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TRADE, TRANSPORT, AND COMMUNICATIONS

RETAIL TRADE

Census of Retail Establishments

Statistics of retail sales have been compiled for the years 1947–48, 1948–49, 1952–53, 1956–57, and 1961–62 from returns supplied by all retail establishments in Australia.

In general terms these Censuses have covered the trading activities of establishments which normally sell goods at retail prices to the general public from shops, rooms, kiosks, and yards. Particulars of retail sales obtained from these Censuses are designed principally to cover sales to the final consumer of new and second-hand goods generally used for household and personal purposes. For this reason, sales of building materials, farm and industrial machinery and equipment, earthmoving equipment, etc., have been excluded from the Censuses. For the same reason, and also because of difficulties in obtaining reliable and complete reporting, retail sales of builders hardware and supplies, business machines and equipment, grain, feed, fertilisers and agricultural supplies, and tractors were excluded from the 1961–62 Census. Retail sales of motor vehicles, parts, etc., are included whether for industrial, commercial, farm, or private use.

A comparison of the results of the 1961–62 Retail Census with those of the 1956–57 Retail Census, which were modified to take into account the changes in scope mentioned above, was last published in the *Victorian Year Book* 1970 on pages 725–731.

Survey of Retail Establishments

During the period between Censuses, estimates of the value of retail sales are made on the basis of returns received from a representative sample of retail establishments. Sample returns are supplied by retail businesses which account for approximately 45 per cent of all retail sales in Australia. Estimated totals are calculated by methods appropriate to a stratified sample.

The following table shows the value of retail sales of goods in Victoria in each of the commodity groups specified for the years 1964–65 to 1968–69 :

VICTORIA—VALUE OF RETAIL SALES (*a*)
($m)

Commodity group	1964–65	1965–66	1966–67	1967–68	1968–69
Groceries	283.8	302.7	324.4	349.3	374.0
Butchers meat	153.9	168.7	175.6	187.0	187.2
Other food (*b*)	258.7	266.0	284.7	300.2	301.4
Total food and groceries	696.4	737.4	784.7	836.5	862.6
Beer, wine, and spirits (*c*)	178.9	198.6	217.8	240.3	255.0
Clothing and drapery	310.4	316.6	331.7	356.2	364.2
Footwear	54.4	54.8	60.6	63.1	64.7
Domestic hardware, china, etc. (*d*)	46.5	47.9	51.2	54.8	61.8
Electrical goods (*e*)	110.8	108.9	111.9	117.1	128.0
Furniture and floor coverings	84.6	87.0	91.1	96.7	102.8
Chemists goods	90.4	95.8	102.1	109.1	123.3
Newspapers, books, and stationery	64.4	68.2	73.7	78.5	82.2
Other goods (*f*)	184.2	202.2	214.4	217.9	231.8
Total (excluding motor vehicles, parts, petrol, etc.)	1,821.0	1,917.4	2,039.2	2,170.2	2,276.4
Motor vehicles, parts, petrol, etc. (*g*)	645.7	655.2	676.8	752.3	778.8
GRAND TOTAL	2,466.7	2,572.6	2,716.0	2,922.5	3,055.2

(*a*) Compiled on a basis comparable with the 1961–62 Retail Census.
(*b*) Includes fresh fruit and vegetables, confectionery, soft drinks, ice cream, cakes, pastry, fish, etc., but excludes some delivered milk and bread.
(*c*) Excludes sales made by licensed clubs, canteens, etc.
(*d*) Excludes basic building materials, builders' hardware and supplies.
(*e*) Includes radios, television and accessories, musical instruments, domestic refrigerators.
(*f*) Includes tobacco, cigarettes, sporting goods, jewellery, etc.
(*g*) Excludes tractors, farm machinery and implements, earthmoving equipment, etc.

Retailing in Victoria since 1957, 1969

OVERSEAS AND INTERSTATE TRADE

Overseas trade: legislation and agreements

General

Of the three components of Victoria's trade, namely, transactions within the State, those with other Australian States, and those with countries outside Australia, the first two are, in practice, free of control or restriction ; trade with overseas countries is subject to the customs laws of the Commonwealth Government.

By the Commonwealth of Australia Constitution Act, the power to make laws about trade and commerce with other countries was conferred on the Federal Parliament, and by the same Act, the collection and control of customs and excise duties passed to the Executive Government of the Commonwealth on 1 January 1901.

The first Commonwealth Customs Tariff was introduced by Resolution on 8 October 1901, from which date uniform duties came into effect throughout Australia. The Australian Customs Tariff has been developed in conformity with the policy of protecting economic and efficient Australian industries, and of granting preferential treatment to specified imports from certain Commonwealth countries. Some goods, generally those of a luxury nature, are subject to duty for revenue purposes. Customs collections are

a major source of revenue, and the protective character of the tariff has an important influence on the Australian economy.

The present tariff provides for general and preferential rates of duty, and its structure is based on the "Brussels Nomenclature" which has its origins in the Convention on Nomenclature for the Classification of Goods in Customs Tariffs, signed in Brussels on 15 December 1950. Australia has operated a "Brussels-type" tariff since 1 July 1965.

Preferential rates apply to goods the produce or manufacture of the United Kingdom, Ireland, Canada, New Zealand, Papua and New Guinea, and certain goods, the produce or manufacture of specified countries, provided that such goods comply with the laws in force at the time affecting the grant of preference.

General rates apply to goods from all countries which do not qualify for preferential rates of duty under a particular tariff classification.

Primage duty

In addition to duties imposed by the Customs Tariff 1965, *ad valorem* duties at 5 per cent or 10 per cent are charged on some goods according to the type of goods and their origin. Goods produced or manufactured by New Zealand, Norfolk Island, Fiji, Cocos (Keeling) Islands, Christmas Island (Indian Ocean), and the Territory of Papua and New Guinea are exempt from primage duty.

Tariff Board

The Tariff Board is set up under the provisions of the Tariff Board Act to advise the Commonwealth Government on matters relating to the protection and encouragement of Australian industry.

Bilateral trade agreements

Australia has numerous trade agreements with overseas countries, the principal agreements being outlined below :

Country	Main features of agreement
United Kingdom	Dated 1956. Preservation of security for Australian exports in United Kingdom markets. Lowering of obligatory margins of preference which Australia extends to the United Kingdom.
Canada	Dated 1960. Mutual accord of preferential tariff treatment with certain specified exceptions as for 1931 Agreement plus concessions granted in 1932 and 1937.
New Zealand	Dated 1966. Provides for free trade in certain scheduled goods. Provision is made for addition of items to the schedule. The 1933 Agreement continues in force as part of the 1966 Agreement except as superseded or modified by it.
Rhodesia	Dated 1955. Exchange of preferential tariff treatment over a range of items. Since the unilateral declaration of independence by the Rhodesian Government in November 1965, this Trade Agreement has been inoperative.
Malaysia	Dated 1958. Agreement negotiated with the Federation of Malaya and applies only to that part of Malaysia formerly comprising the Federation. Records exchange of preferential treatment with special protection for Australia's wheat and flour markets in Malayan States, and for Malayan rubber and tin in Australia.

Country	Main features of agreement
Indonesia	Dated 1959. Records desirability of expanding trade between Australia and Indonesia. Gives recognition to importance of flour trade from Australia to Indonesia.
Japan	Dated 1963. Mutual exchange of most-favoured-nation treatment. Japan to accord preferential treatment to Australian wool and wheat as well as expanded opportunities for imports into Japan of other Australian primary produce and motor vehicles. Australia to consult Japan on temporary protection cases affecting Japanese products.
Philippines	Dated 1965. Provides for an exchange of non-discriminatory treatment while recognising existing preferences.
South Korea	Dated 1965. Provides for an exchange of non-discriminatory treatment with allowances for existing preferences. Both Governments undertake to endeavour to increase volume of trade with each other.
U.S.S.R.	Dated 1965. Provides for an exchange of non-discriminatory treatment and for consultation on request about any matter affecting the operation of the Agreement.
Poland and Bulgaria	Dated 1966. Provides for an exchange of non-discriminatory treatment with allowances for existing preferences. Both Governments undertake to endeavour to increase volume of trade with each other.
Romania and Hungary	Dated 1967. Provides for an exchange of non-discriminatory treatment with allowances for existing preferences.
Republic of China (Taiwan)	Dated 1968. Provides for an exchange of non-discriminatory treatment with allowances for existing preferences.

General Agreement on Tariffs and Trade (G.A.T.T.)

The General Agreement on Tariffs and Trade, to which Australia was one of the original contracting parties, is an international trade agreement which has been in operation since 1 January 1948. At the end of January 1970, seventy-six countries, whose foreign trade represented over 80 per cent of the total volume of world trade, were full contracting parties to the Agreement, two had acceded provisionally, and thirteen applied the Agreement on a *de facto* basis.

Six series of tariff negotiations have been conducted, as a result of which Australia has obtained tariff concessions on almost all the principal products of which Australia is an actual or potential exporter to the individual countries concerned.

Excise Tariff

The Excise Tariff applies to certain articles which can only be manufactured under licence and subject to certain conditions. The tariff relates to beer, spirits, amylic alcohol and fusel oil, saccharin, liqueurs, flavoured spirituous liquors, tobacco, cigars, cigarettes, snuff, coal, certain petroleum, shale, or coal tar distillates, playing cards, cigarette papers, matches, wine (certain types), and canned fruit.

Customs (Import Licensing) Regulations

Import licensing, introduced at the beginning of the Second World War, was relaxed progressively after the war so that by March 1952 goods from the non-dollar area (except Japan, to which special conditions applied until 1957) were virtually free from import licensing controls. A fall in the price of wool and a large increase in imports in the year 1951–52 so endangered Australia's external financial position that in March 1952 the import restrictions were again intensified. The war-time regulations were subsequently replaced by regulations made under the *Customs Act* 1901–1954.

Between March 1952 and February 1960 import restrictions were varied broadly in line with Australia's balance of trade position.

After the changes made in February 1960 only about 10 per cent of imports remained subject to control. The remaining restrictions were removed in October 1962 for all commodities, with the exception of a small group which were retained under control for reasons of association with the protection of the Australian industries concerned.

Export controls and incentives

The Customs Act makes provision for the prohibition of exportation of certain goods from Australia either absolutely, or to a certain place, or unless prescribed conditions are complied with. The *Banking Act* 1959 contains provisions to ensure that the full proceeds of exports are received into the Australian banking system in the currency and in the manner prescribed by the Reserve Bank of Australia.

The Commonwealth Government provides taxation concessions as financial incentives to export. A special income tax allowance, equal and additional to the ordinary allowable deduction in respect of specified expenses, is designed to encourage firms to incur promotion expenditure in advance of export sales. Rebates of pay-roll tax are granted to employers whose export sales have increased above their average annual level in a base period. Rebates are also available to employers who have supplied components embodied in the product exported.

Australian trade missions

During the last decade trade missions have become an integral part of the Commonwealth Department of Trade and Industry's campaign to develop and expand Australia's export trade. They have proved successful in creating an awareness, especially in new markets, of Australia as a producer of quality primary and secondary commodities, in establishing Australia as a source of supply, in establishing a basis for long-term business and in producing valuable export business from "on the spot" trading. Trade missions have been directly responsible for substantial and permanent increases in export earnings.

Trade missions may be of the survey or selling type. The general survey mission is designed to carry out a survey of a particular area, obtain market information, and assess the market potential for Australian products. The specialised survey mission undertakes a market survey on behalf of a particular industry or for specific commodities. A survey mission usually comprises about five members; the Government selects suitable specialists and

meets the full cost of the project. The mission reports back and recommends further appropriate trade promotional activity.

The general selling mission is a planned " hard sell " overseas visit of a group of businessmen whose products have market prospects in the countries to which the mission will travel. Membership is usually about twenty although numbers have been as high as forty and as low as seven members. The specialised selling mission is similar to the general selling mission in relation to the responsibilities of members and the facilities provided by the Government, but differs in that it is concerned with specific industries, is normally smaller, and is sometimes backed up by small displays at selected centres to give additional impact.

As members of a selling mission, businessmen pay their own fares and accommodation and contribute towards the cost of mission entertainment. The Government meets the costs of a leader and manager, determines the itinerary, makes all necessary arrangements in Australia, and through Trade Commissioners in the countries being visited, organises government and business contracts, press receptions, and supporting advertising and publicity for the mission while it is away. A report on the mission's findings and recommendations is published and distributed.

Since 1954 Australia has sent overseas forty-five trade and survey missions and five trade ships. The areas visited include Africa, South-east Asia, New Zealand, India and Ceylon, North America and Canada, the Pacific Islands, the Middle East and Mediterranean, South America and the Caribbean, and Britain and Northern Europe.

Victoria's pattern of trade, 1964

Overseas trade: recorded value of imports and exports

The recorded value of goods imported is the actual money price paid plus any special deduction or the current domestic value of the goods, whichever is the higher, plus all charges ordinarily payable for placing the goods free on board (f.o.b.) at the port of export. When the invoiced value of the imported goods is in a currency other than Australian, the equivalent value in Australian currency is recorded. The recorded value of exports, if sold before export, is equivalent to the f.o.b. value of the goods. If shipped on consignment, the value recorded is the Australian f.o.b. equivalent of the current price offering for similar goods of Australian origin in the principal markets of the country to which the goods are consigned for sale. With regard to wool shipped on consignment, the f.o.b. equivalent of the current price ruling in Australia approximates sufficiently to the f.o.b. equivalent of the price ultimately received. For information about the law relating to exports, see page 572 of the *Victorian Year Book* 1968.

Overseas trade of Victoria

Statistics of Australia's overseas trade passing through Victorian ports are compiled from documents obtained under the Customs Act and are presented in the following series of tables.

The total values of the overseas trade of Victoria for each of the five years 1964–65 to 1968–69 are set out below. Exports do not include the value of stores shipped at Victorian ports on board overseas ships.

VICTORIA—OVERSEAS TRADE: RECORDED VALUES OF IMPORTS INTO AND EXPORTS FROM VICTORIAN PORTS
($'000 f.o.b.)

Year	Imports	Exports			Excess of imports
		Australian produce	Re-exports	Total	
1964–65	1,026,834	708,395	14,652	723,047	303,787
1965–66	1,017,360	753,514	14,549	768,063	249,297
1966–67	1,072,514	785,462	15,725	801,187	271,327
1967–68	1,130,741	661,989	23,766	685,755	444,986
1968–69	1,182,747	688,402	19,177	707,579	475,168

VALUE OF AUSTRALIAN TRADE, AND PROPORTION HANDLED AT VICTORIAN PORTS

Year	Australian trade			Proportion of Australian trade handled at Victorian ports		
	Imports	Exports	Total	Imports	Exports	Total
	$'000 f.o.b.			per cent		
1964–65	2,904,703	2,651,449	5,556,152	35·4	27·3	31·5
1965–66	2,939,492	2,720,953	5,660,445	34·6	28·2	31·5
1966–67	3,045,341	3,023,925	6,069,266	35·2	26·5	30·9
1967–68	3,264,473	3,044,675	6,309,148	34·6	22·5	28·8
1968–69	3,468,505	3,374,263	6,842,768	34·1	21·0	27·6

Classification of overseas imports and exports

From July 1965 imports have been classified according to the new Australian Import Commodity Classification. This classification is based on the Standard International Trade Classification, Revised (S.I.T.C.), which is closely related to the Brussels Tariff Nomenclature used in the new Australian Customs Tariff. A new Australian Export Commodity Classification based on S.I.T.C. was introduced in July 1966.

VICTORIA—CLASSIFICATION OF OVERSEAS IMPORTS AND EXPORTS
($'000 f.o.b.)

Division No.	Description	Imports		Exports	
		1967–68	1968–69	1967–68	1968–69
00	Live animals	533	639	894	533
01	Meat and meat preparations	293	322	85,585	73,477
02	Dairy products and eggs	1,716	2,069	59,171	56,614
03	Fish and fish preparations	7,392	8,202	6,207	4,759
04	Cereals and cereal preparations	1,317	3,310	59,797	47,165
05	Fruit and vegetables	7,646	7,984	61,062	56,299
06	Sugar and sugar preparations and honey	808	877	403	351
07	Coffee, tea, cocoa, spices and manufactures thereof	18,247	19,842	126	331
08	Feeding-stuff for animals (except unmilled cereals)	1,127	1,018	2,395	3,447
09	Miscellaneous preparations chiefly for food	651	898	1,225	1,405
11	Beverages	1,828	2,226	1,509	1,304
12	Tobacco and tobacco manufactures	11,022	14,790	436	298
21	Hides, skins and fur skins, undressed	1,314	1,204	25,613	32,524
22	Oil-seeds, oil nuts and oil kernels	846	593	3	143
23	Crude rubber (including synthetic and reclaimed)	12,052	14,309	239	212

VICTORIA—CLASSIFICATION OF OVERSEAS IMPORTS AND EXPORTS—*continued*
($'000 f.o.b.)

Division No.	Description	Imports		Exports	
		1967–68	1968–69	1967–68	1966–89
24	Wood, timber and cork	7,051	8,927	130	78
25	Pulp and waste paper	8,593	8,303	60	62
26	Textile fibres and their waste	19,043	20,635	204,577	223,739
27	Crude fertilisers and crude minerals (except coal, petroleum, and precious stones)	18,898	19,251	235	246
28	Metalliferous ores and metal scrap	381	369	10,740	13,767
29	Crude animal and vegetable materials, n.e.s.	4,603	4,773	6,087	4,618
32	Coal, coke and briquettes	36	61	244	288
33	Petroleum and petroleum products	77,969	76,939	12,129	12,085
34	Petroleum gases and other gaseous hydrocarbons	5	6	5	19
41	Animal oils and fats	102	116	3,596	4,286
42	Fixed vegetable oils and fats	3,945	3,763	31	17
43	Animal and vegetable oils and fats, processed, and waxes of animal or vegetable origin	680	713	295	254
51	Chemical elements and compounds	26,863	31,821	1,709	2,367
52	Mineral tar and crude chemicals from coal, petroleum and natural gas	1,592	1,117	5	1
53	Dyeing, tanning and colouring materials	8,646	8,691	883	1,432
54	Medicinal and pharmaceutical products	9,812	10,041	3,021	3,219
55	Essential oils and perfume materials; toilet, polishing and cleansing preparations	3,080	3,625	984	1,048
56	Fertilisers, manufactured	3,158	4,082	33	71
57	Explosives and pyrotechnic products	2,537	1,182	1,968	1,784
58	Plastic materials, regenerated cellulose and artificial resins	42,313	43,383	2,214	2,456
59	Chemical materials and products, n.e.s.	13,136	15,873	9,283	12,405
61	Leather, leather manufactures, n.e.s., and dressed fur skins	3,142	3,567	2,019	2,112
62	Rubber manufactures, n.e.s.	10,030	10,403	907	2,011
63	Wood and cork manufactures (except furniture)	4,065	4,871	486	527
64	Paper, paperboard and manufactures thereof	32,281	34,173	2,027	1,994
65	Textile yarn, fabrics, made-up articles and related products	103,064	112,477	4,694	5,782
66	Non-metallic mineral manufactures, n.e.s.	18,206	21,064	1,282	3,906
67	Iron and steel	36,847	40,101	1,062	1,648
68	Non-ferrous metals	6,494	8,550	7,468	7,909
69	Manufactures of metal, n.e.s.	27,362	28,287	8,713	11,719
71	Machinery (except electric)	208,398	206,697	17,770	21,035
72	Electrical machinery, apparatus and appliances	62,730	66,603	5,562	6,503
73	Transport equipment	166,700	159,505	33,661	35,180
81	Sanitary, plumbing, heating and lighting fixtures and fittings	1,790	1,962	377	380
82	Furniture	1,399	1,671	330	264
83	Travel goods, handbags and similar articles	1,271	1,388	28	22
84	Clothing and clothing accessories; articles of knitted or crocheted fabric	10,793	10,830	1,866	3,110

VICTORIA—CLASSIFICATION OF OVERSEAS IMPORTS AND EXPORTS—*continued*
($'000 f.o.b.)

Division No.	Description	Imports		Exports	
		1967–68	1968–69	1967–68	1968–69
85	Footwear, gaiters, and similar articles and parts therefor	3,334	4,234	123	105
86	Professional, scientific and controlling instruments; photographic and optical goods, watches and clocks	33,485	36,502	5,131	6,016
89	Miscellaneous manufactured articles, n.e.s.	38,198	42,002	3,852	3,922
9A	Commodities and transactions of merchandise trade, not elsewhere classified	35,829	38,949	14,984	16,064
	Total merchandise	1,124,652	1,175,785	675,240	693,312
9B	Commodities and transactions not included in merchandise trade	6,089	6,962	10,515	14,268
	Total	1,130,741	1,182,747	685,755	707,579

Trade with countries

The value of trade with overseas countries from 1966–67 to 1968–69 is shown in the following table :

VICTORIA—OVERSEAS IMPORTS AND EXPORTS : COUNTRIES OF ORIGIN AND CONSIGNMENT
($'000 f.o.b.)

Country	Imports			Exports		
	1966–67	1967–68	1968–69	1966–67	1967–68	1968–69
Belgium–Luxembourg	7,279	8,937	8,687	10,000	8,247	8,325
Canada	39,141	44,863	46,754	22,143	21,270	24,167
Ceylon	5,951	5,562	5,830	6,092	5,970	4,962
China (mainland)	8,927	7,837	9,550	17,621	13,508	19,609
China, Republic of (Taiwan)	1,722	3,233	4,723	6,020	3,271	5,091
Czechoslovakia	2,528	2,312	2,951	2,135	1,025	1,339
Finland	5,484	5,102	5,293	358	319	238
France	48,968	35,507	28,793	40,988	30,442	37,245
Germany (Federal Republic)	68,661	82,708	89,431	22,977	25,883	26,126
Greece	1,149	1,187	1,285	4,220	2,426	1,475
Hong Kong	10,712	13,706	14,358	11,792	9,876	17,594
India	11,005	11,012	10,054	15,234	13,038	5,584
Indonesia	4,315	7,079	6,697	2,140	5,548	5,259
Iran	14,242	7,494	1,731	6,517	3,224	3,614
Iraq	11,924	8,006	10,526	837	786	1,567
Italy	19,133	28,685	30,519	38,404	24,181	26,285
Japan	113,249	127,027	147,918	137,841	106,944	107,526
Kuwait	16,578	18,627	18,309	1,580	1,274	1,305
Malaysia	8,623	8,645	10,234	24,228	15,367	13,576
Mexico	1,870	1,510	722	6,720	5,937	7,694
Netherlands	20,555	15,300	17,460	8,499	7,673	9,128
New Zealand	15,354	19,960	23,108	47,785	45,068	45,516
Pakistan	6,106	5,277	5,291	8,588	2,511	1,045
Papua and New Guinea	3,553	3,934	5,475	11,216	11,813	11,771
Philippines	510	808	735	10,260	14,294	13,178
Poland	795	965	1,049	8,675	4,223	3,896
Qatar	3,007	2,054	12,556	143	154	102

VICTORIA—OVERSEAS IMPORTS AND EXPORTS : COUNTRIES OF ORIGIN AND CONSIGNMENT—*continued*
($'000 f.o.b.)

Country	Imports			Exports		
	1966–67	1967–68	1968–69	1966–67	1967–68	1968–69
Saudi Arabia	9,518	11,246	10,594	5,012	5,507	5,010
Singapore	1,381	1,333	2,627	19,741	13,155	16,024
South Africa (Republic)	5,368	4,993	4,860	11,761	10,674	18,878
Sweden	20,588	18,642	18,504	2,756	2,304	2,076
Switzerland	14,382	15,243	14,443	962	880	781
Thailand	477	522	642	7,256	6,255	6,958
Trucial States	10,930	10,488	3,509	184	370	682
United Kingdom	266,986	262,230	275,526	117,320	106,908	100,565
U.S.A.	240,391	270,072	267,149	83,399	81,320	83,942
U.S.S.R.	525	547	735	3,677	5,710	8,916
Yugoslavia	247	279	239	9,385	6,200	5,981
Other and unknown	50,380	57,809	63,880	66,721	62,200	54,549
Total	1,072,514	1,130,741	1,182,747	801,187	685,755	707,579

Interstate trade

Statistics of trade between Victoria and other Australian States are incomplete and relate mainly to seaborne trade. Although a substantial quantity of freight is carried by road and rail transport between Victoria and neighbouring States, no details of this traffic are available. A small tonnage of freight is carried interstate by air (see page 750).

Interstate trade by sea

In terms of quantity, the principal cargoes carried interstate by ship to and from Victorian ports are coal and briquettes, petroleum and petroleum products, steel, sugar and sugar preparations, and timber. However, there is also a considerable trade in foodstuffs, motor vehicles, and other manufactured goods, particularly through the Port of Melbourne. Details of the principal commodities in interstate shipments handled by the ports of Melbourne and Geelong during 1969 are shown below. For many commodities comparison with details for previous years is not possible because of changes in classification. In addition, details of exports from the Port of Melbourne are not comparable with those for previous years because of changes in the method of calculating tonnages. Some cargoes are recorded in tons weight, while others are recorded in tons measurement. In the statistics the measurement of 40 cu ft is taken as the equivalent of 1 ton.

Port of Melbourne

Interstate exports during 1969 totalled 1,602,434 tons. The principal commodities were petroleum and petroleum products, 359,791 tons ; transport equipment (including touring passenger cars), 300,494 tons ; fruit and vegetables, 36,787 tons ; paper, paperboard and manufactures thereof, 21,483 tons ; chemical elements and compounds, 16,562 tons ; and iron and steel, 43,660 tons.

Interstate imports during the same period totalled 2,396,360 tons, the principal commodities being petroleum and petroleum products, 421,911 tons; iron and steel, 203,391 tons; sugar and sugar preparations, 236,153

tons ; coal, coke and briquettes, 139,980 tons ; wood, timber and cork, 184,372 tons ; paper, paperboard and manufactures thereof, 205,201 tons ; crude fertilisers and crude minerals, 147,892 tons ; and transport equipment (including touring passenger cars), 135,078 tons.

Port of Geelong

Total interstate exports during 1969 amounted to 497,017 tons of which petroleum and petroleum products accounted for 443,247 tons. Total interstate imports amounted to 920,356 tons, and consisted mainly of petroleum and petroleum products, 431,453 tons ; coal, 202,706 tons ; pig iron and steel, 131,792 tons ; and alumina, 117,065 tons.

Trade of Victoria with Western Australia and Tasmania

Details of trade between Victoria and other States are available only for trade with Western Australia and trade by sea with Tasmania.

Western Australia

Exports from Victoria to Western Australia are valued in terms of landed cost (i.e., c.i.f. basis) at port of entry. Imports from Western Australia are valued at the f.o.b. equivalent at the port of shipment of the price at which the goods were sold. The small proportion of goods received by rail is valued at the f.o.r. equivalent.

For the year 1968–69, the value of exports from Victoria to Western Australia totalled $235.8m. Transport equipment ($41.3m), machinery other than electric machinery ($27.2m), clothing and clothing accessories ($24.2m), tobacco and tobacco manufactures ($11.4m), and rubber manufactures ($8.5m) were the main types of commodities included in this total.

Imports from Western Australia during the same period were valued at $48.8m. Petroleum and petroleum products ($18.0m), inorganic chemical elements and compounds ($6.3m), and iron and steel ($3.9m) were the main types of commodities imported.

Detailed statistics of this trade appear in the publications *External Trade,* 1968–69 and *Interstate Trade of Western Australia,* 1968–69 issued by the Deputy Commonwealth Statistician, Perth.

Tasmania

Details of trade between Victoria and Tasmania are available only for trade by sea. Both exports and imports are valued on an f.o.b. basis.

In 1968–69 exports by sea from Victoria to Tasmania were valued at $165.5m. Transport equipment ($21.7m), petroleum products ($13.8m), and tobacco and tobacco manufactures ($13.0m) were the main types of commodities. The value of tourists' motor vehicles included in this total was approximately $19.1m.

Imports from Tasmania during this period amounted to $137.8m. Timber ($12.7m) and preserved vegetables ($13.1m) were the main commodities imported. The value of tourists' motor vehicles included in the total was approximately $18.4m.

Additional details of trade by sea between Victoria and Tasmania are available from the Deputy Commonwealth Statistician, Hobart.

Customs and excise revenue

The total gross customs duties collected by the Commonwealth in Victoria in each of the three years 1966–67 to 1968–69 was $108,565,998, $107,976,098, and $121,206,549, respectively. Collections include duty received on account of goods transferred to other States for consumption and exclude duty in respect of goods imported into other States but consumed in Victoria.

The principal commodities produced in Victoria on which the Commonwealth imposes excise duty are set out in the table below, together with the gross amount of duty collected on account of each item for each of the three years 1966–67 to 1968–69. As with customs duties, collections include duty levied on goods exported to other States for consumption and exclude duty in respect of goods produced in other States, but consumed in Victoria.

VICTORIA—GROSS EXCISE DUTY COLLECTED ON PRINCIPAL COMMODITIES

Article and unit of quantity		Quantity on which duty was collected			Gross excise duty collected		
		1966–67	1967–68	1968–69	1966–67	1967–68	1968–69
		'000	'000	'000	$'000	$'000	$'000
Spirits (potable)	proof gal	547	624	600	5,416	6,164	5,903
Tobacco	lb	1,843	1,770	1,674	4,128	3,967	3,750
Cigars and cigarettes	lb	18,563	19,522	20,275	77,962	81,950	85,329
Petrol	gal	527,357	556,528	616,031	64,865	68,453	75,772
All other articles (*a*)		..	..	..	102,062	109,065	113,464
Total		..	..	..	254,433	269,599	284,218

(*a*) Includes excise duty collected on beer, which is not available for separate publication.

The overseas trade and the gross revenue collected at Victorian ports during the year 1968–69 are shown in the following table :

VICTORIA—OVERSEAS TRADE AND GROSS REVENUE COLLECTED AT VICTORIAN PORTS, 1968–69
($'000)

Particulars	Melbourne (*a*)	Geelong	Portland	Western Port	Total
Overseas trade—					
Imports	1,106,471	56,090	4,644	15,542	1,182,747
Exports	633,724	52,722	19,878	1,255	707,579
Total	1,740,195	108,812	24,522	16,797	1,890,326
Gross revenue—					
Customs	132,521	1,277	..	..	133,798
Excise	274,080	5,599	4,539	..	284,218
Total	406,601	6,876	4,539	..	418,016

(*a*) Includes Port of Melbourne, Essendon Airport, and parcels post.

AUSTRALIA—VALUE OF OVERSEAS TRADE, GROSS CUSTOMS, AND EXCISE DUTY COLLECTED BY STATES, 1968–69

($'000)

State	Imports	Exports	Excess of exports	Gross duty collected	
				Customs	Excise
New South Wales	1,500,559	1,010,488	−490,071	176,586	340,367
Victoria	**1,182,747**	**707,579**	**−475,168**	**133,798**	**284,218**
Queensland	288,599	677,459	388,860	25,059	114,316
South Australia	231,956	300,934	68,978	21,439	73,939
Western Australia	203,534	546,366	342,832	21,202	69,289
Tasmania	37,509	102,061	64,552	3,164	23,247
Northern Territory	21,800	28,934	7,134	1,962	3,624
Australian Capital Territory	1,801	442	−1,359	111	20
Australia	3,468,505	3,374,263	−94,242	383,321	909,020

NOTE. Minus (−) sign denotes excess of imports.

TRANSPORT

Shipping

Coastal trade

In the post-war years, particularly since 1959, significant changes have taken place in the carriage of goods by sea around the Australian coast. The Port of Melbourne, the principal sea terminal for Victoria which is the centre of the coastal trade routes around the mainland coast and to Tasmania, has been experimenting with new methods of cargo handling and " packaging " and the introduction of new specialised ships. In the years following the Second World War, Australian shipowners revised their trading practices in the face of vigorous competition from the land-based transport operators. As a result the entire coastal trade by sea was transformed, and ships modified to make them more useful as a means of transportation around the coast.

One of the results of this was the expansion of the bulk cargo trade in which more goods (such as sugar and a variety of oils and oil products) began to be carried in bulk. Later, single bags, boxes, and packages began to be packed into unit loads and containers which facilitated handling on ship and shore by means of new and improved mechanical cargo handling equipment. These new methods led to the specialised ship, exclusively designed and equipped to meet the requirements of the particular trade. These were the roll-on roll-off stern loading ships for cargo packed on road vehicles which travelled in the vessel, and the container ship designed for containerised cargo and other unit loads. The first roll-on roll-off ship in Australia was introduced in 1959 between Melbourne and Devonport in northern Tasmania.

Australia's first specially designed container ship came into service between Melbourne and Launceston in 1961, and was followed in 1964 by a larger container ship for the Melbourne–Fremantle trade. By then, between 7,000 and 8,000 containers were in transit between all States on these ships

as well as on conventional and specially modified ships. These new methods are now well established and are being extended to the ports of Sydney and Brisbane.

Efforts are continuing to improve the handling and carrying of general cargo in addition to bulk cargoes which are most suitably carried by sea. More specialised and larger ships in the bulk trades are also proving valuable.

New packaging and cargo handling methods, as well as new ships, are bringing changes to port facilities, where specially designed wharves, equipment, and port modifications are matching the new concepts in ship and cargo handling around the Australian coast. These new concepts are also being extended to Australia's overseas trade.

Searoad service between Victoria and Tasmania

The following table gives details of the searoad service operated by the Australian Coastal Shipping Commission between Victoria and Tasmania :

VICTORIA—TASMANIA : SEAROAD SERVICE (*a*), 1968–69

Name of vessel	Passengers	Accompanied vehicles	Trade vehicles (*b*)	Mail vans
Princess of Tasmania	86,378	23,402	3,383	302
Australian Trader	78	..	..	4
Bass Trader	439	696	3,518	296
South Esk	..	..	96	..
Other A.C.S.C. vessels	..	..	1,033	..
Total	86,895	24,098	8,030	602

(*a*) Excludes commercial cargo which consists of unit loads, i.e., containers, trailers, timber packs, etc., as well as commercial vehicles.
(*b*) Motor vehicles available for sale.

Vessels entered and cleared

The number of vessels entering Victorian ports, the number cleared from those ports, and their total tonnage in each of the five years 1964–65 to 1968–69 were as follows :

VICTORIA—OVERSEAS AND INTERSTATE SHIPPING

Particulars		1964–65	1965–66	1966–67	1967–68	1968–69
Entrances	number	3,690	3,753	3,706	3,550	3,618
	'000 net tons	16,534	16,380	17,439	17,161	17,944
Clearances	number	3,679	3,754	3,710	3,548	3,591
	'000 net tons	16,448	16,384	17,427	17,142	17,769

Nationality of shipping

The countries of registration of vessels which entered or were cleared at Victorian ports during the years 1967–68 and 1968–69 were as follows :

VICTORIA—NATIONALITY OF SHIPPING
('000 net tons)

Vessels registered at ports in—	Vessels entered		Vessels cleared	
	1967–68	1968–69	1967–68	1968–69
Australia	3,383	3,303	3,380	3,272
Belgium	..	7	..	7
Denmark	308	396	308	388
France	220	239	220	239
Germany, Federal Republic of	418	484	411	482
Greece	550	540	546	540
Hong Kong	190	162	187	160
India	97	178	97	178
Israel	14	49	14	46
Italy	787	622	787	624
Japan	806	985	806	979
Liberia	1,580	1,770	1,570	1,752
Netherlands	841	784	834	772
New Zealand	153	164	157	161
Norway	1,366	1,461	1,372	1,414
Panama	173	170	173	170
Singapore	48	49	48	49
Sweden	663	652	665	633
United Kingdom	5,034	5,261	5,044	5,233
United States of America	209	183	204	188
U.S.S.R.	26	77	26	77
Yugoslavia	7	18	6	18
Other	288	390	287	387
Total	17,161	17,944	17,142	17,769

Shipping entered at Victorian ports

Particulars of shipping which entered each principal port of Victoria are given in the following table for the years 1967–68 and 1968–69 :

VICTORIA—VESSELS ENTERED AT EACH PORT

Class of vessel	Melbourne		Geelong		Portland		Western Port	
	1967–68	1968–69	1967–68	1968–69	1967–68	1968–69	1967–68	1968–69
	NUMBER							
Overseas—								
Direct	245	291	158	93	6	20	33	40
Other	1,495	1,475	189	225	80	69	8	8
Interstate	1,116	1,158	152	146	26	18	41	71
Total	2,856	2,924	499	464	112	107	82	119
	'000 NET TONS							
Overseas—								
Direct	992	1,366	1,252	1,629	36	151	456	615
Other	9,088	9,026	1,565	1,481	349	326	65	73
Interstate	2,214	2,179	691	668	154	113	292	293
Total	12,294	12,571	3,508	3,778	539	590	813	981

Cargoes discharged and shipped

The following tables show the tonnage of overseas and interstate cargoes discharged and shipped in Victorian ports during 1967–68 and 1968–69, as well as the tonnage of overseas cargoes discharged and shipped during the years 1966–67 to 1968–69 according to the countries of origin and consignment, and the nationalities of the vessels in which the cargoes were carried :

VICTORIA—CARGOES DISCHARGED AND SHIPPED AT EACH PORT
('000 tons)

Particulars	Melbourne		Geelong		Portland		Western Port	
	1967–68	1968–69	1967–68	1968–69	1967–68	1968–69	1967–68	1968–69
DISCHARGED								
Interstate—								
Weight	1,774	1,740	763	867	208	166	102	94
Measure	747	762	..	..	..	..	..	33
Overseas—								
Weight	3,489	3,662	3,788	3,597	24	139	1,173	1,326
Measure	1,678	1,954	57	16	..	..	..	..
SHIPPED								
Interstate—								
Weight	536	505	691	634	..	1	576	523
Measure	827	867	..	5	..	..	..	1
Overseas—								
Weight	1,093	1,065	822	843	39	92	83	56
Measure	662	635	10	20	1	7	..	..

NOTE. 1 ton measurement = 40 cu ft.

VICTORIA—OVERSEAS CARGOES DISCHARGED AND SHIPPED ACCORDING TO GEOGRAPHIC TRADE AREAS
('000 tons)

Geographic trade area of origin or consignment	1966–67		1967–68		1968–69	
	Discharged	Shipped	Discharged	Shipped	Discharged	Shipped
North America and Hawaiian Islands—						
Weight	770,455	139,713	727,317	151,793	736,092	140,947
Measure	412,563	41,911	336,956	63,374	383,146	55,771
South America—						
Weight	472	15,385	10,586	11,046	11,217	9,076
Measure	384	2,228	337	3,576	151	2,342
Europe (incl. U.S.S.R.)—						
Weight	242,322	474,981	211,929	251,464	270,393	284,544
Measure	631,503	241,069	705,819	283,449	801,840	259,046
Africa—						
Weight	58,025	93,834	51,736	32,343	72,507	38,794
Measure	29,362	24,385	28,666	22,686	21,726	42,510
Asia—						
Weight	6,925,120	1,918,287	6,712,408	1,251,677	6,676,465	1,299,814
Measure	393,346	150,541	530,064	151,254	631,275	160,102
Papua and New Guinea, New Zealand, and Pacific Islands—						
Weight	603,345	232,722	452,235	337,910	698,803	277,952
Measure	88,790	138,629	133,568	147,175	131,352	142,799
Indian Ocean Islands and Antarctic Area—						
Weight	300,888	4,952	308,219	1,079	258,138	5,556
Measure	126	..	..	1,236	..	65
Total Weight	8,900,627	2,879,874	8,474,430	2,037,312	8,723,615	2,056,683
Measure	1,556,074	598,763	1,735,410	672,750	1,969,490	662,635

NOTE. 1 ton measurement = 40 cu ft.

VICTORIA—OVERSEAS CARGOES DISCHARGED AND SHIPPED ACCORDING TO NATIONALITIES OF VESSELS
('000 tons)

Vessels registered at ports in—	1966–67		1967–68		1968–69	
	Discharged	Shipped	Discharged	Shipped	Discharged	Shipped
Australia	8	1	9	..	14	..
Belgium	54	..	..	..	..	13
Denmark	286	44	339	72	361	34
France	454	18	224	12	290	14
Germany, Federal Republic of	310	78	379	72	335	64
Greece	247	298	419	161	325	101
Hong Kong	127	84	67	52	121	69
India	78	65	43	19	52	27
Italy	73	5	71	7	18	6
Japan	438	180	500	173	826	146
Liberia	186	234	2,017	200	1,983	169
Mexico	16	2	..	..	..	..
Netherlands	611	429	345	166	199	171
New Zealand	85	123	121	92	121	92
Norway	1,802	338	1,869	260	1,721	427
Pakistan	25	12	4	22	..	..
Panama	202	40	78	46	89	36
Sweden	333	252	386	235	276	171
United Kingdom	3,562	1,161	2,998	1,012	3,526	995
United States of America	46	39	63	38	58	38
Other	1,514	76	278	71	378	146
Total	10,457	3,479	10,210	2,710	10,693	2,719

NOTE. In the above table tons measurement has been added to tons weight.

Port Phillip Sea Pilots

Thirty-six former shipmasters are licensed by the Marine Board of Victoria to perform all pilotage duty within Port Phillip Bay. One is in charge of the Williamstown office as Secretary-Treasurer; the others, in turn, take a week in command of the pilot steamer cruising off Point Lonsdale to put pilots aboard incoming ships or take them off departing vessels.

Thirty-four pilots are rostered for the various pilotage duties: from the Heads to Port Melbourne, Williamstown, Geelong, and Western Port; between Geelong and Melbourne; in the Yarra River or Victoria Dock; or elsewhere as required. Pilots for inward ships are organised by the pilot-in-charge of the steamer; those for departing ships and ships berthing by the Williamstown office staff.

Tide is the pilot's greatest hazard at the Heads. Flowing over an uneven, rocky bottom at a rate of up to 10 knots, it creates a steep and turbulent sea at the narrowest part of the entrance. These strong tides have scoured out a deep gutter round Point Nepean, and the main stream of the tide following this gutter has the effect of setting ships sideways, towards the dangerous reefs bordering Point Nepean.

Inside the Heads is the twelve mile long South Channel for deep-loaded ships and the shorter and narrower eight mile long West Channel for ships under 17 ft draught. From the end of these channels, vessels may proceed either to the Port of Geelong or to the Port of Melbourne.

Vacancies in the Pilot Service are filled by shipmasters with a pilotage exemption certificate who have traded regularly to the Port. Each pilot must purchase a share in the pilot vessels and other necessary plant. Pilotage dues are set and collected by the Marine Board. Ten per cent of these are taken out for expenses and contributions to the Pilots Sick and Superannuation Fund, the balance of 90 per cent being paid to the pilots for disbursements, crew and staff wages, and for pilots' remuneration.

The following table shows the number of ships (sailing inwards and outwards) piloted through Port Phillip Heads during the years 1960 to 1969 :

VICTORIA—NUMBER OF SHIPS PILOTED THROUGH PORT PHILLIP HEADS

Year	Number of ships	Year	Number of ships	Year	Number of ships
1960	3,768	1964	4,505	1967	4,606
1961	4,228	1965	4,738	1968	4,614
1962	4,177	1966	4,759	1969	4,388
1963	4,333				

Further reference, 1963

Melbourne Harbor Trust

Administration

The Melbourne Harbor Trust Commissioners are a financially independent, corporate body operating under the provisions of the *Melbourne Harbor Trust Act* 1876, and subsequent amendments and variations. The land and waters of the 10½ square mile port area are vested in the six commissioners who are appointed by the Governor in Council. They comprise a full-time chairman who also is virtually the port's managing director, and five part-time commissioners who in accordance with the Act must be associated with various port activities, i.e., shipping, primary production, imports, exports, and labour.

The Melbourne Harbor Trust Commissioners are both the port authority and the conservancy authority of the Port of Melbourne. The Trust maintains, improves, and develops the port, and is empowered under its Act to make regulations for the management and financing of the port subject to the approval of the Governor in Council.

Finance

The Port of Melbourne is self-supporting and does not receive any financial grants from the State Government. The Trust's revenue is derived from a number of charges paid by the users of the port. The charges are principally wharfage rates levied on each ton of cargo landed in, or shipped out of the port, and tonnage rates levied on the gross registered tonnage of ships and the time they spend in port. Other charges cover rent of sheds, hire of port owned cargo handling equipment, general port services, and rental of land reserved for essential long term port development. Expenditure is on port maintenance, reconstruction, modernisation, and development, with any surplus put back into port development. In 1969 the Trust had approximately $90m invested in port assets. Capital works are financed out of revenue and out of loans, which are mainly privately arranged and are raised and financed by the Trust itself and guaranteed by the Trust's income from wharfage and

tonnage. The Trust is required to pay into the Consolidated Revenue of the State Government approximately one fifth of its revenue from wharfage and tonnage.

The following table shows particulars of the financial operations of the Melbourne Harbor Trust for the years 1965 to 1969 :

VICTORIA—MELBOURNE HARBOR TRUST : REVENUE, EXPENDITURE, ETC.
($'000)

Particulars	1965	1966	1967	1968	1969
REVENUE					
Wharfage and tonnage rates	7,058	6,393	6,692	8,357	8,901
Rent of sheds	606	572	586	638	576
Special berth charges	431	317	381	489	461
Rent of lands	725	949	965	1,154	1,665
Crane fees	1,800	1,672	1,793	2,043	1,937
Other	814	792	796	892	781
Total revenue	11,434	10,695	11,213	13,573	14,321
EXPENDITURE AND APPROPRIATIONS					
Administration and general expenses	784	874	908	1,098	1,590
Port operating expenses	2,413	2,422	2,642	2,821	3,074
Maintenance—					
Dredging	508	265	203	266	315
Harbour	123	110	116	101	117
Wharves	648	638	581	593	691
Approaches	117	125	152	119	133
Railways	51	79	80	80	53
Cargo handling equipment	325	342	358	371	362
Other properties	62	93	54	55	62
Interest	1,465	1,551	1,706	1,780	1,927
Depreciation and renewals	1,486	1,584	1,427	2,295	2,536
Insurance	96	99	103	108	113
Sinking fund	928	160	435	600	200
General reserve	800	900	1,037	1,600	1,400
Payments to Consolidated Revenue	1,420	1,287	1,346	1,468	1,506
Other	1	2	2	(*a*)	(*a*)
Total expenditure and appropriations	11,226	10,530	11,150	13,355	14,079
CAPITAL OUTLAY					
Land and property	224	106	201	291	56
Reclamation	32	312	408	359	80
Deepening waterways	786	1,239	1,235	2,517	3,238
Wharves and sheds construction	1,709	1,760	2,095	3,214	2,548
Cargo handling equipment	359	1,252	91	537	395
Approaches construction	464	303	355	412	587
Floating plant	11	95	51	167	731
Other works, etc.	768	675	769	588	674
Total capital outlay	4,352	5,742	5,205	8,085	8,309
Loan indebtedness at 31 December	30,473	32,247	34,484	36,029	37,889

(*a*) Under $500.

Advent of new cargo pattern

Container and unit-load methods of cargo handling in the Port of Melbourne have been introduced and extended during the 1960s following the provision of a specially designed berth and ship in 1959. By 1969 the cumulative effect of gradually developing these new facilities

had a significant impact on the port as a whole. Towards the end of 1969 the emphasis of cargo handling activities in the port began to shift from the long established conventional cargo handling areas to five areas where new dock complexes had been built, a new specially designed berth added to existing docks, and an old conventional berth converted for use with container and unit-load ships cargo handling methods.

With this shift it also became evident that the traditional hub of the port was shifting, and that it would re-establish itself over the next few years in one of the new areas which would emerge as the cargo handling centre of a virtually " new " Port of Melbourne.

In 1969 the port handled a volume of 13·2 mill. tons of import, export, and transhipment cargo, an increase of 10·5 per cent over 1968. However, this volume was handled by coastal and overseas shipping which paid only 2,948 calls at the port, a decline of about 4·3 per cent. This was the first time since the end of the Second World War that there has been such a considerable drop in the number of calls paid by coastal and overseas ships, even though at the same time the port handled a substantial increase in cargo.

The changes in the character of the port began to be really noticeable with the arrival, in March 1969, of the first overseas container ship on the United Kingdom—Australia Service.

Cargoes flowing through all ports of the world are classed as either " dry or wet " bulk—such as oil carried in tankers or sugar carried loose in the hold of a bulk carrier—or " general " which includes the variety of goods usually crated, boxed, or carried in some other individual packaging. Container ships carry this " general " cargo in containers of various international standard sizes.

Unit-load multi-purpose vessels, which first began to operate out of Melbourne in the overseas service in 1966 and in the coastal trade some eight years earlier, are vessels specially designed to carry containers and unit-loads which are a collection of general cargo assembled into one load, usually on a tray or pallet. These ships can also carry conventional cargo, namely, individual items of general cargo handled and loaded separately, and handled individually inside the ship and on shore.

In 1969 the emerging significant change in the character of the port was the result of the completion of a number of unit-load and container cargo handling berths and terminals, and associated shore based cargo consolidation depots ; the introduction of container ships in the overseas trade ; and additional unit-load ships and container ships in the coastal trade. Changes in some of the dock facilities are outlined below.

Swanson Dock. This is a new dock complex initially designed for container ships in the new overseas services and the existing coastal services. The first berth in the new dock No. 1 West, which is 1,050 ft long and equipped with a 45 ton twin lift container crane and a multi-stacking container terminal on an adjacent 25 acre site, was officially opened early in 1969. An extension to the berth, to be known as No. 2 West, was started soon afterwards. A new container and unit-load berth of a similar style, but 800 ft long, to be known as No. 1 East was also being built for the increasing number of container and unit load ships to be introduced in trade between Melbourne and overseas ports.

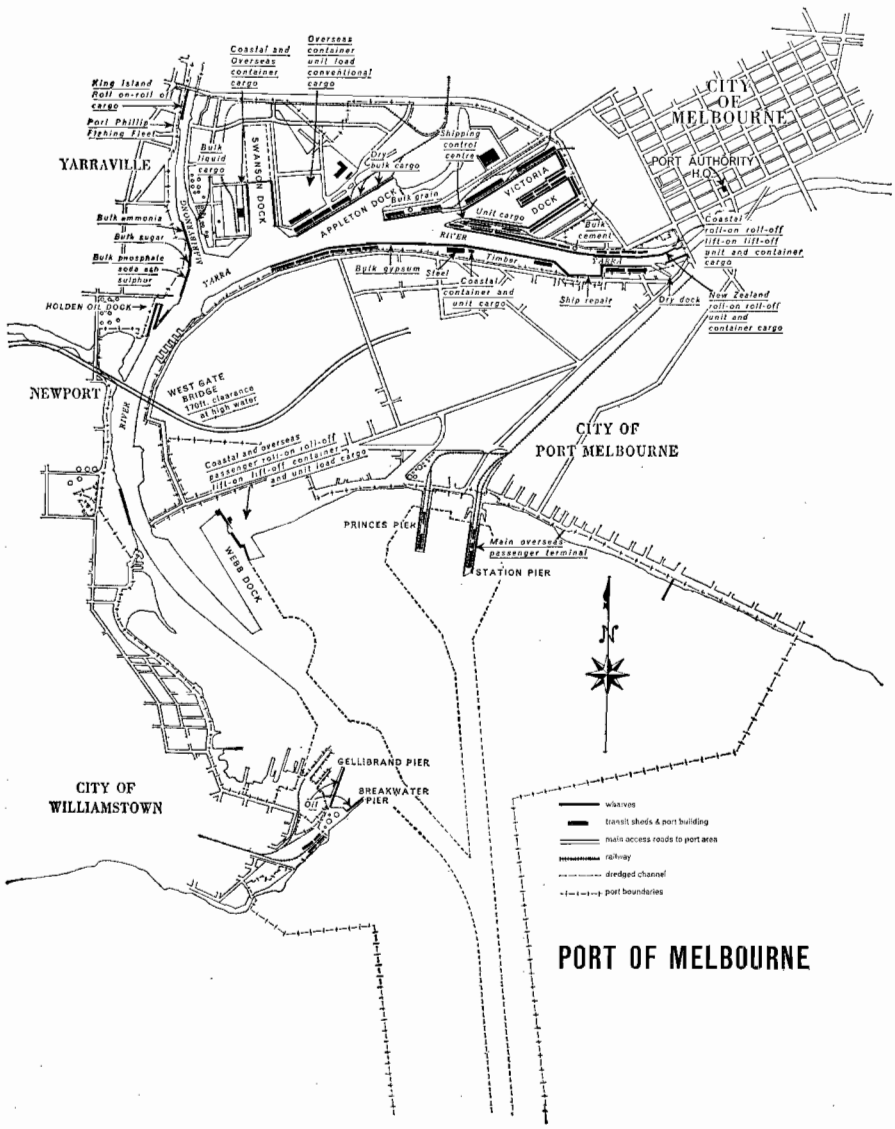

FIGURE 17.

North Wharf. In the upper extremity of the port, a new berth was completed for a new roll-on roll-off container and unit-load ship which entered the trans-Tasman service later in 1969. The birth was similar to and alongside an existing berth catering for ships in the coastal service, and the two berths with a 7 acre area behind them now formed a new cargo terminal complex.

Victoria Dock. In this complex of 24 berths—formerly the hub of the port's overseas conventional cargo trade—three berths, Nos. 2, 3, and 4, had already been reconstructed and modernised with rail facilities. In 1969 they came into increased use for unit-load and container ships and

cargo handling, and in the area alongside, new terminal operations for cargo handling and general consolidation were begun.

Appleton Dock. In this dock, formerly the most modern 3-berth conventional cargo handling complex in the Port of Melbourne, two berths were established as unit-load container handling berths serving an adjacent cargo handling and consolidating terminal in the overseas trade. The terminal and berths became fully operational during 1969 and there are plans for almost immediate expansion in the terminal area.

Webb Dock. In this region of the port a unit-load container handling berth and terminal were first established in 1959. It was here that this type of cargo handling from specially designed ships was introduced to shipping services on the Australian coast. In 1969 a third berth was completed, and the terminal area was increased from 6 acres to 21 acres. This catered for extended coastal services by additional new ships of special design and for the introduction of a new regular overseas service which for the first time in more than 40 years included an Australian flag ship.

By the end of 1969 three or four new and additional coastal ships had been introduced and a considerably increased volume of cargo now passed through the larger terminal.

Further references, 1961 to 1969; Changing trends in port development, 1968; Port facilities, 1969; Port emergency service, 1970

Geelong Harbor Trust

The Port of Geelong is under the control of the Geelong Harbor Trust which was constituted under an Act of 1905. The Trust consists of three Commissioners appointed by the Governor in Council.

Entrance to the port is by 15 miles of channel dredged to a depth of 36 ft and a width of 400 ft.

There are nineteen effective berths in the port and two berths at the Commonwealth Explosives Pier, Point Wilson—owned and operated by the Commonwealth. Maximum water depths are 36 ft at eight berths, 32 ft at ten berths (all within the inner harbour), and three outer harbour berths of 30 ft. Special berths are provided for the handling of coal, grain, phosphatic rock and sulphur, oil, and alumina. The bulk grain terminal has a 28 mill. bushel storage capacity, and is capable of loading ships at the rate of 1,600 tons an hour.

Refinery Pier can accommodate simultaneously four oil tankers with maximum drafts of 34 ft. The Harbor Trust cool stores have a storage capacity of 900,000 cu ft. Adequate open coal storage is available. The port has good clearance facilities, with direct rail loading at seven berths and road clearance at all berths.

The new dry bulk berth (renamed Lascelles Wharf) came into operation early in 1970 and this together with the No. 2 berth (formerly Kings Wharf) provides 1,140 ft of modern wharf facilities for discharge of phosphatic rock and other fertiliser components.

A stern loading ramp with associated storage facilities was constructed at Corio Quay South No. 1 and came into operation in January 1971.

The Harbor Trust has floating plant which includes six tugs, six barges, and one diesel-powered floating crane.

VICTORIA—GEELONG HARBOR TRUST: REVENUE, EXPENDITURE, ETC.
($'000)

Particulars	1965	1966	1967	1968	1969
REVENUE					
Wharfage, tonnage, and special berth rates	2,238	2,373	2,464	2,428	2,536
Shipping services	722	838	851	801	756
Rents, fees, and licences	43	45	47	51	49
Freezing works and abattoirs	63	64	64	80	100
Other	159	120	53	5	10
Total revenue	3,225	3,440	3,479	3,365	3,451
EXPENDITURE AND APPROPRIATIONS					
Management expenses	344	366	382	432	466
Shipping services	622	647	614	670	687
Maintenance—					
Wharves and approaches	77	102	89	91	79
Harbour	85	71	81	99	109
Floating plant	10	13	16	18	22
Other	18	17	26	25	20
Interest on loans	390	401	400	413	422
Sinking fund	77	76	77	79	81
Depreciation provision	432	515	603	693	737
Port development fund	..	1,007	500	250	700
Other	72	62	66	68	75
Total expenditure and appropriations	2,127	3,277	2,854	2,838	3,398
CAPITAL OUTLAY (NET)					
Floating plant	100	..	651	131	19
Land and property	294	70	138	77	210
Deepening waterways	500	69	1,942	313	8
Wharves and approaches	2,332	431	553	709	718
Other	46	11	36	46	34
Total capital outlay	3,272	581	3,320	1,276	989
LOAN INDEBTEDNESS AT 31 DECEMBER					
State Government	193	124	118	118	87
Public	7,490	7,404	7,618	7,815	8,007
Total loan indebtedness	7,683	7,528	7,736	7,933	8,094

Portland Harbor Trust

Situated on the south-west coast of Victoria, the Port of Portland has been administered by a board of three commissioners since 1951 and serves an area of almost 40,000 square miles of western Victoria and the south-east of South Australia. The port is within a few miles of main shipping routes with deep water approaches right to the entrance of the harbour basin.

Plans to double the storage capacity of the Harbor Trust's seaboard grain terminal were finalised during 1968–69 when contracts were accepted for foundation piling and erection of new storage bins with a capacity of one million bushels. This duplication was scheduled for completion in time for the 1969–70 harvest season. The Australian Barley Board also concluded an agreement with the Trust for the continuous reservation of 700,000 bushels of storage for the next harvest season.

The commissioners now employ a new 1,600 hp tug to assist with the handling of large ships entering the port. Vessels of 20,000 tons deadweight frequently enter the port and on occasions the Trust has berthed vessels up to 40,000 tons deadweight.

Although affected to some degree by the effects of the preceding year's drought, the volume of cargo handled in 1968–69 constituted a record 473,550 tons ; an increase of 43·8 per cent over the previous year's figure, and 6 per cent higher than the previous record established during 1966–67. One feature of export trade was the recovery in the shipment of bulk oats, which totalled 71,903 tons. More than 50 per cent of this tonnage was shipped for the first time to Japan. Excluding oil exploration traffic, 136 vessels were berthed in the port during the year. Gross register of vessels berthed amounted to 1,154,474 tons. This included 22 vessels berthed for bunkers and other purposes, but excludes those making use of the port anchorage.

VICTORIA—PORTLAND HARBOR TRUST : REVENUE, EXPENDITURE, ETC.
($'000)

Particulars	1964–65	1965–66	1966–67	1967–68	1968–69
REVENUE					
Wharfage rates	117	137	156	159	224
Tonnage rates	24	21	26	23	26
Shipping services	84	63	108	101	139
State Government grant	711	576	615	760	616
Grain terminal	5	82	207	17	144
Other	53	46	57	86	83
Total revenue	994	925	1,169	1,146	1,232
EXPENDITURE AND APPROPRIATIONS					
Administration	59	68	76	92	103
Maintenance	67	78	66	70	96
Shipping services	92	61	88	77	98
Depreciation	12	26	27	27	27
Interest on loans	622	677	739	807	846
Sinking fund	47	50	52	53	53
Loan redemption	..	33	36	43	49
Grain terminal (excl. depreciation)	4	35	73	35	61
Other	8	4	2	2	6
Total expenditure and appropriations	911	1,032	1,159	1,206	1,339
CAPITAL OUTLAY					
Port rail system	..	..	49	66	89
Reclamation	30	315	114	59	51
Grain terminal	1,036	111	131	79	226
Deepening waterways	..	51	51	26	52
Wharves and sheds	173	386	395	388	41
Breakwater construction	18	..	42	..	37
Floating plant	..	..	..	..	423
Other	131	185	196	278	180
Total	1,388	1,048	978	896	1,099
Loan indebtedness at 30 June—					
State Government	4,083	4,083	4,083	3,673	3,673
Public	12,310	13,027	13,939	14,826	15,610
Total loan indebtedness	16,393	17,110	18,022	18,499	19,283

Lighthouses, 1964

Western Port

Western Port is an extensive inlet eastward of and adjacent to Port Phillip, and is separated from it by the Mornington Peninsula which is 9 miles wide. The Port is sheltered from Bass Strait by Phillip Island at its southerly end and the waters between the western side of this island and the mainland form the entrance to the Port. It is approximately 26 miles from the entrance to the northern extremity of the inlet.

Although the entrance contains some large sandbanks, a deep water channel up to 102 ft deep runs close to the island. This navigable channel extending from the Western Entrance to Crib Point is 13 miles long with low-water depths of 47 ft and 49 ft, respectively, in the Northern and Western Arms. Tidal rises are of the order of 9 ft springs and 7 ft neaps.

Pilotage for the port is undertaken by the Port Phillip Sea Pilots. Large tankers inward bound from the west generally take their pilot aboard at the Pilot Boarding Station off Port Phillip Heads ; tankers from the east take their pilot aboard at Flinders, where a 36 ft pilot launch is provided.

Harbour services comprise two 1,500 hp firefighting tugs each with a bollard pull of some 23 tons as well as mooring launches. The channels are marked by 34 gas buoys and the whole of the harbor services are co-ordinated from the Harbor Master's office at Stony Point.

For many years Western Port remained unexploited except for its use by a commercial fishing fleet and amateur fishing and boating enthusiasts. In June 1963 the Westernport (Oil Refinery) Act was passed by the Victorian Government giving effect to an agreement between the State and B.P. Refinery (Westernport) Pty Ltd to establish a refinery and associated port facilities. The marine terminal established provides two berthing heads, one capable of taking tankers up to 100,000 tons deadweight and the other tankers up to 40,000 tons.

Large scale development of offshore oil and natural gas reserves in nearby Bass Strait led to the Westernport Development Act being passed in December 1967. This Act gives effect to an agreement between the State and Hematite Petroleum Pty Ltd and Esso Exploration and Production Inc. to construct a fractionation plant to process the gas liquids (LPG) and a single berth marine terminal, which is located at Long Island Point, designed to accommodate tankers up to 100,000 tons deadweight. The terminal was completed in 1969. Dredging to give 47 ft in channel and swinging circle and 52 ft alongside was completed in 1970.

The erection of a plant for Cresco Fertilizers Ltd added to the recent development of the area and continued growth seems assured following the joint announcements in 1969 by B.H.P. and Guest, Keen and Nettlefolds. Their decision to develop progressively a rolling mills and major steel works complex on the western shores will require large capital investment and a large labour force.

Western Port is well located in relation to the State's major electric power grid. Port maintenance facilities have been established at Stony Point and other services such as transport, water supply, and sewerage can be progressively developed.

Railways

Geographical factors

The Victorian transport system is centred on Melbourne, the capital of the State. The existence of considerable gaps in the Great Dividing Range has allowed the railway system to fan out to the main agricultural and pastoral areas.

The line to the north-east and Sydney passes through the Kilmore gap; through the Woodend gap goes the northern line to Bendigo and beyond; the Geelong line crosses the basalt plains to the south-west; and to the east, the Gippsland valley (between the Dividing Range and the Strzelecki Ranges) provides a convenient path for the electrified main line handling the vast brown coal resources of the Latrobe Valley.

In the north-western part of the State, the Mallee region, the railway has stimulated development of what was previously regarded as arid, worthless land into prosperous farm lands. It also links Melbourne with Mildura, centre of the dried fruit industry.

Historical development

The first proposed railway for Victoria dates back to March 1839, when Robert Hoddle, Government Surveyor at Port Phillip, marked out a town site at the Beach (Port Melbourne) and planned a line from Melbourne. Seven years later, Geelong residents proposed the construction of a 200 mile line from Geelong to the vicinity of Portland and Hamilton in the Western District. In 1852–53 private railway companies were formed in Victoria and given Government approval to build lines.

Australia's first steam railway began operating between Flinders Street and Sandridge (now Port Melbourne) on 12 September 1854 and was opened by the Hobson's Bay Railway Company for public traffic the following day. The first Victorian country railway, Melbourne to Geelong, was opened on 25 June 1857, and private companies' lines were built from Melbourne to Windsor, Brighton Beach, and Hawthorn between 1859 and 1861.

In 1862 Government lines were opened to Ballarat and Bendigo, and two years later, from Bendigo to Echuca. (The Geelong–Melbourne railway had been purchased by the Government in 1860.)

In less than a decade, Victoria saw fulfilled the promise of building the main trunk railways. Through the 1870s, construction proceeded to the south-west from Geelong and to the south-east from Melbourne. In 1870 contracts were let for building the line from Essendon to Wodonga. The north-eastern railway, opened in sections, reached Wodonga in 1873. Nearly ten years elapsed before junction was made with the New South Wales system at Albury on 14 June 1883. This was the beginning of the break of gauge, which continued to disrupt New South Wales–Victoria traffic until 79 years later, when the standard gauge track between Melbourne and Albury was opened for traffic in 1962.

Administration and functions

The Victorian Railways Department was established on 19 March 1856. It is administered by a board of three commissioners, appointed by and responsible to the Government through the Minister of Transport. Each commissioner gives special attention to particular branches of railway

operation. They are also responsible for a number of sections of railway constructed in New South Wales under the Border Railways Agreement. The lines in the Riverina district are extensions of Victorian lines.

Main locations of tracks

The main interstate lines are the north-east to Sydney, comprising both broad (5 ft 3 in) and standard (4 ft 8½ in) gauge tracks to the border city of Albury (190½ miles), and the north-western broad gauge line linking Melbourne with Adelaide. The Victorian terminal station on this line is Serviceton (287 miles). The north-east line branches at Mangalore to serve the Goulburn Valley. The north-western line branches at Ballarat (74 miles) to Maryborough (112 miles), thence to Mildura (351 miles, the State's longest country main line), and at Ararat to Portland, the Western District's new port (250·75 miles).

The Gippsland line is electrified as far as Traralgon (97½ miles), and thence is diesel operated to Bairnsdale (171 miles). The goods service, also diesel operated, is continued through to Orbost (231 miles). Lines branch from Dandenong to Nyora and from there to Wonthaggi (86 miles) and Yarram (136 miles) in South Gippsland.

Other main lines are Melbourne–Bendigo (101 miles, known as the "main line") from where lines branch further north; and Melbourne–Geelong (45 miles), continuing to Warrnambool (166 miles) and to Port Fairy (186½ miles).

Main types of rolling stock and services

Diesel-electric locomotives, the S class and X class (1,800–2,200 hp) and B class (1,600 hp), haul Victorian Railways fast passenger and freight trains. The T class (950–1,050 hp) diesel-electric locomotive is mainly a freight train operator, but it also hauls selected passenger trains. The Y class (650–750 hp) diesel-electric locomotive hauls branch line freight trains and is also used on freight yard work. The W class (650 hp) diesel-hydraulic locomotive and the F class (350 hp) diesel-electric are almost exclusively used on shunting and transfer work. In addition, five H class (1,050 hp) hump shunting diesel-electric locomotives have been brought into service. The L class (2,400 hp) electric locomotive hauls passenger and freight trains on the Gippsland line, Victoria's longest electrified track. Country passenger train services are supplemented by 102 hp, 153 hp, and 280 hp diesel, and 260 hp diesel-electric rail-cars.

Modern multiple-unit saloon type suburban electric trains are progressively replacing obsolete swing-door compartment type trains on the suburban electric service. Most carriages on interstate and many on mainline country trains are of steel construction and air-conditioned, but a number of excursion and corridor compartment-type, non air-conditioned carriages of wooden construction are also used for country passenger traffic.

Freight wagons are of the fixed wheel or bogie types. They include many types of wagons and vans, up to 57 ton capacity, and a wide variety of specially designed wagons to carry loads ranging up to 170 tons.

Melbourne yard modernisation

The new automated hump shunting project, costing about $13m, has provided an improved service to and from Melbourne and a more efficient

return of locomotives and rolling stock into traffic after arrival of trains. The project, in addition to enlarging the capacity of the yard, also included the installation of the latest electronic and mechanical equipment to replace obsolete methods of shunting and train handling.

The Melbourne Yard was built early in the 1900s when trains were shorter and fewer in number. It thus had insufficient tracks and no track capable of handling the longer trains of today ; its layout was quite unsuited to fast operations ; and considerable cross-movements were necessary, which caused many delays.

By planning thirty-nine stages in a five-year modernisation project, the Victorian Railways were able to maintain services on the original site while works progressed, with only minor inconvenience to clients.

Before modernisation, trains had to be sorted solely by manual operations —by allowing wagons to roll down an incline or by using a locomotive to start the vehicle rolling and controlling the speed by a shunter operating the vehicle's handbrake. The routes into sorting sidings also were set manually by shunters operating separate hand points.

The modernised yard with automated hump shunting, however, has not only increased the speed of operations but also given precise control of vehicle movement by eliminating the risks of human error. In this system, trains are pushed up an elevated track ; near the crest, wagons are uncoupled, singly or in groups, and roll down a single track which branches into a number of sorting sidings. As vehicles roll down the incline the speed is measured by radar at several places and fed to a computer. The computer controls the operation of retarders which are attached to the rails and press against wheel flanges to regulate vehicle speed. Automatic switching equipment directs vehicles to the sorting siding desired.

Before a train is pushed on to the hump, a " cut list " is prepared to show the siding into which the vehicle is to be sorted. The " cut list " is transferred to a tape-reader which electronically arranges for all track routes to be set just ahead of each wagon. This electronic equipment is housed in a new control building known as the West Tower. The modernised yard also includes a new signalling system also controlled from the West Tower.

Yard expansion has included a new yard to give better service to shippers and serve the Victoria, Appleton, and Swanson Docks. Here, rail wagons can be assembled and held in readiness for demand for loading or unloading ships. To cope with modern rail freighting, four additional goods sheds or verandahs were built.

The benefits from the Melbourne yard modernisation mean that at least 3,750 rail vehicles a day can be handled (possibly more) compared with 2,500 under the old yard system. The new system has reduced operating costs, and increased efficiency for both the rail-user and the railway.

Suburban tracks

Victoria's first section of 5 ft 3 in gauge suburban line, from Flinders Street station to Sandridge (now Port Melbourne), was completed in 1854 for Australia's first train. Construction of other lines was as follows : Flinders Street to St Kilda (1857) ; Footscray to Williamstown (1859) ; Princes Bridge to Hawthorn, Richmond to Brighton Beach (1859 to 1861) ;

Melbourne to Essendon (1860) ; Essendon to Broadmeadows (1872) ; South Yarra to Dandenong (1877 to 1879) ; Caulfield to Frankston (1881–82) ; Hawthorn to Lilydale (1882) ; Brighton Beach to Sandringham (1887) ; North Melbourne to Somerton (1884 to 1889) ; Collingwood to Heidelberg (1888) ; Ringwood to Upper Ferntree Gully, Clifton Hill to Preston (1889) ; Burnley to Darling and Camberwell to Ashburton (1890) ; Princes Bridge to Collingwood (1901) ; Heidelberg to Eltham (1902) ; Eltham to Hurstbridge (1912) ; Darling to Glen Waverley (1929–30) ; Ashburton to Alamein (reconditioned and reopened in 1948) ; Fawkner to Upfield (reopened in 1959) ; Upper Ferntree Gully to Belgrave (converted to broad gauge and electrified in 1962) ; and Lalor to Epping (reopened in 1964).

Australia's first electric train ran from Newmarket to Flemington Racecourse on Sunday 6 October 1918. However, electric traction for passengers did not start until the following year.

The line from Essendon to Sandringham was the first converted from steam to electric traction, and four years later the electrification of Melbourne suburban railways, as originally planned, was completed. Since then electric traction has been extended to several sections of the outer suburban area. Victoria, which was first with the steam train, was also first with electric traction in Australia.

Passenger and goods traffic, fares, and freight rates

The general conditions under which goods and livestock are carried by rail are published in the Goods Rates Book, and for rating purposes goods are classified alphabetically into twenty main class rates, while special rates are provided for livestock. Relatively low rates are applicable to agricultural produce and concessions are provided for country industries. Competitive freight contract rates to meet road transport activities operate in the main Victorian country towns, particularly those close to the borders where road competition is intense. Special rates, under agreement with forwarding agents and manufacturers, provide for the transport of goods interstate in specified wagon-loads and also for the carriage of goods in various containers including flexi-vans.

Most of the passenger revenue is derived from the operation of the suburban electrified service ; traffic on this has fallen slightly in recent years. However, additional trains are needed to handle a growing long distance peak period load. In 1946 the number of trains used for peak service was 109 ; in 1969 it was 138. Following elimination of break of gauge at Albury for passenger trains since April 1962, a significant gain has been recorded in passenger traffic between Melbourne and Sydney, and interstate passenger business generally has been active. Introduction of air-conditioned carriages on several country lines in recent years has also resulted in improved services. The ordinary fares are competitive and attractive concessions are available, e.g., to students travelling on vacation, and party travel.

Parcels sent by passenger trains are a large revenue earner.

Standardisation of gauge in Australian network

The track mileage of the standard gauge line between Melbourne and

Albury, including loops, departmental sidings, and dual gauge, but not including private sidings, is 243 miles.

Linking of Sydney with Perth by an all standard gauge route through Broken Hill has not been to the disadvantage of Victoria. Melbourne consignors have direct access to the Sydney standard gauge line connecting with every station in New South Wales and with Brisbane, and to the broad gauge line to Adelaide, connecting with practically every important centre of population in South Australia. These connections give direct rail access to about three quarters of the population of Australia.

Bogie exchange

The standard gauge line from Wodonga to Melbourne provided Melbourne consignors with direct access to the standard gauge network and every station in New South Wales. However, a considerable tonnage of Victorian and overland broad gauge traffic consigned to areas in New South Wales or to Brisbane still required transhipment at either Albury or Melbourne.

The exchange of bogies, introduced in Australia by the Victorian Railways, is now an essential part of interstate railway operations. It has enabled loaded rail wagons to travel over different gauge lines and eliminated the manual transfer of goods from one wagon to another at break of gauge terminals. Bogies can be changed under a loaded vehicle in much less time than that taken for transhipping goods from one wagon to another. The main bogie exchange centre in Victoria at South Dynon handled 34,791 vehicles for the year ended 30 June 1969. A small centre at Wodonga handles traffic between northern and north-eastern Victoria and the northern States. With bogie exchange, the tonnage of overland traffic handled in Victoria increased steadily and is now very much greater than that handled in 1962.

Mechanised track maintenance

Using modern mechanised techniques, the Victorian Railways continually maintain and re-lay their railway tracks for passenger and freight traffic. Track maintenance and renewals constitute one of the larger railway budget items, the cost in 1968–69 being approximately $13.4m.

Track machinery bought during 1968–69 included three ballast regulators, two sleeper spacers, two spike pulling machines, and three sleeper renewal machines. During the year about 202 miles of track in country districts were relaid with heavier rail. Points and crossings were renewed at various locations, using a total of 175 sets of points and 358 crossings. Re-laying of the broad gauge north-eastern line progressed towards completion, and similar work took place between Dandenong and Foster, Ararat and Portland, Heywood and Mt Gambier, Warracknabeal and Beulah, and on the Sea Lake and Mildura lines.

Further references, 1964–1970

The following tables relate to the State railways and road motor services under the control of the Victorian Railways Commissioners. Certain border railways in New South Wales are, by agreement between the Victorian and New South Wales Governments, under the control of the Victorian Railways Commissioners. Particulars of these have been included with those of the State railways being operated within Victoria. Details of the operations of the road motor services are shown on page 732.

Capital cost of railways and equipment

The capital cost of all lines constructed and in course of construction, and of all works, rolling stock and equipment of the Railway Department as at 30 June of each of the five years 1965 to 1969 is shown in the following table :

VICTORIA—TOTAL CAPITAL COST OF RAILWAYS, ETC.: EQUIPMENT AND ROLLING STOCK
($'000)

At 30 June—	Railways		Road motor services	Total capital cost (*a*)
	Lines open	Lines in process of construction		
1965	322,329	2,686	38	325,053
1966	332,956	2,693	61	335,710
1967	345,813	389	45	346,247
1968	357,135	120	36	357,291
1969	368,036	426	28	368,490

(*a*) Written down in accordance with *Railways* (*Finances Adjustment*) *Act* 1936, and allowing for depreciation since 1 July 1937. Particulars are exclusive of the cost of stores and materials on hand and in course of manufacture.

At 30 June 1969 the capital cost of rolling stock, after being written down in accordance with the *Railways* (*Finances Adjustment*) *Act* 1936, and allowing for depreciation was : $100m broad gauge, $10,000 narrow gauge, and $6.1m uniform gauge.

Loan liability and interest

The face value of stock and bonds allocated to the Railways Department, as reduced in accordance with the *Railways* (*Finances Adjustment*) *Act* 1936, amounted to $414.1m at 30 June 1969. After deducting the value of securities purchased from the National Debt Sinking Fund and cancelled ($58m), the net liability on current loans outstanding at that date was $356.1m.

The total liability of the State for railways construction, etc., at 30 June 1968 (which includes the liability referred to in the previous paragraph) was $476m. Deduction of securities purchased from the National Debt Sinking Fund and cancelled ($79.2m) together with cash at credit in the Fund ($2.9m) reduced the amount outstanding at the end of the year to a net liability of $394m.

The *Railways* (*Funds*) *Act* 1961 provided that interest and other charges on moneys borrowed for the purposes of the *Railways Act* 1958 should not henceforth be included in the accounts of the Victorian Railways, but would be charged against the revenues of the State. However, the *Railways* (*Funds*) *Act* 1964 reimposed on the Railways, with effect from 1 July 1964, the obligation to pay interest and debt charges on moneys borrowed for the purposes of the *Railways Act* 1958 on and after 1 July 1960. The total annual interest payable on the liability of $394m at 30 June 1968 amounted to $18.3m at an average rate of 4·802 per cent. Of this amount, the Victorian Railways are liable for $6.1m. In addition, the State is required to pay a contribution of $3.5m at a rate of 4·5 per cent on cancelled securities.

Additional funds, which amounted to $53.9m at 30 June 1968, have been provided for railway construction, equipment, stores, etc., out of Consolidated Revenue, the Uniform Railway Gauge Trust Fund, and other funds. No interest is charged against railway revenue on these amounts, with the exception that interest, at 5 per cent, is payable to the Commonwealth on the repayable principal amount outstanding in respect of expenditure on the uniform gauge. (See page 621 of the *Victorian Year Book* 1966.)

Railway staff

The number of officers and employees in the Railways Service (including casual labour and butty-gang workers) and the amount of salaries and wages (including travelling and incidental expenses) paid in each of the five financial years 1964–65 to 1968–69 are shown in the following table :

VICTORIA—RAILWAYS STAFF : NUMBERS, SALARIES, ETC.

Period	Number of employees at end of year			Salaries, wages, and travelling expenses
	Permanent	Supernumerary and casual	Total	
				$'000
1964–65	16,859	10,604	27,463	75,760
1965–66	16,158	11,473	27,631	77,980
1966–67	15,704	11,038	26,742	79,464
1967–68	15,422	11,989	27,411	82,862
1968–69	15,179	11,197	26,376	87,529

Railways route mileage

The route mileage of the railways (exclusive of road motor service route mileage) for each of the years 1964–65 to 1968–69 is given in the following table.

It should be noted that the Victorian Railways operate certain services in New South Wales. At 30 June 1969 the total length of these services was 204 route miles. This distance is included in the single track broad gauge section of the table.

VICTORIA—RAILWAYS ROUTE MILEAGE (EXCLUDING ROAD MOTOR SERVICES)
(Route miles)

Lines open for traffic	1964–65	1965–66	1966–67	1967–68	1968–69
Single track —Broad gauge (*a*)	3,694	3,671	3,711	3,694	3,648
Narrow gauge	8	8	8	8	8
Double track —Broad gauge (*a*)	431	431	431	433	440
Other multi-track—Broad gauge (*a*)	78	78	79	80	80
Total route mileage	4,211	4,188	4,230	4,215	4,176

(*a*) Broad gauge refers to 5 ft 3 in and includes 4 ft 8½ in gauge track.

Railways rolling stock

The following table provides a description of the various types of rolling stock in service (exclusive of road motor rolling stock) for each of the years 1964–65 to 1968–69 :

VICTORIA—RAILWAYS ROLLING STOCK IN SERVICE (EXCLUDING ROAD MOTOR SERVICES)

Rolling stock in service	1964–65	1965–66	1966–67	1967–68	1968–69
Locomotives—					
Steam	220	181	132	50	72
Electric	35	35	35	35	35
Diesel electric	161	185	199	220	237
Other (*a*)	87	85	87	90	90
Total	503	486	453	395	434
Passenger coaches—					
Electric suburban	1,080	1,089	1,116	1,113	1,110
Other (*b*)	712	698	675	659	659
Total	1,792	1,787	1,791	1,772	1,769
Goods stock (*c*)	21,891	21,914	21,725	21,489	21,374
Service stock	1,676	1,659	1,625	1,625	1,625

(*a*) Other locomotives comprise diesel hydraulic locomotives, cranes, rail motor diesel power units, and non-passenger carrying rail tractors.
(*b*) Passenger coaches owned jointly with New South Wales and South Australia have been included.
(*c*) All parcels and brake vans and standard gauge stock have been included.

Railways traffic

The traffic of the railways (exclusive of road motor traffic) for each of the years 1964–65 to 1968–69 is shown in the table below :

VICTORIA—RAILWAYS TRAFFIC (EXCLUDING ROAD MOTOR SERVICES)

Traffic		1964–65	1965–66	1966–67	1967–68	1968–69
Traffic train mileage—Country	'000	4,836	4,738	4,798	4,833	4,741
Suburban	'000	8,480	8,458	8,504	8,420	8,139
Goods	'000	7,172	6,949	6,733	6,633	6,809
Total	'000	20,488	20,145	20,035	19,886	19,689
Passenger journeys—Country	'000	4,907	4,793	4,674	4,535	4,078
Suburban	'000	144,846	144,332	141,593	141,733	140,788
Total	'000	149,753	149,125	146,267	146,268	144,866
Goods and livestock carried	'000 tons	12,596	12,156	12,075	11,116	11,316

The tonnage of various classes of goods and the total tonnage of livestock carried by the Victorian Railways for each of the years 1964–65 to 1968–69 are shown in the following table :

VICTORIA—RAILWAYS GOODS AND LIVESTOCK TRAFFIC
(Excluding road motor goods services)
('000 tons)

Class of goods	Quantity carried				
	1964–65	1965–66	1966–67	1967–68	1968–69
Butter	90	82	69	65	68
Grain—					
Barley	215	210	196	136	191
Wheat	2,235	2,035	1,869	1,231	1,689
Other	343	220	322	161	359

VICTORIA—RAILWAYS GOODS AND LIVESTOCK TRAFFIC—*continued*
(Excluding road motor goods services)
('000 tons)

Class of goods	Quantity carried				
	1964–65	1965–66	1966–67	1967–68	1968–89
Flour	197	153	145	167	157
Bran, pollard, and sharps	76	53	51	50	44
Fruit—					
Fresh	110	92	86	99	83
Dried	71	74	103	72	64
Beer	129	134	140	144	137
Briquettes	1,594	1,571	1,487	1,416	1,028
Cement	731	782	807	766	765
Coal—					
Black	214	195	213	170	75
Brown	389	363	363	326	200
Galvanised iron	111	104	116	71	91
Iron, steel, bar rods, etc., unprepared	473	424	462	498	661
Manures	1,077	1,154	1,171	877	914
Motor cars and bodies	192	182	197	218	225
Petrol, benzine, etc.	155	133	145	165	182
Pulpwood	109	124	124	101	72
Pulp and paper	129	125	135	138	150
Timber	292	272	252	262	253
Wool	136	133	141	128	140
All other goods	3,169	3,303	3,322	3,520	3,489
Total goods	12,237	11,917	11,916	10,781	11,037
Total livestock	359	239	158	335	279
Grand total goods and livestock	12,596	12,156	12,075	11,116	11,316

Railways revenue and expenditure

Revenue for 1968–69 increased by $1,197,365 compared with 1967–68. Total working expenses increased by $6,140,161 as compared with the previous year.

Under the provisions of the *Railways (Funds) Act* 1961, an account was created in the Trust Fund and called the "Railway Equalisation Account". The Act provided for the annual appropriation out of the Consolidated Revenue and the payment into the Equalisation Account of any excess of railway income over railway operating expenses for the preceding year. Moneys standing to the credit of the Account were to be available for the purpose of supplementing railway income in the event of its falling short of railway operating expenses. The amounts paid into the Equalisation Account were $1,840,692 for the year 1960–61, $7,318 for 1961–62, and $740,758 for 1963–64. To offset deficits for the years 1962–63 and 1964–65, amounts of $419,168 and $2,169,601, respectively, were transferred to Railway Revenue from the Equalisation Account, the latter transfer extinguishing the balance in the Account. The calculation of these amounts was based on Treasury figures (which on the income side are mainly cash records) and not on net revenue shown in the following table.

VICTORIA—RAILWAYS REVENUE AND EXPENDITURE
($'000)

Particulars	1964–65	1965–66	1966–67	1967–68	1968–69
REVENUE					
Passenger, etc., business—					
Passenger fares	27,455	27,826	30,162	30,330	30,507
Parcels, mails, etc.	3,376	3,630	4,135	4,077	4,149
Other	87	163	88	104	103
Goods, etc., business—					
Goods	60,488	59,276	61,531	55,465	56,637
Livestock	2,158	1,478	1,026	1,703	1,265
Miscellaneous	722	692	769	637	631
Miscellaneous—					
Dining car and refreshment services	3,058	3,345	3,464	3,451	3,467
Rentals	1,653	1,710	1,880	2,101	2,178
Bookstalls	920	1,054	1,053	1,052	1,061
Advertising	208	211	228	234	234
Other	201	234	241	240	359
Total revenue	100,326	99,619	104,579	99,394	100,591
EXPENDITURE					
Working expenses—					
Way and works	18,851	19,633	19,940	20,695	22,372
Rolling stock	29,071	28,997	28,740	27,484	29,137
Traffic	31,743	32,939	34,611	35,876	37,688
Electrical engineering branch	4,471	4,563	4,427	4,494	4,425
Stores branch	1,406	1,426	1,563	1,585	1,633
Pensions	4,870	4,945	5,073	5,273	5,451
Service grants and retiring gratuities	1,343	1,173	1,146	1,116	1,146
Contributions to Railway Renewals and Replacement Fund	400	400	400	400	400
Contributions to Railway Accident and Fire Insurance Fund	1,533	1,315	1,441	1,740	2,116
Pay-roll tax	1,803	1,744	1,852	1,874	1,982
Long service leave	1,371	1,353	1,521	1,606	1,829
Other (*a*) (*b*)	2,606	2,664	2,846	3,061	3,164
Total working expenses	99,470	101,151	103,560	105,204	111,344
Net revenue	+856	−1,532	+1,019	−5,810	−10,753
Debt charges—					
Interest charges and expenses (*b*)	(*c*) 2,918	3,726	4,546	5,377	6,221
Exchange on interest payments and redemption	(*c*) 131	129	132	119	106
Contribution to National Debt Sinking Fund	(*c*) 137	176	213	251	288
Net result for year	−2,330	−5,563	−3,872	−11,557	−17,368
Proportion of working expenses to revenue	% 99·1	% 101·5	% 99·0	% 105·8	% 110·7

(*a*) Including interest paid to Commonwealth under Railways Standardisation Agreement, namely, 1965, $229,796; 1966, $224,898; 1967, $220,000; 1968, $215,103; and 1969, $210,204.
(*b*) Including Loan Conversion Expenses.
(*c*) Under the provisions of the *Railways (Funds) Act* 1964, interest and debt charges on moneys borrowed on and after 1 July 1960 became chargeable against Railway Revenue with effect from 1 July 1964.

The gross revenue and working expenses per average mile of railway worked for each of the five years 1964–65 to 1968–69 are shown in the following table :

VICTORIA—RAILWAYS REVENUE AND EXPENDITURE PER AVERAGE MILE OPEN (EXCLUDING ROAD MOTOR SERVICES)

Particulars		1964–65	1965–66	1966–67	1967–68	1968–69
Average number of miles open for traffic		4,211	4,189	4,218	4,210	4,190
Gross revenue per average mile open	$	23,807	23,765	24,777	23,594	23,992
Working expenses per average mile open	$	23,590	24,112	24,519	24,961	26,543

Road motor services

The following table gives, for each of the five years 1964–65 to 1968–69, particulars of the operations of the road motor services under the control of the Railways Commissioners :

VICTORIA—ROAD MOTOR SERVICES
(Under the control of the Railways Commissioners)

Particulars		1964–65	1965–66	1966–67	1967–68	1968–69
Car mileage		329,635	314,337	283,301	241,069	258,561
Passenger journeys		1,154,104	1,060,324	1,033,774	888,834	902,967
Gross revenue	$	73,274	68,925	70,287	62,216	62,378
Working expenses	$	133,138	145,393	136,571	119,601	128,057
Capital expenditure at end of year (less depreciation written off)	$	38,156	60,859	44,990	36,374	27,758

NOTE. The apparent discrepancy between the amount of working expenses and revenue was brought about by revenue not having received a proportion of combined rail and road services earnings, while working expenses have been charged with road motor operating cost in full.

Tramway and omnibus services

Melbourne and Metropolitan Tramways Board

The Melbourne and Metropolitan Tramways Act provides for a Board consisting of chairman, deputy chairman, and a member appointed by the Governor in Council. Subject to the direction of the Minister, the Board controls, manages, operates, and maintains the tramways of the metropolitan area, and a fleet of buses plying on routes permitted by the Transport Regulation Board.

Particulars relating to the tramway systems under the control of the Melbourne and Metropolitan Tramways Board are shown for each of the years 1964–65 to 1968–69 in the following table :

VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD : TRAMWAYS

Period	Track open at end of year		Tram mileage	Passenger journeys	Operating receipts	Operating expenses	At end of year	
	Double	Single					Rolling stock	Persons employed
	miles	miles	'000	'000	$'000	$'000	number	number
1964–65	134	4	16,920	147,891	14,552	15,047	703	3,793
1965–66	134	4	16,609	140,556	14,727	15,636	693	3,786
1966–67	134	4	16,571	131,876	15,921	16,440	693	3,745
1967–68	134	3	16,480	127,575	15,628	16,604	691	3,726
1968–69	134	3	16,069	119,009	15,946	17,042	698	3,525

As the community grows and the use of private motor vehicles extends, passengers using public transport become fewer and this causes financial strain. Notwithstanding this, the Board has a policy of expansion and in 1961 acquired a privately owned network of buses in the rapidly developing suburbs of Box Hill, Nunawading, Ringwood, Mitcham, Doncaster, Bulleen, and Warrandyte, and extended some other services.

Details of the revenue and expenditure of the Melbourne and Metropolitan Tramways Board for the years 1965–66 to 1968–69 are shown in the following table :

VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD : REVENUE, EXPENDITURE, ETC.
($'000)

Particulars	1965–66	1966–67	1967–68	1968–69
REVENUE				
Traffic receipts	17,421	19,060	18,864	19,269
Miscellaneous operating receipts	177	176	176	176
Non-operating receipts	356	312	287	240
Total revenue	17,954	19,548	19,327	19,685
EXPENDITURE				
Traffic operation costs	8,430	9,096	9,325	9,595
Maintenance—				
Permanent way	924	960	903	934
Tramcars	2,315	2,457	2,480	2,550
Buses	774	765	851	921
Electrical equipment of lines and substations	501	474	526	537
Buildings and grounds	229	206	245	264
Electric traction energy	884	874	884	874
Fuel oil for buses	171	184	197	190
Bus licence and road tax fees	27	25	23	21
General administration and stores department costs	1,183	1,178	1,166	1,173
Pay-roll tax	326	346	355	367
Workers compensation payments	338	496	407	465
Depreciation	1,013	1,014	1,001	1,018
Non-operating expenses	63	65	76	96
Provisions—				
Long service leave	318	290	292	290
Retiring gratuities	587	527	543	486
Accrued sick leave	57	56	92	70
Public risk insurance	234	286	231	300
Interest on loans	1,129	1,222	1,274	1,311
Obsolescence in stores stock	7	8	..	..
Total expenditure	19,509	20,529	20,871	21,462
Net surplus (+) or deficit (−)	−1,555	−981	−1,544	−1,777
Capital outlay	1,442	1,317	938	691
Loan indebtedness at 30 June	22,396	23,397	23,840	24,224

In the following table, the operations of the motor omnibus systems of the Melbourne and Metropolitan Tramways Board are shown for each of the years 1964–65 to 1968–69 :

VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD: MOTOR OMNIBUS SYSTEMS

Period	Route miles	Bus mileage	Passenger journeys	Operating receipts	Operating expenses	At end of year	
						Rolling stock	Persons employed
		'000	'000	$'000	$'000	number	number
1964–65	123	7,267	29,812	3,199	3,797	223	842
1965–66	123	6,763	25,120	2,871	3,809	231	828
1966–67	126	6,931	25,107	3,315	4,024	223	817
1967–68	140	7,335	25,576	3,413	4,192	233	844
1968–69	139	7,099	24,271	3,499	4,324	226	791

The following tables give an analysis of operating receipts, operating expenses, etc., for each of the five years 1964–65 to 1968–69 :

VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD: TRAMWAYS: OPERATING RECEIPTS, OPERATING EXPENSES, ETC., PER MILE, ETC.

Period	Operating receipts			Operating expenses		Ratio operating expenses to operating receipts
	Amount	Per vehicle mile	Per passenger	Amount	Per vehicle mile	
	$'000	cents	cents	$'000	cents	per cent
1964–65	14,552	86·00	9·84	15,047	88·93	103·40
1965–66	14,727	88·67	10·48	15,636	94·14	106·17
1966–67	15,921	96·08	12·07	16,440	99·21	103·26
1967–68	15,628	94·83	12·25	16,604	100·75	106·25
1968–69	15,946	99·23	13·40	17,042	106·06	106·87

VICTORIA—MELBOURNE AND METROPOLITAN TRAMWAYS BOARD: MOTOR OMNIBUS SYSTEMS: OPERATING RECEIPTS, OPERATING EXPENSES, ETC., PER MILE, ETC.

Period	Operating receipts			Operating expenses		Ratio operating expenses to operating receipts
	Amount	Per vehicle mile	Per passenger	Amount	Per vehicle mile	
	$'000	cents	cents	$'000	cents	per cent
1964–65	3,199	44·02	10·73	3,797	52·25	118·69
1965–66	2,871	42·45	11·43	3,809	56·32	132·67
1966–67	3,315	47·83	13·20	4,024	58·06	121·39
1967–68	3,413	46·53	13·34	4,192	57·15	122·82
1968–69	3,499	49·29	14·42	4,324	60·91	123·58

Private motor omnibus services

The following table contains particulars of the operations of Victorian private omnibus services. In addition to details of route operations, charter, school, and other special services are included. In the year 1968–69 route operations accounted for 59 per cent of total mileage travelled, while charter, school, and other special services accounted for 12, 27, and 2 per cent, respectively.

VICTORIA—PRIVATE MOTOR OMNIBUS SERVICES

Particulars		1964–65	1965–66	1966–67	1967–68	1968–69
Number of vehicles		2,549	2,843	2,701	2,846	2,811
Mileage—Petrol vehicles	'000 miles	35,355	35,669	35,114	36,079	34,627
Diesel vehicles	'000 miles	14,196	16,461	16,713	19,995	20,308
Total mileage	'000 miles	49,551	52,130	51,826	56,074	54,935
		$'000	$'000	$'000	$'000	$'000
Revenue		17,364	18,476	19,628	21,297	22,057
Expenditure—						
Drivers' wages		5,531	6,068	6,273	6,904	7,270
Repairs and maintenance		2,182	2,268	2,431	2,646	2,734
Depreciation		1,758	1,887	1,910	2,062	2,045
Other		5,653	6,203	6,620	7,441	7,343
Total expenditure		15,124	16,426	17,234	19,053	19,392
Assets (*a*)—						
Motor vehicles		4,680	5,403	5,199	5,758	5,645
Other assets		6,136	7,081	7,444	8,120	8,609
Total assets		10,816	12,484	12,643	13,878	14,254
Liabilities (*a*)		3,896	4,417	4,534	5,650	5,762

(*a*) Incomplete. Assets and liabilities of operators engaged solely in school bus services are not available.

Tramways in provincial cities

The cities outside the metropolitan area having electric tramway systems are : Ballarat, with 13·84 miles of lines (2·33 double and 11·51 single track) and Bendigo, with 8·64 miles of lines (2·43 double and 6·21 single track). Both of these systems are operated by the State Electricity Commission of Victoria.

The traffic particulars of these lines for each of the five years 1964–65 to 1968–69 are summarised in the following table :

VICTORIA—TRAMWAYS IN PROVINCIAL CITIES

Period	Track open		Tram mileage	Passenger journeys	Traffic receipts	Operating expenses	Rolling stock	Persons employed
	Double	Single						
	miles	miles	'000	'000	$'000	$'000	number	number
1964–65	5	18	828	4,728	230	661	46	184
1965–66	5	18	830	4,333	248	720	46	187
1966–67	5	18	836	3,861	282	755	48	184
1967–68	5	18	824	3,537	265	753	48	185
1968–69	5	18	828	3,237	264	744	46	174

Further references, 1961–1963

Motor vehicles

Registration, licences, etc.

Every motor car and motor cycle must be registered with the Chief Commissioner of Police if used on Victorian roads. All trailers (except agricultural implements and certain small trailers for private use), fore-cars, and side cars drawn by or attached to motor cars or motor cycles must also be registered.

The following is a brief summary of the annual fees applicable at 1 March 1969 in respect of the principal types of registration and for the licensing of drivers and riders :

VICTORIA—REGISTRATION AND LICENCE RATES AT 1 MARCH 1969

Type of registration or licence	Annual rate
REGISTRATION—	
Motor cycle (without trailer, etc.)	$4.10
Motor cycle (with trailer, etc., attached)	$6.10
Motor car (private use)	$0.60 for each power-weight unit (*a*)
Motor car (private and business use)	$0.75 for each power-weight unit (*a*)
Trailer (attached to motor car)	From $2.50 each, according to the unladen weight and use
Motor car (commercial passenger vehicle) operating on a stage omnibus service or a temporary school service licence	$15
Motor car (used for carrying passengers or goods for hire or in the course of trade)	From $1.10 to $2.30 for each power-weight unit (*a*) according to the unladen weight and the type of tyres
Motor car (constructed for the carriage of goods owned by primary producers and used solely in connection with their business)	From $0.30 to $1.30 for each power-weight unit (*a*) according to the number of wheels and the type of tyres. (When more than one motor car is so owned, the rate shall apply to one motor car only.)
Mobile crane, self-propelled (used otherwise than for lifting and towing vehicles)	$27.10 (Unless a lower fee would otherwise have been payable.)
LICENCE—	
Driver or rider licence	$6 issued for a three year period. (An additional fee of $2 is payable by all applicants for new licences.)
Instructors' licences	$20 issued for a three year period

(*a*) The number of power-weight units is that number which is equal to the sum of the horsepower and the weight in hundredweights of a motor car unladen and ready for use.
NOTE. The minimum annual fee for the registration of any motor vehicle other than a motor cycle is $12.

The following tables show, for each of the years 1964–65 to 1968–69, the number of drivers' and riders' licences in force and the total revenue received at the Motor Registration Branch of the Police Department :

VICTORIA—DRIVERS' AND RIDERS' LICENCES IN FORCE AT 30 JUNE

Type of licence	1965	1966	1967	1968	1969
Drivers'	1,185,050	1,227,990	1,280,459	1,337,381	1,399,903
Riders'	30,385	31,487	32,832	34,292	35,894
Total	1,215,435	1,259,477	1,313,291	1,371,673	1,435,797

VICTORIA—GROSS REVENUE COLLECTED BY MOTOR REGISTRATION BRANCH
($'000)

Particulars	1964–65	1965–66	1966–67	1967–68	1968–69
Registrations and tax	29,714	41,052	43,299	47,219	54,190
Drivers' licences	1,824	2,872	2,746	2,792	3,272
Other	605	581	612	748	764
Total	32,143	44,505	46,657	50,759	58,226

The following table shows the number of motor vehicles on the register by type at the end of each of the years 1955, 1962 (census years), 1967, 1968, and 1969. Particulars of Commonwealth-owned vehicles with the exception of defence service vehicles are included. Tractor-type vehicles, plant, and trailers are excluded.

VICTORIA—MOTOR VEHICLES ON THE REGISTER ACCORDING TO TYPE

Type of vehicle	At 31 December—				
	1955	1962	1967	1968	1969
Cars (*a*)	422,543	611,496	763,585	807,028	852,365
Station wagons	5,690	69,528	159,915	173,216	184,825
Utilities	75,721	94,470	91,615	91,674	91,719
Panel vans	19,913	31,328	35,300	36,557	37,724
Trucks (*b*)	70,362	79,482	90,606	92,432	94,992
Omnibuses	2,580	3,409	4,266	4,365	4,625
Total (excluding motor cycles)	596,809	889,713	1,145,287	1,205,272	1,266,250
Motor cycles (*c*)	26,406	15,802	13,601	17,042	19,881
Grand total	623,215	905,515	1,158,888	1,222,314	1,286,131

(*a*) Includes ambulances and hearses.
(*b*) Includes trucks and truck-type vehicles, but excludes tractors, plant, and trailers.
(*c*) Includes motor scooters.

The following tables, giving new vehicle registrations by types and makes of vehicles, include details of Commonwealth-owned vehicles (other than those of the defence services). They are not strictly comparable with the preceding table.

VICTORIA—REGISTRATIONS OF NEW MOTOR CARS AND STATION WAGONS ACCORDING TO MAKE

(Includes Commonwealth-owned vehicles other than those of the defence services)

Make	Motor cars (*a*)			Station wagons		
	1967	1968	1969	1967	1968	1969
Austin	3,033	3,567	3,056	..	..	1
Chevrolet	417	287	193	3	4	1
Chrysler	7,935	8,218	9,226	2,268	2,297	2,222
Datsun	2,234	2,822	3,385	551	457	247
Fiat	328	634	993	6	22	2
Ford	17,424	16,934	18,833	3,799	3,408	3,544
Hillman	1,852	2,437	2,962	85	297	525
Holden	21,365	26,241	30,167	8,490	7,701	7,505
Honda	74	328	530	..	1	..
Isuzu	288	203	151	..	..	..
Jaguar	204	220	159	..	..	..
M.G.	319	380	405	..	..	..
Mazda	884	2,413	3,254	88	242	280
Mercedes Benz	543	641	624	1	..	..
Morris	5,939	5,720	5,215	..	1	..
Peug.	453	549	640	54	64	62
Renault	658	1,071	1,389	4	1	..
Toyota	5,348	7,027	6,882	541	532	440
Triumph	355	441	513	..	..	..
Volkswagen	3,775	2,688	1,952	334	371	498
Other	2,726	1,639	1,566	46	52	63
Total	76,154	84,460	92,095	16,270	15,450	15,390

(*a*) Includes ambulances, hearses, and cars other than sedans.

VICTORIA—REGISTRATIONS OF NEW MOTOR VEHICLES OTHER THAN MOTOR CARS, STATION WAGONS, AND MOTOR CYCLES ACCORDING TO MAKE

(Includes Commonwealth-owned vehicles other than those of the defence services)

Make	1968				1969			
	Utilities	Panel vans	Other (*a*)	Total	Utilities	Panel vans	Other (*a*)	Total
Austin	138	2	201	341	146	..	..	146
B.M.C.	..	..	..	..	129	27	300	456
Bedford	1	105	1,506	1,612	2	94	1,746	1,842
Chrysler	515	..	..	515	622	..	..	622
Commer	2	101	245	348	2	50	337	389
Datsun	268	67	189	524	292	52	372	716
Dodge	247	33	536	816	268	12	680	960
Ford	1,718	940	727	3,385	1,746	752	1,417	3,915
Holden	2,935	1,749	..	4,684	3,045	1,767	..	4,812
International	104	35	1,344	1,483	106	26	1,448	1,580
Land Rover	187	10	125	322	237	2	38	277
Mazda	26	88	80	194	43	162	54	259
Morris (*b*)	125	637	78	840	..	599	..	599
Toyota	310	165	744	1,219	368	148	776	1,292
Volkswagen	73	149	348	570	87	51	707	845
Other	30	29	543	602	38	31	693	762
Total	6,679	4,110	6,666	17,455	7,131	3,773	8,568	19,472

(*a*) Other vehicles including trucks, omnibuses, milk tankers, petrol tankers, etc.
(*b*) Since 1 January 1969, B.M.C. includes all Austin and Morris commercial vehicles except Austin 15 hp utilities and Morris 10 hp panel vans.

Transport Regulation Board

General

The *Transport Regulation Act* 1932 set up a Board of Inquiry to investigate Victoria's land transport problems. The recommendations of this Board led to the constitution of the Transport Regulation Board in 1934. The Board, consisting of a chairman, a primary producers' representative, and a representative of commercial interests outside a radius of 25 miles of the G.P.O., Melbourne, is a statutory authority responsible for the improvement and co-ordination of, and the facilities for, locomotion and transport, and, at present, derives its authority from the *Transport Regulation Act* 1958 and the *Commercial Goods Vehicles Act* 1958. The Board is also represented on the Melbourne Transportation Committee and assists in the transport information centre at the Victorian Government Tourist Bureau.

Functions

Licences

With the exception of vehicles used exclusively on interstate trade and primary producer vehicles not exceeding 2 tons load capacity, all commercial passenger and goods vehicles are subject to the control and licensing of the Board. Licences issued fall into two broad groups.

The first group which comprises the majority of licences in force, are issued on application and are classed " as of right " goods licences. These licences are issued at a fee fixed by legislation and confer rights clearly defined in that legislation. They confer restricted rights and are confined to commercial goods vehicles.

The second group, termed " discretionary " licences, are issued at the discretion of the Board. The legislation sets out fully the matters to be taken into consideration by the Board before granting or refusing passenger or discretionary goods licences. All licences for passenger vehicles fall into this category.

The following table shows the numbers of " as of right " licences for commercial goods vehicles and the number of " discretionary " licences for commercial goods and commercial passenger vehicles current at the end of each year, together with brief details of the financial activities of the Transport Regulation Board during the years 1964–65 to 1968–69:

VICTORIA—TRANSPORT REGULATION BOARD: LICENCES ISSUED: SUMMARY OF FINANCIAL OPERATIONS

Particulars	1964–65	1965–66	1966–67	1967–68	1968–69
Licences issued "as of right"—					
25 miles radius of the G.P.O. or P.O.—					
Melbourne	14,067	14,798	14,831	15,147	15,316
Ballarat, Bendigo, Geelong	1,618	1,537	1,512	1,507	1,544
25 miles radius of owner's place of business	7,018	6,714	6,821	6,909	6,970
Primary producers (vehicles over 2 tons load capacity)	17,086	17,080	17,414	17,313	17,522
Butter, milk, and cheese factories	758	708	694	546	501
50 miles radius of owner's place of business (vehicles up to 4 tons load capacity)	45,756	47,218	49,498	51,618	53,886
Third Schedule commodities	11,434	12,203	12,548	12,684	13,062
Approved decentralised secondary industries	507	679	768	799	899
"Discretionary" licences—					
Passenger	6,430	6,603	6,576	6,543	6,563
Temporary passenger	223	221	214	177	172
Goods (4 years)	10,333	10,995	11,582	12,518	13,357
Temporary goods	1,502	963	756	807	590
Goods—passenger	56	52	46	38	34
Total licences issued	116,788	119,771	123,260	126,606	130,416
Financial transactions—	$'000	$'000	$'000	$'000	$'000
Revenue	1,749	(*a*) 2,025	2,383	2,403	2,511
Expenditure (including payments to local authorities for road maintenance, comfort stations, and bus shelters)	1,475	1,636	1,860	1,990	2,172
Balance	274	389	523	413	339
Road charges collected and transferred direct to Country Roads Board	5,927	6,378	6,733	7,248	7,841
Motor boat registration fees collected and paid to Tourist Fund	163	179	193	219	233
Log book fees (*b*)	(*b*)	(*b*)	5	21	11

(*a*) Includes amount recouped from Country Roads Board for road charges collected.
(*b*) As from 15 May 1967 all collections paid to Country Roads Board.

Permits

Permits are issued at the discretion of the Board to authorise temporarily the operation of a vehicle in a manner not specified in the licence. For the year ended 30 June 1969 the number of goods permits and passenger permits issued were 153,707 and 8,765, respectively.

Drivers certificates

Commercial passenger vehicles. Every driver of a commercial passenger vehicle must possess a driver's certificate issued by the Board. This certificate is a separate authority additional to the motor car driver's licence issued by the Police. In October 1968 the Board agreed to receive applications from female drivers for commercial passenger vehicle certificates and by the end of 1968 had certificated 112 women to drive metropolitan taxis. At 30 June 1969 the 13,894 certificates on issue to drivers of commercial passenger vehicles consisted of the following types : buses 4,721 ; taxis 8,904 ; goods/passenger 233 ; temporary 36.

Tow trucks. Every driver of a tow truck must possess a driver's certificate issued by the Board before he can legally drive such a vehicle. At 30 December 1969 there were 2,134 certificates on issue.

Passenger fares

The Board approved new fares for metropolitan and suburban taxis and metropolitan hire-cars as from 13 December 1970. The new fares are 25c flag fall, 22c per mile, and $3 per hour for detention. An increase in fares of omnibus services became necessary in November 1970 to provide operators with adequate revenue. Private bus fares still compare favourably with those charged on rail and tram services. It is estimated that 22 per cent of all passenger journeys within the metropolitan area—by rail, tram, and bus—are on private bus routes licensed by the Board.

Public hearings

Public hearings are designed to give all parties concerned with matters affecting the issue of discretionary licences, or of a generally contentious nature, an opportunity to present their views to the Board. During the year ended 30 June 1969 the Board heard thirty-seven applications for discretionary goods licences at public hearings.

The major hearings were concerned with applications for goods services between Melbourne and Heathcote and between Melbourne and Mallacoota.

Another matter considered by the Board arose from objections by the Railways Commissioners to the automatic issue of road permits for asbestos cement pipes moving from Melbourne to country water and sewerage authorities. After examination, the Board concluded that from 1 July 1969 road permits would not be granted automatically for transport of these pipes.

In relation to commercial passenger vehicles, a total of fifty-five applications for new licences, variations of existing licences or transfers of licences were dealt with at public hearings during the year.

In addition, the Board held public inquiries in Ballarat and Bendigo to examine the public passenger transport facilities and whether the existing tram service can be adequately replaced by buses. The Board's conclusion was that only bus services can provide the flexibility which is needed in areas of low or comparatively low population density. It recommended that both electric tramway systems be discontinued as soon as alternative motor omnibus services can be provided.

Enforcement

The Board's inspectorate is primarily concerned with the enforcement of the provisions of the *Transport Regulation Act* 1958, the *Commercial*

Goods Vehicles Act 1958, and the Transport Consolidated Regulations made pursuant to these Acts. In addition, Board officers are empowered to enforce the *Motor Car Act* 1958 and Regulations, and the *Road Traffic Act* 1958 and Regulations, as they relate to commercial road transport. The Board is also responsible for the safe operation and vehicle standards of licensed commercial passenger vehicles. During the year over 7,000 vehicles were inspected.

Road maintenance charges

Owners of commercial goods vehicles with a load capacity exceeding four tons are required to pay a ton-mile charge as compensation for wear and tear caused to Victorian roads. Journeys made solely in connection with the carriage of certain primary produce and livestock do not attract this charge. Vehicles operating on interstate trade are not exempt.

Motor boats

The Board registers privately used motor boats not exceeding 65 ft in length. The Victoria Police, assisted by other government authorities, are responsible for the enforcement of regulations governing the operation of boats and use of equipment. At 30 June 1969 the number of motor boats on the register was 42,169.

Traffic Commission

Under the *Road Traffic Act* 1958 the function of the Commission is to advise the Government about regulations generally and for the improvement of traffic conditions and traffic control. The Commission is empowered to make any inquiries thought fit in exercising these functions and, where necessary, may co-opt persons of special skills to assist in these inquiries. Under the Road Traffic Act, the establishment, renovation, alteration or improvement of any particular sign, mark or device, or the removal of any parking area, obstruction or erection in or on any street or road are subject to control. Advice for action under this Act is furnished by the Commission.

The Road Traffic Regulations 1962 provide that no person may erect or establish a major traffic control device without the consent of the Commission. In addition, the Commission is authorised to consent to the establishment of minor traffic control devices. These wide statutory responsibilities enable the Commission to establish standards and practices for the guidance of highway authorities.

Surveys conducted by the Commission have shown the need for traffic engineering measures to improve the flow of peak-hour traffic, particularly in the metropolitan area. Clearways have been established and in four localities with pronounced peak hour flows, municipalities, with the encouragement of the Commission, have introduced off-centre operation using overhead signals. At four additional places the use of cones enables traffic moving in the direction of peak flow to use three lanes of the four lane roadway.

The Commission is the repository of the State road accident records collected by the Victoria Police. It, therefore, maintains close liaison with the Department in the collection and application of accident statistics and in the operation of traffic control devices. The principal traffic control

items in use in Victoria at 30 November 1968 were : 422 stop-go traffic signals at intersections ; 288 pedestrian operated stop-go signals not controlling an intersection ; 291 pedestrian crossings ; and 1,304 school crossings.

Speed limits

Speed limits in Victoria are based on two basic concepts : the regulatory speed limit of 35 mph in built-up areas, and the regulatory speed limit of 50 mph outside a built-up area, unless it is demonstrably safe to travel at a higher speed. This speed limit is known as a 50 mph *prima facie* speed limit, because it is prima facie evidence of a breach of Regulations if a driver travels at a higher speed unless he can prove that it is safe.

The effect of a correct speed limit is to reduce the range of speeds within which drivers travel ; it slows down the very fast drivers and speeds up the very slow drivers. This has a safety effect. However, a speed limit can only be effective if it accords with the judgment of the drivers who are travelling at speeds which they consider are safe within the limits of the road conditions and their own driving skill.

It is usual to assess a realistic speed limit by examining the development alongside a particular road. Experience shows that the appropriate speed can be assessed from the development pattern, as schools, houses, factories and environmental conditions are the cues which a driver uses to determine at which speed he should travel. The expectancy of the risk of dogs, people, bicycles, motor traffic, intersections and other hazards of the road is increased with the density of roadside development. The driver thereupon slows down and adopts a matching speed.

These considerations influence the selection of the beginning and end of speed zones posted by signs, within which the speed limit is established.

Speed zoning of a selected rural highway in accordance with the environmental conditions where 50 mph would be too slow is being considered. This would be an experiment to determine what effect realistic rural speed zoning would have on accident experience. Eighty-five per cent of drivers on rural highways travel at or below speeds which fall between 65 and 70 mph and the effect of posted speed limits on drivers travelling at these speeds will be measured and any safety benefits evaluated.

In recreational areas, subject to heavy pedestrian movement from camps, etc., but without significant permanent roadside development, seasonal (summer) speed limits have been posted in order that drivers should be guided to travel at a speed which is perhaps lower than that which their normal expectancy of hazard would lead them to select. It is the expectancy of hazard which determines the speed which a driver selects, and a speed limit is a means of advising the driver that there are hazards which are beyond his normal expectancy and therefore would not be included in his subjective assessment of the speed at which he should travel.

Lower Yarra Crossing Authority

West Gate Bridge

A new road bridge over the Yarra River near the mouth of the river has been under construction since April 1968 on Route 9 as designed in 1954 by the Melbourne and Metropolitan Board of Works Town Planning Committee. The bridge was to have been completed in 1971 but a major accident on 15

October 1970 in which thirty-three men died will delay completion. A Royal Commission was appointed to investigate the accident.

In 1957 the Western Industries Association was formed and in 1965 established the Lower Yarra Crossing Authority. The main function of this Authority has been to construct a bridge over the river which would improve transport to and from the western metropolitan districts and thus relieve heavy industrial traffic from the arduous journey through the busy Footscray area. In December 1965 the State Government passed legislation, known as the *Lower Yarra Crossing Authority Act* 1965, granting the Lower Yarra Crossing Authority a 40 year franchise to construct and operate a high level toll bridge over the Yarra on the alignment of Route 9. The franchise length, from Graham Street Port Melbourne on the east to Williamstown Road Spotswood on the west, is approximately 3½ miles.

The Country Roads Board provides liaison between the Authority and the State Government and will construct the approach roads from the City to Graham Street Port Melbourne and from Williamstown Road to Princes Highway (Geelong Road)—a distance of more than 4 miles. The total length of major roadwork including the bridge and the Country Roads Board freeway is approximately 7½ miles. On 1 February 1967 the Victorian Government approved the plans and specifications of the Lower Yarra Crossing. The Victorian Government has also guaranteed the finances of the Lower Yarra Crossing Authority.

The West Gate Bridge will be the biggest road bridge in Australia. Traffic, travelling south-west, after passing through the toll plaza at Port Melbourne, will have a clear run to Geelong. The delay in paying the toll will be about six seconds. All traffic interchanges will be of a continuous type, which will provide a safe and speedy limited access throughway. Development of industrial and residential facilities on the western side of the Yarra will be accelerated, and eight traffic lanes will be provided for the anticipated increase in traffic.

Some of the principal dimensions are as follows :

Total length—8,500 ft.

Maximum width of bridge—122 ft 6 inches.

Traffic lanes—eight traffic lanes, the carriageway in each direction will have two 11 ft and two 11 ft 6 inches lanes and an 8 ft 2 inches break-down lane. This provides for a later increase to ten traffic lanes without structural alterations.

The predicted commercial vehicle content will be a maximum capacity of 15,500 vehicles per hour.

The navigation clearance at low water is 176 ft as required by the Melbourne Harbor Trust, thus providing for 170 ft clearance above an abnormally high tide.

All foundations have a rock base. On the Port Melbourne side it was necessary to support the piers on cylindrical piles 5 ft in diameter, the depth of which averaged 170 ft with a maximum depth of 205 ft. Most piers on the Williamstown side are based on spread concrete foundations as the rock is close to the surface. The estimated cost of the complete undertaking was $42m. Further information on bridges is set out on pages 592 to 594.

Further reference, 1970

Road traffic accidents

The following tables include particulars of all road traffic accidents reported by the Victoria Police during the periods specified, which satisfied the following conditions :

1. that the accident occured on any road, street, lane, throughfare, footpath, or place open to or used by the public by right or custom, at the time of the accident ;
2. that it involved :
   (i) any road vehicle which, at the time of the accident, was in motion ; or
   (ii) any animal which, at the time of the accident, was in motion and was being used for the purpose of transportation or travel ; or
   (iii) any train passing over a level crossing for the time being open to the public ; and
3. that the accident resulted in :
   (i) death of any person within a period of thirty days after the accident ; or
   (ii) bodily injury to any person to an extent requiring surgical or medical treatment.

The tables do not include figures of accidents on railway lines (except at level crossings), or on private property. For these and other reasons, the total number of deaths shown in these tables is not comparable with those shown on page 161.

VICTORIA—ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES : NUMBER OF PERSONS KILLED OR INJURED

Period	Number of accidents	Persons killed	Persons injured	Per 100,000 of mean population		
				Number of accidents	Persons killed	Persons injured
1954–55	10,217	528	12,833	405	21	509
1955–56	10,606	582	13,483	414	23	525
1956–57	10,804	589	14,120	409	22	535
1957–58	11,233	571	15,015	418	21	559
1958–59	12,462	661	16,784	449	24	605
1959–60	12,267	698	16,595	430	24	582
1960–61	12,140	773	16,757	420	27	579
1961–62	11,639	818	16,074	393	28	543
1962–63	12,330	803	17,149	408	27	568
1963–64	13,067	838	18,401	423	27	595
1964–65	14,432	907	20,482	455	29	646
1965–66	14,110	933	20,277	442	29	636
1966–67	14,077	963	19,994	433	30	616
1967–68	15,113	868	21,932	458	26	664
1968–69	15,622	964	22,498	466	29	670

The table which follows provides a description of types of road users killed or injured in road traffic accidents occurring during the years 1966–67 to 1968–69 :

VICTORIA—ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES: DESCRIPTION OF PERSONS KILLED OR INJURED

Description	1966–67		1967–68		1968–69	
	Killed	Injured	Killed	Injured	Killed	Injured
Drivers of motor vehicles	343	7,858	317	8,787	391	9,109
Motor cyclists	12	381	15	501	29	642
Passengers (any type)	300	8,201	261	9,004	289	8,997
Pedestrians	265	2,570	229	2,612	215	2,716
Pedal cyclists	37	939	39	979	36	991
Other	6	45	7	49	4	43
Total	963	19,994	868	21,932	964	22,498

Particulars of victims of road traffic accidents during the years 1966–67 to 1968–69 are shown according to age in the following table :

VICTORIA—ROAD TRAFFIC ACCIDENTS INVOLVING CASUALTIES: AGE OF PERSONS KILLED OR INJURED

Age group (years)	1966–67		1967–68		1968–69	
	Killed	Injured	Killed	Injured	Killed	Injured
Under 5	43	709	31	733	29	774
5 and under 7	11	412	15	431	15	462
7 and under 17	74	2,283	57	2,525	76	2,513
17 and under 21	150	4,163	147	4,698	163	4,734
21 and under 30	191	4,301	181	4,989	211	5,314
30 and under 40	115	2,411	85	2,589	102	2,627
40 and under 50	104	2,130	86	2,338	97	2,380
50 and under 60	90	1,636	90	1,655	109	1,710
60 and over	183	1,532	176	1,608	159	1,627
Not stated	2	417	..	366	3	357
Total	963	19,994	868	21,932	964	22,498

Australian Road Safety Council, 1966; Melbourne Transportation Committee, 1968

Civil aviation

Control of aviation

The Victorian *Air Navigation Act* 1958 prescribes that control of aviation within the State shall be vested in the Commonwealth. The Air Navigation Act and Regulations in Victoria are consequently administered by the Department of Civil Aviation through its Regional Director in Melbourne.

The functions performed by the Department include the following :

1. the registration and marking of aircraft ;
2. the determination and enforcement of airworthiness requirements for aircraft and the issue of certificates of airworthiness, certificates of type approval, and supervision of aircraft design ;
3. the licensing of pilots, navigators, aircraft radio operators, flight engineers, and aircraft maintenance engineers ;
4. the licensing of airline, aerial work, and charter operators, and supervision of their activities ;
5. the provision and maintenance of aeronautical communications, navigational aids, aerodromes, and landing grounds ;

6. the establishment and operation of air traffic control, aeronautical information, and search and rescue services ; and
7. the investigation of aircraft accidents, incidents, and defects.

Aerodromes

Victoria is served by ten Commonwealth Government owned aerodromes at Tullamarine (international), Essendon, Moorabbin, Avalon, Bacchus Marsh, Benalla, Echuca, Mallacoota, Mangalore, and Sale and by twenty-two licensed aerodromes at Ararat, Ballarat, Bairnsdale, Corryong, Grovedale, Hamilton, Horsham, Kerang, Latrobe Valley, Mildura, Nhill, Shepparton, Swan Hill, Warracknabeal, Warrnambool, Yarram, Portland, Birchip, Orbost, Stawell, St Arnaud, and Wycheproof.

Domestic operations at Melbourne Airport (Tullamarine) are still under consideration and no definite date has been set for their commencement. The licences of all the licensed aerodromes except Grovedale are held by the local government authority. Under the Aerodrome Local Ownership Plan assistance is given to local authorities to maintain licensed aerodromes on a $1 for $1 basis. Similar assistance is given the local authority to develop and maintain aerodromes which are or will be served by a regular public transport service. Local authorities which have received developmental assistance include Bairnsdale, Corryong, Horsham, Mildura, Nhill, Portland, Shepparton, Warracknabeal, and Warrnambool. The assistance authorised by the Commonwealth to Victorian local authorities for aerodrome works in the year ending 30 June 1970 was $27,000 for development and $80,000 for maintenance works.

In addition to these main aerodromes, there are hundreds of authorised landing grounds which serve the needs of the increasing number of light aircraft users throughout the State.

Private operations

In this category, aircraft are used for the personal purposes of the owner. The extent of this activity within the State may be gauged from the fact that there are 270 aircraft registered in the private category and approximately 2,580 licensed private aeroplane pilots in Victoria.

Aerial work operations

Aerial survey, spotting, agricultural operations, advertising, flying training, aerial ambulance operations, and flying for government purposes are examples of the operations included in this category. In terms of hours flown, the most significant operations are agricultural (see page 304) and flying training. In 1969 over 65,000 training hours were flown by training organisations in Victoria. In the interests of encouraging flying for defence and commercial purposes, training organisations receive financial assistance from the Commonwealth. They receive direct assistance in the form of subsidy payments and provision of facilities and indirect assistance through the Australian Flying Scholarship Scheme under which, in 1969–70, twenty-four Victorian resident pilots commenced flying training.

Charter operations

These consist of flights for the carriage of passengers or cargo for hire or reward, but which may not be notified to the general public as being

operated between fixed terminals or to fixed schedules, or for the carriage of passengers or cargo between fixed terminals to fixed schedules in circumstances in which the accommodation in the aircraft is not available to members of the public. During the 1950s most charter operations were conducted in single engine aircraft, but there is now an increasing use of the modern small twin engine "executive" aircraft. There are 120 Victorian based operators licensed to conduct charter operations and flying hours have increased, over a ten year period, from 1,825 in 1959 to over 34,000 in 1969.

Commuter services

Since the Second World War country or feeder air services within Victoria were commenced on different occasions but ceased when they proved uneconomic. In 1966 the Commonwealth Government decided a new attempt should be made to provide this type of air service between the capital and numerous country centres. As it was felt charter operators would be prevented by the Air Navigation Regulations from operating to a fixed schedule, it was decided to grant certain exemptions under the Regulations. A charter operator who met appropriate additional requirements and standards would be permitted to operate air services between centres to a fixed schedule and on a regular basis.

By October 1967 exemptions under the regulations had been granted to three operators. Using single and light twin engined aircraft capable of carrying six to thirteen passengers, these operators were approved to operate services to Stawell, Ararat, Ballarat, Kerang, Swan Hill, Echuca, Shepparton, Latrobe Valley, West Sale, and Bairnsdale, and to the interstate centres of Albury and Merimbula. Some of these services commenced in November 1967 and others followed with varying degrees of success and continuity. At May 1970 commuter services of the type in question were operating between the following centres on a regular basis : Essendon–Warracknabeal–Horsham, Essendon–Bairnsdale–Merimbula, Essendon–Sale, Essendon–Echuca–Swan Hill, and Albury–Mangalore–Essendon.

Melbourne (Tullamarine) Airport

Tullamarine was the site chosen for the development of Melbourne Airport when Essendon could not be further enlarged. The now completed aerodrome is 12½ miles from the G.P.O., and is accessible by a new freeway. The north-south and east-west runways of 8,500 and 7,500 ft, respectively, are capable of further extension and an elaborate system of turn offs permit runways to be vacated at 60 mph. Aircraft such as the Boeing 747 (Jumbo Jet) and supersonic aircraft up to 800,000 lb landing weight will be accommodated. Terminal apron accommodation can handle twenty large aircraft now and planned development is for seventy-six aircraft simultaneously.

The Terminal Building is a three storey structure with provision for international and domestic passengers, airline and departmental offices, restaurants, cocktail lounges, reception rooms and pilot briefings, and visitor observation areas. The construction is of precast-concrete floor slabs, beams and columns with external finish in brickwork and extensive glazing.

Instrument landing systems are provided for approaches from the north and east enabling an aircraft to land with a cloud base of 200 ft, and visibility of half a mile. Other navigation aids are long range and approach radars, distance measuring equipment, radio locator beacons and visual approach lights. The control tower cabin is 150 ft above ground level and enables complete visual observation of the airport and its surroundings. International air services commenced from the airport in July 1970 with domestic services due to follow by May 1971.

Passenger movements, which represent the total of embarkations and disembarkations, for 1969 for each Victorian aerodrome served by a regular service were as follows:

VICTORIA—PASSENGER MOVEMENTS, 1969

Airport	Passenger movements	Airport	Passenger movements
Essendon	2,431,200	Mildura	13,460
Portland	5,730	Warrnambool	6,590

Gliding clubs

Gliding is carried out mainly by clubs which operate at Bacchus Marsh, Benalla, Colac, Horsham, and Mildura. A Commonwealth subsidy is granted to clubs through the Gliding Federation of Australia.

Air traffic control

Control of air traffic is maintained by the Department of Civil Aviation through its Air Traffic Control Organisation. This embraces the closely co-ordinated sections of operational control which concerns each individual flight; airport control which applies to all movements on or within 20 miles of an aerodrome; and area control which controls aircraft along the main air routes to ensure collision avoidance. In conjunction with air traffic control, the Department maintains a wide range of air navagation aids and a comprehensive search and rescue organisation. This is described in detail on pages 773–775 of the *Victorian Year Book* 1965.

Aircraft parts and materials

There are about 142 organisations in Victoria which have been approved by the Department of Civil Aviation to distribute aircraft parts, materials, and fuel.

Radar developments in the Melbourne area

In the days before the general use of radar, departing aircraft were processed on mathematically calculated time standards, an aircraft being required to depart at a specific time after preceding traffic. Following aircraft were delayed until they had the required separation in time with previously departed aircraft.

Radar has given Air Traffic Control a new concept: aircraft can be observed safely clear of one another or can be directed safely around or past one another. By being able to monitor the disposition of air traffic, it is possible to ensure the safe orderly and expeditious flow of arriving and departing aircraft. A good example of the use of radar is found in the departure of a faster aircraft along the same route as a slower one. If the slower aircraft is several miles on its way, the faster one can be monitored on the same track provided it becomes vertically separated above the first

aircraft before the minimum distance of five miles between aircraft is reached. If this is not possible the faster aircraft is vectored five miles off track to pass the slower one in safety.

Radar was used with success during the Second World War to give early warning of air attack and to guide defending aircraft in their counter attacks. At the end of 1946 as a result of wartime commitments, Essendon was equipped with a radar facility (ex R.A.A.F.) for monitoring aircraft movements. Its performance was limited and it was soon replaced by better equipment with a remote indication system. This continued in use until 1957, when a "Cossor" approach control radar was installed to assist air traffic control in the Melbourne area.

This, in turn, was superseded in 1966 with the introduction of a modern sophisticated surveillance radar, which is located physically in a specially constructed building at Melbourne (Tullamarine) Airport, and was commissioned for full operation in 1967 at a cost of $500,000. It is capable of handling traffic to a range of 160 miles.

The base installation, or "Radar Head", is located on a small hill overlooking the runway area. The antenna is mounted on a heavy latticed steel tower 70 ft high and rotates at 5 r.p.m. The radar radiates a peak power of 4 megawatts. Incoming information is relayed by co-axial cable some 2 miles to the operations building where it is reproduced on a series of 25 inch diameter T.V. type screens known as a Bright Display system. It is also relayed to the Essendon and Melbourne Airport Control Towers. The pattern of aircraft movements thus presented enables Air Traffic Control staff to keep constant watch on the position of all aircraft within the range of the radar.

It was always necessary in the early days of radar for the operator to watch the glowing screen in a darkened environment. Here the "sweep" or time base rotated around the screen like a single glowing spoke, leaving a "paint" or "blip" indicating the aircraft's position in its wake. It took some will-power for the radar operator not to be mesmerised into following the rotating sweep with his eyes and head. The new radar employs a device, known as a scan converter, which translates the rotating swept scan into a television type picture which can be viewed in almost any light conditions except direct sunlight. The screen remains circular in deference to the circular radar scan, and the blips still show as blips, but daylight viewing and a line map superimposed on the radar picture have made the life of the radar controller much easier.

In the Area Approach Control Centre, each sector has its own display with a designed range of 160 miles. The Arrivals Controller, who controls arriving aircraft on all routes from 80 miles into 30 miles, sees only a 0–90 mile range from the centre of display, and the Approach and Departures Controllers, who control all aircraft within 30 miles, see only 0–40 miles. These reduced ranges are electronically enlarged to take full advantage of the scan displays and this, in turn, gives better definition closer-in where traffic density is likely to be greatest.

Because of the separate positions of the controllers and the differences in viewing range, it is necessary for the position of an aircraft which is to be transferred from one controller to another to be indicated to the

accepting controller. This is done by an electronic symbol which can be positioned adjacent to an aircraft's blip and, by pressing a button, transferred to appear next to the corresponding blip on the screen of the accepting controller. Thus an arriving aircraft can be pointed out to the Arrivals Controller by the En Route Controller when the aircraft reaches the 90 mile range, and the Arrivals Controller can point out the same aircraft to the Approach Controller when the aircraft reaches the 40 mile range. The Approach Controller can provide the same service to the control towers on their 40 mile screens. The identification of a particular aircraft is thus passed around the room, and from the control centre to the control towers, positively and without the need for personal contact. With this new device, Melbourne Air Traffic Control has become appreciably more efficient. The Centre is now capable of handling a greater density of faster traffic with increased smoothness and facility for the industry.

Another radar facility provided at the Melbourne Approach Control Centre is a storm warning device, the full title of the service being " Joint Approach Control Meteorological Advisory Service " (JACMAS). The basic equipment for this service is located in the University of Melbourne. Information from the radar is relayed through a meteorological office in the city to be displayed on a series of small T.V. type screens mounted physically adjacent to the large bright-display screens. These enable each controller to assess weather conditions as he follows aircraft movements.

With increased traffic, the need has developed for a specialised approach control radar providing a more rapid rate of information renewal on aircraft in the critical approach area (i.e., within 40 miles of Melbourne). This additional equipment was expected to be in operation by the middle of 1971.

To complete the radar coverage of the main air routes in eastern Australia, additional radar equipment known as " digital remoting equipment " will be progressively installed at sites remote from the Operational Centres. This information will be relayed to the Operations Centres over a radio link giving a chain of information on all aircraft movements.

Civil aviation statistics

The following table shows particulars for 1969 of regular interstate and intrastate air services terminating in Victoria :

VICTORIA—REGULAR INTERSTATE AND INTRASTATE AIR SERVICES TERMINATING IN VICTORIA, 1969

Particulars		Interstate	Intrastate	Total
Miles flown	'000	23,545	126	23,671
Paying passengers	'000	2,602	12	2,614
Passenger miles	'000	1,117,715	1,938	1,119,653
Freight—				
Short tons		53,602	38	53,640
Ton miles	'000	23,610	6	23,616
Mail—				
Short tons		4,745	15	4,760
Ton miles	'000	2,201	2	2,203

The first of the following tables deals with aircraft registered and licences issued by the Department of Civil Aviation in Victoria, and the second with details of Essendon Airport activities:

VICTORIA—CIVIL AVIATION

Particulars	1965	1966	1967	1968	1969
Registered aircraft owners	236	332	370	391	362
Registered aircraft	510	630	742	754	785
Student pilot licences	1,726	2,574	2,672	2,548	2,559
Private pilot licences	1,271	1,927	2,253	2,510	2,844
Commercial pilot licences	259	481	515	613	597
Airline pilot licences	510	501	533	535	824
Aircraft maintenance engineers licences	728	757	864	873	900

VICTORIA—ESSENDON AIRPORT

Particulars	1966	1967	1968	1969
Domestic aircraft movements	48,243	49,939	50,066	54,192
Domestic passengers embarked	890,043	976,779	1,075,898	1,201,469
Domestic passengers disembarked	898,493	984,911	1,069,415	1,229,748
International aircraft movements	1,120	1,036	1,018	1,021
Passengers arriving/departing overseas	42,784	48,445	49,277	56,064

History of Civil Aviation, 1962; Classification of Flying Activities, 1964; Radio Aids to Air Navigation in Victoria, 1965; Aerial Agricultural Operations, 1966; Flying Training in Victoria, 1967; Regular Public Transport, 1968; Commuter Services, 1969

COMMUNICATIONS

Postmaster-General's Department

In 1837 Mr E. J. Foster, Clerk to the Bench at the Port Phillip Settlement, was officially permitted to act as Postmaster in addition to performing his normal duties. In the intervening years, the Postmaster-General's Department in Victoria has progressed from a staff of one, and a crude bark hut, to a large administration employing a staff of approximately 28,000 persons located throughout the State.

The complexity of modern communications requires specialisation in activities, and, to meet these requirements, the Victorian Administration is divided into six major sectors; Postal Services Division, Engineering Division, Telecommunications Division, Personnel Branch, Supply Branch, and Finance and Accounting Branch. Each of these sectors is further divided for efficient functioning.

At 30 June 1969 there were 330 official and 1,567 non-official post offices, 672 country automatic telephone exchanges, 576 country manual exchanges, and 104 metropolitan automatic exchanges. These offices and installations ensure that departmental services are within the reach of all but the most isolated homes.

To maintain the operating staff at desirable levels, large numbers of trainees are recruited each year. In 1969, 488 technicians-in-training began their five year course at either of the Departmental training schools in Tooronga (Melbourne) or Wendouree (Ballarat). Their course of training includes theory and laboratory studies in electronics including radio, television, telegraph transmission, and telephony. Trainees showing certain aptitudes during training may be trained further in specialised activities.

One hundred and eighty-nine linemen-in-training commenced a one year course in 1969 at one of the training schools in Doncaster (Mel-

bourne), Bendigo, or Wendouree. The subjects in their course include practical mathematics, science, applied electricity, magnetism, wood and metal work, aerial construction, conduits, cables, and skill with tools. In the same year, an eight months training course was provided for 145 postal clerks-in-training at the Postal Training School in Melbourne. About half of the training period was spent under actual working conditions at various post offices.

As well as postal, telephone, and telegraphic services, the Postmaster-General's Department also provides transmitting and other technical facilities for the national broadcasting and television services. The general supervision of broadcasting stations and television stations, however, is vested in the Australian Broadcasting Control Board under the *Broadcasting and Television Act* 1942–1956, while, under the same Act, the Australian Broadcasting Commission controls the activities of the National Broadcasting Service and National Television Service.

Major activities

The following information relates mainly to branches and divisions of the Australian Post Office that are associated with services directly available to the public.

Post Offices Branch

During the financial year 1968–69 new official post office buildings were opened at Healesville, Benalla, Portland, and Noble Park. Modern and attractive in appearance, yet strictly functional and planned to meet future needs, they provide facilities for the latest mail handling techniques as well as providing greatly improved amenities for staff.

Mail transported in containers

The use of standard-size containers to transport a variety of bulk materials has proved to be speedy and economical. The system was first used to dispatch surface mail from Australia on 11 April 1969, when two containers of 325 mail bags were placed aboard the new container vessel *Encounter Bay* at Melbourne for shipment to Britain.

Changed frequency of mail deliveries

Mail delivery frequency was changed in Victoria on 10 February 1969, when the Melbourne City deliveries were reduced to twice daily, and all other areas to once daily. In the same period changes were made in the dispatch procedures at the Mail Exchange and from 30 March 1969 a midnight dispatch was introduced to ensure that the 117 suburban letter delivery post offices received mail for delivery beginning early in the morning. Before this date, only 46 offices were receiving mail from the midnight dispatch.

Transport Branch

The Transport Branch of the Postal Services Division has a fleet of 519 vehicles and a staff of 405 persons. This figure includes 329 motor drivers who are employed largely on rostered shifts and who transport mails and clear public telephone coin boxes and street letter boxes throughout the metropolitan area. The Branch also provides a pool of sedan cars for authorised departmental staff, and undertakes the movement of bulk equip-

ment, stores, cables, and poles by truck to specified locations.

In some areas, mails are conveyed by private contractors. There are 1,164 of these services in Victoria which operate over a total of 13,054,165 miles, at a cost of $1·6m per annum. Most of the mail routes operated under private contract serve the more sparsely populated areas of the State.

The vehicles allotted to the Transport Branch form only a part of the total fleet of 3,772 vehicles belonging to the Department in Victoria. This total includes the 3,253 vehicles which are allotted to the Engineering Division, and are stationed at various depots throughout the State. Many have been designed for specific duties, such as the conveyance of large drums of cable, lengthy telephone poles, or for use as mobile cranes. Others are fitted out as mobile workshops.

In addition to these vehicles, the Engineering Division also employs 476 major mechanical aids, the majority of which are used for earth-moving activities. Another 1,190 small mobile units are used for various special purposes.

Telecommunications services

These services are the joint responsibility of the Engineering Division and the Telecommunications Division. The Engineering Division provides and maintains the technical facilities for telephone and telegraph services and for the national radio and television networks. It allots frequencies, monitors transmissions, and issues licences for privately operated radio services. The Telecommunications Division makes telephone and telegraph facilities available to the public, orders new services, provides customer advice, issues telephone directories, and deals with other telecommunications administrative matters.

Automatic telephone service

Steady progress is being maintained towards providing a totally automatic telephone network throughout the State. During 1968–69 several new automatic telephone exchanges were brought into service, the largest ones being at Camperdown, Ferntree Gully, Kyneton, Maryborough, Myrtleford, and Terang.

Lonsdale Automatic Telephone Exchange

The new Lonsdale Exchange Building, for which the contract was let in August 1965, was completed in mid-1969. Work on the installation of exchange equipment has commenced but this is a long-range project estimated to take some years to complete. The old Central Telephone Exchange Building, which was completed in December 1909 at a cost of $40,000 was demolished early in 1965. This building originally had only two floors, but a third floor was added at a later date. The new building has seventeen floors, and rises 232 ft above ground level. It has cost approximately $6·8m. Each floor provides approximately 14,000 sq ft making a total of some 240,000 sq ft.

One of the greatest difficulties to overcome in any automatic exchange is the presence of dust, which works its way between switch contacts and causes noisy or intermittent circuits. To reduce this trouble to a minimum, the new building has few windows. Ventilation is supplied by an air-conditioning plant located on each of the seventeen floors. The building has

elaborate fire prevention facilities, five passenger lifts, and one goods lift.

Telephone directory covers

During recent years, the covers of the Department's metropolitan and country telephone directories have featured an attractive colour photograph of a landscape or other local item of interest to subscribers in the area served by that directory.

In 1968–69, however, the Department introduced a new feature to its country directory covers. Each directory was illustrated with a colour photograph of a bird commonly seen in that area. Birds selected for the series were the Red-browed Finch, the Elegant Parrot, Marsh Tern, Regent Parrot, Rufous Fantail, Yellow-tufted Honey Eater, and the Rainbow Bird.

Recorded information services

One new recorded information service—the "Thredbo News"—was introduced during 1968–69. This service came into use on 1 June 1969 to provide topical information for the ski enthusiast. In October 1968 the "T.A.B. Racing Service" registered the record number of 530,841 calls, 22,544 more than the previous highest total.

Additional telephone channels to Japan

During the year four additional telephone channels were provided between Australia and Japan by means of the INTELSAT III satellite, This brings to eight the total number of telephone circuits available to Japan—four via the SEACOM cable, in addition to the new circuits via the satellite.

Subscriber Trunk Dialling (S.T.D.)

S.T.D. facilities which enable a telephone subscriber to dial direct to distant subscribers, without the assistance of a P.M.G. operator, have continued to expand rapidly. During the year ended 30 June 1969, 220 exchanges in Victoria provided 585,426 services with access to S.T.D. Some additional centres to which S.T.D. became available during this time include Horsham, Camperdown, Dandenong, Frankston, Berwick, and Terang.

Automatic Telex

Automatic Telex is basically similar to S.T.D., but the type-written message from the teleprinter is communicated instead of the spoken word. During the year ended 30 June 1969 an additional 257 Telex services were connected, bringing the total services in operation to 1,388. Victorian Telex subscribers now have access to more than 5,067 services in Australia, and to some 100 countries overseas.

"Datel" service

There is now an increasing demand for facilities to transmit digital data for computers over telephone and telegraph lines. Known originally as "Data Transmission", the service has recently been re-named "Datel". Questions sent by teleprinter to the computer have to be converted to signals that can be "understood" by the computer. Likewise, answers have to be converted to a form that can be transmitted over the lines provided by the Department. This conversion is performed by a modulator/demodulator unit, known as a "Modem". Before 31 December 1968 customers

provided their own Modem units, and these varied considerably in their technical standards. From 1 January 1969 the Department has provided a range of standard Modems, manufactured to the latest international standards. The data can be sent over the telephone network ; over private telephone or telegraph lines providing point to point circuits for the customer's exclusive use ; or by means of the Telex network. All lines except those used in the Telex network are suitable for high transmission speeds.

At 30 June 1969, twenty-seven customers were using Datel services via the telephone network, and fourteen were using private lines.

Television translators

A television translator is basically a relay or booster station, designed to improve television reception in areas where reception is normally poor. The translator receives programmes from a parent T.V. station, and re-broadcasts them on a new wave-length, and under a new call-sign. Two new television translators were brought into operation in Victoria during 1968–69, one at Orbost, and the other at Eildon. The Orbost Translator, which relays the National television station ABLV4, began service operations during April 1969. It has a power of 50 watts, and serves a population of approximately 4,000. The Eildon translator, which was completed towards mid-1969, relays the National station ABVG3 and the local commercial station GMV6. This translator has an effective radiated power of 50 watts, and serves viewers in the Snobs Creek and Eildon Valley area.

Radio communications

All civil radio communications stations are licenced and controlled by the Radio Branch of the Engineering Division, where rigid technical standards for equipment design and performances are enforced by regular inspection, by monitoring, and by frequent transmission checks.

As a member of the International Telecommunications Union, the Postmaster-General's Department in Australia observes and checks all radio transmissions received in Australia. Results of these observations are forwarded to the International Frequency Registration Board in Geneva, Switzerland.

The Radio Branch investigates complaints from broadcast listeners and television viewers concerning interference to reception. On behalf of the Department of Shipping and Transport, its staff also inspect the radio installations aboard vessels in the ports of Melbourne and Geelong.

Revenue and expenditure

For the years prior to 1968–69, cash receipts were paid into the Commonwealth Consolidated Revenue Fund. As from 1968–69 cash receipts were paid into the Post Office Trust Account which forms part of the Trust Fund of the Commonwealth. In addition receipt classifications have been reconstituted and cannot be compared with those used previously.

In Victoria for the year 1968–69 cash receipts were $163.3m. The collections were postal $42.6m, telephone $111.6m, telegraph $3.5m, proceeds of sales $1.8m, recoverable works $3.7m, and international services $0.1m.

As in the case of cash receipts, the new expenditure classifications cannot be compared with those used previously. These were cash payments made for Post Office purposes from the Commonwealth Consolidated Revenue Fund but are now made from the Post Office Trust Account.

In Victoria for the year 1968–69 cash expenditure was $168.5m, salaries and wages were $95.4m, materials $46.8m, carriage of mails by contractors $2.9m, buildings, sites, properties $9.0m, accommodation and services $5.0m, and other $9.4m.

Statistics

The number of post offices and telephone offices and the number of persons employed by the Postmaster-General's Department in each of the five years 1964–65 to 1968–69 were as follows :

VICTORIA—POST OFFICES, TELEPHONE OFFICES, PERSONS EMPLOYED

Period	Number of post offices	Number of telephone offices	Persons employed					
			Permanent	Temporary and exempt	Semi- and non-official postmasters and staffs	Mail contractors	Other (*a*)	Total
1964–65	2,136	129	16,385	9,007	2,427	998	783	29,600
1965–66	2,094	109	16,160	9,555	2,387	942	813	29,857
1966–67	2,044	91	16,571	9,990	2,341	1,021	812	30,735
1967–68	1,981	77	17,312	9,753	2,267	1,052	791	31,175
1968–69	1,900	63	18,081	9,124	2,159	898	782	31,044

(*a*) Includes telephone office-keepers and part-time temporary and exempt employees.

The following table shows the total number and value of money orders and postal notes issued and paid in each of the five years 1964–65 to 1968–69 :

VICTORIA—MONEY ORDERS AND POSTAL ORDERS (*a*)

Period	Money Orders				Postal Orders			
	Issued		Paid		Issued		Paid	
	No.	Value	No.	Value	No.	Value	No.	Value
	'000	$'000	'000	$'000	'000	$'000	'000	$'000
1964–65	3,031	100,446	2,922	99,174	3,818	4,019	5,334	5,056
1965–66	3,230	107,608	2,980	107,197	3,846	3,863	4,918	4,747
1966–67	3,070	112,445	2,883	111,563	3,239	4,343	4,472	5,147
1967–68	2,763	115,739	2,573	115,197	3,303	5,484	3,410	5,330
1968–69	2,166	47,189	2,086	46,767	3,543	6,925	3,495	6,484

(*a*) From 1 June 1966 Postal Orders replaced Postal Notes.

Of the money orders issued in 1968–69, 2,039,459 for $46,170,037 were payable in the Commonwealth of Australia and 126,911 for $1,018,915 in other countries. The orders paid included 2,034,337 for $45,771,449 issued in the Commonwealth, and 51,246 for $995,713 in other countries.

Particulars relating to the number of letters, etc., posted and received within Victoria during the years 1964–65 to 1968–69 are as follows :

VICTORIA—LETTERS, ETC., POSTED AND RECEIVED
('000)

Period	Letters, postcards, etc.	Registered articles (except parcels)	Newspapers and packets	Parcels (including those registered)
POSTED FOR DELIVERY WITHIN THE COMMONWEALTH				
1964–65	542,554	2,313	89,312	5,183
1965–66	577,379	2,414	99,611	4,943
1966–67	604,213	2,475	104,711	5,168
1967–68	580,820	2,385	100,854	5,531
1968–69	575,773	2,307	100,878	5,473
DISPATCHED TO AND RECEIVED FROM PLACES BEYOND THE COMMONWEALTH				
1964–65	71,489	1,059	16,348	544
1965–66	76,393	1,062	16,102	625
1966–67	82,866	1,087	16,137	672
1967–68	83,387	1,151	15,447	705
1968–69	91,724	1,171	14,372	734
TOTAL POSTED AND RECEIVED				
1964–65	614,042	3,372	105,660	5,726
1965–66	653,773	3,476	115,714	5,568
1966–67	687,079	3,562	120,848	5,840
1967–68	664,207	3,536	116,301	6,236
1968–69	667,497	3,478	115,250	6,207

The number of radio communication stations authorised in Victoria at 30 June in each of the years 1965 to 1969 is shown in the following table. Figures relate to radio communication (radio-telegraph and radio-telephone) stations only.

VICTORIA—RADIO COMMUNICATION STATIONS AUTHORISED

Class of station	1964–65	1965–66	1966–67	1967–68	1968–69
Transmitting and receiving—					
Fixed stations (*a*)—					
Aeronautical	4	4	4	4	4
Services with other countries	13	13	12	12	12
Other	222	241	216	223	226
Land stations (*b*)—					
Aeronautical	20	23	27	28	24
Base stations—					
Land mobile services	1,158	1,279	1,453	1,527	1,693
Harbour mobile services	24	22	21	22	23
Coast (*c*)	15	15	16	16	20
Special experimental	135	150	141	143	153
Mobile stations (*d*)—					
Aeronautical	316	362	422	449	437
Land mobile services	13,128	14,655	16,633	17,795	20,225
Harbour mobile services	162	150	159	163	178
Ships	407	473	526	626	728
Amateur stations	1,511	1,567	1,648	1,723	1,785
Total transmitting and receiving	17,115	18,954	21,278	22,731	25,508
Receiving only—					
Fixed stations (*a*)	193	198	197	198	199
Grand total	17,308	19,152	21,475	22,929	25,707

(*a*) Stations established at fixed locations for communication with other stations similarly established.
(*b*) Stations established at fixed locations for communication with mobile stations.
(*c*) Land stations for communication with ocean-going vessels.
(*d*) Equipment installed in motor vehicles and harbour vessels.

Information relating to the telephone service is given below for the years 1964–65 to 1968–69 :

VICTORIA—TELEPHONE SERVICES

Particulars	1964–65	1965–66	1966–67	1967–68	1968–69
Telephone exchanges	1,625	1,565	1,506	1,425	1,353
Public telephones	7,279	7,292	7,344	7,373	7,463
Services in operation	631,950	660,974	693,134	727,575	770,162
Instruments connected	860,438	904,925	957,668	1,019,603	1,080,223
Instruments per 1,000 of population	268·2	281·2	292·7	306·7	319·2

Broadcast and television licences in force

The number of stations licensed for broadcasting and television, and the number of holders of Broadcast Listeners' and Television Viewers' Licences in Victoria at the end of the years 1964–65 to 1968–69 are shown below :

VICTORIA—NUMBER OF BROADCASTING AND TELEVISION LICENCES IN FORCE

Class of licence	1964–65	1965–66	1966–67	1967–68	1968–69
Broadcasting stations (*a*)	20	20	20	20	20
Television stations (*b*)	8	9	9	9	9
Broadcast receiver	512,205	141,639	114,778	94,982	80,685
Television receiver	488,583	87,640	92,822	96,789	73,078
Combined broadcast and television receiver (*c*)	132,413	574,955	598,035	629,729	647,814
Amateur	1,511	1,567	1,648	1,723	1,785

(*a*) Exclusive of eight broadcasting stations (including three shortwave) operated by the National Broadcasting Service.
(*b*) Exclusive of eight television stations operated by the National Television Service.
(*c*) Combined licences were introduced on 1 April 1965.

Overseas Telecommunications Commission

The Overseas Telecommunications Commission (Australia) is the authority responsible for Australia's external telecommunication services by cable and radio.

The Commission was established in August 1946 under the Overseas Telecommunications Act. This Act implemented, in Australia, a recommendation of the 1945 Commonwealth Telecommunications Conference for national ownership of the external telecommunication services of the British Commonwealth countries concerned and for establishment of a representative advisory board, the Commonwealth Telecommunications Board, to co-ordinate their development.

The Commission provides telegraph, telex, phototelegraph, and, in conjunction with the Postmaster-General's Department, telephone services with overseas countries and Australian territories. Leased one-way and two-way circuits are also provided for large commercial users. In addition, it operates the Australian coastal radio services for communication with ships at sea in Australian waters and high frequency radio services in communication with ships in any part of the world. The Commission's coastal radio stations also provide certain services to a number of remote stations within Australia and its territories.

To meet Australia's increasing demand for overseas communication channels, and because of limitations to performance and capacity inherent

in current forms of telegraph cables and high frequency radio systems, the Commission, in partnership with the overseas telecommunications authorities of Britain, Canada, and New Zealand, has installed a large capacity co-axial 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 was opened late in 1961. The Commonwealth cable system feeds into the United States of America network at Hawaii and into the European network at London.

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

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

In 1964 a number of countries, including Australia, agreed to establish a global commercial communications satellite system at an estimated cost, for the space segment, of $US200m. " Space segment " is a broad description of the orbiting satellites and the tracking, control, command, and related facilities required to support their operation.

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 transmissions/receptions, through an INTELSAT II satellite launched in January 1967 and positioned in stationary orbit 22,300 miles above the equator. This station was the first in Australia constructed as a " standard " station of the INTELSAT network and carries direct circuits between Australia and other countries in the Pacific Region. Since 15 February 1969 these services have been provided through a Pacific Ocean INTELSAT III satellite. The link with Japan, the first by satellite from Australia to an Asian country, was established for commercial operation on 14 March 1969.

The Commission's small satellite earth station at Carnarvon continued to provide a direct link between Western Australia and the United States of America for the National Aeronautics and Space Administration (NASA).

On 1 February 1969 the Carnarvon earth station commenced service as a tracking, telemetry and command (T.T. & C.) station for INTELSAT satellites. In the period up to 1 October 1969 it performed this function on a part-time basis while also providing communications for the National Aeronautics and Space Administration. From 1 October 1969 when the new standard earth station at Carnarvon became available for commercial services, the original station was fully devoted to T.T. & C.

An additional satellite earth station for the Commission, at Ceduna, South Australia, was officially opened in February 1970. This station will operate through an Indian Ocean INTELSAT III satellite to earth stations in the United Kingdom, Europe, Africa, the Middle East, and Asia.

The following tables give statistics of Australia's overseas radio-telephone services, and overseas cable and radio telegraph services over a five year period. Statistics of services with the Australian Territories are included.

AUSTRALIA—OVERSEAS TELECOMMUNICATIONS COMMISSION: OVERSEAS RADIO-TELEPHONE SERVICES: NUMBER OF PAID MINUTES ('000)

Particulars	Year ended 31 March—					
	1968			1969		
	From Australia	To Australia	Total	From Australia	To Australia	Total
United Kingdom	640	476	1,116	804	671	1,475
Europe	225	90	315	264	95	359
U.S.A.	547	650	1,197	746	1,226	1,972
New Zealand	659	964	1,623	761	1,055	1,816
Papua/New Guinea	128	198	326	159	256	415
Japan	94	93	187	132	130	262
Canada	72	113	185	91	143	234
Hong Kong	78	43	121	92	63	155
Singapore	44	32	76	69	50	119
Malaysia	19	25	44	25	26	51
Others	142	113	255	173	169	342
Total	2,648	2,797	5,445	3,316	3,884	7,200

AUSTRALIA—OVERSEAS TELECOMMUNICATIONS COMMISSION: TELEGRAPH SERVICES (CABLE AND RADIO): NUMBER OF WORDS TRANSMITTED ('000)

Particulars	Year ended 31 March—				
	1965	1966	1967	1968	1969
From Australia—					
Ordinary	18,393	19,414	21,323	23,463	24,718
Letter	20,046	21,592	24,275	27,503	28,367
Press (*a*)	3,673	6,702	5,157	4,350	4,411
Other	3,227	3,510	4,258	4,579	3,885
Total	45,339	51,218	55,013	59,895	61,381
To Australia—					
Ordinary	17,249	18,228	20,021	21,535	23,927
Letter	17,609	18,777	20,688	22,469	24,537
Press (*a*)	10,720	7,289	4,850	4,079	2,867
Other	5,015	5,372	5,973	6,195	5,978
Total	50,593	49,666	51,532	54,278	57,309
Total traffic	95,932	100,884	106,545	114,173	118,690

(*a*) General decrease in press traffic due to growth in number of leased circuits.

Further reference, 1962