distributed within Australia by OTC.

Coast Radio Service

During the year ended 31 March 1985, the Coast Radio Service administered by OTC handled a total of 746,000 radiotelephone minutes, 12,688,000 radiotelegram words and 144,000 radiotelex minutes. Leased services saw an increase with radiotelephone leased services up 56 per cent to 7,794,000 hours and radiotelex leased services up 73.5 per cent to 5,568,000 hours.

Radiocommunication stations authorised

At 30 June 1978 there were 460,171 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 6,316 were stations established at fixed locations, 24,000 were land stations which were established at fixed locations for communication with mobile stations, 13 were space and broadcasting stations, 420,442 were mobile stations and 9,400 were amateur stations. Particulars of broadcasting stations are shown on page 468.

BROADCASTING AND TELEVISION

Radio and television broadcasting falls within the jurisdiction of the Commonwealth Government and, pursuant to the *Broadcasting and Television Act 1942,* is one of the responsibilities of the Minister for Communications. Federal bodies which are involved include the Australian Telecommunications Commission, the Australian Broadcasting Corporation (ABC), the Special Broadcasting Service, the Australian Broadcasting Tribunal, the Department of Communications and the Overseas Telecommunications Commission.

Basically, the Australian broadcasting system is comprised of the following types of stations:

- national radio and television stations broadcasting programs produced by the Australian Broadcasting Corporation;
- commercial radio and land television stations operated by companies under licence;
- public radio stations operated by corporations under licence on a non-profit basis; and
- stations operated under the aegis of the Special Broadcasting Service.

As from 1 January 1977, the Minister for Communications assumed the responsiblity 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 stations are operated by companies under licences granted by the Australian Broadcasting Tribunal and with technical operating conditions determined by the Minister for Communications. The stations obtain income from the broadcasting of advertisements. At 30 June 1985 there were 137 commercial radio stations in operation in Australia. Call signs for radio stations 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 fifty commercial television stations and 130 commercial television translator stations in operation in Australia. A television translator station is a station of low power designed to receive the signals of another station and re-transmit them; it does not originate programs. There are nine limited coverage repeater stations in Australia operated by mining companies which transmit programs recorded on magnetic tape.

The Public Broadcasting Service

The Broadcasting and Television Act also makes provision for the grant of licences for the operation of public radio and television stations. At 30 June 1985, 53 public radio stations were broadcasting programs ranging from fine music to ethnic languages and programs produced by and directed towards specific communities. A number of public radio stations are associated with tertiary educational institutions. There are no public television services in operation.

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 mutilingual television services. A regulation authorising the provision of mutilingual television services was gazetted in August 1978. The Service is also empowered by the *Broadcasting and Television Act 1977* 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 broadcasting services to:*
  - the Melbourne metropolitan area and Geelong through radio station 3EA which broadcasts in 42 languages for 126 hours per week
  - the Sydney metropolitan area through radio station 2EA which broadcasts in 48 languages for 126 hours per week
  - the provincial centres of Newcastle and Wollongong in N.S.W. through 2EA translator stations.
- subsidies to public broadcasting stations in Adelaide, Brisbane, Canberra, Hobart, Perth, Albury, Armidale, Bathurst, Lismore and Newcastle for the production and presentation of ethnic radio programs.
- a subsidy to Whyalla Ethnic Broadcasters Inc. for the production of ethnic radio programs for presentation on commercial radio station 5AU Whyalla.
- *a multicultural television service* on VHF Channel 0 and UHF Channel 28 to the Sydney and Melbourne metropolitan areas and Geelong.

Broadcasting services

The Australian Broadcasting Tribunal

The Australian Broadcasting Tribunal came into being on 1 January 1977 and is respon-
sible for certain of the functions previously performed by the Australian Broadcasting Control
Board (abolished 31 December 1976), including the licensing and supervising of the opera-
tions (other than technical aspects) of all stations except national stations. The Tribunal is
empowered to grant, renew, suspend or revoke licences, to determine program and advertising
standards applicable to licensed stations and to determine the hours of transmission of
licensed stations. 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 broadcast-
ing practices, alleged breaches of licence conditions and such other matters as the Minister
may direct.
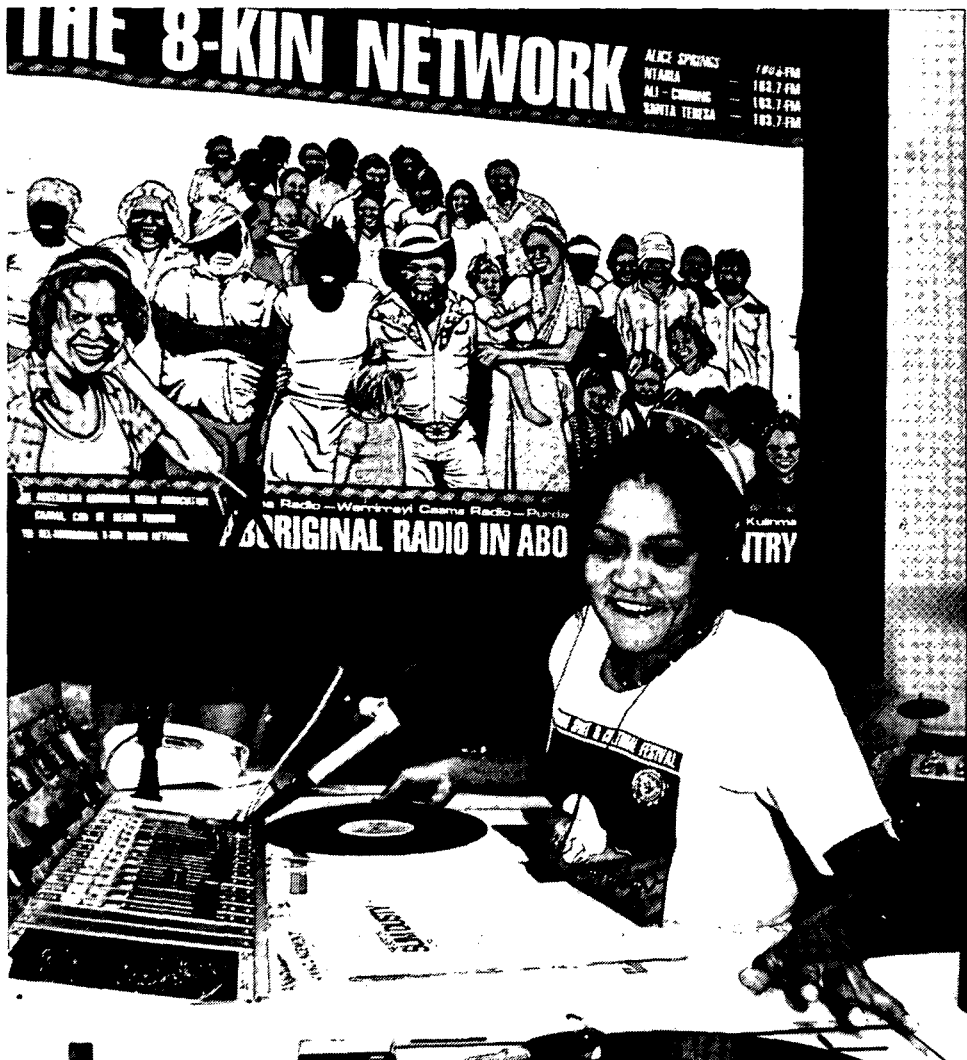
Australia's first Aboriginal radio station, 8-KIN FM, operated by the Central Office Australian
Aboriginal Media Association commenced broadcasting in 1985.

Australian Information Service

The National Broadcasting Service

In sound broadcasting the programs of the National Broadcasting Service are provided by the Australian Broadcasting Corporation through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Communications.

Technical facilities. At 30 June 1985 the National Broadcasting Service comprised 149 transmitting stations, of which ninety-six were medium frequency, thirty-seven frequency modulation and sixteen high frequency (five internal and eleven Radio Australia).

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 three to thirty 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 country 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 both the national and commercial broadcasting stations.

At 30 June 1985 eighty-three of the ABC's medium-frequency stations were situated outside the six State capital cities.

Program facilities. The programs of the Australian Broadcasting Corporation cover a wide range of activities. The proportions of broadcasting time allocated on Radio 1 stations to the various types of program during 1984-85 were as follows: entertainment 51.2 per cent; news 8.3 per cent; sporting 13.4 per cent; spoken word 14.4 per cent; parliament 10.2 per cent; religious 1.2 per cent; rural 0.7 per cent; and presentation 0.5 per cent. By contrast, the ABC's Radio 2 station's programming was: classical music 53.0 per cent; light music 0.4 per cent; entertainment 3.4 per cent; drama and features 6.0 per cent; education 5.6 per cent; spoken word 14.1 per cent; religious 3.6 per cent; news 8.4 per cent; rural 3.6 per cent; and presentation 1.5 per cent. Radio 3 (regional) stations feature a higher proportion of news and rural programs. Further particulars of the operations of the Australian Broadcasting Corporation in respect of music, drama and features, youth education, talks, rural broadcasts, news, and other activities are shown in the Annual Report of the ABC.

Overseas Broadcasting Service

There are six high-frequency stations at Shepparton, two at Lyndhurst, Victoria, three at Darwin, N.T. and three at Carnarvon, Western Australia which provide the overseas service known as Radio Australia. As in the case of the National Broadcasting Service, these stations are maintained and operated by Telecom Australia, and their programs are arranged by Radio Australia. The programs, which, as well as entertainment, give news and information about Australia presented objectively, are directed to most parts of the world but with special emphasis on Asia and the Pacific. They include sixty-seven news bulletins a day. The overseas audience has been quite substantial in recent years, as evidenced by a large number of letters from listeners abroad (181,708 in 1983–84 and 178,540 in 1984–85), Radio Australia broadcasts in nine languages—English, Indonesian, Japanese, Neo-Melanesian, Thai, French, Standard Chinese, Cantonese and Vietnamese.

BROADCASTING STATIONS: 30 JUNE 1985

Type of station	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
National—									
Medium frequency	21	7	21	10	23	6	6	2	96
High frequency	—	2	2	—	1	—	—	—	5
Frequency modulation	11	7	6	3	6	2	1	1	37
Overseas—									
Short wave (Radio Australia)	—	8	—	—	3	—	3	—	14
Commercial—									
Medium frequency	43	24	29	10	17	8	2	2	135
Frequency modulation	2	2	1	1	1	—	—	—	7
Public broadcasting—									
Medium frequency	2	2	1	1	1	—	—	1	(a)8
Frequency modulation	8	4	3	2	2	2	2	—	23

(a) Includes broadcasting stations 2EA and 3EA operated by the Special Broadcasting Service.

Television services

The National Television Service

The National Television Service is provided by the Australian Broadcasting Corporation through transmitters operated by Telecom Australia on behalf of the ABC and the Department of Communications. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956. At 30 June 1985, 290 stations were operating—84 transmitters and 206 translator stations.

The television programs provided by the Australian Broadcasting Corporation cover a wide range of activities. The proportions of television time allocated among the ABC's various departments at 30 June 1985 were as follows: drama 19.62 per cent; public interest 13.73 per cent; sporting 13.11 per cent; news 5.99 per cent; variety and acts 4.64 per cent; education 26.52 per cent; musical performance 1.51 per cent; religious 1.03 per cent; special arts and aesthetics 7.52 per cent; and presentation 6.12 per cent. The average weekly transmission time for the 276 national television transmitters was ninety-five hours during the year ended 30 June 1984.

During the year ended 30 June 1985, fourteen new national translator channels went into operation—one in New South Wales, two in Victoria, ten in Queensland and one in Western Australia.

Colour television

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

TELEVISION AND TRANSLATOR STATIONS: 30 JUNE 1985

Type of station and location	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Total
National—									
Metropolitan television . .	1	1	1	1	1	1	1	1	8
Country television . . .	13	8	31	4	15	2	3	–	76
Translator	40	16	64	16	42	15	12	1	206
Total, National . .	54	25	96	21	58	18	16	2.	290
Commercial—									
Metropolitan television .	3	3	3	3	2	1	1	1	17
Country television . . .	11	6	8	3	4	1	–	–	33
Translator	36	12	24	5	7	17	–	1	102
Total, Commercial .	50	21	35	11	13	•19	1	2	152

BIBLIOGRAPHY

ABS Publications

Monthly Summary of Statistics, Australia (two monthly) (1304.0)
Digest of Current Economic Statistics, Australia (two monthly) (1305.0)
Commonwealth Government Finance (5502.0)
Shipping and Air Cargo Commodity Statistics, Australia (quarterly) (9206.0)
Shipping and Cargo, Australia (quarterly) (9211.0)
Rail Transport, Australia (9213.0)
Registration of New Motor Vehicles, Australia (monthly) (9301.0)
Motor Vehicle Registrations, Australia (monthly) (9303.0)
Motor Vehicle Registrations, Australia (9304.0)
Road Traffic Accidents Involving Fatalities, Australia (monthly) (9401.0)
Road Traffic Accidents Involving Casualties (Admission to hospitals), Australia (quarterly) (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, the Department of Aviation, the various harbour boards and trusts, the several Government railway authorities, the Australian Postal Commission, the Australian Telecommunications Commission, and the Australian Broadcasting Corporation.