CHAPTER 12

TRANSPORT AND COMMUNICATION

The statistics in this chapter relate in the main to the year 1972–73, with comparisons restricted to a few recent years. More detailed figures and particulars for earlier years are included in the annual bulletins, *Transport and Communication* (14.11), *Public Authority Finance—Authorities of the Australian Government* (5.12), and in the annual mimeographed statement *Motor Vehicle Registrations* (14.1). Current information on subjects dealt with in this chapter appears in the *Quarterly Summary of Australian Statistics* (1.3), the *Monthly Review of Business Statistics* (1.4), the *Digest of Current Economic Statistics* (1.5), *Overseas Shipping Cargo* (quarterly) (14.10), *Motor Vehicle Registrations* (quarterly) (14.2), two preliminary monthly statements *Registration of New Motor Vehicles* (14.6), (14.8), two quarterly bulletins *Road Traffic Accidents involving Casualties* (14.9), (14.14), *Road Accident Fatalities* (monthly) (14.13).

Information additional to that contained in Bureau publications is available in the annual reports and other statements of the Department of Transport, the various harbour boards and trusts, the several Government railway authorities, the Department of Civil Aviation, the Postmaster-General's Department, the Overseas Telecommunications Commission, the Australian Broadcasting Control Board, and the Australian Broadcasting Commission.

THE AUSTRALIAN TRANSPORT ADVISORY COUNCIL

In April 1946, the State and Federal Governments agreed to establish a co-ordinating and advisory committee at Ministerial level 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 (A.T.A.C.) thus established is comprised of the Australian Minister for Transport as Chairman, the Minister for the Capital Territory and Minister for the Northern Territory and each State Minister for Transport.

The Council primarily considers policy matters relating to transport operations, co-ordination and development. Its functions are: to initiate discussion and report to the respective Governments as necessary on any matter raised by the Council, or any State or Australian Government Authority; generally to exercise its purely advisory functions, and to report as necessary to the respective Governments concerned on any matter which will tend to promote a better co-ordination of transport development, while at the same time encouraging modernisation and innovation to meet changing needs; and to assist in maintaining continuous and comprehensive research in relation to transport development in Australia and abroad; such research to be carried out for the benefit of Australian Transport authorities and agencies.

The regulation of and the executive responsibility for transport is shared between the Australian and State Governments. A.T.A.C. is the meeting ground at a Ministerial level and provides an effective means for inviting discussion and reaching uniformity of approach towards transport administrative procedures and policy. It also provides a means for reviewing and discussing national solutions of transport problems and the rectification of transport deficiencies generally. The Council has been active in: the establishment of special committees and conferences to examine and report on specific problems such as road safety, motor vehicle standards and safety features, motor vehicle emissions, transport economic research, highway planning, level crossing accidents, blood tests for road users, driver improvement, pedestrian behaviour, etc.; the exchange of views and formulation of common policies on a wide range of transport matters; effecting at ministerial level Federal-State and interstate co-operation on such matters as construction and operation of interstate railway links, collecting of fines and fees interstate, policing of regulations, etc.; and the publication of comprehensive surveys of Australian transport.

Typical of matters A.T.A.C. has examined from time to time are the following: the effect of standardisation of railway gauges on other modes of transport; advanced national policies of road development and research; transport in relation to interstate tourist traffic; standardisation of traffic signs and road signs; standard and improved statistical data relating to transport of passengers and goods; uniform road traffic laws and standards for motor vehicle design and equipment; control of emissions from motor vehicles; pipelines as a transport medium; and containerisation and the need for uniform legislation, particularly in relation to maximum weights of road vehicles.

Details of the advisory committees established at February 1973 by the Transport Advisory Council are given in Year Book No. 59, pages 330-1.

SHIPPING

Control of shipping

Australian Government navigation and shipping legislation

For an outline of the development and scope of Australian Government legislation, *see* Year Book No. 55, pages 366-7.

Australian Government Acts connected with shipping are: the *Navigation Act* 1912-1973, the *Sea Carriage of Goods Act* 1924-1973, the *Seamen's Compensation Act* 1911-1973, the *Seamen's War Pensions and Allowances Act* 1940-1973, the *Pollution of the Sea by Oil Act* 1960-1973, the *Pollution of the Sea by Oil (Shipping Levy) Act* 1972; the *Pollution of the Sea by Oil (Shipping Levy Collection) Act* 1972; the *Australian Coastal Shipping Commission Act* 1956-1973, the *Australian Coastal Shipping Agreement Act* 1956, the *Stevedoring Industry Act* 1956-1973, the *Beaches, Fishing Grounds and Sea Routes Protection Act* 1932-1966, the *Submarine Cables and Pipelines Protection Act* 1963-1973, the *Lighthouses Act* 1911-1973, the *Explosives Act* 1961-1973 and the *Supply and Development Act* 1939-1973.

Australian Coastal Shipping Commission

The Commission was established under the *Australian Coastal Shipping Commission Act* 1956-1973 for the purpose of maintaining and operating interstate, overseas and territorial shipping services. It operates as The Australian National Line which at 31 December 1973 comprised 29 vessels, including one large bulk carrier on charter from a foreign owner.

The fleet includes four vessels in overseas trading: the 14,307 tonne deadweight vehicle deck/container ship, *Australian Enterprise*; the 26,843 tonne deadweight cellular/container ship, *Australian Endeavour*; the 26,515 tonne deadweight cellular/container ship, *Australian Exporter*; the 20,600 tonne deadweight roll-on/roll-off ship, *Allunga*. The coastal fleet includes two vehicle deck passenger ships, *Empress of Australia*, 8,196 tons gross and *Australian Trader*, 7,005 tons gross; six vehicle-deck cargo ships totalling 31,353 deadweight tonnes; one container ore carrier of 12,092 deadweight tonnes in the Darwin trade; three bulk carriers in the 50,800 deadweight tonnes class, twelve other bulk carriers totalling 121,858 deadweight tonnes; and one 3,170 deadweight tonne cellular/container ship.

Orders have been placed for the construction of two 121,920 deadweight tonne bulk ore carriers, a 23,360 deadweight tonne second-generation roll-on/roll-off vessel, and a 6,807 deadweight tonne *Seacoaster* vessel.

The Line operates specialised terminals at Adelaide, Melbourne, Geelong, Burnie, Devonport, Bell Bay, Hobart, Sydney, Port Kembla, Brisbane, Rockhampton (Port Alma), Mackay, Townsville, Cairns and Darwin.

In the year ended 30 June 1973 the vehicular passenger ships *Empress of Australia* and *Australian Trader* carried a total of 125,530 passengers and 41,709 passengers' and trade vehicles between the mainland and Tasmania. Over the same period over 8.8 million tonnes of cargo were carried by Australian National Line vessels.

Australian Shipbuilding Board

Established in March 1941 under the National Security (Shipbuilding) Regulations and constituted in 1948 under the *Supply and Development Act* 1939-1948, the Board consists of a Chairman and five Members, one of whom is also a Member of the Naval Board. Members are appointed by the Minister for Transport.

The functions of the Board are to advise the Minister on the administration of the Government's shipbuilding subsidy scheme, including the consideration of tenders for ships to be built in Australia or overseas, and the recommendation of the prices at which vessels may be purchased and sold on behalf of the Australian Government, and other matters referred to it affecting shipbuilding.

To 31 December 1973, 261 vessels valued at approximately $566 million had been completed under the Australian Government subsidy scheme. Seventy of the vessels, ranging from customs launches to survey and research vessels, landing craft and lighthouse supply vessels, were built for the Australian Government. The remaining 191 were built with Government subsidy for other shipowners, including the Australian National Line.

Four major Australian shipyards are building merchant vessels—one in Queensland, one in South Australia, and two in New South Wales; two shipyards are engaged principally in naval shipbuilding—one in New South Wales and one in Victoria.

Shipbuilding industry assistance. The Australian shipbuilding industry has been subsidised since 1947. The new shipbuilding policy, as announced by the Australian Government on 18 December 1973, provided that vessels of 150 tons gross or more, and in the case of fishing vessels, 21 metres or more in length, would be eligible for assistance. Vessels intended for use by Australian flag operators in international trade, and modifications exceeding $500,000 in cost to existing vessels, are also eligible for assistance. Rates of subsidy are to be phased down gradually from a maximum level of 45 per cent of cost of construction in 1973 to a long-term rate of 25 per cent by 31 December 1980.

As in the past, all ships are prohibited imports. Certain classes of ships may be imported under general consent, but otherwise the specific approval of the Minister for Transport is required. In respect of new vessels, specific approval to import may be granted where, inter alia, public tenders have been called in Australia and overseas, and the after-subsidy price of the lowest acceptable tender from an Australian yard exceeds the price of the lowest acceptable tender from an overseas yard. Secondhand vessels may be authorised for temporary importation only.

Australian Stevedoring Industry Authority

In June 1949 legislation was enacted to abolish the Stevedoring Industry Commission, on which employers and employees were represented, and establish in its place a Stevedoring Industry Board of three members, to attend to administrative matters formerly under the control of the Commission. The industrial functions which previously came within the province of the Commission were assigned to a single Judge of the Commonwealth Court of Conciliation and Arbitration. In August 1956, the Stevedoring Industry Board was replaced by the Australian Stevedoring Industry Authority of three members, including a representative of the management side of industry and a representative of the trade union movement. At the same time the judicial and non-judicial functions formerly exercised by the Commonwealth Court of Conciliation and Arbitration were divided between the Commonwealth Industrial Court and the Commonwealth Conciliation and Arbitration Commission respectively. Awards of the Conciliation and Arbitration Commission subsequently placed payment of sick pay, public holiday pay and annual leave under the administration of the Authority. Under amending legislation, which operated from 6 June 1961, the Authority became responsible for payment of long service leave to registered waterside workers, and its disciplinary powers were strengthened to reduce the time lost through unauthorised stoppages. Further amending legislation which operated from 8 October 1965 made the Authority responsible for the recruitment of waterside workers. In July 1970, by legislative amendment, the management and union positions on the Authority were abolished. The functions of the Authority are now exercised by one full-time Director.

Following adoption of the General Report of the National Stevedoring Industry conference of April 1967, the *Stevedoring Industry (Temporary Provisions) Act* 1967 provided for permanent employment of registered waterside workers. This was introduced in Sydney in November 1967 and has since been extended to all the principal ports. Arrangements for a reconstructed labour force in small ports throughout Australia are currently being evolved. Operation of the *Stevedoring Industry (Temporary Provisions) Act*, initially for a period of three years, was extended in 1970, 1972 and 1973 and is currently due to expire on 30 June 1974.

In July 1970 the National Stevedoring Industry Conference was given a statutory basis and redesignated the Stevedoring Industry Council. The Council is constituted along the same lines as the National Stevedoring Industry Conference. Its functions are primarily to advise the Minister for Labor and Immigration on the operation of the existing employment arrangements, the development of new employment schemes and such other matters as the Minister might refer to it. It is also required to endeavour to bring about amicable agreement in relation to industrial questions in the industry.

The statutory provisions relating to the industry are now contained in the *Stevedoring Industry Act* 1956–1971, the *Stevedoring Industry Act* 1965, the *Stevedoring Industry (Temporary Provisions) Act* 1967–1973, the *Stevedoring Industry Charge Act* 1947–1973, the *Stevedoring Industry Charge Assessment Act* 1947–1971 and Division 4 of Part III of the *Conciliation and Arbitration Act* 1904–1973.

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Restrictive Trade Practices Act 1971-1972 (Part XII—Overseas Cargo Shipping)

The Overseas Cargo Shipping provisions of the Restrictive Trade Practices Act are administered by the Minister for Transport.

The legislation is an extension of similar provisions previously enacted under the *Trade Practices Act* 1965–1969 (now repealed) and the *Restrictive Trade Practices Act* 1971 (as amended).

The object of the Overseas Cargo Shipping provisions is the control of the operations of shipping conferences (associations into which shipowners have traditionally combined) and of individual shipowners in relation to the carriage of goods by sea from Australia to other countries. To achieve that object the provisions are designed to facilitate negotiations between shipowners and 'The Australian Shippers' Council', an association, designated under the Act by the Minister, that represents the interests of shippers and producers of goods exported from Australia.

Regarding shipping conferences, the provisions require certain agreements of a specified character between shipowners operating in the outward trades from Australia to be filed with the Clerk of Shipping Agreements. A shipowner who is a party to such an agreement may be requested, by the Minister, to give to the Minister an undertaking to negotiate with the Council with regard to the arrangements for, and the terms and conditions that are applicable to, cargo shipping to which the agreement relates. Whether such a shipowner has failed so to negotiate or whether the services provided pursuant to the agreement are adequate, efficient or economical, are matters that may be referred by the Minister for enquiry and report by the Trade Practices Tribunal. Certain powers are vested in the Governor-General to disapprove the agreement after consideration of a report by the Tribunal to the Minister. A probable effect of such a disapproval would be to force a shipowner party to the agreement to carry on its business in the absence of any agreement with other shipowners. The Governor-General may, however, in his discretion approve such a shipowner entering into another agreement.

Provisions, similar to the provisions in respect of shipping conferences, apply in respect of individual shipowners. In addition, an individual shipowner may, as a result of a declaration by the Governor-General, be prohibited from engaging in certain specified activities in carrying on its business, for example engaging in freight cutting with the object of substantially damaging the business of another shipowner.

The provisions also secure reasonable rights for Australian flag operators in respect of the operation of their vessels in trades from Australia.

Maritime Industry Commission of Inquiry

The Commission was established in September 1973 with the following terms of reference:

To ensure that the development of the Australian maritime industry proceeds in harmony with the overall transportation policies and general economic and social aims of the Government and that that development should have full regard to the encouragement of the best use of manpower resources, the application of modern technological developments and the promotion of safe and efficient working operations.

To inquire into, and report upon, all matters related to the development of the Australian maritime industry, so far as they are matters connected with the peace, order and good government of the Commonwealth and are relevant to the exercise and performance of the powers of the Australian Parliament or the performance of the functions of the Australian Government, and to make recommendations for a comprehensive framework for the long-term development of that industry, having regard to the foregoing objectives and the best overseas' policies and practices and recommendations for the specific programs of action required to achieve those objectives.

The inquiry and recommendations shall include, in addition to all other relevant matters, the following specific matters, namely:

the need for revision and modernisation of existing legislation;

the most appropriate administrative and organisational arrangements for the exercise of operational and safety policies, standards and controls over the maritime industry;

the significance of international treaties, conventions and agreements for the industry, and the need for Australian initiatives in relation thereto;

a desirable program for modernisation and extension of navigational aid systems;

the adequacy of existing port and associated facilities and their future development requirements, having regard to such factors as location, capacity and user needs, and the requirements of interstate and international trade and commerce; and

the training requirements of the industry, including the establishment of an Australian Merchant Marine College.

Collection and presentation of statistics

Basic documents

From 1 July 1966 shipping statistics have been compiled by the Australian Bureau of Statistics from returns submitted by shipping companies or their representatives to Customs Houses at the various seaports throughout Australia. A return is required for the departure of a vessel from a port as well as for its arrival at that port.

Scope of the statistics

Arrivals and departures of vessels are treated separately in shipping statistics. Not all vessels are included in the statistics as returns are not required for (i) naval vessels; (ii) yachts and other craft used for pleasure; (iii) foreign fishing vessels that neither load nor discharge cargo; (iv) Australian registered fishing vessels operating from Australian ports; (v) geographical survey vessels, seismic survey vessels, oceanographic survey vessels; (vi) offshore oil drilling rigs and vessels servicing them; (vii) vessels of 200 registered net tons and under.

Period covered by the statistics

Monthly shipping statistics relate to vessels arriving at and departing from each port in a calendar month. Annual statistics are published on a financial year basis.

Statistics of vessels

Statistics of vessels are compiled in terms of registered net tonnages. Net tonnage is expressed in units of 100 cubic feet (i.e. 100 cu ft equals 1 ton) and represents the volume of enclosed space which can be utilised for cargo or passengers.

Statistics of vessel movements

Returns show the last or next port of call of a vessel according to whether an arrival or departure at a port is being reported. Each vessel is classified to either the overseas or the coastal fleets serving Australia. This information, supplemented by the voyage of the vessel indicated by ports it visits to load or discharge cargo, is the basis on which each vessel movement is allocated to one of the following classifications: overseas direct; overseas via other States; interstate direct; interstate via ports in the same State; intrastate.

Cargo loaded or discharged

Returns for arrivals show cargo discharged, and for departures cargo loaded, in terms of tonnes or cubic metres, depending on the basis on which freight is charged.

Type of service

Overseas shipping cargo statistics are classified by type of service. Coastal shipping cargo statistics, on the other hand, combine all service types.

For overseas shipping, cargo shipped in liners is shown separately from cargo shipped in tramps, bulkships and tankers. A liner is a vessel which, on the voyage on which cargo is loaded or discharged at an Australian port, is operated to provide services on a specified route on a relatively regular basis.

Statistics of cargo shipped in liner services do not necessarily provide a measure of cargo carried by ships operating under shipping conference arrangements. For example, liner services may be provided by shipping companies which are not parties to conference agreements. Cargo may also be shipped under shipping conference conditions in vessels operating on a voyage charter basis for specific cargo, and, in the statistics, such cargo is classified as cargo shipped in tramp vessels.

Country of loading or discharge of overseas cargo

In statistics of overseas shipping cargo, country of loading or discharge of cargo is the country of location of the port where the cargo was loaded on to, or is to be discharged from, a reporting vessel. 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.

Transhipments of cargo within Australia

The State of loading or discharge shown in the statistics is the State in which cargo is loaded onto, or discharged from, reporting vessels. Cargo loaded in a given State can therefore include cargo previously shipped interstate, while cargo discharged can include cargo which would subsequently be shipped interstate.

Units of measurement

Deadweight tonnage. A measure of the total mass (weight) of cargo, fuel, potable water, boiler feed water, ballast, stores, crew and their gear, etc. It is equal to loaded displacement tonnage less light displacement tonnage.

Gross tonnage. A measure of the enclosed internal volume of a ship and its superstructure, with certain spaces exempted. It is also an indicator of the total volumetric size of a ship.

Net tonnage. A volumetric measure consisting of the gross tonnage less the volume of non-earning spaces, e.g. master's cabin, crew accommodation, wheelhouse, galley, etc., and an allowance for machinery spaces. Volumetric measurement of ships have not yet been converted to metric.

Overseas shipping

Total movement

The following table shows the number of entrances and clearances (combined) of vessels from and to overseas countries, and the aggregate net tonnage involved.

OVERSEAS SHIPPING: ENTRANCE AND CLEARANCES (COMBINED) OF VESSELS DIRECT, AUSTRALIA(*a*)

	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Number of vessels	8,750	10,022	11,054	10,886	11,278
Net tonnage '000 tons	72,578	89,058	102,219	106,636	124,659

(*a*) Excludes vessels of 200 net tons and under.

Particulars of the total overseas movement of shipping for each year from 1822 to 1920–21 were published in Year Book No. 15, page 507, those for each year from 1921–22 to 1950–51 in Year Book No. 40, page 97, while those for each year from 1946–47 are shown in the Statistical Summary of this Year Book.

Total overseas shipping

The following table shows, for each State and the Northern Territory, the number of entrances and clearances of vessels direct from and to overseas countries, and the aggregate net tonnage involved.

OVERSEAS SHIPPING: ENTRANCES AND CLEARANCES OF VESSELS DIRECT(*a*). 1972–73

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Entrances	number	1,422	535	1,196	239	1,843	172	240	5,647
	'000 net tons	12,267	3,234	12,066	2,025	29,059	2,156	1,821	62,628
Clearances	number	1,082	514	1,405	321	1,943	154	212	5,631
	'000 net tons	9,718	3,902	13,366	1,905	29,235	2,113	1,792	62,031

(*a*) Excludes vessels of 200 net tons and under.

Country of registration of overseas shipping

Particulars of overseas shipping which entered Australian ports are given in the following table according to country of registration of vessels.

OVERSEAS SHIPPING: ENTRANCES DIRECT, BY COUNTRY OF REGISTRATION OF VESSELS AUSTRALIA (*a*)

('000 net tons)

Vessels registered at ports in	*1970–71*	*1971–72*	*1972–73*	*Vessels registered at ports in*	*1970–71*	*1971–72*	*1972–73*
Australia	446	529	358	Panama	1,156	1,042	1,159
Denmark	569	492	909	Sweden	1,027	887	1,143
France	552	669	533	United Kingdom	8,632	8,972	11,246
Germany, Federal Republic of	952	1,388	2,022	United States of America	394	300	308
Greece	3,953	3,068	3,179	Other countries	2,851	3,634	4,288
Hong Kong	459	566	262				
India	692	684	607	All countries—			
Italy	694	639	752	In cargo	17,571	17,655	17,736
Japan	11,868	14,780	19,900	Proportion of total %	34.6	33.2	28.3
Liberia	10,543	9,501	8,044	In ballast	33,249	35,489	44,892
Netherlands	1,078	1,086	1,061	Proportion of total %	65.4	66.8	71.7
New Zealand	337	325	328				
Norway	4,617	4,582	6,528	Grand total	50,820	53,144	62,628

(*a*) Excludes vessels of 200 net tons and under.

Australian registered tonnage which entered Australian ports from overseas during the year 1972–1973 represented 0.57 per cent of the total tonnage entered.

Interstate shipping

Interstate movement

Interstate direct. The following table shows the number of entrances and the net tonnage of coastal vessels recorded into each State and the Northern Territory from any other State during 1972–73. The statistics below are not comparable with those for years prior to 1969–70 because the method of applying the classifications 'overseas' and 'interstate' has been changed. Before July 1969 movements of overseas vessels carrying cargo between two Australian States were classified as 'interstate direct' and were, therefore, included in these statistics. Since July 1969 overseas vessels carrying cargo between two Australian States have been classified as 'overseas via States' and are, therefore, excluded from these statistics. The difference in treatment arose from the practice of classifying movements between two Australian States on the basis of port of loading and port of discharge, whereas the current method classifies these movements on the basis of whether the vessel is considered to be an overseas or a coastal one. Total interstate movements by coastal and overseas vessels are shown in *Total interstate movements* below.

INTERSTATE MOVEMENT: ENTRANCES OF COASTAL VESSELS INTERSTATE DIRECT 1972–73(*a*)

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Number of vessels		1,185	1,437	370	572	260	1,308	83	5,215
Net tonnage	'000 tons	8,441	7,693	2,581	3,538	2,667	3,552	325	28,797

(*a*) Excludes vessels of 200 net tons and under.

Overseas via States. The figures in the following table show the number and aggregate net tonnage of entrances and clearances of overseas vessels which, having arrived at an Australian port direct from an overseas port, continue their voyages from/to overseas countries via other Australian States. The statistics in the following table are not comparable with those prior to 1 July 1969 because of the change in method of classifying some overseas vessel movements referred to under *Interstate direct, see* above.

INTERSTATE MOVEMENT: ENTRANCES AND CLEARANCES OF VESSELS OVERSEAS VIA OTHER AUSTRALIAN STATES, 1972–73(*a*)

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Entrances	number	1,693	1,495	1,177	767	890	392	57	6,471
	'000 net tons	9,056	9,590	5,911	4,147	5,657	1,882	323	36,566
Clearances	number	2,019	1,509	970	697	768	409	83	6,455
	'000 net tons	11,587	8,879	4,505	4,434	4,915	1,885	333	36,539

(*a*) Excludes vessels of 200 net tons and under.

Total interstate movement. The following table shows, for each State and the Northern Territory, the total number of entrances and clearances of vessels from and for other States during the year 1972–73 together with the aggregate net tonnage.

INTERSTATE MOVEMENT: TOTAL ENTRANCES AND CLEARANCES STATES AND NORTHERN TERRITORY, 1972–73(*a*)

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*Aust.*
Entrances	number	2,878	2,932	1,547	1,339	1,150	1,700	140	11,686
	'000 net tons	17,497	17,284	8,493	7,684	8,323	5,433	648	65,363
Clearances	number	3,198	2,941	1,328	1,260	1,035	1,704	167	11,633
	'000 net tons	19,884	16,498	7,072	7,822	7,925	5,409	664	65,273

(*a*) Excludes vessels of 200 net tons and under.

The following table shows the total interstate movement of shipping, including overseas vessels travelling overseas via States, for Australia.

INTERSTATE MOVEMENT: TOTAL ENTRANCES AND CLEARANCES AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Entrances	number	10,830	10,843	12,169	12,128	11,686
	'000 net tons	47,005	53,732	65,141	66,140	65,363
Clearances	number	10,824	10,781	12,113	12,146	11,633
	'000 net tons	47,070	53,523	64,843	66,228	65,273

(*a*) Excludes vessels of 200 net tons and under.

Australian trading vessels

The following table shows particulars of all Australian trading vessels of 200 gross tons or more engaged in the regular overseas, interstate or intrastate services at 31 December 1973.

AUSTRALIAN TRADING VESSELS OF 200 GROSS TONS OR MORE 31 DECEMBER 1973

(*Source:* Department of Transport)

Vessels	*Number*	*Dead-weight tons*	*Gross tons*
Interstate vessels—			
Australian-owned, Australian-registered	62	892,974	633,109
Overseas-owned, Australian-registered, engaged in Australian coastal trade—			
New Zealand-owned	6	19,724	17,440
Other	6	216,061	135,778
Overseas-owned, overseas-registered, on charter, engaged in Australian coastal trade	11	478,797	276,920
Total interstate vessels	85	1,607,556	1,063,247
Intrastate vessels	23	197,375	125,768
Total coastal trading vessels	*108*	*1,804,931*	*1,189,015*
Overseas trading vessels—			
Australian-owned, Australian-registered operated mainly on overseas services	7	104,696	84,495
Australian-owned, overseas-registered operated wholly on overseas services	3	24,664	19,677
Total overseas trading vessels	*10*	*129,360*	*104,172*
Total Australian trading vessels	**118**	**1,934,291**	**1,293,187**

Shipping at principal ports

For details of Harbour Boards and Trusts in each State *see* the chapter Public Finance.

The following table shows the total volume of shipping—overseas and coastal—entering the principal ports of Australia.

TOTAL SHIPPING: ENTRANCES AT PRINCIPAL PORTS, AUSTRALIA(*a*)

Port of entry	1971-72 Number	1971-72 Net tons	1972-73 Number	1972-73 Net tons
		'000		'000
New South Wales—				
Sydney(*b*)	3,652	19,562	3,530	18,812
Newcastle	1,197	7,460	963	6,760
Port Kembla	932	5,818	923	6,565
Victoria—				
Melbourne	2,823	14,003	2,708	13,492
Geelong	559	4,412	466	3,251
Queensland—				
Brisbane	1,469	8,144	1,438	8,374
Bowen	34	123	26	87
Cairns	176	524	214	721
Gladstone	372	5,179	380	5,685
Mackay	242	977	215	973
Rockhampton	134	559	138	501
Townsville	370	1,528	345	1,500
Weipa	279	3,326	261	3,603
South Australia—				
Adelaide(*c*)	1,263	6,116	1,240	5,589
Port Lincoln	110	668	137	729
Port Pirie	183	899	175	885
Rapid Bay	31	124	39	170
Wallaroo	29	179	29	147
Whyalla	276	2,565	333	2,843
Western Australia—				
Fremantle(*d*)	1,524	11,657	1,404	10,503
Albany	167	1,021	156	1,041
Bunbury	138	776	135	789
Carnarvon	20	32	16	24
Geraldton	123	791	128	813
Yampi	149	1,315	129	1,344
Port Hedland	546	8,718	553	11,855
Dampier	396	6,522	434	8,942
Tasmania—				
Hobart	612	1,730	592	1,662
Burnie	425	1,542	430	1,401
Devonport	493	1,048	487	1,728
Launceston	468	1,614	464	1,985
Port Latta	40	754	50	874
Northern Territory—				
Darwin	232	979	212	1,044
Groote Island	82	408	95	566

(*a*) Excludes vessels of 200 net tons and under. (*b*) Includes Botany Bay. (*c*) Includes Port Stanvac. (*d*) Includes Kwinana.

Shipping cargo

Overseas and interstate cargo

The table on page 360 shows the aggregate tonnage of overseas and interstate cargo discharged and shipped at principal Australian ports.

CARGO DISCHARGED AND SHIPPED: AUSTRALIA

('000)

Year	Overseas cargo: Discharged Tonnes	Overseas cargo: Discharged Cubic metres	Overseas cargo: Shipped Tonnes	Overseas cargo: Shipped Cubic metres	Interstate cargo: Discharged Tonnes	Interstate cargo: Discharged Cubic metres	Interstate cargo: Shipped Tonnes	Interstate cargo: Shipped Cubic metres
1968–69	29,768	5,903	55,838	2,327	18,449	2,448	18,808	2,188
1969–70	28,654	1,313	78,082	2,409	20,634	2,546	20,807	2,299
1970–71	21,754	5,742	101,818	2,959	24,171	2,722	24,934	2,485
1971–72	19,505	5,865	108,047	3,161	25,801	3,087	26,387	2,799
1972–73	20,167	6,084	132,362	3,555	27,364	3,136	28,006	2,927

CARGO DISCHARGED AND SHIPPED AT PRINCIPAL PORTS, 1972–73

('000)

Port	Overseas cargo				Interstate cargo			
	Discharged		Shipped		Discharged		Shipped	
	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres	Tonnes	Cubic metres
New South Wales—								
Sydney	2,407	2,272	3,628	1,427	2,791	298	294	263
Botany Bay	1,555	..	95	..	3,470	..	71	..
Newcastle	1,254	3	7,017	1	3,331	..	988	6
Port Kembla	614	8	4,015	6	6,771	..	1,861	..
Other	65	..	407	..	37	..	..	..
Total New South Wales	*5,895*	*2,283*	*15,162*	*1,435*	*16,401*	*298*	*3,213*	*268*
Victoria—								
Melbourne	1,928	2,912	1,681	1,316	1,458	1,257	899	1,358
Geelong	1,697	11	1,642	28	483	..	753	1
Portland	254	..	181	..	12	..	18	..
Westernport	187	..	1,434	..	57	9	7,579	11
Other	..	..	..	..	..	1	..	..
Total Victoria	*4,066*	*2,923*	*4,937*	*1,343*	*2,009*	*1,266*	*9,249*	*1,372*
Queensland—								
Brisbane	925	328	1,441	146	2,969	26	232	32
Cairns	57	..	257	..	15	5	6	6
Gladstone	605	..	3,974	..	34	..	227	..
Mackay	33	..	825	..	19	..	57	..
Townsville	120	8	847	1	87	..	164	..
Other	38	1	1,3341	..	9	1	920	..
Total Queensland	*1,779*	*338*	*25,786*	*146*	*3,134*	*31*	*1,605*	*37*
South Australia—								
Port Adelaide	498	251	465	215	812	14	234	11
Ardrossan	..	..	137	..	..	..	323	..
Port Lincoln	64	..	384	1	33	..	213	..
Port Pirie	10	..	572	..	246	..	275	..
Port Stanvac	1,471	..	3	..	410	..	546	..
Rapid Bay	..	..	..	..	..	..	53	..
Whyalla	98	..	1,652	..	1,207	..	4,638	..
Other	52	..	721	..	1	..	493	..
Total South Australia	*2,192*	*251*	*3,934*	*216*	*2,710*	*14*	*6,774*	*11*
Western Australia—								
Fremantle	1,042	241	4,128	324	1,104	5	1,472	25
Albany	260	..	417	1	1	..	3	..
Bunbury	213	..	711	34	..	..	53	..
Dampier	240	..	26,177	..	16	20	..	..
Geraldton	96	..	1,475	..	..	..	..	..
Kwinana	2,816	..	381	..	63	..	302	..
Port Hedland	45	2	31,100	..	1	..	2,407	..
Yampi	..	..	2,627	..	37	..	717	..
Other	454	14	7,255	17	9	..	841	6
Total Western Australia	*5,165*	*257*	*74,271*	*377*	*1,229*	*25*	*5,796*	*32*
Tasmania—								
Hobart	321	12	319	6	637	228	483	160
Burnie	85	2	189	9	249	256	400	161
Launceston	86	4	771	6	653	304	144	211
Port Latta	36	..	2,519	..	6	..	..	..
Other	78	..	619	17	139	651	209	651
Total Tasmania	*517*	*19*	*4,417*	*37*	*1,685*	*1,438*	*1,238*	*1,181*
Northern Territory—								
Darwin	287	11	980	..	103	26	2	3
Groote Island	4	..	1,063	..	16	2	130	..
Gove	261	3	1,811	..	78	36	2	23
Other	..	..	..	..	..	..	..	..
Total Northern Territory	*552*	*14*	*3,855*	..	*197*	*65*	*133*	*26*
Australia	**20,167**	**6,084**	**132,362**	**3,555**	**27,364**	**3,136**	**28,006**	**2,927**

Overseas cargo according to major trade areas and type of service

The following two tables show particulars of cargo loaded in Australia for discharge overseas, and cargo discharged in Australia from overseas, classified according to the major trade areas of the world, by type of shipping service (i.e. liner or tramp, bulkship and tanker).

CARGO LOADED IN AUSTRALIA FOR DISCHARGE OVERSEAS: MAJOR TRADE AREAS BY TYPE OF SERVICE

('000)

Major trade areas	*Liners (a)*		*Tramps, bulk ships, tankers*		*All vessels*	
	Tonnes	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
North America and Hawaii—						
1970–71	551	181	4,721	7	4,672	188
1971–72	595	199	4,528	27	5,123	227
1972–73	700	209	4,097	11	4,797	220
South America—						
1970–71	53	12	550	...	603	12
1971–72	41	6	628	..	669	6
1972–73	35	13	787	4	821	17
Europe (including U.S.S.R.)—						
1970–71	1,141	609	15,100	..	16,241	609
1971–72	1,195	567	15,959	58	17,154	623
1972–73	1,296	771	19,560	20	20,856	791
Africa—						
1970–71	204	116	1,984	1	2,1'9	117
1971–72	171	103	2,591	8	2,763	111
1972–73	149	125	1,091	..	1,240	125
Asia—						
Eastern Asia—						
1970-71	1,166	444	71,128	11	72,294	455
1971–72	1,056	418	75,853	41	76,909	459
1972–73	1,431	540	98,471	20	99,902	560
Other Asia—						
1970–71	767	424	3,114	136	3,881	560
1971–72	749	437	2,908	262	3,658	699
1972–73	803	446	2,289	212	3,092	658
Total Asia—						
1970–71	*1,934*	*868*	*74,242*	*147*	*76,175*	*1,015*
1971–72	*1,806*	*855*	*78,761*	*304*	*80,567*	*1,159*
1972–73	*2,233*	*986*	*100,760*	*232*	*102,993*	*1,217*
Papua New Guinea, New Zealand and Pacific Islands—						
1970–71	587	951	1,322	59	1,909	1,010
1971–72	525	939	1,218	89	1,744	1,028
1972–73	562	1,097	1,062	80	1,624	1,177
Indian Ocean Islands and Antarctic Area—						
1970–71	..	..	29	6	29	6
1971–72	..	..	29	8	29	8
1972–73	..	..	30	8	30	8
Total loaded						
1970–71	**4,470**	**2,738**	**97,348**	**220**	**101,818**	**2,959**
1971–72	**4,332**	**2,666**	**103,714**	**495**	**108,047**	**3,161**
1972–73	**4,976**	**3,200**	**127,387**	**355**	**132,362**	**3,555**

(a) Cargo and passenger liners.

CARGO DISCHARGED IN AUSTRALIA FROM OVERSEAS: MAJOR TRADE AREAS BY TYPE OF SERVICE

('000)

Major trade areas	*Liners(a)*		*Tramps, bulk-ships, tankers*		*All vessels*	
	Tonnes	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
North America and Hawaii—						
1970–71	464	693	1,330	415	1,794	1,108
1971–72	368	711	1,467	403	1,835	1,115
1972–73	373	709	1,619	417	1,992	1,126
South America—						
1970–71	37	3	11	..	48	3
1971–72	24	2	16	..	41	2
1972–73	6	1	12	..	18	1
Europe (including U.S.S.R.)—						
1970–71	633	1,838	150	177	783	2,015
1971–72	582	1,735	180	134	762	1,869
1972–73	605	1,813	355	66	959	1,879
Africa—						
1970–71	108	66	167	..	274	66
1971–72	92	79	70	..	164	80
1972–73	102	56	104	..	206	56
Asia—						
Eastern Asia—						
1970–71	479	1,197	1,547	317	2,026	1,514
1971–72	424	1,295	1,577	391	2,000	1,685
1972–73	497	1,507	1,782	388	2,279	1,895
Other Asia—						
1970–71	130	488	14,272	75	14,403	563
1971–72	136	466	12,554	102	12,690	567
1972–73	161	504	11,954	76	12,115	580
Total Asia—						
1970–71	*609*	*1,685*	*15,820*	*392*	*16,429*	*2,077*
1971–72	*559*	*1,760*	*14,131*	*493*	*14,691*	*2,253*
1972–73	*658*	*2,011*	*13,736*	*464*	*14,394*	*2,475*
Papua New Guinea, New Zealand and Pacific Islands—						
1970–71	305	441	1,480	33	1,785	473
1971–72	223	464	1,251	80	1,472	546
1972–73	228	499	1,641	47	1,869	546
Indian Ocean Islands and Antarctic Area—						
1970–71	..	..	639	..	639	..
1971–72	..	..	541	1	541	1
1972–73	..	..	728	1	728	1
Total discharged						
1970–71	**2,155**	**4,726**	**19,598**	**1,016**	**21,754**	**5,742**
1971–72	**1,848**	**4,753**	**17,657**	**1,112**	**19,505**	**5,865**
1972–73	**1,972**	**5,090**	**18,195**	**994**	**20,167**	**6,084**

(a) Cargo and passenger liners.

Overseas cargo according to country of registration of vessels

The following table shows the total overseas cargo, discharged and shipped combined, according to the country in which the vessels were registered.

OVERSEAS CARGO DISCHARGED AND SHIPPED, BY COUNTRY OF REGISTRATION OF VESSELS: AUSTRALIA

('000)

Vessels registered at ports in	*1970–71*		*1971–72*		*1972–73*	
	Tonnes	*Cubic metres*	*Tonnes*	*Cubic metres*	*Tonnes*	*Cubic metres*
Australia	659	435	658	522	605	505
Denmark	1,254	137	1,007	151	2,103	189
France	1,152	78	1,360	156	1,118	142
Germany, Federal Republic of	1,841	533	2,665	563	4,070	588
Greece	9,546	122	7,161	148	7,299	171
Hong Kong	950	69	1,284	66	635	124
India	1,551	94	1,634	78	1,370	72
Italy	1,005	65	955	58	1,423	66
Japan	36,281	1,019	45,110	904	59,719	1,013
Liberia	27,578	254	23,475	282	19,714	223
Netherlands	2,211	351	2,162	341	2,330	357
New Zealand	569	745	459	848	502	973
Norway	11,653	510	11,726	428	16,284	498
Panama	2,856	53	2,208	92	1,912	54
Sweden	2,525	569	2,132	599	2,573	541
United Kingdom	15,410	2,747	16,392	2,883	22,479	3,028
United States of America	597	215	297	200	161	237
Other	5,934	703	6,866	708	8,231	856
Grand total	**123,572**	**8,700**	**127,552**	**9,026**	**152,529**	**9,639**

World shipping tonnage

At 1 July 1973 the total number of steamships and motorships 100 gross tons and upwards throughout the world was 59,606 with a gross tonnage of 289,926,686. Of those totals, steamships numbered 6,482 for 103,569,993 gross tons, and motorships 53,124 for 186,356,693 gross tons. This includes 6,607 oil tankers of 100 gross tons and upwards with a gross tonnage of 115,365,200. Australian steamships and motorships, 373 for 1,160,205 gross tons constituted 0.63 per cent and 0.40 per cent respectively of the total number and gross tonnage. This information has been derived from *Lloyd's Register of Shipping*.

Vessels registered in Australia

The following table shows the number and gross tonnage of trading vessels of 200 tons and over registered in Australia at 31 December 1973, classified according to: (i) year of construction; (ii) type of trade in which the vessels were engaged; and (iii) vessels built in Australian or in overseas shipyards.

AUSTRALIAN-REGISTERED TRADING VESSELS, 31 DECEMBER 1973(*a*)

(*Source:* Department of Transport)

	Overseas and interstate vessels		*Intrastate vessels*		*Built in Australian yards*		*Built overseas*		*Total*	
Year of construction	*No.*	*Gross tons*	*No.*	*Gross tons*	*No.*	*Gross tons*	*No.*	*Gross tons*	*No.*	*Gross tons*
1969 and earlier	64	656,697	18	63,146	52	493,531	30	226,312	82	719,843
1970	5	62,144	..	..	4	52,814	1	9,330	5	62,144
1971	3	55,364	1	357	2	39,416	2	16,305	4	55,721
1972	4	56,639	1	48,947	4	82,100	1	23,486	5	105,586
1973	2	10,368	1	15,470	3	25,838	..	..	3	25,838
Total registered in Australia	**78**	**841,212**	**21**	**127,920**	**65**	**693,699**	**34**	**275,433**	**99**	**969,132**

(*a*) 200 gross tons and over.

Miscellaneous

Shipping freight rates

Lists of shipping freight rates for selected commodities are shown in the *Quarterly Summary of Australian Statistics*.

Shipping casualties

Courts of Marine Inquiry are constituted by a magistrate assisted by skilled assessors, and, when necessary, are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the certificates of officers who are found at fault. Particulars of shipping losses and casualties reported on or near the coast are shown in the table below.

SHIPPING CASUALTIES TO OVERSEAS AND INTERSTATE STEAM AND MOTOR VESSELS(*a*): AUSTRALIA

	Shipping losses			*Other shipping casualties*			*Total shipping casualties*		
Year	*Vessels*	*Net tons*	*Lives lost*	*Vessels*	*Net tons*	*Lives lost*	*Vessels*	*Net tons*	*Lives lost*
1968–69	..	..	..	105	434,028	..	105	434,028	..
1969–70	1	734	21	83	318,024	..	84	318,758	21
1970–71	..	..	..	79	451,196	2	79	451,196	2
1971–72	..	..	..	91	499,195	2	91	499,195	2
1972–73	..	..	..	61	345,102	..	61	345,102	..

(*a*) Vessels over 50 net tons.

Lighthouses; distances by sea; depth of water and tides at main ports

A list of the principal lighthouses on the coast of Australia, giving details of the location, number, colour, character, period, candle-power and visibility of each light will be found in *Transport and Communication*, Bulletin No. 63 (14.11).

The distances by sea between principal ports of Australia and some important ports in other countries which trade with Australia and the depths of water and tides at principal ports of Australia will be found in *Transport and Communication*, Bulletin No. 63.

RAILWAYS

Government railways

Government railways in Australia operate in all States and Territories and provide an important means of transportation. In 1972–73 a total of 92.5 million tonnes of freight were carried, an increase of 94.3 per cent over the 47.6 million tonnes carried in 1953–54. However, in the same twenty-year period the number of passengers carried (mostly within the suburban areas of Sydney and Melbourne) declined by 21.7 per cent from 511 millions in 1953–54 to 400 millions in 1972–73. The number of train kilometres run during 1972–73 (152 million) was only 1.3 per cent greater than in 1953–54, which is an indication of the trend towards heavier train loads with the more powerful motive power now available. Since the introduction of the first mainline diesel-electric locomotives in 1950 their numbers have increased greatly until at 30 June 1973 there were 1,413 throughout Australia. Diesel-electric locomotives during 1972–73 hauled 97 million train-kilometres, while steam locomotives hauled only 301 thousand train-kilometres.

Railway development

The first steam-operated railway in Australia ran between Melbourne and Port Melbourne, a distance of three kilometres, and was opened on 12 September 1854. It was owned and operated by the Melbourne and Hobson's Bay Railway. Within a short time privately-owned railways opened in other States, but owing to the small volume of traffic available they were soon in financial difficulties and all were taken over by the respective State Governments. Under the policy of Government ownership and control the railway networks expanded until at 30 June 1941 there were 43,829 route-kilometres open for traffic in Australia. This was the greatest length ever recorded. Since the 1939–45

War many uneconomic branch lines have been closed. From 1 July 1948 to 30 June 1973, 5,629 kilometres have been closed, the greatest lengths being in Western Australia (1,656 kilometres), Queensland (1,445 kilometres), and Victoria (1,003 kilometres). During this same period 2,322 kilometres of new railway were added to the networks. The following table sets out the route-kilometres of government railways in each State and Territory at various dates since 1855.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, 1855 TO 1973

(Kilometres)

30 June—	*N.S.W.*	*Vic.*	*Qld.*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1855(*a*)	23	3	..	11	..	..	..	..	37
1861(*a*)	117	183	..	90	..	..	..	..	390
1871(*a*)	576	444	351	214	..	72	..	..	1,657
1881(*a*)	1,603	2,007	1,287	1,339	148	72	..	..	6,456
1891	3,512	4,447	3,533	2,681	319	565	233	..	15,290
1901	4,580	5,209	4,508	2,794	2,181	735	233	..	20,240
1911	6,054	5,670	6,225	3,114	3,824	756	233	..	25,876
1921	8,116	6,867	9,257	5,485	6,425	1,014	320	8	37,492
1931	10,054	7,265	10,507	5,995	7,458	1,070	510	8	42,867
1941	10,248	7,271	10,569	6,130	7,781	1,033	789	8	43,829
1951	10,226	7,154	10,557	6,124	7,535	987	789	8	43,380
1961	10,144	6,518	10,177	6,173	7,366	832	789	8	42,007
1969	10,083	6,392	9,373	6,050	6,888	805	789	8	40,388
1970	10,129	6,376	9,355	5,977	6,891	805	789	8	40,330
1971	10,129	6,376	9,329	5,927	6,906	805	789	8	40,269
1972	10,129	6,357	9,560	5,829	6,846	805	789	8	40,323
1973	10,129	6,357	9,560	5,904	6,897	830	789	8	40,474

(*a*) At 31 December.

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 minimise the costs of construction. The following table shows the route-kilometres open in each State and Territory at 30 June 1973 according to gauge.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE, 30 JUNE 1973

(Kilometres)

Gauge	*N.S.W.*	*Vic.*	*Qld.*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1600 mm	(*a*)328	(*b*)6,018	..	2,527	..	..	..	..	8,873
1435 mm	(*c*)9,801	325	112	(*d*)1,826	(*e*)1,507	..	..	(*f*)8	13,579
1067 mm	..	..	9,400	(*g*)1,551	(*h*)5,390	830	(i)789	..	17,960
762 mm	..	14	..	..	..	..	..	..	14
610 mm	..	..	48	..	..	..	..	..	48
Total	**10,129**	**6,357**	**9,560**	**5,904**	**6,897**	**830**	**789**	**8**	**40,474**
Per 1,000 of population	2.15	1.77	4.99	4.92	6.45	2.10	8.25	0.05	3.08
Per 1,000 square kilometre	12.64	27.93	5.53	6.00	2.73	12.15	0.59	3.29	5.27

(*a*) Portion of Victorian Railway System. (*b*) Excludes 325 route-kilometres of 1600 mm gauge which almost parallels the 1435 mm gauge line between Melbourne and Murray River. (*c*) Includes 47 route-kilometres of 1435 mm gauge line from Broken Hill to Cockburn owned and operated by the South Australian Government Railways. (*d*) Comprises 1128 kilometres of the Trans-Australian and 349 kilometres of the Central Australia Railway systems and 349 kilometres from Port Pirie to Cockburn. (*e*) Includes 731 kilometres of the Trans-Australian Railway system. (*f*) Australian Capital Territory Railway system. (*g*) Includes 591 kilometres of the Central Australia Railway system. (*h*) Excludes 121 kilometres of 1067 mm/1435 mm dual gauge line which are included in the 1435 mm gauge line. (*i*) Comprises 278 kilometres of the Central Australia and 510 kilometres of the North Australia Railway systems.

Government railway systems

There are six separate State Government railway systems and the Commonwealth Railway system. As the Commonwealth Railways includes routes in South Australia and Western Australia, 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. These are shown in the previous table. The route-kilometres of each system open for traffic, according to gauge, at 30 June 1973 is shown in the following table.

GOVERNMENT RAILWAYS: ROUTE-KILOMETRES OPEN, BY GAUGE AND SYSTEM
30 JUNE 1973
(Kilometres)

System	Gauge					Total
	1600 mm	*1435 mm*	*1067 mm*	*762 mm*	*610 mm*	
New South Wales	..	(*a*)9,754	..	..	..	9,754
Victoria	(*b*)6,346	325	..	14	..	6,685
Queensland	..	112	9,400	..	48	9,560
South Australia	2,527	396	961	..	..	3,884
Western Australia	..	777	(*c*)5,390	..	..	6,167
Tasmania	..	..	830	..	..	830
Commonwealth	..	2,216	1,379	..	..	3,595
Australia	**8,873**	**13,579**	**17,960**	**14**	**48**	**40,474**

(*a*) Includes 435 route-kilometres which are electrified. (*b*) Excludes 325 route-kilometres of 1600 mm gauge line which almost parallels the 1435 mm gauge line between Melbourne and Murray River. Includes 420 route-kilometres which are electrified. (*c*) Excludes 121 kilometres of 1067 mm/1435 mm dual gauge line which are included in the 1435 mm gauge line.

The New South Wales system is based on Sydney and extends throughout the State. The Victorian system based on Melbourne radiates throughout the State, extending into areas of southern New South Wales. The Queensland system extends along the coast from Brisbane to Cairns in the north, while branch lines extend inland from Brisbane and the larger coastal cities of Rockhampton and Townsville. The main South Australian system is in the south-east of the State, but an isolated narrow-gauge system operates in the Eyre Peninsula area. The railway system in Western Australia is established in the south-western section of the State, but extends north to Meekatharra and east to Kalgoorlie and Esperance. In Tasmania the main line connects Hobart and Launceston, and there are branch lines along the northern coast.

Commonwealth Railways comprises four separate railways. The Trans-Australian Railway, extending from Port Pirie to Kalgoorlie, is of standard gauge, as is that part of the Central Australia Railway from Port Augusta (Sterling North) to Marree. A further extension of this railway from Marree to Alice Springs is of narrow gauge, as is the North Australia Railway from Darwin to Birdum. The Australian Capital Territory Railway from Queanbeyan to Canberra is of standard gauge. In this chapter particulars of the four Commonwealth railways are combined; however, particulars for each railway are shown separately in the annual bulletin *Transport and Communication.*

Standardisation of railway gauges

Information about standardisation of railway gauges, completion and commencement dates of services and centres linked are given in Year Book No. 58, 1972, page 348.

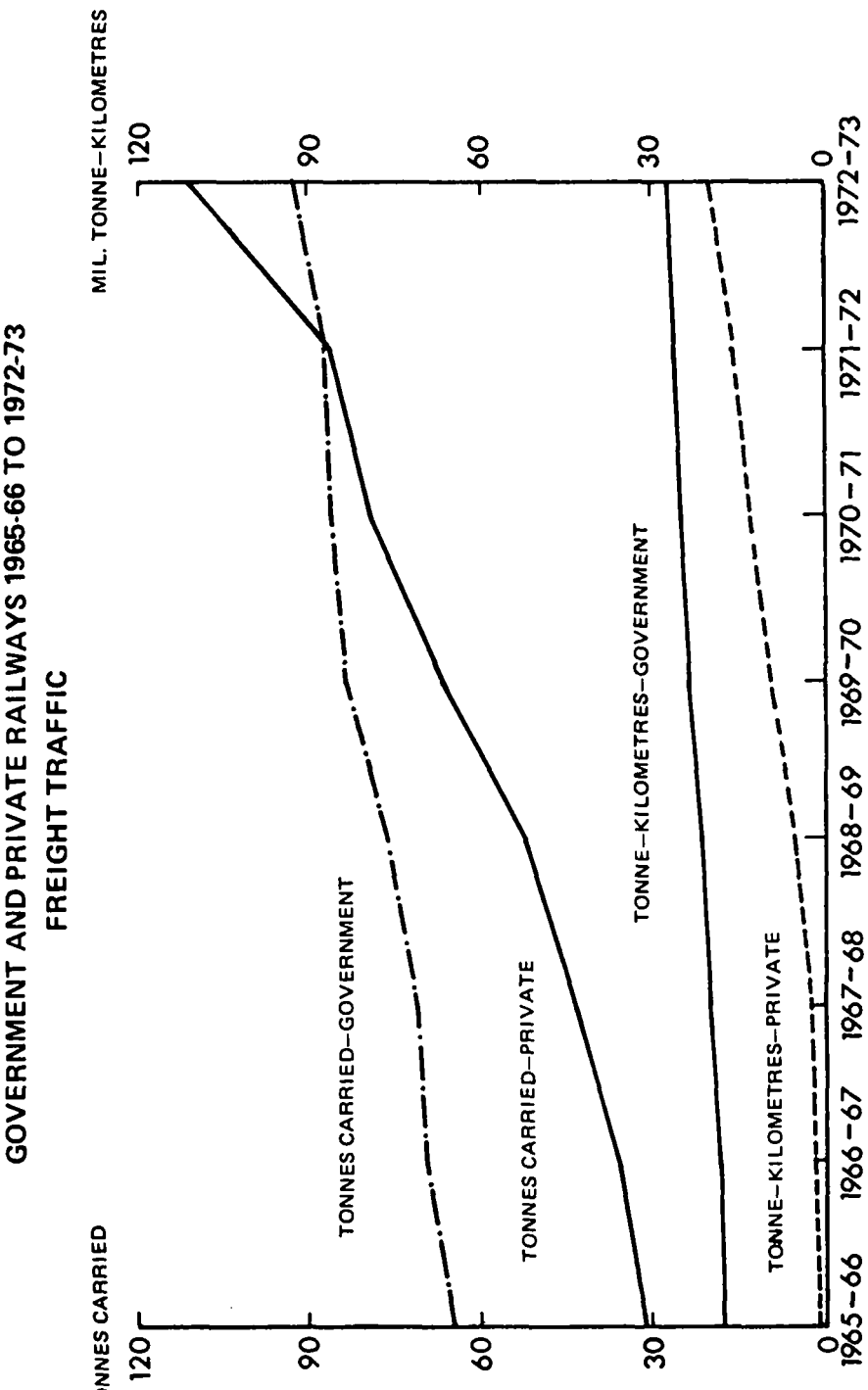
GOVERNMENT AND PRIVATE RAILWAYS 1965-66 TO 1972-73
FREIGHT TRAFFIC
'000 TONNES CARRIED
MIL. TONNE-KILOMETRES
120
90
60
30
0
TONNES CARRIED-GOVERNMENT
TONNES CARRIED-PRIVATE
TONNE-KILOMETRES-GOVERNMENT
TONNE-KILOMETRES-PRIVATE
1965-66
1966-67
1967-68
1968-69
1969-70
1970-71
1971-72
1972-73

PLATE 34

Future developments in standardisation

The Australian Government has announced its intention to finance a standard gauge connection between Adelaide and the new standard gauge railway at Crystal Brook. Details of the connection have yet to be decided. When this link is forged all mainland state capital cities will then be connected to the interstate standard gauge network. However, the direct link between Adelaide and Melbourne will still be broad gauge (1,600 mm).

The Australian and South Australian Governments have signed an agreement to build a new standard gauge railway about 840 kilometres long between Tarcoola on the Trans-Australian Railway, and Alice Springs to replace the existing narrow gauge railway between Marree and Alice Springs. Survey work has commenced.

The West Australian Government has converted to standard gauge the existing narrow gauge railway between Kalgoorlie and Esperance, a distance of about 415 kilometres and is planning to standardise the line north of Kalgoorlie and Leonora.

Operations of Government railway systems

Particulars of train-kilometres, passenger-journeys, passenger-kilometres, 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, 1972–73

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Cwlth*	*Aust.*
Train-kilometres ('000)(*a*)—								
Suburban passenger	16,715	13,291	3,236	3,378	2,232	180	..	39,032
Country passenger	16,181	7,747	4,367	1,948	1,676	380	1,602	33,901
Goods(*b*)	27,045	12,020	21,919	4,699	7,761	1,400	4,257	79,101
Total	**59,941**	**33,058**	**29,523**	**10,024**	**11,669**	**1,960**	**5,859**	**152,035**
Passenger-journeys ('000)(*c*)—								
Suburban	194,140	131,009	30,500	13,478	11,143	559	..	380,829
Country(*d*)	11,985	4,180	1,645	564	376	193	222	19,165
Total	**206,125**	**135,189**	**32,145**	**14,042**	**11,518**	**752**	(*e*)**222**	**399,993**
Passenger-kilometres ('000)(*f*)—								
Suburban	n.a.	1,973,886	n.a.	172,444	n.a.	6,609	..	n.a.
Country	n.a.	561,273	n.a.	139,726	126,337	17,728	209,527	n.a.
Total	**n.a.**	**2,535,160**	**n.a.**	**312,170**	**n.a.**	**24,337**	**209,527**	**n.a.**
Freight—								
Tonnes carried ('000)(*d*)	31,044	11,475	24,666	5,781	13,706	1,554	4,255	92,481
Net tonne-kilometres (million)(*g*)	8,117.6	3,164.8	7,613.1	1,588.4	3,686.2	210.6	2,201.1	26,581.7

(*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*) Passenger-journeys continuing over both the Trans-Australian and Central Australia Railway Systems are counted twice. In 1972–73 these numbered 9,144. (*f*) One passenger travelling one kilometre. (*g*) One tonne carried one kilometre.

Rolling stock

GOVERNMENT RAILWAYS: ROLLING STOCK INCLUDED IN CAPITAL ACCOUNT
(Number)

System and date	Locomotives					Coaching stock(b)	Goods stock	Service stock
	Steam	Diesel-electric	Electric	Other(a)	Total			
30 June 1973—								
New South Wales	38	426	41	85	590	3,166	17,640	2,071
Victoria	26	249	35	81	391	2,403	19,029	1,588
Queensland	..	378	..	81	459	1,187	19,976	2,084
South Australia	4	151	..	..	155	406	7,213	635
Western Australia	2	186	..	23	211	439	11,366	691
Tasmania	16	44	..	21	81	119	2,131	174
Commonwealth	1	105	..	..	106	81	2,524	536
Australia	**87**	**1,539**	**76**	**291**	**1,993**	**(c)7,982**	**(c)79,913**	**(c)7,800**
30 June—								
1972	168	1,489	76	267	2,000	8,178	81,135	8,033
1971	200	1,447	76	256	1,979	8,183	82,279	8,141
1970	368	1,388	76	230	2,062	8,281	83,840	8,205
1969	753	1,283	76	209	2,321	8,127	84,584	7,972

(a) Includes non-passenger-carrying diesel power vans. (b) Includes all brake vans and non-powered electric train stock. (c) Includes jointly-owned stock.

Train-kilometres

Train-kilometres by type of service and motive power

GOVERNMENT RAILWAYS: TRAIN-KILOMETRES 1972–73
('000 kilometres)

	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Cwlth.	Aust.
Type of service—								
Passenger—suburban	16,715	13,291	3,236	3,378	2,232	180	..	39,032
Passenger—country	16,181	7,747	4,367	1,948	1,676	380	1,602	33,901
Goods(a)	27,045	12,020	21,919	4,699	7,761	1,400	4,257	79,101
Total	**59,941**	**33,058**	**29,523**	**10,024**	**11,669**	**1,960**	**5,859**	**152,035**
Type of motive power—								
Hauled by diesel-electric locomotives	33,191	15,672	26,404	5,703	8,961	1,696	5,676	97,304
Hauled by steam locomotives	267	18	3	6	1	5	..	301
Hauled by electric and other locomotives	3,203	1,564	556	..	..	17	..	5,339
Powered coaching stock	23,281	15,804	2,559	4,315	2,707	242	183	49,091
Total	**59,941**	**33,058**	**29,523**	**10,024**	**11,669**	**1,960**	**5,859**	**152,035**

(a) Includes mixed train-kilometres.

Total train-kilometres

TRAIN-KILOMETRES
('000 kilometres)

Year	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	Cwlth.	Aust.
1968–69	61,479	31,686	27,534	9,939	12,715	1,926	5,728	151,007
1969–70	62,970	33,061	29,391	9,965	12,630	1,899	6,378	156,294
1970–71	63,633	33,524	27,951	10,210	12,785	1,764	6,453	156,320
1971–72	61,176	33,175	29,165	10,018	12,410	1,767	6,013	153,724
1972–73	59,941	33,058	29,523	10,024	11,669	1,960	5,859	152,035

Passenger traffic

Passenger-journeys

GOVERNMENT RAILWAYS: PASSENGER-JOURNEYS(*a*), SYSTEMS
('000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Cwlth	Aust.
SUBURBAN								
1968–69	233,211	140,788	25,771	13,760	9,832	838	..	424,200
1969–70	236,347	140,309	26,317	13,441	10,227	712	..	427,354
1970–71	238,800	138,131	27,621	13,393	10,557	636	..	429,139
1971–72	(*b*)196,097	133,840	30,184	12,918	10,800	597	..	384,436
1972–73	194,140	131,009	30,500	13,478	11,143	559	..	380,829
COUNTRY(*c*)								
1968–69	15,257	4,078	2,395	664	338	207	298	23,237
1969–70	15,231	4,000	2,197	549	352	194	244	22,768
1970–71	15,987	4,080	1,915	553	362	235	259	23,391
1971–72	(*b*)12,403	3,954	1,762	515	350	189	207	19,380
1972–73	11,985	4,180	1,645	561	376	193	222	19,165
TOTAL(*c*)								
1968–69	248,469	144,866	28,165	14,423	10,170	1,045	298	447,437
1969–70	251,578	144,309	28,515	13,990	10,580	907	244	450,122
1970–71	254,787	142,211	29,536	13,946	10,919	871	259	452,530
1971–72	(*b*)208,500	137,794	31,946	13,433	11,150	785	207	403,816
1972–73	206,125	135,189	32,145	14,042	11,518	752	222	399,993

(*a*) Based on ticket sales making allowance for periodical tickets. Tickets sold at concession rates are counted as full journeys. (*b*) Figures for earlier years include unremunerative journeys. (*c*) Inter-system traffic is included in the total for each system (including each Commonwealth railway) over which it passes.

Passenger-kilometres

GOVERNMENT RAILWAYS: PASSENGER-KILOMETRES(*a*), SYSTEMS
('000)

Year	Vic.	S.A.	W.A.	Tas.	Cwlth
SUBURBAN					
1968–69	2,033,926	180,309	n.a.	8,959	..
1969–70	2,016,436	175,081	n.a.	7,952	..
1970–71	2,068,414	170,674	n.a.	7,279	..
1971–72	1,941,497	161,979	n.a.	6,653	..
1972–73	1,973,886	172,444	n.a.	6,609	..
COUNTRY					
1968–69	592,462	136,204	108,835	18,221	202,153
1969–70	572,532	139,284	120,026	17,212	218,597
1970–71	611,301	147,545	124,193	19,747	227,577
1971–72	534,946	131,084	115,910	16,412	207,409
1972–73	561,273	139,726	126,337	17,728	209,527
TOTAL					
1968–69	2,626,388	316,513	n.a.	27,180	202,153
1969–60	2,588,968	314,364	n.a.	25,164	218,597
1970–71	2,679,715	318,219	n.a.	27,026	227,577
1971–72	2,476,441	293,063	n.a.	23,065	207,409
1972–73	2,535,160	312,170	n.a.	24,337	209,527

(*a*) Particulars for New South Wales, Queensland and the suburban system in Western Australia are not available and as a consequence, no totals for Australia are available.

Freight traffic

Freight carried

GOVERNMENT RAILWAYS: FREIGHT CARRIED(*a*), SYSTEMS

('000 tonnes)

Commodity and year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Cwlth*	*Aust.*
1972–73—								
Wheat	1,685	1,595	396	564	1,980	..	..	6,220
Other agricultural produce	922	868	2,850	243	460	21	27	5,391
Coal, coke and briquettes	13,506	1,112	16,090	11	163	100	1,590	32,572
Other minerals(*b*)	3,914	273	1,274	1,665	8,330	98	971	16,525
Wool	147	151	21	25	116	4	5	469
Fertilisers and manure	61	868	147	444	586	100	7	2,213
Cement	1,154	923	214	67	..	295	172	2,825
Timber	231	297	171	92	284	360	53	1,488
Livestock	261	258	601	149	84	13	99	1,465
All other commodities	9,163	5,130	2,902	2,520	1,702	564	1,331	23,312
Total	**31,044**	**11,475**	**24,666**	**5,781**	**13,706**	**1,554**	**4,255**	**92,481**
1971–72	32,310	11,795	19,267	6,014	13,867	1,299	4,119	88,671
1970–71	33,737	12,690	15,665	6,086	13,457	1,220	4,452	87,307
1969–70	33,979	12,025	14,671	5,983	10,836	1,278	4,901	83,673
1968–69	32,383	11,498	13,183	5,083	9,077	1,262	4,472	76,958

(*a*) Inter-system traffic is included in the total for each system (including each Commonwealth railway) over which it passes. (*b*) Includes sand and gravel. (*c*) Cement included with 'All other commodities'. (*d*) Includes cement.

Freight net tonne-kilometres

GOVERNMENT RAILWAYS: FREIGHT NET TONNE-KILOMETRES, SYSTEMS

(Million)

Commodity and year	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Cwlth*	*Aust.*
1972–73—								
Wheat	834.6	505.3	(*a*)	85.0	563.3	..	..	n.a.
Other agricultural produce	583.1	272.3	(*a*)	45.3	126.1	3.9	38.1	n.a.
Coal, coke and briquettes	836.6	194.4	(*a*)	4.3	13.7	19.9	401.3	n.a.
Other minerals(*b*)	784.1	70.3	(*a*)	374.3	1,801.0	2.8	242.3	n.a.
Wool	59.8	34.2	(*a*)	7.7	46.8	0.8	9.2	n.a.
Fertilisers and manure	37.9	219.9	(*a*)	133.1	181.8	27.8	8.2	n.a.
Cement	277.5	102.5	(*a*)	21.9	(*a*)	27.8	24.5	n.a.
Timber	161.4	95.5	(*a*)	31.4	92.6	28.8	82.9	n.a.
Livestock	165.3	76.7	280.8	37.9	20.8	3.4	55.0	639.9
All other commodities	4,377.4	1,593.5	7,332.2	847.5	840.2	95.5	1,339.8	16,426.1
Total	**8,117.6**	**3,164.8**	**7,613.1**	**1,588.4**	**3,686.2**	**210.6**	**2,201.1**	**26,581.7**
1971–72	8,615.2	3,264.2	6,315.1	1,583.0	3,447.8	169.7	2,007.9	25,402.9
1970–71	9,055.9	3,464.5	5,423.0	1,613.8	3,397.9	154.0	2,096.5	25,205.6
1969–70	8,804.4	3,331.2	5,085.8	1,549.5	2,860.1	195.4	2,146.2	23,972.6
1968–69	8,081.8	3,111.8	4,280.1	1,314.2	2,495.0	191.6	1,988.9	21,463.4

(*a*) Not available separately, included with 'All other commodities'. (*b*) Includes sand and gravel.

Finance

GOVERNMENT RAILWAYS: GROSS EARNINGS(*a*), SYSTEMS, 1972–73
($'000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Cwlth*	*Aust.*
Coaching—								
Suburban passenger	45,880	27,167	3,813	2,285	1,688	72	..	80,905
Country passenger	20,383	8,738	4,121	2,026	2,128	156	3,779	41,331
Other	9,517	4,603	2,776	962	1,590	223	554	20,225
Total coaching	*75,780*	*40,508*	*10,710*	*5,273*	*5,406*	*451*	*4,333*	*142,461*
Freight (goods and livestock)—								
Wheat	(*c*)	10,107	2,936	2,419	9,865	..	..	n.a.
Other agricultural produce	(*c*)	4,894	14,958	946	2,342	122	331	n.a.
Coal, coke and briquettes	(*c*)	3,999	43,715	59	484	374	1,817	n.a.
Other minerals(*d*)	(*c*)	1,175	11,877	7,047	16,321	68	2,516	n.a.
Wool	(*c*)	1,203	691	137	1,702	28	78	n.a.
Fertilisers and manure	(*c*)	3,873	1,556	1,475	2,905	832	46	n.a.
Cement	(*c*)	3,238	2,163	346	(*e*)	967	361	n.a.
Timber	(*c*)	2,263	1,850	424	2,033	887	506	n.a.
Livestock	(*c*)	1,364	7,893	1,063	499	93	651	n.a.
All other commodities	(*c*)	29,912	36,328	12,034	(*f*)17,863	2,684	18,370	n.a.
Total freight	(*b*)*161,315*	*62,029*	*123,966*	*25,949*	*54,017*	*6,055*	*24,675*	*458,006*
Miscellaneous	(*b*)*16,974*	*9,296*	*3,069*	*3,863*	*4,177*	*329*	*2,233*	*39,941*
Grand total	(*b*)**254,070**	**111,833**	**137,745**	**35,085**	**63,600**	**6,835**	**31,241**	**640,409**

(*a*) Excludes Government grants. (*b*) Includes State Co-ordination Tax Contribution. (*c*) Not available separately. (*d*) Includes sand and gravel. (*e*) Cement included with 'All other commodities'. (*f*) Includes cement.

GOVERNMENT RAILWAYS: WORKING EXPENSES, SYSTEMS, 1972–73
($'000)

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*(*a*)	*Cwlth*	*Aust.*
Maintenance of way and works	51,433	31,605	37,024	(*a*)13,961	(*a*)15,738	2,523	7,793	160,077
Motive power(*b*)	95,967	39,330	49,472	(*a*)16,783	(*a*)25,758	4,047	9,858	241,215
Traffic	76,566	48,918	37,644	(*a*)15,170	17,003	3,516	6,972	205,789
Other charges	74,214	36,266	9,244	6,406	9,723	1,742	9,864	147,459
Total	**298,180**	**156,120**	**133,384**	(*a*)**52,320**	(*a*)**68,223**	**11,829**	(*a*)**34,487**	**754,543**

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

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

($'000)

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	Cwlth	Aust.
GROSS EARNINGS								
1968–69	228,560	100,502	102,452	30,300	49,364	6,947	25,371	543,496
1969–70	247,288	105,045	108,831	33,340	56,044	6,920	27,649	585,116
1970–71	251,899	108,646	110,165	34,399	60,671	5,805	28,979	600,564
1971–72	266,268	112,685	124,782	35,386	63,634	6,123	29,208	638,086
1972–73	254,070	111,833	137,745	35,085	63,600	6,835	31,241	640,408
WORKING EXPENSES								
				(*a*)	(*a*)	(*a*)	(*a*)	
1968–69	205,164	111,216	91,427	36,154	49,947	9,089	24,614	527,611
1969–70	217,660	118,558	96,530	39,040	54,992	9,031	27,156	562,967
1970–71	242,842	129,054	105,155	42,714	59,652	9,891	29,382	618,690
1971–72	263,484	138,722	119,743	46,521	63,748	10,391	31,540	674,149
1972–73	298,180	156,120	133,384	52,320	68,223	11,829	34,487	754,543
NET EARNINGS(*b*)								
1968–69	23,396	—10,714	11,025	—5,854	—583	—2,142	757	15,885
1969–70	29,628	—13,513	12,301	—5,699	1,051	—2,111	493	22,150
1970–71	9,057	—20,408	5,010	—8,315	1,019	—4,086	—403	—18,126
1971–72	2,784	—26,036	5,038	—11,135	—115	—4,267	—2,333	—36,063
1972–73	—44,111	—44,287	4,361	—17,236	—4,622	—4,994	—3,247	—114,135

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

GOVERNMENT RAILWAYS: SURPLUS OR DEFICIT, SYSTEMS, 30 JUNE 1973

($'000)

System	Net earnings —excess of gross earnings over working expenses	Plus grants and other earnings payable to railways: State Government grants	Road motor earnings	Other	Total	Less other expenses charged to railways: Interest and exchange	Sinking fund	Road motor expenses (*a*)	Other	Total	Surplus (+) or deficit (—)
New South Wales	—44,111	(*b*)4,722	..	..	4,722	31,451	7,367	..	(*c*)1,427	40,246	—79,634
Victoria	—44,287	(*d*)24	74	..	97	10,086	419	207	..	10,713	—54,902
Queensland	4,361	..	..	..	..	34,089	(*e*)52	..	(*f*)2,200	36,341	—31,979
South Australia	—17,236(*g*)	22,500	247	..	22,747	7,627	..	305	(*i*)964	8,895	—3,384
Western Australia	—4,622	..	1,192	..	1,192	11,969	..	1,658	..	13,627	—17,057
Tasmania	—4,994	..	..	(*j*)7	7	2,133	..	..	..	2,133	—7,120
Commonwealth	—3,247	..	..	..	..	..	..	..	..	..	—3,247
Australia	**—114,135**	**27,246**	**1,513**	**7**	**28,766**	**97,355**	**7,838**	**2,170**	**4,591**	**111,954**	**—197,323**

(*a*) Includes interest and exchange. (*b*) Grants to meet losses on country developmental lines, and to subsidise payments due to superannuation account. (*c*) Loan management and loan flotation expenses. (*d*) Kerang-Koondrook tramway recoup from Treasury. (*e*) Queensland 1435 mm gauge system only. (*f*) Demolished assets written off. (*g*) Includes deficit ($1,069,037) on the Queensland 1435 mm gauge system. (*h*) Grants towards deficiency. (*i*) Interest and repayment under Railway Standardisation and Railway Equipment Agreements. (*j*) Miscellaneous goods revenue from rail-ferry service traffic not carried by rail.

Employment, salaries and wages

GOVERNMENT RAILWAYS: AVERAGE NUMBER OF EMPLOYEES (EXCLUDING CONSTRUCTION STAFF) AND SALARIES AND WAGES PAID(*a*), 1972–73

	N.S.W.	*Vic.*(*b*)	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Cwlth*	*Aust.*
Salaried staff	9,287	5,303	4,043	1,775	2,172	410	726	23,716
Wages staff	33,696	20,495	18,562	6,763	7,542	1,634	3,214	91,906
Total staff	**42,983**	**25,798**	**22,605**	**8,538**	**9,714**	**2,044**	**3,940**	**115,622**
Salaries and wages paid S'000	220,103	124,415	107,706	41,097	45,790	9,197	19,040	567,347

(*a*) Excludes salaries and wages paid to road motor staff. (*b*) Includes construction staff.

Private railways

Private railways are operated over a range of gauges and are to be found in each State of Australia. These systems service agricultural areas, mining ventures, industrial complexes and ports. A range of commodities are carried, including coal, iron ore, other minerals and manufactured products. In recent years there has been considerable growth in the total route length of private railways, from an estimated 483 route-kilometres in 1965, to approximately 1,740 by December 1972. The construction of 1,104 kilometres of heavy duty railway for north-west Western Australia iron ore projects accounts for much of the increase.

In addition to the above, there are approximately 3,218 route-kilometres of permanent privately-owned sugar cane railways or 'tramways' along the north-east coast of Australia. The bulk of this is 610 mm gauge. Additional temporary lines are laid during the cane harvesting season. These lines connect 30 sugar mills to the Queensland Government Railway system. Other private railways exist within factory and industrial areas for the internal transport of goods and materials but at present no statistics are available as to the length involved and traffic task performed.

The carriage of passengers by private railways is now negligible; however, tonnages of freight carried are increasing as indicated in the following table.

PRIVATE RAILWAYS: ESTIMATED DOMESTIC FREIGHT TRAFFIC TASK(*a*)

(*Source:* Department of Transport)

Year	*Tonnes carried*	*Private as a percentage of total tonnes carried*(*b*)	*Tonne-kilometres*	*Private as a percentage of total tonne-kilometres performed*(*b*)
	'000	per cent	million	per cent
1965–66	31,244	32.3	698	3.7
1966–67	36,469	34.4	1,864	9.0
1967–68	43,965	37.8	3,281	14.1
1968–69	53,386	41.0	5,469	20.3
1969–70	66,640	44.3	9,338	28.0
1970–71	79,988	47.8	13,778	35.3
1971–72	86,873	49.4	16,634	39.5
1972–73	111,292	54.6	20,036	43.0

(*a*) Includes tonnes and tonne-kilometres performed by sugar tramways, but excludes internal industrial plant railways. (*b*) Total equals government plus private.

During the period 1965–66 to 1971–72 tonnages of freight carried increased by 178 per cent. During the same period freight tonne-kilometres performed increased almost twenty-four fold. The extent of this growth has been such as to increase the private railway system's share of the total freight traffic task performed by all railways in Australia.

Mineral ores and concentrates are the predominant items of freight and, in contrast to the Government railways, carriage of general merchandise is of minor importance. The rapid growth of tonnes carried and tonne-kilometres performed since 1965–66 reflects the growing traffic task performed by the Western Australia iron ore railways. In 1971–72 these railways alone carried 55 per cent of the total tonnage carried by all private railways, and accounted for 95 per cent of the tonne-kilometres performed.

Details of location, ownership and operation of the major private railway systems were given in Year Book No. 56, 1970, page 364.

TRAMWAY, TROLLEY-BUS, BUS, AND FERRY SERVICES

Systems in operation

Tramway and trolley-bus. At 30 June 1973 tramway services were in operation in Melbourne, Victoria, and in Adelaide, South Australia. The last of the trolley-bus services ceased to operate in Australia with their replacement by buses in Perth, Western Australia, on 29 August 1969. Tramway services ceased to operate in Ballarat on 19 September 1971 and in Bendigo on 16 April 1972.

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 tramways used for the conveyance of passengers, which are dealt with in this section. For further details, *see* page 374.

Motor bus. Services are operated by government or municipal authorities and private operators. Statistics are collected for government and municipal bus services located in all State capital cities; Canberra, Australian Capital Territory; Newcastle, New South Wales; Rockhampton, Queensland; Fremantle and the Eastern Goldfields area, Western Australia; Launceston and Burnie, Tasmania; Darwin, Northern Territory; and for country road services operated by the Western Australian Government Railways. Particulars of motor bus services under the control of private operators for the States of Victoria, Queensland, South Australia and Western Australia are given in the annual bulletin *Transport and Communication* up to 1971–72.

Ferry. Ferry passenger services are operated in the following States: New South Wales, at Sydney and Newcastle; Western Australia, on the Swan River at Perth; Tasmania, on the Mersey River at Devonport. Control is exercised by both government authorities and private operators. Particulars of the operations of these services are given in previous issues of this Year Book and in the annual bulletin *Transport and Communication*. In Victoria and Queensland the services operated are not extensive. There are no ferry passenger services in South Australia.

Government and municipal tramway, trolley-bus 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 tramway and trolley-bus services by motor bus services, it is not possible to obtain separate statistics for all phases of the activities of each form of transport, particularly financial operations.

TRAMWAY AND BUS SERVICES: GOVERNMENT AND MUNICIPAL STATES AND TERRITORIES, 1972–73

		N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
Route-kilometres at 30 June—										
Tram(*a*)	kilometres	...	217	...	11	...	...	...	...	229
Bus	,,	998	232	647	267	7,916	402	156	272	10,890
Vehicle-kilometres—										
Tram	'000	...	24,443	...	676	...	...	...	...	25,119
Bus	,,	67,024	11,882	20,809	16,794	40,023	8,382	1,179	6,774	172,866
Rolling stock at 30 June—										
Tram	number	...	708	...	26	...	...	...	...	734
Bus		1,850	272	602	376	855	283	28	176	4,442
Passenger-journeys—										
Tram	'000	...	104,719	...	1,614	...	...	...	...	106,333
Bus	,,	200,505	20,993	60,454	40,067	59,848	18,728	1,166	8,379	410,139
Gross revenue(*b*)—										
Tram and bus		38,444	24,160	10,973	7,304	9,767	2,659	309	1,555	95,171
Working expenses(*c*)—										
Tram and bus	$'000	50,295	27,115	10,736	8,269	14,043	4,191	523	2,425	117,598
Net revenue—										
Tram and bus	$'000	−11,851	−2,955	236	−965	−4,276	−1,532	−214	−870	−22,426
Employees at 30 June—										
Tram and bus	number	7,304	4,283	1,583	1,121	2,030	606	49	280	17,256
Accidents—										
Tram and bus(*d*)—										
Persons killed	number	8	13	4	...	5	...	...	...	30
Persons injured	,,	1,382	593	155	148	383	43	1	27	2,732

(*a*) Gauge 1435 mm throughout. (*b*) Excludes government grants. (*c*) Includes provision of reserves for depreciation, etc., where possible. (*d*) Excludes accidents to employees.

Minus sign (−) denotes deficit.

TRAMWAY, TROLLEY-BUS AND BUS SERVICES: GOVERNMENT AND MUNICIPAL AUSTRALIA

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Route-kilometres at 30 June—						
Tram	kilometres	262	262	262	225	229
Trolley-bus	,,	14	..	..	..	..
Bus	,,	10,239	11,584	10,609	10,495	10,890
Vehicle kilometres—						
Tram	'000	32,248	26,541	25,806	25,180	25,119
Trolley-bus	,,	1,638	106	..	..	..
Bus	,,	164,232	175,322	177,049	170,769	172,866
Rolling stock at 30 June—						
Tram	number	771	780	784	722	734
Trolley-bus	,,	50	..	..	..	..
Bus	,,	4,210	4,345	4,469	4,437	4,442
Passenger-journeys—						
Tram	'000	149,055	115,297	112,974	104,558	106,333
Trolley-bus and bus	,,	441,036	459,859	447,646	398,421	410,139
Gross revenue(*a*)—						
Tram, trolley-bus and bus	$'000	79,288	80,542	82,510	91,015	95,171
Working expenses(*b*)—						
Tram, trolley-bus and bus	$'000	84,649	85,929	96,507	103,274	117,598
Net revenue—						
Tram, trolley-bus and bus	$'000	—5,361	—5,387	—13,997	—12,260	—22,426
Emp'oyees at 30 June—						
Tram, trolley-bus and bus	number	17,840	17,781	17,776	17,545	17,256
Accidents—						
Tram, trolley-bus and bus(*c*)—						
Persons killed	number	27	33	21	22	30
Persons injured	,,	2,328	2,416	2,459	2,275	2,732

(*a*) Excludes government grants. (*b*) Includes provision of reserves for depreciation etc. where possible. (*c*) Excludes accidents to employees.

Minus sign (—) denotes deficit.

MOTOR VEHICLES

The arrangements for the registration of motor vehicles and the licensing of drivers and riders are not uniform throughout Australia, since they are the function of a separate authority, or authorities, in each State and Territory. Particulars of registration, licences, fees payable, etc., in each State and Territory at 30 June 1972 are shown in *Transport and Communication*, Bulletin No. 63, 1971–72.

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

Survey of motor vehicle usage

A survey was conducted throughout Australia in late 1971 by the Australian Bureau of Statistics for the purpose of gathering information on the usage of motor vehicles. This survey was similar to one carried out in 1963. The owners of approximately 51,000 vehicles other than buses were approached for information relating to the usage of their vehicles over the twelve months ended 30 September 1971. In addition, usage details of 800 bus fleets were sampled and collected for the twelve months ended 30 June 1971. 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' recollections of their usage of the selected vehicles/fleets 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) fuel consumption; (v) road surface; (vi) occupant-kilometres; (vii) driver characteristics.

The following table shows, for Australia, total annual kilometres travelled for the twelve months ended 30 September 1971 according to area 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 TRAVELLED(*a*) BY PURPOSE AND AREA OF OPERATION, AUSTRALIA, TWELVE MONTHS ENDED 30 SEPTEMBER 1971

	Laden business		*Unladen business*		*Total business(b)*		*Paid to and from work(c)*		*Unpaid to and from work*		*Private*		*Total*	
Area of operation	*million kilometres*	*S.E. %*	*million kilometres*	*S.E. %*	*million kilometres*	*S.E. %*	*million kilometres*	*S.E. %*	*million kilometres*	*S.E. %*	*million kilometres*	*S.E. %*	*million kilometres*	*S.E. %*
Capital city and environs	3,566.3	1.7	1,804.7	2.1	12,609.2	2.5	2,396.0	5.5	9,566.1	2.8	18,022.6	1.9	42,594.2	1.3
Provincial urban(*d*)	512.1	4.5	318.8	6.3	1,732.3	8.7	250.7	14.6	1,313.2	7.8	3,234.0	4.3	6,530.4	4.0
Other areas of State or Territory	3,470.6	1.6	2,600.4	1.8	10,523.0	2.3	685.3	12.3	2,849.7	4.9	14,083.0	2.1	28,141.2	1.6
Other States and Territories(*e*)	396.9	3.6	126.7	5.1	877.4	7.3	48.4	25.7	213.7	15.0	2,095.0	5.0	3,234.6	4.1
Total	7,945.8	1.0	4,850.4	1.3	25,742.1	1.7	3,380.4	5.0	13,942.7	2.3	37,435.1	1.2	80,501.2	0.8

(*a*) Excludes kilometres travelled by buses. (*b*) Includes the total kilometres travelled of cars, station wagons and motor cycles for business purposes. The dissection of business travel into laden/unladen for these vehicles was not sought. (*c*) For the purpose of this survey 'Paid to and from work' travel is not considered to be business travel. (*d*) Includes centres (other than capital cities) having populations greater than 40,000 at the 1966 Census of Population and Housing. (*e*) Covers kilometres travelled by vehicles in all States other than that in which the vehicle was registered.

Motor vehicles on register

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

A revised classification of motor vehicles has been adopted for publication of statistics of motor vehicle registrations from 1 January 1972. The principal differences between this classification and that which it replaces involve the categories light commercial type vehicles, trucks and other truck type vehicles. Consequently, figures shown from January 1972 for these categories are not strictly comparable with data for previous periods.

MOTOR VEHICLES ON REGISTER, BY TYPE OF VEHICLE, 31 DECEMBER 1973 ('000)

			Light commercial type vehicles		*Trucks (carrying capacity 1 tonne and over)*					
State or territory	*Motor cars*	*Station wagons*	*open*	*closed*	*rigid*	*articulated*	*Other truck type vehicles*	*Buses*	*Motor cycles*	*Total*
New South Wales	1,305.7	260.6	134.0	56.8	143.0	13.0	3.5	8.6	78.3	2,003.5
Victoria	1,054.9	213.0	93.4	53.3	87.2	10.5	4.3	6.0	44.7	1,567.4
Queensland	500.3	129.1	84.5	25.8	76.4	5.3	1.0	3.5	50.5	876.3
South Australia	378.8	66.6	35.8	11.1	42.3	3.5	2.3	2.9	29.2	572.4
Western Australia	308.8	68.3	43.4	18.3	44.1	2.6	1.8	2.8	20.0	510.0
Tasmania	119.6	20.6	14.0	5.1	12.8	1.0	0.1	1.4	5.3	180.0
Northern Territory	14.8	6.1	4.6	1.4	5.8	0.4	0.1	0.3	3.2	36.7
Australian Capital Territory	61.3	11.8	3.9	2.5	3.4	0.2	0.1	0.5	4.4	87.9
Total	3,744.1	776.1	413.7	174.2	415.0	36.4	13.0	26.0	235.5	5,834.1

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

31 December	*Motor cars and station wagons*	*Light commercial type vehicles, other truck type vehicles and buses*	*Motor cycles*	*Total vehicles*
1969	3,619.9	929.9	106.1	4,655.9
1970	3,834.0	949.0	127.7	4,910.7
1971	4,057.5	982.4	164.8	5,204.9
1972	4,259.8	1,020.5	193.4	5,474.0
1973	4,520.2	1,078.3	235.5	5,834.1

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

31 December	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
1969	359.0	374.1	377.5	407.3	407.6	391.2	319.3	395.9	375.3
1970	371.3	387.5	390.7	418.8	417.3	404.8	321.3	415.0	387.8
1971	390.7	398.5	406.1	430.5	432.4	420.1	347.6	436.3	403.2
1972	403.3	411.4	426.4	448.0	449.2	433.8	359.7	471.8	418.1
1973	422.8	433.5	450.2	472.6	470.3	451.0	374.1	501.1	439.7

(a) Excludes tractors, plant and equipment.

Registrations of new motor vehicles

Particulars of registrations of new motor vehicles are shown by type, make, and horsepower of vehicle in monthly, quarterly and annual bulletins of Motor Vehicle Registrations.

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

A revised classification of motor vehicles has been adopted for publication of statistics of new motor vehicle registrations from 1 January 1972. The principal differences between this classification and that which it replaces involve the categories light commercial type vehicles, trucks and other truck type vehicles. Consequently, figures shown from January 1972 for these categories are not strictly comparable with data for previous periods.

REGISTRATIONS OF NEW MOTOR VEHICLES, BY TYPE OF VEHICLE

State or Territory and year	*Motor cars*	*Station wagons*	*Light commercial type vehicles*		*Trucks (carrying capacity 1 tonne and over)*		*Other truck type vehicles*	*Buses*	*Total (excludes motor cycles)*	*Motor cycles*
			open	*closed*	*rigid*	*articulated*				
1973—										
New South Wales	151,512	20,225	13,984	13,050	10,516	1,238	119	936	211,580	28,843
Victoria	103,876	15,043	8,496	6,856	6,430	1,104	130	560	142,495	12,342
Queensland	53,583	8,980	9,491	4,177	6,263	562	15	218	83,289	14,986
South Australia	38,333	4,888	3,667	1,695	2,518	432	81	251	51,865	10,877
Western Australia	34,124	5,788	5,167	3,504	3,399	285	13	231	52,511	6,003
Tasmania	12,269	1,396	1,117	706	876	171	12	114	16,661	1,863
Northern Territory	1,553	555	672	247	821	61	1	44	3,954	1,303
Australian Capital Territory	6,873	927	524	644	419	25	4	87	9,503	1,005
Australia	**402,123**	**57,802**	**43,118**	**30,879**	**31,242**	**3,878**	**375**	**2,441**	**571,858**	**77,222**
1972	353,924	51,928	38,545	23,492	26,869	2,913	340	2,047	500,058	54,641
			(a)	(a)		(a)	(a)			
1971	362,669	54,555	33,822	22,908		26,900	1,263	2,394	504,511	48,786
1970	358,181	54,880	35,881	19,701		29,476	1,289	2,190	501,598	32,701
1969	343,275	57,604	36,510	17,621		29,700	1,407	2,041	488,158	25,386

(a) Not directly comparable with figures subsequent to 1971.

Drivers' and riders' licences

At 30 June 1973 the numbers of licences in force to drive or ride motor vehicles were: New South Wales, 2,280,927; Victoria, 1,711,808; South Australia, 581,765; Western Australia, 513,035; Tasmania, 181,096; Northern Territory, 50,020; Australian Capital Territory, 121,245. Particulars are not available for Queensland.

ROAD TRAFFIC ACCIDENTS

Compulsory fitting and use of seat belts and protective helmets in Australia

Through the endorsement of the Australian Transport Advisory Council of Australian Design Rules for Motor Vehicle Safety, the fitting of belts in passenger cars and derivatives in each State was made mandatory for new motor vehicles from 1 January 1970 for front seats and from 1 January 1971 for all positions.

The year 1973 saw the completion of laws requiring the compulsory wearing of seat belts, where fitted, in all motor vehicles, and the mandatory use of protective helmets by motor cycle riders and pillion passengers. The dates on which the laws came into effect were as follows:

	Seat belts	*Protective helmets*
New South Wales	1 October 1971	1 August 1971
Victoria	22 December 1970	1 January 1961
Queensland	1 January 1972	24 October 1970
South Australia	29 November 1971	31 December 1967
Western Australia	24 December 1971	1 May 1971
Tasmania	13 October 1971	19 December 1966
Northern Territory	1 January 1972	8 November 1972
Australian Capital Territory	1 January 1972	18 March 1973

The laws in force differ between States and Territories on matters such as exemptions and penalties. The exemptions for seat belts relate primarily to delivery men, persons reversing motor vehicles, the elderly, children under the age of 8 years, and persons exempted by a doctor's certificate. There are some minor exemptions for motorcyclists including persons exempted for medical reasons; passengers carried in sidecars in New South Wales, Victoria, South Australia, and Tasmania, persons exempted for religious reasons in New South Wales, and motorcyclists travelling at less than 24 kilometres per hour in South Australia.

The vast majority of belts fitted to vehicles are of the lap-sash type. Recent developments in seat belt design are aimed to improve their comfort to the wearer, their ease of adjustment and their effectiveness.

Accidents involving casualties, persons killed, persons injured

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(*a*): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED, 1972

				Per 100,000 of mean population			*Per 10,000 motor vehicles registered(b)*		
State or territory	*Number of accidents*	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*	*Number of accidents*	*Persons killed*	*Persons injured*
New South Wales	27,365	1,092	36,814	586	23	788	147	6	198
Victoria	14,757	915	20,646	415	26	580	102	6	143
Queensland	7,863	572	10,788	420	31	576	101	7	138
South Australia	8,116	312	10,997	682	26	925	155	6	210
Western Australia	4,909	340	6,751	465	32	639	105	7	145
Tasmania	1,371	106	1,968	349	27	501	82	6	117
Northern Territory	592	53	795	646	58	868	183	16	246
Australian Capital Territory	777	32	1,007	494	20	641	109	5	141
Australia	**65,750**	**3,422**	**89,766**	**506**	**26**	**691**	**123**	**6**	**168**

(*a*) Accidents reported to the police which occurred in public thoroughfares and which resulted in death within thirty days or in bodily injury to an extent requiring surgical or medical treatment. (*b*) Average number of motor vehicles (excluding tractors plant and equipment) on register.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(*a*): NUMBER OF ACCIDENTS, PERSONS KILLED OR INJURED

Year	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Total Number	Total Per 100,000 of mean popu-lation	Total Per 10,000 motor vehicles regis-tered(*b*)
Accidents involving casualties—											
1968	22,774	15,377	7,118	6,421	4,708	1,240	357	764	58,759	489	137
1969	24,164	16,527	7,494	6,895	4,809	1,416	500	792	62,597	510	138
1970	25,434	16,435	7,869	7,424	5,218	1,425	528	877	65,210	521	136
1971	26,575	15,023	8,147	7,386	5,178	1,385	660	856	65,210	510	129
1972	27,365	14,757	7,863	8,116	4,909	1,371	592	777	65,750	506	123
Persons killed—											
1968	1,211	949	477	275	320	118	18	14	3,382	28	8
1969	1,188	1,011	556	251	311	114	45	26	3,502	29	8
1970	1,309	1,061	537	349	351	118	42	31	3,798	30	8
1971	1,249	923	594	292	332	130	50	20	3,590	28	7
1972	1,092	915	572	312	340	106	53	32	3,422	26	6
Persons injured—											
1968	30,919	22,095	10,151	8,902	6,553	1,928	512	1,150	82,210	684	192
1969	32,752	23,797	10,406	9,961	6,788	2,264	727	1,169	87,864	716	194
1970	34,886	23,737	10,940	10,484	7,373	2,171	714	1,249	91,554	731	191
1971	36,660	21,371	11,387	10,132	7,328	2,056	926	1,176	91,036	712	180
1972	36,814	20,646	10,788	10,997	6,751	1,968	795	1,007	89,766	691	168

(*a*) *See* footnote (*a*) to previous table. (*b*) *See* footnote (*b*) to previous table.

Types of road user killed or injured

Responsibility for cause of accident is not indicated by this classification.

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(*a*): PERSONS KILLED OR INJURED, TYPES OF ROAD USER INVOLVED, 1972

Type of road user	N.S.W.	Vic.	Qld	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
PERSONS KILLED									
Drivers of motor vehicles	370	324	217	120	129	35	28	11	1,234
Motor cyclists	98	59	55	28	17	9	5	6	277
Pedal cyclists	18	31	18	12	4	4	..	2	89
Passengers (all types)(*b*)	349	285	182	88	108	29	15	9	1,065
Pedestrians	256	216	98	64	77	28	5	4	748
Other classes(*c*)	1	..	2	..	5	1	..	..	9
Total	**1,092**	**915**	**572**	**312**	**340**	**106**	**53**	**32**	**3,422**
PERSONS INJURED									
Drivers of motor vehicles	14,392	7,992	3,983	4,267	2,780	776	262	368	34,820
Motor cyclists	4,292	1,430	1,173	1,313	541	131	155	178	9,213
Pedal cyclists	774	825	408	524	226	36	17	37	2,847
Passengers (all types)(*b*)	12,728	7,974	4,198	3,998	2,506	815	295	336	32,850
Pedestrians	4,586	2,405	1,017	885	680	210	65	86	9,934
Other classes(*c*)	42	20	9	10	18	..	1	2	102
Total	**36,814**	**20,646**	**10,788**	**10,997**	**6,751**	**1,968**	**795**	**1,007**	**89,766**

(*a*) Accidents reported to the police which occurred in public thoroughfares and which resulted in death within thirty days or in bodily injury to an extent requiring surgical or medical treatment. (*b*) Includes pillion riders. (*c*) Includes bystanders, tram-drivers, riders of horses and drivers of animal-drawn vehicles.

Age groups of persons killed or injured

ROAD TRAFFIC ACCIDENTS INVOLVING CASULATIES(*a*): PERSONS KILLED OR INJURED BY AGE GROUP, 1972

Age group (years)	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
PERSONS KILLED									
Under 5	40	34	26	19	18	2	..	1	140
5 and under 7	21	14	9	6	6	2	1	..	59
7 ,, ,, 17	84	82	53	34	33	15	6	5	312
17 ,, ,, 21	210	173	124	66	61	23	9	10	676
21 ,, ,, 30	229	193	112	55	89	25	13	9	725
30 ,, ,, 40	98	92	60	20	30	7	8	2	317
40 ,, ,, 50	102	88	49	35	36	5	13	2	330
50 ,, ,, 60	102	80	55	29	21	7	2	1	297
60 and over	205	147	84	48	45	20	1	2	552
Not stated	1	12	..	..	1	..	..	..	14
Total	**1,092**	**915**	**572**	**312**	**340**	**106**	**53**	**32**	**3,422**
PERSONS INJURED									
Under 5	1,112	830	351	350	257	67	42	37	3,046
5 and under 7	652	429	177	159	117	28	14	16	1,592
7 ,, ,, 17	3,967	2,494	1,383	1,467	724	325	63	122	10,545
17 ,, ,, 21	8,380	4,355	2,583	2,535	1,460	515	137	279	20,244
21 ,, ,, 30	9,091	4,939	2,464	2,006	1,453	371	289	279	20,892
30 ,, ,, 40	4,217	2,279	1,100	962	681	184	111	92	9,626
40 ,, ,, 50	3,561	1,944	867	844	563	139	70	75	8,063
50 ,, ,, 60	2,788	1,520	808	684	436	126	34	51	6,447
60 and over	2,579	1,487	813	593	451	102	12	44	6,081
Not stated	467	369	242	1,397	609	111	23	12	3,230
Total	**36,814**	**20,646**	**10,788**	**10,997**	**6,751**	**1,968**	**795**	**1,007**	**89,766**

(*a*) *See* footnote (*a*) to previous table.

Types of accidents

ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES(*a*)
NUMBER OF ACCIDENTS AND PERSONS KILLED OR INJURED, BY TYPE OF ACCIDENT, 1972

Type of accident	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
NUMBER OF ACCIDENTS									
Collisions between vehicles	15,632	8,277	3,867	4,788	2,639	659	244	442	36,548
Vehicle overturning or leaving road	3,524	1,143	2,468	1,336	1,320	415	184	192	10,582
Vehicle colliding with pedestrian	4,568	2,402	1,041	905	730	231	67	85	10,029
Vehicle colliding with fixed object (*b*)	3,262	2,677	340	979	144	54	79	47	7,582
Passenger accidents	154	94	39	42	25	5	5	7	371
Vehicle colliding with animal	223	92	90	52	33	3	6	4	503
Other	2	72	18	14	18	4	7	..	135
Total	**27,365**	**14,757**	**7,863**	**8,116**	**4,909**	**1,371**	**592**	**777**	**65,750**
PERSONS KILLED									
Collisions between vehicles	468	397	245	134	105	34	8	16	1,407
Vehicle overturning or leaving road	161	101	195	65	144	39	26	10	741
Vehicle colliding with pedestrian	255	209	99	65	74	28	5	4	739
Vehicle colliding with fixed object (*b*)	201	195	21	46	5	2	13	1	484
Passenger accidents	7	9	5	1	5	2	..	1	30
Vehicle colliding with animal	..	3	5	1	..	..	1	..	10
Other	..	1	2	..	7	1	..	..	11
Total	**1,092**	**915**	**572**	**312**	**340**	**106**	**53**	**32**	**3,422**
PERSONS INJURED									
Collisions between vehicles	22,369	12,661	5,822	6,767	3,967	1,042	348	609	53,585
Vehicle overturning or leaving road	4,892	1,662	3,364	1,927	1,806	636	254	243	14,784
Vehicle colliding with pedestrian	4,605	2,282	997	905	694	217	66	86	9,852
Vehicle colliding with fixed object (*b*)	4,506	3,770	436	1,276	195	64	108	58	10,413
Passenger accidents	174	89	38	44	23	3	6	6	383
Vehicle colliding with animal	266	106	104	61	50	3	5	5	600
Other	2	76	27	17	16	3	8	..	149
Total	**36,814**	**20,646**	**10,788**	**10,997**	**6,751**	**1,968**	**795**	**1,007**	**89,766**

(*a*) Accidents reported to the police which occurred in public thoroughfares and which resulted in death within thirty days or in bodily injury to an extent requiring surgical or medical treatment. (*b*) Includes parked vehicles.

ROADS

Summary of roads used for general traffic

Proclaimed or declared roads. The table following is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30 June 1973. 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: availablity 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, etc., 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 1973
(Kilometres)

Class of road	*N.S.W.*	*Vic.(a)*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Total*
State highways	10,567	(b)7,252	10,195			1,929	
Trunk roads	10,258	14,605	126	13,127	12,315	..	108,012
Ordinary main roads	18,462		8,111			1,065	
Total main roads	*39,287*	*21,857*	*18,432*	*13,127*	*12,315*	*2,994*	*108,012*
Secondary roads	(c)290	..	(d)13,773	..	8,716	308	23,087
Developmental roads	3,894	..	7,617	..	..	144	11,655
Tourist roads	396	805	..	..	..	75	1,276
Other roads	..	(e)1,039	..	..	..	..	1,039
Total other roads	*4,580*	*1,844*	*21,390*	..	*8,716*	*527*	*37,057*
Grand total	**43,867**	**23,701**	**39,822**	**13,127**	**21,031**	**3,521**	**145,069**

(a) Includes only roads declared by the Country Roads Board. Does not include 13 kilometres of metropolitan freeways constructed by the Melbourne and Metropolitan Board of Works. (b) Includes 113 kilometres of freeways constructed by the Country Roads Board. (c) Metropolitan only. (d) Includes mining access roads, farmers' roads and tourist tracks. (e) 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 1973
(Kilometres)

Surface of roads	*N.S.W.(a)*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Total*
Bitumen or concrete	60,675	54,763	37,182	17,090	29,667	6,467	4,545	1,283	211,672
Gravel, crushed stone or other improved surface	65,407	46,272	29,792	21,385	30,520	13,229	1,711	385	208,701
Formed only	39,876	31,097	63,526	24,494	43,793	883	4,208	42	443,627
Cleared only	42,012	27,436	62,068	37,107	57,389		9,696	..	
Total	**207,970**	**159,568**	**192,568**	**100,076**	**161,369**	**20,579**	**20,160**	**1,710**	**864,000**

(a) As at 30 June 1972.

On page 391 some road statistics are shown from a survey of roads conducted by the Commonwealth Bureau of Roads and the National Association of Australian State Road Authorities. The emphasis in that table is on a classification of roads by function. Because of differences in definitions, methods and reference served, the statistics are not directly comparable with those shown in the above table.

Further information on roads, including financial particulars, is included in Chapter 18. Public Authority Finance.

National Association of Australian State Road Authorities

The National Association of Australian State Road Authorities (N.A.A.S.R.A.) was established in 1934 under the title 'Conference of State Road Authorities of Australia', the present name being adopted in 1959. Initially the member authorities were the central road authority in each State but in 1949 this was extended to include the Australian Government Department of Housing and Construction. The present member authorities are: Department of Main Roads, New South Wales; Country Roads Board, Victoria; Main Roads Department, Queensland; Highways Department, South Australia; Main Roads Department, Western Australia; Department of Public Works, Tasmania; Australian Government Department of Housing and Construction.

These authorities are directly responsible for the construction and maintenance of the primary road system which comprises approximately 14 per cent of roads in Australia. The primary roads, generally termed 'main roads', include the principal routes between States, routes linking large cities and regions within the States and certain major arterial roads. The authorities also have a limited responsibility for some secondary roads serving primary and secondary industry, and tourist roads.

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. This is done by gathering together experienced engineers and administrators from the member Authorities into a series of committees to develop national standards for road and bridge design, construction and maintenance and to improve methods of administration and financial control. The policies and standards published are widely used by local government authorities and by universities as standard textbooks for courses in road engineering. For structural design, road signs, manufactured items and standard laboratory test procedures it has been a long standing policy of the Association to participate with the Standards Association of Australia in the preparation of national codes of practice.

One item of continuing interest to the Association is road research and in 1959 the Association decided to establish and finance a separate national road research centre. This centre, the Australian Road Research Board (A.R.R.B.), was established in 1960 as a company controlled by a Board consisting of the N.A.A.S.R.A. members. The director and staff of A.R.R.B. regularly report to the N.A.A.S.R.A. executive and technical committees the results and progress of research undertaken for N.A.A.S.R.A. and the individual road authorities.

The Association also assists the Australian Government in a number of national and international projects. Within Australia direct grants are made for the construction of a number of roads and the Association has provided the basic data for the two Australian Roads Surveys. These surveys are conducted regularly in conjunction with the Commonwealth Bureau of Roads and form the basis for determining the Australian Government's policy on financial aid for roads. The Association also regularly confers with the Australian Government Department of Transport, the Commonwealth Bureau of Roads and Australian Transport Advisory Council on major roading policies. As part of the Australian Government's external aid program and in conjunction with the Department of Foreign Affairs, member authorities of the Association conduct engineering training courses for experienced engineers from African and Asian countries.

The secretarial services of the Association are provided by a small staff located in Sydney. This office maintains contact with overseas road bodies and acts as a centre for the receipt and circulation of standards published by these organisations.

Australian Road Research Board

The Australian Road Research Board was established by the road authorities of the Australian and State Governments in 1960 as a national centre for road research. The Board was incorporated in January 1965 as a public company limited by guarantee, memorandum and articles of association being drafted in general conformity with the constitution which had been accepted in 1960. The company members are the Australian Government, the commissioners of the central road authorities in New South Wales, Queensland, South Australia, and Western Australia, the Department of Public Works, Tasmania, and the Country Roads Board, Victoria. The Secretary of the Australian Department of Housing and Construction and the departmental heads of the other road authorities constitute the Board, which controls all policy and activities. Finance for all activities has been provided by the company members on an agreed basis.

The objectives of A.R.R.B. include planning an adequate program of research and development, arranging for individual projects to be carried out directly and by co-operating organisations, and providing conferences and publications to bring these and other advances to everyone interested in roads. Publications include *Proceedings* of biennial national research conferences commencing in 1962, the journal *Australian Road Research* issued a number of times a year, and separate reports and bulletins resulting from special research projects.

The following list of possible subjects indicates the range of studies provided for in the original constitution: road planning, location, design, safety, materials, construction, maintenance, structures, equipment, traffic and transport, economics, administration, financing, management, accounting, and any other matters affecting the provision, upkeep, use, protection, and development of roads. In planning a creative program the Board continues to look for those subjects which seem to offer the highest benefit to road engineers and the community.

The work on research projects is carried out either directly by the Board's own staff, in many cases acting in co-operation with the road authorities of the various governments, or through co-operative projects established with universities. The Board has endeavoured to provide or sustain the additional staff required for these external projects, but university staff members furnish advice and co-operation in all parts of these studies.

As with most research organisations, the Board has made very full use of systematic consultation through various advisory groups. Members of these groups have been recruited from persons with the ability to contribute, who were prepared to serve as individuals and not as representatives of particular organisations. In an attempt to secure completely unfettered counsel, most of the members of the advisory groups were drawn from outside the Board and its staff. The various committees include a general Advisory Council and several particular types of specialist committees. In addition, the technical committees of the National Association of Australian State Road Authorities have, with the initiation of A.R.R.B., been a continuing and valuable source of advice and consultation. In this way, therefore, exceedingly valuable advice has been obtained from individuals drawn from the State road authorities, local authorities, C.S.I.R.O., Australian universities, several Australian Government departments, and from private companies and consultants.

Commonwealth Bureau of Roads

The Commonwealth Bureau of Roads is a Statutory Authority established under the provisions of the *Commonwealth Bureau of Roads Act* 1964. The Bureau consists of a full-time Chairman and two part-time members appointed by the Governor-General and is served by a small secretariat. Broadly, the responsibilities of the Bureau are to advise the Australian Government, through the Minister for Transport, on matters relating to roads and road transport and government financial assistance in this area.

History of Roads in Australia*

Road travel plays a dominant role in life in Australia today even though it is continually being augmented by other means of travel and communication. Approximately 90 per cent of passenger travel and 20 per cent of freight transport is by road.†

By world standards Australia has an extensive network of roads (about 0.06 kilometres per capita in Australia compared with 0.03 kilometres per capita in both Canada and New Zealand) with a total of over 800,000 kilometres. These roads serve different functions ranging from major arterials (urban and rural) carrying heavy traffic movements, to property access roads (either residential streets or rural), the latter constituting about 85 per cent of the length of the national roadway. Almost three-quarters of the nation's road traffic (vehicle-kilometres) is carried on arterial and sub-arterial roads which together comprise only about 16 per cent of the total length of road.

Naturally enough, the development of this network reflects the response over many decades to a complex of economic, social, political and other considerations. As these demands have changed so has the concept of an acceptable road network altered. Cleared but generally undrained and unpaved tracks met the transport needs of the early settlers in New South Wales. Many kilometres of such rough bush tracks still survive (mainly in the inland areas), and about 80 per cent of the nation's road system is still unsealed, while over 50 per cent is natural earth-surface. However, most main roads have now been transformed into modern all weather roads suitable for fast and heavy motor vehicles.

* This note on the history of road development in Australia was prepared by the Commonwealth Bureau of Roads.
† Passenger travel is measured by the total distance travelled by persons by car, bus, tram, rail, air and sea. Freight transport is measured by the total distance each unit weight of freight is carried by all modes of transport.

The roads of the first settlers

There was little planning in the development of the early roads. When a need arose a road was built, often following the trails or tracks produced by drays and bullock teams. Thus, the first road built in the colony was a cleared track from Dawes Battery to Governor Phillip's residence, a distance of nearly two kilometres. When the Parramatta district was settled a road was built to it from Sydney, branching off the road to Dawes Battery. In 1792, roads were built linking the new settlement in the Windsor district with both Sydney and Parramatta. Even in Sydney the street system was not regulated—the town plan produced by the Surveyor-General in 1788 was rejected as too grandiose and no further attempt to produce a town plan was made until Governor Macquarie arrived.

The condition of the roads and streets deteriorated rapidly. In overseas countries, road construction methods improved road quality considerably in this period, but the new colony was not able to take advantage of these improvements owing to a lack of trained surveyors and road and bridge engineers in the colony. (Until 1833, no one in the colony had been capable of designing and building a stone arch bridge.) Therefore, the easiest routes had to be adopted, and roads followed the tracks of the explorers, which were not necessarily the shortest routes. Apart from a lack of equipment and tools, the topography of the country was not conducive to easy road building. The convicts were a source of unlimited free labour but were an unwilling work force and needed constant supervision. Therefore, early roads were simply cleared tracks with no drainage and little grading or surfacing, thus needing regular reconstruction.

The influence of Macquarie

A concerted attempt to improve the condition of the roads and to plan a road network was made by Governor Macquarie. When he arrived in 1810, there were no paved roads outside Sydney and no real streets in the town. The roads within Sydney were only straggling paths: crooked, muddy, rutted and full of stumps. Houses encroached on the roads and animals rummaged in the rubbish thrown onto them. However, Macquarie was determined to improve the condition of the roads. Within several months, toll roads from Sydney to the Hawkesbury River and to Parramatta had been opened and a plan 'for the ornament and regularity of the streets of Sydney'* partly executed. Macquarie planned for roads and bridges to precede settlement to avoid repeating the haphazard development which had characterised earlier road building.

Finance for the road construction and maintenance program was provided from Government funds, public subscription or tolls. The right to collect tolls was let to private operators who were called upon to construct roads and maintain them for ten years. To ensure that the condition of the major roads in the colony did improve, the administration specified a standard of construction and maintenance which the operators of the toll roads had to meet. The system appears to have worked successfully on the main roads and a profit of $930 was made in 1815 from the tolls on the Sydney to Parramatta road.

Road conditions had improved greatly during Macquarie's term as Governor and when he left in 1822 the colony had a network of three major roads, with the Great Western Road from Sydney across the Blue Mountains to Bathurst being the most important. Order had been brought to Sydney streets with the adoption of a town plan, and the streets had been paved, named and signposted. Macquarie had been responsible for establishing the conditions for the road network to develop in a planned way. However, his successors as Governor were less concerned about the development of the network and road conditions deteriorated.

The impetus given to the growth of the country by the opening up of the Bathurst plains and the establishment of new colonies imposed strains on the road programs of the various administrations. They were not able to adequately maintain the existing roads or to construct new roads fast enough to keep up with the spreading of settlements. The situation worsened with the development of an acute labour shortage. This arose because of the attraction of the newly-discovered gold fields for workers and a decline in the transportation of convicts. As a result, road conditions deteriorated badly at a time when the growth of the wool and wheat industries made the need for improved roads to the interior of great importance. This problem was accentuated in times of low prices for wheat and wool when transport costs were crucial.

The pattern of road building in the other colonies had followed that set in New South Wales. However, except for Tasmania, the other colonies did not have a substantial pool of cheap convict labour for road works. Thus, the level of development of the road network in these colonies was generally lower than that in New South Wales.

* Clark, C. M. H.; A History of Australia; Vol. I, Melbourne University Press, Melbourne, 1962, page 269.

Although the capitals of each of the colonies had a town plan which determined the layout of the streets, the road network in country towns was generally planned by government surveyors as an adjunct to their work of dividing up the sheep properties. A legacy of that policy is the similarity of the design of many towns, as the methods adopted for each town were usually the same—a wide main street was surveyed with narrower roads at intervals running at right angles to the main street. For larger towns, other roads parallel to the main one were constructed, producing a grid pattern.

The establishment of road authorities

Even before gold was found the road construction programs had suffered from a shortage of funds as they had to rely on government budgets, loans, tolls and public subscription. For this reason the years from the 1830s saw the establishment of authorities primarily responsible for roads. This problem was exacerbated by the discovery of gold, one consequence of which was the rapid increase in population in New South Wales and Victoria which necessitated a large scale attack on the road problem. Legislation in New South Wales in the 1830s and 1840s had established road trusts in Sydney and Newcastle and local government organisations in other areas, with the power to impose tolls and with responsibility to construct and maintain local roads. They could levy rates but had no power to borrow funds (except by mortgaging future tolls and rates). Similar administrative structures existed during this period in other colonies.

The first centralised control of road construction in Australia came in South Australia, where the Central Board of Main Roads was established in 1849. In Victoria, there was centralised control of construction and maintenance from 1853 to 1863, through the Central Roads Board. This board expanded the network of toll roads but demanded larger licence fees from the companies collecting the tolls. These fees were redistributed to district boards for construction of community roads. Much was accomplished by the Board in clearing and paving roads, constructing bridges and in the maintenance of Victorian roads. However, viewed overall, the technical and financial task of road construction and maintenance on a large scale was beyond the capacities of these colonial road trusts.

The influence of the railways

Until the late 1860s, the effort directed at extending and upgrading the road network increased for several reasons. Roads catered for most travel and the road transport firm, Cobb & Co., was expanding and providing relatively cheap travel. Further, the easing of the gold rushes had lessened the demand for bullock teams, resulting in a fall in prices for this type of road transport.

The development of railways changed this situation. By 1880, most of the early difficulties suffered by the railways had been overcome and rail, faster and cheaper than road transport, became the dominant transport mode for the next fifty years. The first priority of transport authorities was to extend the rail network and then to provide low cost roads to link centres to the rail heads:

> 'the roads as main highways for traffic from Sydney have to a great extent been superseded by the railways, but for a large part of the Colony they are still the sole means of communication, and as feeders to the railway system they play a very important part'.*

With the dominance of travel by the railways, a relatively inflexible mode of transport, it had become necessary to plan the integration of the various modes. At this stage, however, the role of roads was seen as completely subservient to that of all rail transport, including trams in the cities.

Unlike Europe, Australia did not have an extensive network of good roads in existence when railways were introduced and roads became of minor importance as routes for heavy transport. Furthermore, by 1879 tolls on main roads had been abolished in all colonies, funds for road maintenance were granted irregularly and the cost of road transport did not continue to fall as it had in the aftermath of the gold rushes. Hence, standards of roads declined and the dominance of the railways was reinforced. Most country roads became simply deep wheel tracks, the development of arterial roads where they would parallel rail lines was slowed and the maintenance of roads already in existence was largely neglected. When a rail bridge was constructed over the Hawkesbury in 1889, the ferry across the river was stopped, thus closing the coastal road from Sydney to Newcastle until the ferry was reopened in 1930. A road bridge was not built until 1945.

One aspect of the dominance of railways which did assist the road network at this time was the upsurge in bridge building which accompanied the development of rail. As well as rail bridges many road bridges were built. In 1866 an iron bridge was built to connect north and south Brisbane; in 1868 a bridge was built across the Murrumbidgee River at Gundagai; and the Murray River was bridged at Echuca on the New South Wales-Victoria border in 1878. The last-mentioned bridge was intended as a rail bridge but the local residents stormed it on the day of the official opening and forced it to be opened to all traffic. As timber-built bridges had been found to be more vulnerable to fire, flood and decay, the more important bridges during this time were of iron and were built high above the floodplain.

* *The Mother Colony of the Australians*, ed. Frank Hutchinson; Department of Public Works, Sydney, 1896, page 290.

Streets within towns were improved as a result of the establishment of shire councils with responsibility for, among other things, the maintenance of local roads. Where control for both road works and railways had previously been centralised in one department the condition of the roads had generally declined at the expense of the railways. In 1907 shires in New South Wales started to receive regular grants from the State Government and they were also given more independence in levying rates. They were not responsible for the construction and maintenance of arterial roads and bridges, this being the responsibility of the State Government. However, this did not alter the fact that most road construction was initially the responsibility of the shire councils, whereas today, shire councils and the State governments share the responsibility of construction.

Technological advances

Late in the 19th Century, road travel was still slow and the journey uncomfortable. Most roads outside country towns were still unsealed, as crushed metal (used in macadamisation)* was costly. City dwellers, however, were more fortunate. New road construction methods had been developed and accepted. Much of the initial development of wood block pavements was carried out in Australia and in 1880 the first such pavement in Australia was laid as an experiment in King Street, Sydney. By the end of the decade numerous pavements of blackbutt, tallow wood or blue or red gum had been laid in Sydney and Melbourne. In Adelaide, tar macadam had been discovered by accident as a road pavement when a tar cart tipped over, spilling its load on the street.

By 1900 the technical problems of the time had largely been solved. Until motor vehicles imposed new demands on road surfaces, the roads which had been developed were satisfactory for the traffic carried. (Although motor vehicles appeared on the roads before the end of the century, they were of little influence until after World War 1.) In country districts most roads were of earth or gravel with no foundation, with a macadamised pavement used only on heavily trafficked roads. In cities, suburban streets with light traffic were macadamised, while a Telford base with a water-bound macadam surface was used only on roads with heavier traffic and on experimental and specialised types of pavement in areas with the heaviest traffic. In 1890, another improvement in road building was made with the successful use of asphalt as a surfacing material.

The advent of the motor vehicle

The advent of the motor vehicle altered the state of balance in which the road network had existed with the other modes of travel and the land use patterns. One of the first consequences was the necessity for the administrative structures to be altered to serve the changed set of circumstances.

The establishment in Victoria of the Country Roads Board (C.R.B.) in 1913, was the beginning of the drive by State governments to centralise control of road construction and maintenance. The development of the motor vehicle was bringing more traffic and a different type of traffic to the roads, and the municipalities were unable to cope with this changed situation. A central authority was needed to co-ordinate expenditure and planning. The C.R.B. was established to designate main roads and to share with the municipalities the cost of maintaining and constructing these roads. Consequently, the proportional contribution of the municipalities has declined over the years. The power of the C.R.B. has increased with more types of road having been brought under its control. Developmental roads, isolated settlers' roads, State highways, tourist and forest roads and, in 1956, by-pass roads (or freeways) have also been designated and constructed, or funds for construction have been supplied to local road authorities, by the C.R.B.

Similar development has occurred in the other States. In Queensland, the Main Roads Commission (now the Main Roads Department) was established in 1920; in New South Wales, the Main Roads Board (now the Department of Main Roads) was established in 1925; and in Western Australia the Main Roads Board was established in 1926 and replaced by the Main Roads Department in 1930. The administrative machinery needed to cope with the wide use of cars had been established by the end of the 1920s; in every State there was a central main roads authority.

The dominance of railways in the late 19th century had largely eliminated the need for high standard arterial roads, but the existing roads, suitable for horses, became inadequate with increasing usage by motor vehicles. Gravel roads were often narrow, rough, ungraded and impassable by cars in the wet, while tyres of the early cars were generally comprised of solid rubber (with some steel rimmed tyres) which damaged the roadway if it was at all irregular. Furthermore, the grade, surface, alignment and sight distances provided by the existing roads were not adequate for the faster, more heavily loaded vehicles which made up an increasing portion of the traffic. Hence a greater degree of government initiative was needed. Although regular subsidies had been given to local authorities for some years, many councils lacked engineers so it became necessary for the road boards to

* Macadamised roads had a surface of durable stone, broken up and rolled tightly.

establish basic standards of design, construction and maintenance. Before the advent of motor vehicles, roads had deteriorated only at a slow rate and maintenance generally involved routine filling of potholes and occasional reshaping of the roads. However, with motor vehicles becoming more widely used, much closer attention to pavement surface was needed and preventative maintenance developed.

One of the first tasks of the Main Roads Board in New South Wales was the construction of a coastal road between Newcastle and Sydney. The new road was opened in 1930 and reduced the distance from Sydney to Newcastle from 249 kilometres to 172 kilometres and the ferry across the Hawkesbury River at Peat's Crossing (which had been closed when the railway bridge was built in 1889) was reopened and operated until a road bridge was opened in 1945. A system of roads primarily to join the major cities was a little closer with the completion of this road.

The depression of the 1930s slowed the development of a higher standard road network. Substantial road funds were, by this time, being collected by the States from registration of motor vehicles, so that when motor vehicle ownership fell during the depression (the number of cars registered fell between 1930 and 1932, not reaching the 1930 peak until 1935) revenue declined as a consequence, and expenditure on construction and maintenance (particularly on main roads) likewise decreased. Rural roads were less affected since some unemployment relief funds were used to finance work on subsidiary roads.

Despite the effect of the 1930 depression on road revenue, the 1920s and 1930s were a time of considerable technological innovation. Great advances were made in the construction of lightly trafficked roads and in surfacing technique during this period with the large scale development of bituminous pavements. Binding of local gravels with tar and bitumen produced a smooth surface for traffic, that was cheaper, safer for motorists and less dusty in use.

The effect of the 1939-45 War

Strategic considerations of the 1939–45 War had a profound influence on the Australian road network. The development of a system of major arterial roads was hastened as arterial roads and bridges were strengthened to support heavy army traffic. For the defence of the northern part of the country, supply roads had to be built to established centres and new roads built to the airfields which were being built around the northern perimeter of the continent. In 1942, the Allied Works Council was formed to plan and supervise road development for the war effort. Army and civilian construction authorities shared the task of developing the road network. The main road authorities of New South Wales, Victoria and South Australia jointly undertook the reconstruction and sealing of the Stuart Highway in the Northern Territory, the main supply route running north from the railhead at Alice Springs to the railhead at Larrimah. Over 960 kilometres of road was converted from a rutted, dusty, often impassable dirt track to an all-weather sealed highway capable of withstanding heavy military traffic. This road (later extended to Darwin) followed the route of the overland telegraph line. The Stuart Highway, the Eyre Highway parallel to the transcontinental rail line, and a supply route to the Northern Territory from Queensland (linking Darwin and Brisbane) were the most important arterial roads constructed in this period.

However, with the effort needed to rapidly improve the arterial road network, construction authorities did not have the resources to properly maintain other roads. Because of this, country roads deteriorated badly during the war, and in the *Commonwealth Aid Roads and Works Act* 1947, a specific grant for these roads was made in an attempt to overcome the backlog.

The post-war period

The progress in development of roads in remote areas achieved during the war has been continued by the Australian and State governments. Thus, States have designated development and tourist roads and assisted in the construction of these, while the Australian Government has participated in beef road development since 1949 when a program of road improvements to facilitate cattle transport was begun in Queensland, Western Australia and the Northern Territory. Grants have also been given for maintenance of certain roads designated as 'strategic': e.g. the Eyre Highway in South and Western Australia and the Barkly Highway in Queensland. Additional assistance has been given to South Australia as a contribution towards the costs of completing the sealing of the Eyre Highway. Tasmania has also received a grant to finance the construction of roads in the Gordon River region of south-west Tasmania to assist the development of the hydro-electric system.

The postwar period has brought accelerated change to the road system. In the cities, one result of the dominance of train and tram transport systems in the late nineteenth and early twentieth centuries had been a 'radial' pattern of development, with settlement extending along the transport arteries. The development of motor vehicles enabled this pattern to be altered. The effect of motor vehicles on the community has been much more widespread than merely its effect on the road system. The rapid growth of population and motor vehicle ownership, the physical expansion of the cities,

and the highly mobile lifestyle of the residents, have resulted in rapidly expanding government road budgets to provide a network of arterial roads and suburban streets in urban areas.

Problems facing road authorities in this period included attempting to catch up with the backlog of road works from the war period, to cater for ever-growing numbers of vehicles, to link isolated settlements with all-weather roads and to provide higher standards of service for the increasingly heavily trafficked roads. In the rural areas considerable progress was made by both State and local road authorities in improving many kilometres of arterial roads, as well as pursuing policies of sealing farm-to-market roads. Nevertheless some anomalies arose in this period such as farm access or minor rural roads being sealed but connecting with major arterial roads whose surfaces were unpaved. Problems of this sort brought into prominence the whole question of allocation of resources to road development, priorities of road improvement and the financial arrangements for roadworks.

Responsibility for roads

Legal responsibility for roads in the Territories is borne by the Australian Government while in the States it is shared between the State road authorities, local governments and, in some cases other authorities established by the State Governments. Since the establishment of the State road authorities early this century, their responsibilities have widened considerably as more types of roads have been classified by the State governments as under their control.* Now, in most States, they are responsible for roads classified as freeways, State highways, tourist roads, developmental roads, other roads which were constructed for State or national purposes and all roads in unincorporated areas. The local government authorities are responsible for all unclassified roads (i.e. those which are not classified as controlled by the State road authorities) except in areas where special authorities have been established by the State government with responsibility for, among other things, road care, control and management (e.g. the Melbourne and Metropolitan Board of Works had responsibility until June 1974 for those roads in Melbourne declared by the Governor-in-Council to be metropolitan roads and metropolitan main highways). The State road authorities provide substantial financial assistance to local government authorities towards the cost of construction and maintenance of unclassified roads.

Since the advent of the motor vehicle, the financing of road investment has been characterised by the increasing involvement of the Australian Government and by increases in the level of funds provided. Today, approximately an equal amount of finance is provided by each level of government—Federal, State and local. However, the distribution between construction and maintenance varies. It is estimated that, while the Australian Government provides little finance for maintenance, in 1971–72 it provided about 60 per cent of the finance for construction of arterial roads and about 45 per cent of total construction finance. The rest of the finance for arterial road construction was provided by State governments. The remaining 55 per cent of total construction finance not provided by the Australian Government, and most of the maintenance finance, is provided in approximately equal parts by State and local authorities.

By the *Public Works Act* 1922, the Australian Government distributed $500,000 to the States on a population basis with a dollar-for-dollar matching condition. The money was to be spent on maintenance of roads outside city areas and all expenditure was to be approved by the Australian Government. Further grants were made from 1923 to 1931 for specific roads only, and subject to matching conditions. To raise funds to meet expenditure on roads the States attempted to place a tax on the use of petrol but the High Court ruled the tax to be an excise duty and therefore invalid. The right of the Australian Government to impose conditions on grants was established when the High Court dismissed a challenge by the Victorian Government over the conditions imposed on the specific purpose grant in the *Federal Aid Roads Act* 1926.

Severe economic hardship caused by the depression, and the problem of increasing budget deficits, influenced the formulation of the *Federal Aid Roads Act* 1931. Matching conditions were no longer applied and purposes for which the grants could be used were less rigidly defined. Matching conditions were not reintroduced until the *Commonwealth Aid Roads Act* 1959 when a dollar-for-dollar matching condition was applied to part of the grant. In this period from 1931 to 1959, Australian Government grants rose substantially owing to increases in the proportions of petrol duties earmarked for roads, rising fuel consumption and supplementary grants made to the States. Grants to the States had fallen during the 1939–45 War because of the Government restriction on petrol consumption, but subsequently the amount rose with each successive piece of legislation.

Under the *Commonwealth Aid Roads Act* 1959, the Australian Government's contributions increased substantially, matching conditions were reintroduced for the additional grants, and the relationship between the grant and fuel tax revenues was deleted. For the first time, the States were

* These classifications vary between the States and do not accord with the Australian Government's functional classes of road (which are defined further on).

permitted to use a portion of the grant for planning and research relating to construction, maintenance and repair of roads. The *Commonwealth Aid Roads Act* 1964, was similar to the 1959 Act. The total grant was increased by 50 per cent and the provision for expenditure on planning and research was extended. In 1964, the Australian Government constituted the Commonwealth Bureau of Roads (C.B.R.) to advise it on the appropriate size and distribution of the grants by the Australian Government to the States for roads and road transport.

In the light of Commonwealth Bureau of Roads recommendations, the *Commonwealth Aid Roads Act* 1969 provided for $1,252 million to be distributed to the States over the five year period 1969–70 to 1973–74. This was composed of a principal grant of $1,200 million, conditional upon each State meeting a 'quota' of expenditure on roads from its own sources, and a supplementary grant of $52.05 million payable to South Australia, Western Australia and Tasmania, on which no conditions were imposed. These supplementary grants were to be phased out by the end of the period specified in the Act. Four categories of road expenditure on which the grants could be spent were designated. The inclusion of two categories, expenditure on urban arterial and sub-arterial roads and on rural arterial roads, was a new development intended to establish a high standard arterial road system. The other two categories were expenditure on other rural roads and on planning and research. Planning and research was defined to include investigation into road transport in relation to other means of transport, research into road safety, the design of vehicles and the behaviour of road users—all areas of increasing importance with the rapid growth of road traffic and the resulting undesirable effects. As mentioned above, the Australian Government has also provided grants for beef roads, the Eyre and Barkly Highways and the Gordon River Road.

Conclusion

The present

While roads have many functions, an overall pattern of use has emerged so that it is possible to categorise the Australian road system in accordance with a hierarchical classification based on predominant function.

In 1971 and 1972 the Australian Roads Survey 1969–74 was conducted jointly by the Commonwealth Bureau of Roads and the National Association of Australian State Road Authorities. The survey covered all roads open to the public in Australia. To classify roads by function, nine functional classes were used, five covering rural roads and four covering urban roads. The final results of the survey included an inventory of the Australian roads system containing information on the physical conditions and traffic characteristics.

LENGTHS OF ROADS OPEN TO THE PUBLIC: AUSTRALIA, JUNE 1972
(Kilometres)

	Functional class of road(a)										
	Rural				*Urban*						
Road type	*Class 1*	*Class 2*	*Class 3*	*Class 4*	*Class 5*	*Class 6*	*Class 7*	*Class 8*	*Class 9*	*Total*	*Proportion*
											per cent
Sealed pavement—											
Dual carriageway	182	113	130	254	..	1,131	190	14	..	2,014	0.2
Single carriageway	17,057	21,285	40,684	75,594	1,197	3,858	6,598	38,230	195	204,699	24.9
Total sealed	*17,239*	*21,398*	*40,815*	*75,848*	*1,197*	*4,989*	*6,788*	*38,244*	*195*	*206,714*	*25.1*
Unsealed pavement	1,123	1,640	12,128	177,966	1,109	5	452	7,762	24	202,209	24.6
Formed earth	3,228	1,622	11,832	191,689	655	..	31	2,363	..	211,421	25.7
Natural surface	1,009	74	2,451	194,504	1,057	8	18	2,155	..	201,276	24.5
Total	**22,600**	**24,734**	**67,225**	**640,007**	**4,018**	**5,002**	**7,289**	**50,524**	**220**	**821,620**	**100**
Proportion (per cent)	2.8	3.0	8.2	77.9	0.5	0.6	0.9	6.1	..	100	..

(a) The nine functional classes used in the survey are:
Rural roads
Class 1—For movement of people and goods between the major cities and regions.
Class 2—For movements between major cities and towns and between the towns.
Class 3—For movements between important centres and between centres and towns and as feeder roads to the class 1 and 2 roads.
Class 4—For provision of road access to properties and houses.
Class 5—For provision for one particular activity or function in rural areas.
Urban roads
Class 6—For large volume movement of people and goods.
Class 7—For large volume movement of traffic for distribution to the local street systems and to supplement the class 6 roads.
Class 8—For provision of road access to abutting properties.
Class 9—For provision for one particular activity or function in urban areas.

NOTE. Classes 1, 2 and 3 roads comprise rural arterial roads, class 6 roads are urban arterial roads and class 7 roads are also known as urban sub-arterial roads.

There are now over 800,000 kilometres of road and over 30,000 structures (principally bridges) in the Australian network. From the table above it can be seen that, of this total road length, some 14 per cent comprises the major rural arterials (including the national highways) and 2 per cent the urban arterials and sub-arterials. The arterials, totalling 16 per cent of all road mileage, carry the bulk (74 per cent) of the nation's road traffic, with the single largest proportion (47 per cent) of the traffic being carried on the urban arterials.

Substantial improvements have been made in road standards. Nevertheless much has yet to be achieved, as the following facts from the 1972 survey indicate. Of the 114,559 kilometres of rural arterials and sub-arterials (14 per cent of the nation's total road length) only 79,452 kilometres (69 per cent) were sealed, and only a miniscule 425 kilometres (1 per cent of rural roads) were dual carriageways.

In urban areas, while the bulk of all the arterials were sealed, only 1,321 kilometres (11 per cent) of the total arterial road distances were dual carriageways. Urban freeway development in Australia, comprising about 71 kilometres in all cities, was far below that of overseas cities of comparable size, population density, and motor vehicle ownership and usage rates.

Future developments

The two most important new developments in expanding and up-grading Australia's road network, now being discussed by planners are:

(i) the need to develop a national highways system; and

(ii) the planning of improved urban roads for both the already developed and the newly-developing urban areas of the nation.

National highways system. Although numerous countries have developed national roads systems (e.g. United States of America, Federal Republic of Germany), this idea has received general acceptance only recently in Australia. The fundamental concept is one of identifying, designating and developing a system of arterial roads connecting the capital cities and the principal regions of the nation, and recognising a national interest in road development that goes beyond the local considerations which have largely determined road building activities in the past. Thus, highways are needed to provide for traffic which is long distance in nature, or is export oriented, or which crosses State or major regional boundaries. The benefits of highway development often accrue beyond the confines of any one State. In these circumstances it is evident that there is a role for the national government in the strategic planning, financing and improvement of such roads.

Australian Government participation has been recognised in the *National Roads Act* 1974, in which the Australian Government has taken the full financial responsibility of the development and implementation of a national highways system requiring co-ordinated planning at the national level. Adoption of such a policy is a major new development in the history of roads in Australia, not only because of the magnitude of the national highways task but also because historically the Australian Government had largely left road planning and construction to the States and to local governments.

Urban roads. The need to upgrade and expand the nation's urban roads also poses a number of planning problems which hitherto has not been faced by State and local government road authorities in Australia.

At one end of the planning spectrum is the need to cater for and regulate the ever-increasing volumes of vehicular traffic which are causing congestion on the existing arterials; at the other end of the spectrum, but related to the first problem, is the need to meet the increasing demands by citizens for an altered and improved property-access street system which will continue to provide access, yet will improve the amenity of urban areas by reducing and controlling traffic flows in residential shopping and recreational precincts. The planning process should also attempt to make provision for road safety and minimising of pollution.

Common to both these requirements is the need to integrate urban road construction programs with programs for the development of other than private-vehicle modes of transport. On a broader scale, there is the need to integrate transport planning (for roads and other modes) with land use planning in new programs for improved urban and regional development. These considerations, plus the high cost of undertaking roadworks in established urban areas, has thrown new emphasis on the need for improved planning methodologies for urban roads. The Australian Government's participation in meeting these aims is reflected in the provision of funds for planning under the *Transport (Planning and Research) Act* 1974 and the *Urban Public Transport (Research and Planning) Act* 1974. In addition, under the *Road Grants Act* 1974, the Australian Government requires investigation of road projects to ensure that the impact of road improvements is not excessively detrimental to urban life.

The challenge for the future is to develop improved urban road networks forming part of an overall balanced transport system which will cause minimal environmental and social disruption and receive general community acceptance.

AIR TRANSPORT

Department of Transport (Air Transport Group)

Control of air transport in Australia is exercised by the Department of Transport's Air Transport Group. The Group's jurisdiction covers Australia and areas of the Indian and Pacific Oceans. Year Books Nos. 16, 19 and 38 trace the establishment of air transport control in Australia and the appropriate Acts of Parliament and Regulations under which this control is exercised. The present functions of the Group are shown in Year Book No. 51, pages 578-9, and further details about its operations are given in the annual reports to the Australian Parliament by the Minister for Transport.

Regular air services within Australia

Interstate services. The majority of scheduled interstate services with passenger and all-freight aircraft are provided by two airlines only, the private enterprise airline Ansett Airlines of Australia (a division of Ansett Transport Industries (Operations) Pty. Ltd., which is a subsidiary of Ansett Transport Industries Ltd.) and the Australian Government-owned Trans-Australia Airlines. All principal routes are competitive, with both airlines providing equal capacities in accordance with legislation passed by the Australian Parliament. The two principal Acts which establish the legislative basis of this controlled competition are the *Airlines Agreement Act* 1952–1972 and the *Airlines Equipment Act* 1958. The Airlines Equipment Act established the machinery for the achievement and maintenance of comparable, but not necessarily identical, aircraft fleets between T.A.A. and Ansett Airlines of Australia, and is designed to prevent the provision of excess aircraft capacity. The Airlines Agreement Act established the basis of control of the two-airline competitive system and extended this machinery until at least 1982.

In addition to purely interstate services, both Ansett Airlines of Australia and Trans-Australia Airlines operate routes to Papua New Guinea under a pool agreement with Air Niugini and non-competitive intrastate routes in Australia. The Ansett Airlines of Australia non-competitive routes radiate mainly from Melbourne, while those of Trans-Australia Airlines are located within Queensland.

At 30 June 1973 the Ansett Airlines of Australia fleet included seven Boeing 727s, twelve DC-9s, eleven Friendships, three L188(F)s and two helicopters. At the same date Trans-Australia Airlines operated a fleet of seven Boeing 727s, twelve DC-9s, thirteen Friendships and six Twin Otter DHC-6.

Intrastate services. In addition to the intrastate services operated by Ansett Airlines of Australia and Trans-Australia Airlines there are a number of smaller regional airlines operating from Sydney (Ansett Airlines of New South Wales and East-West Airlines), Adelaide (Ansett Airlines of South Australia), Perth (MacRobertson Miller Airlines), and Alice Springs (Connair). With the exception of Connair, which provides regular service to outback homesteads and communities, all of these are concerned primarily with traffic moving to and from the respective capital city. With the exception of the independently owned East-West Airlines and Connair, all regional airlines are divisions of Ansett Transport Industries (Operations) Pty. Ltd. The larger aircraft used by these regional airlines are Fellowships, Friendships and Convairs. Connair uses DC3s, Herons and smaller aircraft types.

Commuter services. These are not airline services but regular flights by charter firms with small single and twin-engined aircraft operating to fixed and published timetables. They provide regular air links between many centres, towns and country areas which are either not served by the major airlines or have no direct air service with their capital or nearest major provincial city. The first commuter service approved was for Opal Air Pty Ltd, of Coober Pedy (S.A.), to operate between Adelaide and the South Australian opal fields. At 30 June 1973 twenty-four charter operators were operating commuter services in Australia. Details of the operations of these commuter services are excluded from the statistics shown in this section.

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

AIR TRANSPORT: OPERATIONS OF REGULAR INTERNAL SERVICES AUSTRALIA(a)

		1968–69	1969–70	1970–71	1971–72	1972–73
Hours flown	number	244,606	251,582	258,793	248,774	256,435
Kilometres flown	'000	97,121	106,605	114,605	115,931	121,605
Passengers—						
Embarkations	number	5,184,828	5,911,002	6,340,036	6,629,316	7,502,892
Passenger-kilometres	'000	3,865,295	4,510,536	4,974,220	5,276,524	5,842,540
Freight—						
Tonnes uplifted	tonnes	81,599	90,809	91,401	89,883	94,425
Tonne-kilometres	'000	66,461	74,491	78,047	76,475	84,039
Mail—						
Tonnes uplifted	tonnes	8,959	9,639	9,916	10,137	10,114
Tonne-kilometres	'000	8,027	8,687	9,329	9,589	10,100

(a) Includes flights of all Australian-owned airlines, with the exception of those of Qantas Airways Limited, between airports located within Australia.

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 Papua New Guinea and Australia and Norfolk Island. At ports where through-passengers transfer between flights, such passengers are counted as embarking as well as disembarking passengers.

INTERNAL AIRWAYS PASSENGER EMBARKATIONS AND DISEMBARKATIONS AT PRINCIPAL AUSTRALIAN AIRPORTS

Airport	1968–69	1969–70	1970–71	1971–72	1972–73
Sydney	2,933,795	3,390,322	3,515,231	3,694,498	4,162,659
Melbourne	2,278,032	2,603,320	2,750,602	2,861,896	3,226,294
Brisbane	1,009,060	1,184,846	1,347,118	1,448,920	1,658,043
Adelaide	930,207	1,016,689	1,019,320	1,046,840	1,154,384
Canberra	461,888	541,791	596,171	670,608	813,712
Perth	357,236	420,603	510,328	545,890	536,057
Hobart	196,335	200,638	222,397	227,016	282,676
Launceston	171,612	179,614	197,500	208,090	244,982
Coolangatta	102,764	132,102	166,239	188,917	243,994
Townsville	168,247	197,107	197,942	202,160	231,665
Cairns	101,031	127,252	158,986	182,300	204,414
Mackay	87,313	95,841	125,220	133,806	159,408
Darwin	78,165	98,523	118,375	131,703	141,696
Rockhampton	74,760	83,883	97,264	101,685	113,823
Alice Springs	39,549	52,522	57,299	65,497	89,018
Devonport	68,125	68,257	71,426	75,388	84,290
Wynyard	57,132	63,041	65,563	70,597	75,532
Mount Isa	37,423	52,272	67,938	69,760	68,741
Tamworth	46,558	51,640	50,870	59,557	67,479
Wagga	49,519	54,378	52,181	52,511	56,651
Dubbo	51,775	56,014	55,574	50,827	56,566
Kingscote	45,993	50,878	51,135	47,993	48,609

International activity

International organisations. A full report of the formation of the International Civil Aviation Organization, the Commonwealth Air Transport Council, and the South Pacific Air Transport Council appeared in Year Book No. 37, and particulars of subsequent activity in the international field were included in No. 38. The International Civil Aviation Organization had a membership of 129 nations in June 1973. Australia has continued its position as a member of the Council, which it has held since I.C.A.O. was established in 1947. Further details will be found in Year Book No. 40 and earlier issues.

International agreements. Australia had air service agreements in force with twenty-four countries at 30 June 1973. They were Austria, Britain, Canada, Sri Lanka, Egypt, Fiji, France, Federal Republic of Germany, Greece, India, Indonesia, Ireland, Italy, Japan, Lebanon, Malaysia, Nauru, Netherlands, New Zealand, Philippines, Singapore, Republic of South Africa, Thailand, and the United States of America. 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 eight other countries at 30 June 1973. These were Bahamas, Bahrain, Iran, Mauritius, Mexico, Portugal, Syria and Turkey.

International air services. At 30 June 1973, twenty-one overseas international airlines were operating regular scheduled services to Australia. These are: Air-India (India), Air Nauru (Nauru), Air New Zealand (New Zealand), Air Pacific (Fiji), Alitalia (Italy), British Airways Overseas Division (Britain), Canadian Pacific Air Lines (Canada), Cathay Pacific (Britain), Deutsche Lufthansa (Federal Republic of Germany), Garuda (Indonesia), Japan Air Lines (Japan), K.L.M. Royal Dutch Airlines (Netherlands), Singapore International Airlines (Singapore), Merpati Nusantara Airlines (Indonesia), Olympic Airways (Greece), Pan American World Airways (United States of America), Philippines Air Lines (Philippines), South African Airways (Republic of South Africa), Thai International (Thailand) and Union de Transport Aeriens (France). Trans-Australia Airlines operates between Darwin and Portuguese Timor under charter to Transportes Aereos de Timor. Qantas, Australia's international airline, operates a fleet of twenty-eight aircraft of which nineteen are Boeing 707-338C jet aircraft and six are Boeing 747B jet aircraft. All the shares in Qantas Airways Limited are owned by the Australian Government.

International operations. The table following shows particulars of international airline traffic during 1972–73 moving into and out of an area which embraces Australia, Papua New Guinea, and Norfolk Island. These figures do not include traffic between Australia and Papua New Guinea and Norfolk Island.

AIR TRANSPORT: INTERNATIONAL AIRLINE TRAFFIC TO AND FROM AUSTRALIA(*a*), 1972–73

Type of traffic	*Aircraft movements*	*Passengers*	*Freight*	*Mail*
Traffic to Australia—			tonnes	tonnes
Qantas Airways Limited	3,754	382,725	9,071	621
Other airlines	6,118	511,519	13,729	2,999
All airlines	**9,872**	**894,244**	**22,800**	**3,620**
Traffic from Australia—				
Qantas Airways Limited	3,770	377,535	7,734	1,539
Other airlines	6,093	498,037	9,975	750
All airlines	**9,863**	**875,572**	**17,709**	**2,289**

(*a*) Australian mainland, and Papua New Guinea and Norfolk Island.

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 external territories and overseas countries, and stages external to Australia for flights of other Australian-owned airlines; they exclude flights over stages located within Papua New Guinea.

AIR TRANSPORT: OPERATIONS OF AUSTRALIA'S REGULAR OVERSEAS SERVICES

		1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Hours flown	number	74,757	84,684	97,307	91,357	87,548
Kilometres flown	'000	54,059	60,410	70,346	66,270	64,823
Passengers—						
Embarkations	number	642,524	751,315	839,629	885,548	1,054,929
Passenger-kilometres	'000	3,616,584	4,020,431	4,446,906	4,892,044	6,775,195
Freight—						
Tonnes uplifted	tonnes	16,816	19,201	21,455	20,961	23,239
Tonne-kilometres	'000	135,032	151,427	155,143	143,514	150,342
Mail—						
Tonnes uplifted	tonnes	2,596	2,654	2,819	2,841	2,791
Tonne-kilometres	'000	22,893	22,109	22,862	24,627	22,891

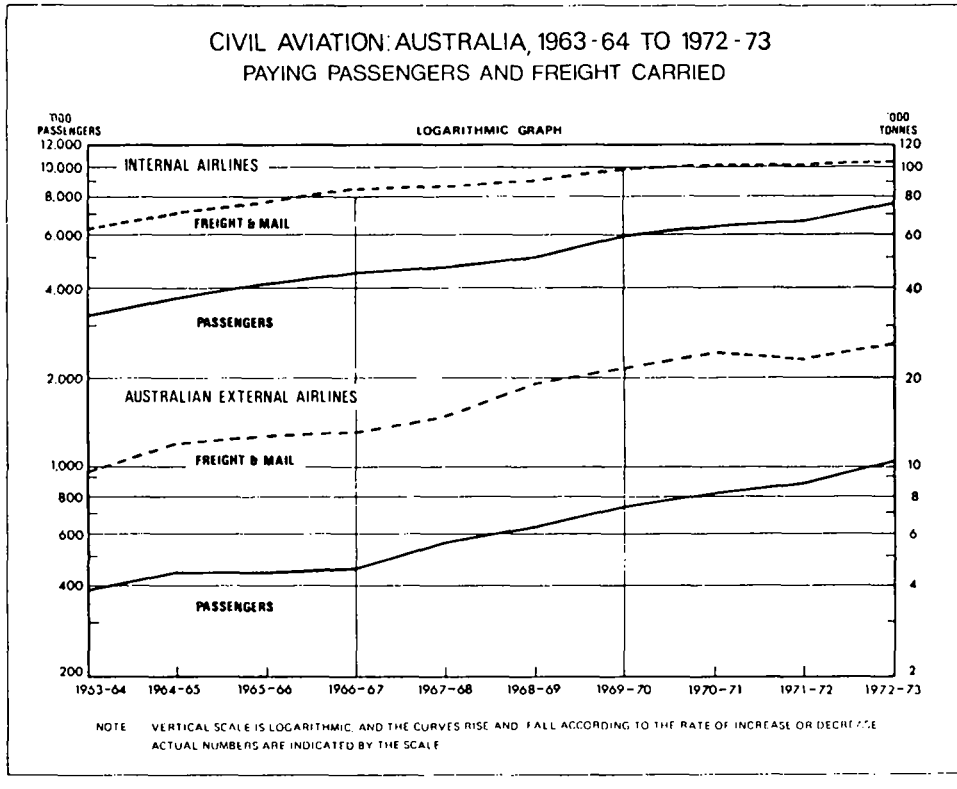

PLATE 35

General aviation

General aviation activity, which covers all non-airline operations such as charter, aerial work and private flying, has grown rapidly throughout Australia in recent years and is an important sector of the Australian aviation industry. In 1972–73 the general aviation hours flown, chiefly with light aircraft totalled 1,057,000 compared with 285,000 hours flown by Australian airline aircraft. At 30 June 1973 aircraft employed in general aviation numbered 3,906.

Aerodromes

The number of aerodromes throughout Australia and its External Territories at 30 June 1973 was 715. One hundred and ten were owned by the Australian Government and 605 by local authorities and private interests. Capital expenditure on aerodrome and building construction was $10.2 million in 1972–73. Maintenance expenditure on Australian Government-owned aerodromes during 1972–73 was $2.8 million, and development and maintenance grants to licensed aerodromes participating in the Local Ownership Plan totalled $971,000.

Airways facilities

A total of 424 navigational aids were in service at 30 June 1973. The total includes 236 non-directional beacons (NDB), 111 distance measuring equipment (DME), 4 international distance measuring equipment (DMEI), 17 visual-aural ranges (VAR), 37 VHF omni-directional ranges (VOR), 17 instrument landing systems (ILS) and 2 twin locator approach systems.

One hundred and twenty-eight aerodromes are now equipped with night landing facilities. Seventy-two approach slope indicator systems (VASIS), of which sixty-seven are Australian designed 'T' systems (T-VASIS), are operating. Seven long range surveillance radars and two short-range (TAR) are also in operation. There are thirty-one fully equipped Air Traffic Control Centres and sixty flight service units.

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

At 30 June 1973 there were 3,906 aircraft registered in Australia. There were also, at 30 June 1973, 27,727 pilots' licences in force of which 12,710 were private pilots' licences, 3,251 commercial pilots' licences, and 9,332 student pilots' licences. Flight radio-telephone operators' licences numbered 20,139.

Accidents and casualties

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

	1968–69	*1969–70*	*1970–71*	*1971–72*	*1972–73*
Number	17	47	31	28	30
Persons killed	47	49	48	37	41
Persons seriously injured	20	41	24	23	8

(*a*) Accidents involving civil aircraft which resulted in death or serious injury. Excludes parachutists killed on contact with earth after an uninterrupted fall. (*b*) Excludes accidents outside Australia involving aircraft on the Australian register.

POSTS: INTERNAL AND OVERSEAS TELECOMMUNICATION SERVICES RADIOCOMMUNICATION STATIONS

In this division 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. The Central Office of the Postmaster-General's Department is located in Melbourne, Victoria.

Postmaster-General's Department—General

The principal functions of the Department are reflected in the *Post and Telegraph Act* 1901–1973. Since its establishment the Department has assumed other responsibilities some of which are currently reflected in the *Wireless Telegraphy Act* 1905–1973 and the *Broadcasting and Television Act* 1942–1973.

The basic role of the Department is 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.

In addition the Department has the following responsibilities:

to plan and manage the radio frequency spectrum and regulate radio communications service;

to construct, maintain and operate the transmitters of the National Broadcasting and Television Service and the Radio Australia Service (*see* pages 407-11); and

to provide agency services for Australian and State Government Departments and other instrumentalities

Research

The Postmaster-General's Department maintains its own research facilities as part of the headquarters organisation in Melbourne. The P.M.G. Research Laboratories had a staff of approximately 500 at 30 June 1973. The main functions of the laboratories are to conduct research and advanced development in the fields of telecommunications science and technology to assist the Department's planning of the development of Australia's telecommunications networks so that community needs for communications services can be met sufficiently and effectively, to assist in the solution of technical problems peculiar to the Australian networks and to maintain Departmental expertise in the selection of advanced systems and equipment offered by manufacturers.

Postal facilities

The following table shows the number of post offices, the area in square kilometres and the number of inhabitants to each post office (including non-official offices), and the number of inhabitants to each 100 square kilometres in each State and in Australia at 30 June 1973.

POSTAL FACILITIES: RELATION TO AREA AND POPULATION, 30 JUNE 1973

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
Post offices—							
Official	512	330	215	171	161	46	1,435
Non-official	1,563	1,316	865	650	421	284	5,099
Total post offices	**2,075**	**1,646**	**1,080**	**821**	**582**	**330**	**6,534**
Square kilometres of territory per office	387	138	1,600	2,840	4,343	207	1,176
Inhabitants per office	2,347	2,179	1,773	1,577	1,836	1,200	2,010
Inhabitants per 100 square kilometres	604	1,572	110	55	42	578	170

Employment

PERSONS PROVIDING POST OFFICE SERVICES: CENTRAL OFFICE AND STATES 30 JUNE 1973

	Central Office	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust*
Official full-time staff(*a*)—								
Permanent officers	3,152	28,541	21,059	12,471	9,178	7,353	2,753	84,507
Temporary and exempt employees	194	13,722	8,548	3,795	1,757	2,275	622	30,913
Total	*3,346*	*42,263*	*29,607*	*16,266*	*10,935*	*9,628*	*3,375*	*115,420*
Other(*b*)—								
Non-official postmasters and postmistresses	..	1,673	1,322	882	626	423	255	5,181
Other staff at non-official offices	..	533	498	333	192	67	22	1,645
Telephone office-keepers	..	129	15	208	68	139	5	564
Mail contractors (including persons employed to drive vehicles)	..	1,716	914	909	308	261	139	4,247
Total	..	*4,051*	*2,749*	*2,332*	*1,194*	*890*	*421*	*11,637*
Grand total	**3,346**	**46,314**	**32,356**	**18,598**	**12,129**	**10,518**	**3,796**	**127,057**

(*a*) Persons directly under the control of the Department. Excludes 3,315 part-time staff. (*b*) Persons not directly under the control of the Department. Includes persons employed either full-time or part-time under contract or in return for payments appropriate to work performed.

Financial operations—Postmaster-General's Department

The financial tables which follow allow for the changed accounting arrangements introduced by the Postmaster-General's Department following amendment of the Post and Telegraph Act in 1968.

Earnings

The following table shows the earnings of the Postmaster-General's Department as taken from successive Profit and Loss Statements.

POSTMASTER-GENERAL'S DEPARTMENT: EARNINGS, BY SOURCE
AUSTRALIA
($'000)

	Postal service				*Telecommunications service*					
Year	*Postages*	*Money order and postal order fees*	*Commission on agency services*	*Other earnings*	*Telephone rentals*	*Telephone calls*	*Telegrams*	*Leased telegraph services*	*Other earnings (a)*	*Total*
1963–64	97,842	2,638	3,976	2,121	64,422	129,736	10,641	5,172	12,746	329,293
1964–65	103,032	2,722	4,243	2,194	82,175	142,722	11,423	5,847	15,687	370,045
1965–66	107,402	2,771	4,277	2,296	93,856	154,304	11,639	6,144	18,585	401,274
1966–67	110,317	2,919	4,300	2,452	100,823	171,100	11,868	7,018	20,691	431,488
1967–68	127,748	3,178	4,406	2,847	108,293	211,812	14,172	7,478	22,722	502,656
1968–69	142,770	3,400	5,591	3,175	116,974	245,571	14,711	8,145	26,872	567,208
1969–70	149,036	3,505	5,698	3,628	126,669	280,757	15,120	9,253	31,579	625,244
1970–71	171,548	4,246	6,348	3,457	153,658	312,111	17,369	10,880	35,996	715,613
1971–72	196,361	4,618	7,857	4,528	184,975	387,538	17,284	12,965	42,367	858,493
1972–73	207,277	4,778	10,055	4,386	192,244	435,404	18,185	13,759	50,973	937,061

(*a*) Includes fees for advertisements in telephone directories, proceeds of sales of fixed assets, telephone service connection fees and telex call fees.

Expenses

This table shows the operating and maintenance expenses of the Postmaster-General's Department as taken from successive Profit and Loss Statements.

POSTMASTER-GENERAL'S DEPARTMENT: EXPENSES, BY SOURCE
AUSTRALIA
($'000)

	Postal service			*Telecommunications service*			
Year	*Operating maintenance and general*	*Carriage of mail*	*Depreciation, superannuation, long service leave and interest*	*Operating and general*	*Maintenance of plant*	*Depreciation, superannuation, long service leave and interest*	*Total*
1963–64	69,655	26,682	9,284	62,651	58,290	103,325	329,887
1964–65	75,987	28,710	10,111	69,637	60,269	121,118	365,833
1965–66	84,868	31,143	11,077	74,451	66,489	133,370	401,398
1966–67	95,775	32,395	15,398	83,154	74,063	152,205	452,991
1967–68	107,016	33,114	18,209	92,614	83,645	177,707	512,305
1968–69	106,682	35,678	21,277	101,861	95,022	198,651	559,171
1969–70	123,615	34,911	23,208	116,920	105,711	218,897	623,262
1970–71	144,352	37,722	29,014	135,321	121,731	249,116	717,256
1971–72	155,306	34,880	34,431	154,587	138,123	281,366	798,694
1972–73	173,265	35,404	38,719	176,607	160,182	311,662	895,838

Profit or loss

The following table shows the net results of the Department's operations for the year 1972–73 together with summarised particulars for the year 1971–72.

POSTMASTER-GENERAL'S DEPARTMENT
CONSOLIDATED STATEMENT OF PROFIT AND LOSS, AUSTRALIA
1971–72 AND 1972–73
($'000)

	1971–72	*1972–73*		
	All services	*Postal service*	*Telecommunications service*	*All services*
Earnings	858,493	226,496	710,565	937,061
Expenses—				
Operating, maintenance and general	482,896	208,669	336,788	545,457
Depreciation	139,740	5,380	148,716	154,096
Superannuation	32,970	13,147	23,758	36,905
Long service leave	11,713	4,589	8,208	12,797
Total expenses	*667,319*	*231,785*	*517,470*	*749,255*
Profit or loss before interest	191,174	—5,289	193,095	187,806
Interest	131,374	15,602	130,979	146,581
Profit or loss after interest	**59,799**	**—20,891**	**62,115**	**41,224**

Minus sign (—) denotes loss.

Fixed assets, Postmaster-General's Department

POSTMASTER-GENERAL'S DEPARTMENT: TRANSACTIONS AFFECTING FIXED ASSETS
1972–73
($'000)

Class of plant	*Value at 1 July 1972*	*Additions during year*	*Instalments of plant written out*	*Value at 30 June 1973*
Telecommunications plant	3,001,200	392,073	37,077	(*a*)3,356,196
Postal plant	23,103	4,873	135	27,841
Engineers' moveable plant	51,761	8,664	3,060	57,366
Motor vehicles	37,325	9,265	8,016	38,573
Other plant and equipment	53,722	7,474	3,657	(*b*)56,538
Buildings	373,392	46,898	53	(*c*)420,236
Land	41,444	12,379	146	53,677
Total	**3,581,946**	**481,626**	**52,144**	(*b*)**4,010,426**

(*a*) Includes plant under construction valued at $174,143,404. (*b*) Excludes $1,001,180 adjustment for changed service lives. (*c*) Includes buildings under construction valued at $25,611,215.

Postal services

Mail delivery network

MAIL DELIVERY NETWORK(*a*): 31 MARCH 1973

State	Number of mail delivery points				
	Postmen's delivery	*Roadside delivery*	*Private boxes*	*Private and free bags*	*Poste restante(b)*
New South Wales	1,405,856	73,023	117,162	5,497	50,923
Victoria	1,002,656	46,879	70,094	4,599	37,220
Queensland	422,445	52,577	54,615	4,363	29,592
South Australia	341,854	2,326	48,302	4,842	21,939
Western Australia	274,354	8,367	33,452	758	16,832
Tasmania	88,555	4,708	13,226	1,475	15,271
Australia	**3,535,720**	**187,880**	**336,851**	**21,534**	**171,827**

(*a*) Statistics shown here are from the Mail Delivery Network Survey at 31 March 1973. (*b*) Delivery of mail at post offices.

Postal articles handled

The following two tables show the number of postal articles handled by the Australian Post Office, according to their State of origin. Each article is counted once only irrespective of the number of times it may be handled in transit.

POSTAL ARTICLES HANDLED(*a*): 1972–73
('000)

State	*Letters* (*b*)	*Newspapers and packets* (*c*)	*Parcels* (*d*)	*Registered articles* (*e*)	*Letters* (*b*)	*Newspapers and packets* (*c*)	*Parcels* (*d*)	*Registered articles* (*e*)
	Posted for delivery within Australia				*Posted for delivery overseas*			
New South Wales	836,863	123,720	10,258	2,810	51,051	4,278	477	1,020
Victoria	646,581	91,676	5,970	1,724	30,613	3,380	402	577
Queensland	313,028	31,701	2,862	1,190	9,298	705	87	68
South Australia	203,236	18,317	1,889	606	9,619	787	93	85
Western Australia	162,275	12,757	1,245	520	10,319	789	68	93
Tasmania	54,925	6,394	260	222	351	41	10	3
Australia	**2,216,908**	**284,564**	**22,483**	**7,071**	**111,251**	**9,979**	**1,137**	**1,846**

State	*Received from overseas*				*Total postal matter dealt with*			
New South Wales	75,380	8,154	780	1,586	963,294	136,153	11,515	5,416
Victoria	49,586	5,838	548	724	726,780	100,894	6,919	3,025
Queensland	8,215	2,255	156	34	330,542	34,661	3,106	1,292
South Australia	5,745	1,731	85	30	218,600	20,834	2,066	722
Western Australia	6,860	2,827	168	77	179,453	16,372	1,481	690
Tasmania	1,052	425	88	4	56,328	6,859	358	228
Australia	**146,837**	**21,230**	**1,825**	**2,455**	**2,474,996**	**315,774**	**25,445**	**11,372**

(*a*) Number of distinct articles handled. (*b*) Includes letters, cards and other postal articles enclosed in envelopes and sorted with letters. (*c*) Includes newspapers and postal articles not included in letter mail. (*d*) Includes registered, cash on delivery and duty parcels. (*e*) Includes registered articles other than parcels.

POSTAL ARTICLES HANDLED(a): AUSTRALIA
('000)

Year	Letters(b)	Newspapers and packets(c)	Parcels(d)	Registered articles(e)	Total postal articles handled
1968-69	2,205,525	407,922	22,092	12,748	2,648,287
1969-70	2,410,300	336,392	23,682	13,104	2,783,478
1970-71	(f)2,436,846	(f)330,858	24,950	13,234	2,805,887
1971-72	2,429,041	300,981	24,574	12,166	2,766,762
1972-73	2,474,996	315,774	25,445	11,372	2,827,587

(a) Number of distinct articles handled. (b) Includes letters cards and other postal articles enclosed in envelopes and sorted with letters. (c) Includes newspapers and postal articles not included in letter mail. (d) Includes registered, cash on delivery and duty parcels. (e) Includes registered articles other than parcels. (f) Comparable only with previous year.

During 1972-73 the cost of the carriage of mails, as disclosed by the Profit and Loss Statement of the Postal Service, was as follows: road, $16,118,023; railway, $3,696,542; sea, $833,609; air—internal, $4,097,840; overseas, $10,658,346; total, $35,404,360.

MONEY ORDERS AND POSTAL ORDERS: TRANSACTIONS, AUSTRALIA

	Money orders(a)			Postal orders		
	Issued			Issued		
Year	Number	Value	Total commission received	Number	Value	Fee
	'000	$'000	$'000	'000	$'000	$'000
1968-69	9,672	209,868	2,637	13,525	27,262	772
1969-70	9,153	175,446	2,640	14,866	31,431	861
1970-71	7,353	161,119	3,031	(b)16,732	44,961	1,193
1971-72	5,677	143,167	2,808	17,289	55,784	1,779
1972-73	5,151	144,896	2,807	16,787	57,475	1,903

(a) Money orders issued for payment in Australia and overseas. (b) Postal orders for $9 and $10 were introduced in October 1970.

Of the total money orders issued in Australia during 1972-73, 4,704,725 valued at $139,665,441 were payable in Australia, and 446,754 valued at $5,230,774 were payable overseas. Of the total money orders paid in Australia during 1972-73, 4,914,748 ($138,553,414) were issued in Australia, and 184,821 ($4,135,235) were issued overseas.

Of the total postal orders paid in Australia during 1972-73 (16,787,449 valued at $57,475,037), 12,700,179 ($46,382,242) were paid in the State in which issued, and 3,883,361 ($10,543,988) were paid in States other than those in which issued.

Internal telecommunication services

A brief history of the development of telecommunications in Australia is shown on pages 378-82 of Official Year Book No. 59. Common internal telecommunication operations now comprise telephone, telegram and telex services.

Wire and pole routes

At 30 June 1973 there were 22,791,748 pair kilometres of cable and 780,501 pair kilometres of aerial wire used for telecommunication purposes in Australia. The aerial wires are mounted on 158,324 kilometres of pole routes.

Coaxial cable and broadband relay systems

In recent years trunk telephone, telegraph and television channels have been increasingly provided by coaxial cable and radio relay systems. Broadband radio relay systems and coaxial cables are an alternative means of providing transmission facilities, each radio bearer being similar in carrying capacity to a coaxial tube. At 30 June 1973 there were 29,817 tube kilometres of coaxial cable and 87,169 bearer kilometres of radio relays in operation.

Telephone services in operation

Increasing use of the telephone by the community has resulted in a demand for additional telephone services. The volume of internal telephone traffic has consistently expanded, trunk line calls having the fastest rate of growth.

The following table shows the number of services in operation in each State at 30 June 1973 classified according to type of service, type of exchange to which connected, and location. Telephone services in metropolitan areas are defined as those connected to exchanges situated within 24 kilometres of the General Post Office in Sydney and Melbourne and within 16 kilometres of the General Post Office in Brisbane, Adelaide, Perth and Hobart.

Definitions of terms used in the following table

Ordinary exchange services are services which provide direct access to the exchange system by means of exclusive use of an exchange line.

Duplex services provide for two subscribers sharing a single exchange line, and preserve individual calling, separate metering and secrecy conditions. Duplex services are counted as two services.

Party line services are other shared services involving any number of subscribers, and are counted as one service for one exchange line.

Private branch exchange services are services which provide for any number of extension lines to operate through a switchboard (either automatic or manual) into the exchange system. The relevant figure is the number of exchange lines (as distinct from extension lines). A service with six exchange lines and fifty extension lines is shown as six services.

Public telephones are telephones installed in public thoroughfares and other approved places for the use of the public generally (leased company coin telephones and 'red phones' are not included).

TELEPHONE SERVICES IN OPERATION: 30 JUNE 1973

	N.S.W.	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
Type of service—							
Ordinary exchange services	1,077,370	849,683	346,836	239,467	192,596	77,555	2,783,507
Duplex services	88	..	6	2	144	10	250
Party line services	3,389	1,033	2,528	995	894	63	8,902
Private branch exchange services	130,165	89,993	32,758	35,178	29,338	5,637	323,069
Public telephones	12,098	7,635	4,919	3,045	2,568	1,077	31,342
Connected to—							
Automatic exchanges	1,159,083	908,175	342,370	260,787	213,092	80,410	2,963,917
Manual exchanges	64,027	40,169	44,677	17,900	12,448	3,932	183,153
Located in—							
Metropolitan areas	741,805	614,341	184,143	177,508	153,611	32,181	1,903,589
Country areas	481,305	334,003	202,904	101,179	71,929	52,161	1,243,481
Total	**1,223,110**	**948,344**	**387,047**	**278,687**	**225,540**	**84,342**	**3,147,070**

TELEPHONE SERVICES IN OPERATION: AUSTRALIA

	30 June—				
Services connected to—	*1969*	*1970*	*1971*	*1972*	*1973*
Metropolitan exchanges—					
Automatic	1,548,479	1,663,849	1,754,872	1,822,722	1,903,589
Country exchanges—					
Automatic	681,668	778,651	859,202	949,227	1,060,328
Manual	281,084	261,168	242,936	205,818	183,153
All exchanges—					
Automatic	2,230,147	2,442,500	2,614,074	2,771,949	2,963,917
Manual	281,084	261,168	242,936	205,818	183,153
Total services	**2,511,231**	**2,703,668**	**2,857,010**	**2,977,767**	**3,147,070**

Telephone instruments

TELEPHONE INSTRUMENTS IN SERVICE
('000)

30 June—	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*Aust.*
1969	1,444	1,080	423	321	232	98	3,599
1970	1,575	1,182	452	344	256	104	3,913
1971	1,683	1,240	475	360	285	114	4,157
1972	1,814	1,294	498	377	304	113	4,400
1973	1,913	1,370	532	399	326	118	4,659
Number at 30 June 1973 per 100 population	39.3	38.2	27.8	31.1	30.5	29.6	35.5

Internal telephone traffic

LOCAL AND TRUNK LINE TELEPHONE CALLS: AUSTRALIA

Year	*Effective paid local calls*		*Trunk line calls*		*Total calls*
	Total '000	*Per service number*	*Total* '000	*Per service number*	'000
1968-69	2,442,000	1,004	172,200	71	2,614,200
1969-70	2,662,000	1,021	198,400	76	2,860,400
1970-71	2,848,000	1,024	225,300	81	3,073,300
1971-72	2,996,000	1,024	248,700	85	3,244,700
1972-73	3,146,000	1,027	276,300	90	3,422,300

Subscriber trunk dialling (S.T.D.) facilities were introduced during the year 1961-62 from Canberra to the Sydney network and from Warragul (Victoria) to Melbourne. At the end of June 1973 subscriber trunk dialling was in operation at 2,104 exchanges, connected to approximately 2,729,515 services.

Internal telegram traffic

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

INTERNAL TELEGRAM TRAFFIC: AUSTRALIA
('000)

Year	*Ordinary (a)*	*Urgent*	*Press*	*Letter-grams*	*Meteoro-logical service*	*Service*	*Total telegrams*
1968-69	18,543	440	68	33	1,068	718	20,869
1969-70	18,217	454	63	32	1,040	754	20,560
1970-71	16,265	436	63	23	1,099	765	18,651
1971-72	15,401	397	51	20	1,085	781	17,735
1972-73	15,588	489	43	13	1,126	780	18,037

(*a*) Includes radiograms.

Telex network

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, AUSTRALIA

Year	*Services at end of year*	*Internal calls during year*
1968–69 . . .	5,067	9,977,018
1969–70 . . .	6,430	12,092,737
1970–71 . . .	7,988	14,246,157
1971–72 . . .	9,235	15,868,800
1972–73 . . .	10,774	17,992,780

Development of telecommunications in Australia

An article dealing with the development of telecommunications in Australia appeared in Year Book No. 59, pages 378–84.

Overseas telecommunication services

The Overseas Telecommunications Commission (Australia) is the authority responsible for the establishment, maintenance and operation of telecommunication services between Australia and other countries, with ships at sea and to and between Australia's external Territories.

The Commission was established under the *Overseas Telecommunications Act* 1946. This Act implemented, in Australia, a recommendation of the 1945 Commonwealth Telecommunications Conference for national ownership of the external telecommunications services of the British Commonwealth countries concerned. (Details of overseas communication systems operating in Australia prior to 1946 and developments leading to the establishment of the Commission were published in Year Book No. 37, pages 220–4.)

With most other Commonwealth countries, the Commission is a member of the Commonwealth Telecommunications Organisation, the purpose of which is to promote the efficient exploitation and development of the Commonwealth external telecommunications system; it is a three-tier structure comprising the Commonwealth Conference on Telecommunications, the Commonwealth Telecommunications Council and the Commonwealth Telecommunications Bureau. The Commonwealth Telecommunications Council is the continuing management body of the Organisation with the role of promoting the purpose of the Organisation and carrying out the policies agreed by Governments. The Commonwealth Telecommunications Bureau is the Secretariat for the Organisation and functions under the control and direction of the Council.

The 1972 Commonwealth Telecommunications Conference reviewed the working of the Commonwealth Telecommunications Organisation in the light of experience and recommended new collaborative financial arrangements governing the use of the Commonwealth telecommunications systems. With the adoption of the recommendations of the 1972 Conference by member Governments, the Commonwealth Telecommunications Organisation Financial Agreement 1969 was replaced on 1 April 1973 by the Commonwealth Telecommunications Organisation Financial Agreement 1973.

In association with the Post Office within Australia and with communication carriers in other Commonwealth and foreign countries the Commission provides public message telegram, telephone, telex, phototelegram, leased circuit and switched data services to most countries and places throughout the world. International television programs are provided by means of satellite communication facilities with countries operating earth stations.

The Commission, in partnership with the overseas telecommunications authorities of Britain, Canada and New Zealand, installed a large capacity telephone cable across the Pacific Ocean, connecting Australia, New Zealand and Canada via Suva and Honolulu. The cable (COMPAC) was opened in December 1963 and forms part of a British Commonwealth large capacity cable scheme, in which a complementary cable between Britain and Canada (CANTAT) was oficially opened in December 1961. The two cable connections are linked across Canada by a microwave system. The Commonwealth cable system feeds into the United States of America network at Hawaii and into the European network at London.

The South-East Asia cable project (SEACOM), extending the large capacity telephone cable system from Sydney to Singapore and Kuala Lumpur via Cairns, Madang, Guam, Hong Kong, and Kota Kinabalu, was opened for service on 30 March 1967.

The Commonwealth Cable Management Committee, comprising representatives of Britain, Canada, Australia, New Zealand, Malaysia and Singapore, administers COMPAC and SEACOM.

The Commission is a joint partner with the New Zealand Post Office in the provision of a new large capacity telephone cable between Australia and New Zealand. Known as the TASMAN cable system and scheduled for completion in 1976, the 640 circuit cable will supplement existing capacity.

Additionally the Commission has acquired a 6.9 per cent interest in a new 845 circuit submarine cable, jointly owned with the American and Japanese international carriers, linking the United States mainland, Hawaii, Guam and Japan, the laying of which will commence in May 1975.

In August 1964, Australia became a foundation member of the International Satellite Organisation (INTELSAT), a partnership of nations concerned in establishing a global communications satellite system. Australia has an ownership share of 3.07 per cent making it the seventh largest contributor among the 85 INTELSAT member countries, and through the Commission Australia is represented on the INTELSAT board of governors, which is the management board of INTELSAT.

The Interim Agreements under which INTELSAT has operated in the period since 1964 were superseded in February 1973 by permanent arrangements, which are embodied in two inter-related Agreements. The first, an inter-governmental agreement signed by the Australian Government, outlines the principles and objectives of the organisation and defines the basic organisational arrangements. The second, the Operating Agreement, signed by the Commission as the designated Australian telecommunications entity, provides the basis for the operation and management of the INTELSAT system.

The INTELSAT system comprises satellites located over the Atlantic, Pacific and Indian oceans. At the beginning of 1974 these satellites were providing the equivalent of 4,918 two-way telephone circuits and on demand television service between 86 earth stations located in 52 countries.

In March 1968, a satellite earth station at Moree, New South Wales, owned and operated by the Commission, commenced commercial communications, including a capability for television transmission/reception. This station, which operates to the Pacific Ocean INTELSAT satellite positioned in a stationary orbit 35,900 kilometres above the equator, was the first in Australia constructed as a 'standard' station of the INTELSAT network.

The completion of the new standard earth stations at Carnarvon (Western Australia) and Ceduna (South Australia) in 1969 and a significant expansion of facilities at the earth station at Moree (N.S.W.) provided increased telecommunication services via satellite.

The original non-standard station in Carnarvon (opened in 1967) is now used solely for telemetry, tracking and command functions under contract with the INTELSAT organisation. There is provision for four such stations to be spaced around the world so that any INTELSAT satellite can be viewed and controlled no matter where it may be. These stations keep a continuous check of the position of each satellite and its functioning by means of signals transmitted by the satellite. When required, signals are transmitted to a satellite to control the direction of its antenna and to change its orbital position. During launches, these stations transmit the commands which fire the satellite motor to place it in final orbit.

International telecommunication traffic

Particulars of the volume of international telegraph services, originating and terminating in Australia, during the years ended 31 March 1972 and 1973 are shown in the following table.

INTERNATIONAL TELEGRAPH SERVICES: AUSTRALIA, YEARS ENDED 31 MARCH 1972 AND 1973

('000 words)

	Words transmitted					
	From Australia		*To Australia*		*Total*	
Class of traffic	*1971–72*	*1972–73*	*1971–72*	*1972–73*	*1971–72*	*1972–73*
Letter . . .	30,004	31,558	24,684	24,385	54,688	55,943
Ordinary . . .	27,528	27,891	25,344	23,888	52,872	51,779
Press . . .	3,004	2,410	2,688	2,580	5,691	4,990
Greetings . . .	1,689	1,696	1,918	2,007	3,607	3,703
Urgent . . .	1,907	1,862	1,485	1,302	3,392	3,164
Other . . .	731	518	1,995	2,265	2,726	2,783
Total . .	**64,862**	**65,935**	**58,114**	**56,427**	**122,976**	**122,362**

The following table shows particulars of overseas telecommunication traffic other than telegraphic between Australia and overseas countries for the years ended 31 March 1972 and 1973.

INTERNATIONAL TELECOMMUNICATION SERVICES OTHER THAN TELEGRAPHIC SERVICES: AUSTRALIA, YEARS ENDED 31 MARCH 1972 AND 1973

		Transmissions					
		From Australia		*To Australia*		*Total*	
Service		*1971–72*	*1972–73*	*1971–72*	*1972–73*	*1971–72*	*1972–73*
Telephone	'000 paid minutes	7,206	9,000	7,090	8,426	14,296	17,426
Telex	'000 paid minutes	4,238	5,181	4,108	4,986	8,346	10,167
Television programs	paid minutes	2,058	1,097	1,809	4,226	3,867	5,323
Phototelegrams	pictures	1,020	871	1,816	2,567	2,835	3,438

Coastal stations

The Overseas Telecommunications Commission operates fourteen coastal radio stations at points around the Australian coast, three on the Papua New Guinea coast and one at Norfolk Island. During the year ended 31 March 1973 the coastal radio service handled 6,338,000 paid words to ships and 4,130,000 words from ships. Ship calls over the radiotelephone service extended over 182,000 paid minutes.

Radiocommunication stations authorised

At 30 June 1973 there were 185,103 civil radiocommunication stations authorised for operation in Australia and its Territories. Of these, 6,567 were stations established at fixed locations, 15,834 were land stations which were established at fixed locations for communication with mobile stations, 29 space and broadcasting stations, 156,110 were mobile stations and 6,563 amateur stations. Particulars of broadcasting stations and broadcast listeners' licences are shown on pages 408 and 410 respectively.

BROADCASTING AND TELEVISION

Broadcasting and television services in Australia operate under the *Broadcasting and Television Act* 1942–1973 and comprise the National Broadcasting Service, the National Television Service, the Commercial Broadcasting Service, and the Commercial Television Service. General control of these services is a function of the Australian Broadcasting Control Board. Licence fees for commercial broadcasting and television stations are payable under the *Broadcasting Stations Licence Fees Act* 1964–1973 and the *Television Stations Licences Fees Act* 1964–1966 respectively.

Particulars of the composition, functions and responsibilities of the Australian Broadcasting Control Board are shown in the Twenty-sixth Annual Report for the year ended 30 June 1974.

Broadcasting services

The National Broadcasting Service

In sound broadcasting the programs of the National Broadcasting Service are provided by the Australian Broadcasting Commission through transmitters operated by the Postmaster-General's Department.

Technical facilities. At 30 June 1973 the National Broadcasting Service comprised eighty-three transmitting stations, of which seventy-seven were medium frequency and six high frequency.

The medium-frequency transmitters operate in the broadcast band 530 to 1,590 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, high-quality program transmission lines being used for the purpose. A number of program channels are utilised to link national broadcasting stations in the capital cities of Australia, and when necessary, this system is extended to connect both the national and commercial broadcasting stations.

At 30 June 1973 sixty-five of the Australian medium-frequency stations were situated outside the six State capital cities.

Program facilities. The programs of the Australian Broadcasting Commission cover a wide range of activities. The proportion of broadcasting time allocated on metropolitan stations to the various types of program during 1972–73 was as follows: classical music, 24.2 percent; entertainment, 31.3 per cent; news, 9.0 per cent; sporting, 5.7 per cent; light music, 1.9 per cent; spoken word, 7.3 per cent; drama and features, 3.9 per cent; education, 3.3 per cent; Parliament, 4.6 per cent; religious, 3.0 per cent; young people's programs, 1.4 per cent; rural, 2.2 per cent; and presentation, 1.5 per cent. Further particulars of the operations of the Australian Broadcasting Commission in respect of music, drama and features, youth education, talks, rural broadcasts, news, and other activities are shown in the Forty-first Annual Report of the Australian Broadcasting Commission.

The Commercial Broadcasting Service

Commercial broadcasting stations are operated under licences granted and renewed by the Minister for the Media after taking into consideration any recommendations which have been made by the Broadcasting Control Board. The initial period of a licence is five years and renewals are granted for a period of one year.

The fee payable for a licence is $200 on the grant of the licence, and thereafter $200 a year plus an amount ascertained by applying the following rates to 'gross earnings', within the meaning of the *Broadcasting Stations Licence Fees Act* 1964–73, during the preceding financial year—1 per cent up to $500,000; 1.5 per cent $500,001 to $1,000,000; 2 per cent $1,000,001 to $1,500,000; 2.5 per cent $1,500,001 to $2,000,000; 3 per cent $2,000,001 to $2,500,000; 3.5 per cent $2,500,001 to $3,000,000; 4 per cent $3,000,001 to $3,500,000; and 4.5 per cent over $3,500,000.

Overseas Broadcasting Service

There are seven high-frequency stations at Shepparton and two at Lyndhurst, Victoria, and three repeater stations at Darwin, Northern Territory, 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 the Postmaster-General's Department, and their programs are arranged by the A.B.C. The programs, which give news and information about Australia presented objectively, as well as entertainment, are directed mainly to South-East Asia and the Pacific. The overseas audience has grown very substantially in recent years, as evidenced by a large and increasing number of letters from listeners abroad.

Broadcasting stations

BROADCASTING STATIONS: 30 JUNE 1973

Type of station	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Aust.*
National—									
Medium frequency	20	5	18	10	14	4	4	2	77
High frequency	1	2	2	..	1	..	..	..	6
Overseas (high frequency)	..	9	..	..	..	..	3	..	12
Commercial (medium frequency)	39	20	26	8	14	8	2	1	118
Total	**60**	**36**	**46**	**18**	**29**	**12**	**9**	**3**	**213**

Tables showing the call sign, location, frequency, and aerial power of national and commercial broadcasting stations in operation at 30 June 1972 are shown in *Transport and Communication*, Bulletin No. 63.

Television services

The National Television Service

The National Television Service is provided by the Australian Broadcasting Commission through transmitters operated by the Postmaster-General's Department. The first national station (ABN Sydney) commenced regular transmission on 5 November 1956. At 30 June 1973 fifty-three stations were operating, excluding forty-six translator stations.

The television programs provided by the Australian Broadcasting Commission cover a wide range of activities. The proportion of television time allocated among the A.B.C.'s various departments to 30 June 1973 was as follows: drama, 21.9 per cent; public interest, 12.6 per cent; sporting, 12.6 per cent; news, 6.2 per cent; variety and acts, 6.4 per cent; education, 27.4 per cent; musical performances, 0.5 per cent; religious, 1.3 per cent; rural, 0.6 per cent; special arts and aesthetics, 2.4 per cent; presentation, 6.1 per cent. The average weekly transmission time for the fifty-three national television transmitters was eighty-eight hours during the year ended 30 June 1973.

The Commercial Television Service

Commercial television stations are operated under licences granted and renewed by the Minister for the Media. The first commercial station (TCN Sydney) commenced regular transmission on 16 September 1956. At 30 June 1973 forty-eight television stations were operating.

The initial grant of a licence is for a period of five years and thereafter the licence is renewable annually. The fee payable is $200 for the first year and thereafter $200 a year plus an amount ascertained by applying the following rates to 'gross earnings', within the meaning of the *Television Stations Licence Fees Act* 1964–1966, during the preceding financial year—1 per cent up to $1,000,000; 2 per cent $1,000,001 to $2,000,000; 3 per cent $2,000,001 to $4,000,000; and 4 per cent over $4,000,000.

Colour television

The Government has announced that colour television will be introduced into Australia from 1 March 1975.

Television stations

During the year ended 30 June 1973, one new national television station commenced regular transmission, namely ABAD Channel 7, Alice Springs in the Northern Territory.

A permanent high-power 100 kw television transmitter on Mount Bellenden-Ker, near Cairns, Queensland, came into service replacing the temporary 5 kw transmitter. Eight new television translator stations went into service for the Australian Broadcasting Commission. Ten remote communities are now provided with A.B.C. programs from tape recorded at Townsville and Perth. The following table shows the number of television stations in operation at 30 June 1973.

TELEVISION STATIONS: 30 JUNE 1973

Type of station and location	*N.S.W.*	*Vic.*	*Qld*	*S.A.*	*W.A.*	*Tas.*	*N.T.*	*A.C.T.*	*Total*
National—									
Metropolitan	1	1	1	1	1	1	1	1	8
Country	12	7	13	3	7	2	1	..	45
Total, National	*13*	*8*	*14*	*4*	*8*	*3*	*2*	*1*	*53*
Commercial—									
Metropolitan	3	3	3	3	2	1	1	1	17
Country	11	6	8	2	3	1	..	..	31
Total, Commercial	*14*	*9*	*11*	*5*	*5*	*2*	*1*	*1*	*48*
All stations	**27**	**17**	**25**	**9**	**13**	**5**	**3**	**2**	**101**

Tables showing the call sign, location, frequencies, polarisation, aerial power, and weekly hours of transmission of National and Commercial television stations in operation at 30 June 1972 are shown in *Transport and Communication* Bulletin No. 63.

Broadcast listeners' and television viewers' licences

Note. As from 17 September 1974 all requirements for broadcast listeners' and television viewers' licences fees were abolished. The following information advances by one year the information given in Year Book No. 59.

Broadcast listeners', television viewers', and combined receiving licences are issued at post offices in accordance with the provisions of the *Broadcasting and Television Act* 1942-73, which stipulates that, except as prescribed, a person shall not use, maintain or have in his possession a broadcast or television receiver unless there is in force a licence which applies to that receiver. A broadcast listener's licence or a television viewer's licence, whichever is appropriate, authorises the operation of any broadcast receiver or any television receiver, which is: (*a*) in the possession of the holder of a licence, or of a member of his family, at the address specified in the licence and is ordinarily kept at that address; (*b*) installed in a vehicle which is ordinarily in the possession of that holder, or a member of his family, and is ordinarily kept at that address when not in use. A person who has both broadcast and television receivers at the one address may take out a combined receiving licence, provision for which was introduced by legislation effective from 1 April 1965.

A licence may be granted free of charge to a blind person over 16 years of age or to a person or authority conducting a school, and at a concession to certain classes of pensioners. Receivers provided for the use of inmates of an approved institution (including a hospital) are covered by an appropriate licence held by the institution. Persons residing in Zone 2 may also be granted a broadcast listener's licence at a reduced rate. Zone 1 is the area within 402 kilometers of specified broadcasting stations and Zone 2 is the remainder of Australia.

Each broadcast or television receiver let out on hire (except under a hire purchase agreement) must be covered by a hirer's licence held by the person or firm from whom the receiver is hired. The keeper of a lodging-house (which includes a hotel, motel, boarding-house, or any other premises where lodging or sleeping accommodation is provided for reward) must take out a lodging-house licence for each broadcast or television receiver provided by the proprietor in any room or part of the lodging-house occupied or available for occupation by lodgers.

The fees payable for the various classes of licence from 1 October 1973 to 17 September 1973 were as follows:

BROADCAST LISTENERS' AND TELEVISION VIEWERS' LICENCES
RATES

Licence		*Ordinary rate*	*Pensioner rate*
		$	$
Broadcast listener's licence and hirer's licence for a broadcast receiver	Zone 1	8.00	1.00
	Zone 2	4.25	0.70
Lodging-house licence for a broadcast receiver	Zone 1	8.00	..
	Zone 2	4.25	..
Television viewer's licence and hirer's licence for a television receiver		19.00	3.00
Lodging-house licence for a television receiver		19.00	..
Combined receiving licence		26.50	4.00

Numbers of broadcast listeners' and television viewers' licences

BROADCAST LISTENERS' LICENCES IN FORCE(*a*)

30 June—	*N.S.W.*(*b*)	*Vic.*	*Qld*	*S.A.*(*c*)	*W.A.*	*Tas.*	*Aust.*
1969	952,634	728,647	382,869	297,877	189,633	78,552	2,630,212
1970	960,223	747,508	384,951	302,519	196,679	78,513	2,670,393
1971	959,036	754,762	394,669	310,485	200,570	79,417	2,698,939
1972	996,822	758,042	405,181	315,612	205,230	77,096	2,757,983
1973	996,742	776,171	416,572	332,411	211,444	81,129	2,814,469

(*a*) Includes short-term hirers' licences and combined broadcast listeners' and television viewers' licences. (*b*) Includes Australian Capital Territory. (*c*) Includes Northern Territory.

TELEVISION VIEWERS' LICENCES IN FORCE(*a*)

30 June—	*N.S.W.(b)*	*Vic.*	*Qld*	*S.A.(c)*	*W.A.*	*Tas.*	*Aust.*
1969	993,145	747,080	367,289	280,420	183,307	78,216	2,649,457
1970	1,031,739	782,819	372,609	292,359	197,692	80,756	2,757,974
1971	1,042,724	806,077	399,947	303,252	209,882	83,286	2,845,168
1972	1,088,648	811,573	418,688	318,357	218,783	82,609	2,938,658
1973	1,085,917	837,304	433,559	339,022	231,041	85,990	3,012,833

(*a*) Includes short-term hirers' licences and combined broadcast listeners' and television viewers' licences. (*b*) Includes Australian Capital Territory. (*c*) Includes Northern Territory.

The numbers of combined receiving licences included in both of the foregoing tables as at 30 June 1972 are: New South Wales, 902,068; Victoria, 722,583; Queensland, 350,512; South Australia, 262,502; Western Australia, 182,979; Tasmania, 72,785; Australia, 2,493,429.

Television hirers' licences (including short term) (included above) at 30 June 1972 were: New South Wales, 97,241; Victoria, 42,091; Queensland, 43,953; South Australia, 54,329; Western Australia, 33,979; Tasmania, 6,584; Australia, 278,177.

Revenue received from broadcast and television licence fees

The following table shows the revenue received from broadcast listeners' licence fees, television viewers' licence fees and fees from combined licences.

REVENUE RECEIVED FROM BROADCAST AND TELEVISION LICENCE FEES

($'000)

Year	*N.S.W.(a)*	*Vic.*	*Qld*	*S.A.(b)*	*W.A.*	*Tas.*	*Aust.*
1968–69	16,700	12,747	6,306	4 930	3,127	1,314	45,125
1969–70	17,782	13,795	6,694	5,238	3,483	1,397	48,389
1970–71	17,912	14,023	6,921	5,586	3,689	1,429	49,562
1971–72	22,445	17,165	8,807	7,057	4,642	1,670	61,785
1972–73	23,946	18,792	9,609	7,720	5,114	1,871	67,050

(*a*) Includes Australian Capital Territory. (*b*) Includes Northern Territory.