

CHAPTER V.

TRANSPORT AND COMMUNICATION.

A. SHIPPING.

§ 1. System of Record.

In the system of recording statistics of oversea shipping Australia is considered as a unit, and, therefore, only one entry and one clearance are counted for each voyage, without regard to the number of States visited.

On the arrival at, or departure from, a port in Australia, whether from or for an oversea country or from another port in Australia, the master or agent must "enter" the vessel with the Customs authorities at the port, and supply certain prescribed information in regard to the ship, passengers and cargo. At the end of each month the information so obtained is forwarded to the Commonwealth Bureau of Census and Statistics. Similar documents furnish information regarding oversea migration and interstate migration by sea. This arrangement has been in operation since the 1st July, 1924.

From the 1st July, 1914, the Trade and Shipping of Australia has been recorded for the fiscal years ending 30th June.

In the following tables, commencing with the year 1935-36, a change has been made in the classification of sailing vessels with auxiliary engines. Particulars of these vessels, previously included in the columns headed "Steam", are now included in those headed "Sailing", as this classification is considered more correct, in view of the fact that the main method of propulsion of these vessels is sail.

§ 2. Oversea Shipping.

1. Total Movement.—The following table gives the number and net tonnage of oversea steam and sailing vessels entering Australian ports during the years 1927-28 to 1937-38:—

OVERSEA SHIPPING : VESSELS ENTERED, AUSTRALIA.

Year.	Steam.		Sailing.		Total.	
	Vessels.	Net Tons.	Vessels.	Net Tons.	Vessels.	Net Tons.
1927-28	1,544	5,373,485	33	45,560	1,577	5,419,045
1928-29	1,564	5,521,725	18	29,858	1,582	5,551,583
1929-30	1,499	5,413,192	23	31,254	1,522	5,444,446
1930-31	1,517	5,562,230	17	19,287	1,534	5,581,517
1931-32	1,497	5,653,731	22	33,167	1,519	5,686,898
1932-33	1,531	5,891,878	23	41,446	1,554	5,933,324
1933-34	1,356	5,308,584	24	43,987	1,380	5,352,571
1934-35	1,559	5,951,226	23	43,024	1,582	5,994,250
1935-36	1,550	6,199,583	(a) 65	(a) 38,093	1,615	6,237,676
1936-37	1,542	6,245,767	99	28,423	1,641	6,274,190
1937-38	1,800	7,096,656	105	31,748	1,905	7,128,404

(a) See last paragraph, § 1, above.

The average tonnage per vessel entered has risen from 3,436 tons per vessel in 1927-28 to 3,742 tons in 1937-38.

Particulars regarding the total oversea movement of shipping for each year from 1822 to 1920-21 will be found in Official Year Book No. 15, p. 507.

2. **Total Oversea Shipping, States.**—The following table gives the numbers and net tonnages of vessels which entered and cleared the various States direct from and to overseas countries during the year 1937-38 :—

**SHIPPING ENTERED FROM AND CLEARED TO OVERSEA COUNTRIES DIRECT,
1937-38.**

State or Territory.	Entered.		Cleared.	
	Vessels.	Net Tonnage.	Vessels.	Net Tonnage.
New South Wales ..	664	2,545,984	571	2,028,513
Victoria	230	831,156	218	846,410
Queensland	278	950,783	306	1,132,484
South Australia ..	184	643,121	198	761,093
Western Australia ..	445	1,970,514	511	2,185,940
Tasmania	30	130,882	21	83,119
Northern Territory ..	74	49,964	79	55,499
Total	1,905	7,128,404	1,904	7,093,058

3. **Shipping Communication with various Countries.**—Records, as they are invariably made, of the number and tonnage of vessels arriving from and departing to particular countries may be misleading for the reason that the tonnage of a vessel can be recorded against one country only, notwithstanding that the same vessel on the same voyage may carry cargo or passengers to or from Australia from or to several countries. For instance, a mail steamer on a voyage from the United Kingdom to Australia, through the Suez Canal, may call at Marseilles, Genoa, Port Said, Aden and Colombo, yet can be credited only to the United Kingdom, the country where the voyage commenced, to the exclusion of all of the others from the records. Also a number of vessels touch at New Zealand ports on their voyages to and from the United States of America and Canada, but their tonnages are not included in the records of Australian shipping trade with New Zealand. Similarly, the record of shipping engaged in trade between Australia and the United Kingdom via South African ports does not show tonnage to and from South Africa, the whole of it being included in the figures for United Kingdom. In view of this defect, statistics relating to the direction of the shipping to and from Australia are restricted to the following tables in which countries situated on the main trade routes are grouped together. This grouping into larger geographical divisions to some extent avoids the limitations referred to, except, as already pointed out, in the case of Africa and New Zealand.

DIRECTION OF OVERSEA SHIPPING : AUSTRALIA.

Countries.	Cargo and Ballast.	1934-35.	1935-36.	1936-37.	1937-38.
NET TONNAGE ENTERED.					
United Kingdom and European Countries	Cargo	1,698,613	1,812,263	1,679,282	1,791,963
	Ballast	376,291	281,157	232,995	361,870
New Zealand ..	Cargo	539,443	557,091	732,104	774,280
	Ballast	107,662	134,200	169,170	204,025
Asiatic Countries and Islands in the Pacific	Cargo	1,476,957	1,721,540	1,832,771	2,051,105
	Ballast	520,769	353,102	230,813	280,938
Africa	Cargo	22,535	34,983	59,136	55,213
	Ballast	143,468	172,302	194,360	290,795
North and Central America	Cargo	1,105,873	1,161,903	1,134,797	1,233,213
	Ballast	..	6,240	5,941	55,975
South America ..	Cargo	2,639	2,895	2,821	5,372
	Ballast	..	..	..	23,655
Total	Cargo	4,846,060	5,290,675	5,440,911	5,911,146
	Ballast	1,148,190	947,001	833,279	1,217,258
Total		5,994,250	6,237,676	6,274,190	7,128,404

NET TONNAGE CLEARED.					
United Kingdom and European Countries	Cargo	2,517,126	2,719,463	2,735,452	3,003,968
	Ballast	20,364	16,709	3,170	27,338
New Zealand ..	Cargo	512,487	537,359	832,200	918,096
	Ballast	28,853	73,948	39,789	37,522
Asiatic Countries and Islands in the Pacific	Cargo	1,653,931	1,695,483	1,473,801	1,543,996
	Ballast	422,053	526,048	587,925	818,775
Africa	Cargo	35,573	50,108	43,172	112,057
	Ballast	..	344	2,880	50,070
North and Central America	Cargo	615,644	591,144	519,017	498,384
	Ballast	83,355	87,944	91,991	80,854
South America ..	Cargo	5,398	4,719	8,184	1,998
	Ballast	..	3,615	..	..
Total	Cargo	5,340,159	5,598,276	5,611,826	6,078,499
	Ballast	554,635	708,668	725,755	1,014,559
Total		5,894,794	6,306,884	6,337,581	7,093,058

4. Nationality of Oversea Shipping.—The greater part of the shipping visiting Australia is of British nationality. The proportion of British tonnage declined slightly during 1937-38, as also did the percentage of vessels arriving with cargo.

Particulars of the nationality of oversea shipping for the last five years are given in the following table :—

OVERSEA SHIPPING : NATIONALITY OF VESSELS ENTERED, AUSTRALIA.

Nationality.	Net Tonnage.				
	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
BRITISH—					
Australian	289,172	310,186	314,439	326,652	363,086
United Kingdom	2,788,464	3,137,192	3,334,332	3,447,244	4,021,272
Canadian	79,268	76,101	95,889	41,694	30,910
New Zealand	335,513	321,481	322,296	523,436	505,976
Other British	221,647	215,597	276,162	242,843	236,907
Cargo	3,032,040	3,323,552	3,732,921	3,944,272	4,297,122
Ballast	682,024	737,005	610,197	637,597	861,029
Total British	3,714,064	4,060,557	4,343,118	4,581,869	5,158,151
Per cent. on total	69.39	67.74	69.63	73.03	72.36
FOREIGN—					
Danish	75,753	48,613	54,689	53,233	55,753
Dutch	164,469	176,424	150,012	173,011	199,913
French	114,715	137,142	102,031	82,636	102,952
German	121,829	134,231	126,500	152,506	180,314
Italian	83,055	62,205	39,465	43,222	70,451
Japanese	333,109	461,400	464,311	344,304	318,499
Norwegian	335,775	426,539	462,884	439,845	482,470
Swedish	110,927	141,265	134,502	104,281	116,036
United States	247,959	240,474	233,047	199,794	216,083
Other Foreign	50,916	105,400	127,117	99,489	227,782
Cargo	1,449,576	1,522,508	1,557,754	1,496,639	1,614,024
Ballast	188,931	411,185	336,804	195,682	356,229
Total Foreign	1,638,507	1,933,693	1,894,558	1,692,321	1,970,253
Per cent. on total	30.61	32.26	30.37	26.97	27.64
Cargo	4,481,616	4,846,060	5,290,675	5,440,911	5,911,146
Per cent. on total	83.73	80.85	84.82	86.72	82.92
Ballast	870,955	1,148,190	947,001	833,279	1,217,258
Per cent. on total	16.27	19.15	15.18	13.28	17.08
Grand Total	5,352,571	5,994,250	6,237,676	6,274,190	7,128,404

The Australian tonnage which entered Australia from overseas during the year 1937-38 represented 5.09 per cent. of the total tonnage entered and was mainly confined to the New Zealand and Pacific Island trade.

§ 3. Shipping of Ports.

The total shipping tonnage—oversea, interstate and coastwise—which entered the more important ports of Australia during the year 1937-38, together with similar information in regard to some of the ports of New Zealand and of the United Kingdom for the year 1937, will be found in the next table:—

SHIPPING OF PORTS: AUSTRALIA, NEW ZEALAND AND THE UNITED KINGDOM.

Port.	Net Tonnage Entered.	Port.	Net Tonnage Entered.
AUSTRALIA—		ENGLAND AND WALES—	
Sydney (N.S.W.) ..	11,653,127	London ..	31,249,463
Melbourne (Vic.) ..	8,624,754	Liverpool (including Birkenhead) ..	17,689,368
Adelaide (S.A.) ..	5,393,501	Southampton ..	13,757,353
Newcastle (N.S.W.) ..	5,332,450	Tyne Ports ..	9,098,162
Brisbane (Qld.) ..	4,751,803	Cowes (including coast of Isle of Wight) ..	8,049,845
Fremantle (W.A.) ..	3,792,004	Cardiff ..	7,721,732
Townsville (Qld.) ..	1,511,046	Hull ..	6,238,925
Kembla (N.S.W.) ..	1,188,653	Plymouth ..	6,096,645
Hobart (Tas.) ..	1,079,916	Dover ..	4,111,828
Geelong (Vic.) ..	1,072,878	Manchester (including Runcorn) ..	3,966,483
Whyalla (S.A.) ..	863,978	Bristol ..	3,725,986
Pirie (S.A.) ..	845,126	Swansea ..	3,698,833
Burnie (Tas.) ..	836,443	Middlesbrough ..	3,338,685
Cairns (Qld.) ..	793,701	Sunderland ..	3,007,997
Mackay (Qld.) ..	606,053	Blyth ..	2,984,665
Rockhampton (Qld.) ..	518,382	Harwich ..	2,809,231
Devonport (Tas.) ..	466,699	Newport ..	2,596,986
Launceston (Tas.) ..	456,959	Portsmouth ..	2,485,798
Albany (W.A.) ..	453,187	SCOTLAND—	
Gladstone (Qld.) ..	450,141	Glasgow ..	6,419,360
Lincoln (S.A.) ..	448,081	Greenock (including Port Glasgow) ..	3,444,723
Bowen (Qld.) ..	312,915	Leith ..	2,173,220
Thursday Island (Qld.) ..	309,513	NORTHERN IRELAND—	
NEW ZEALAND—		Belfast ..	7,627,054
Wellington ..	3,987,274		
Auckland ..	3,140,495		
Dunedin ..	2,225,749		
Lyttelton ..	1,184,587		

Figures relating to ports of the United Kingdom have been obtained from the British Board of Trade's *Annual Statement of the Navigation and Shipping of the United Kingdom, 1937*, and those relating to New Zealand from the *New Zealand Official Year Book, 1939*.

§ 4. Vessels Built and Registered.

1. **Vessels Built.**—The following table shows the number and tonnage of vessels built in Australia during each of the calendar years 1934 to 1938, so far as such information can be ascertained from the Shipping Registers of the various States. The Merchant Shipping Act, under which vessels are registered in Australia, does not, however, make it compulsory to register vessels under 15 tons burthen if engaged in river or coastal trade. Larger vessels are also exempt from registration if not engaged in trade. Yachts and small trading vessels may be, and frequently are, registered at the request of the owners.

VESSELS BUILT IN AUSTRALIA.

Year.	Steam.		Motor (a).		Sailing.		Total.					
	Tonnages.		Tonnages.		Tonnages.		Tonnages.					
	No.	Gross.	Net.	No.	Gross.	Net.	No.	Gross.	Net.			
1934	21	642	389	5	92	91	26	734	480
1935	15	377	287	2	25	23	17	402	310
1936 ..	2	719	192	14	543	358	1	9	9	17	1,271	559
1937	8	177	141	1	2	2	9	179	143
1938	9	682	365	..	..	..	9	682	365

(a) Includes vessels with auxiliary motors

2. **Vessels Registered.**—The following table shows the number and net tonnage of steam, sailing and other vessels on the registers of the States and of the Northern Territory on the 31st December, 1938:—

VESSELS ON THE STATE REGISTERS, 31st DECEMBER, 1938.

State or Territory.	Steam and Motor.		Sailing.				Barges, Hulks, Dredges, &c., not Self-propelled.		Total.	
			Propelled by Sail Only.		Fitted with Auxiliary Power.		No.	Net Tons.		
	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.			No.	Net Tons.
New South Wales	344	57,810	204	6,763	312	15,807	45	11,164	905	91,544
Victoria	164	166,852	48	665	60	1,406	55	23,015	327	191,938
Queensland	42	6,875	88	1,189	69	2,836	27	3,941	226	14,841
South Australia	71	10,556	17	341	47	2,185	42	6,742	177	19,824
Western Australia	37	5,390	257	3,991	36	777	19	4,277	349	14,435
Tasmania	43	4,226	63	2,257	64	1,842	1	382	171	8,707
Northern Territory	..	..	15	145	5	88	..	..	20	233
Total	701	251,709	692	15,351	593	24,941	189	49,521	2,175	341,522

3. **World's Shipping Tonnage.**—The table hereunder shows the number and gross tonnage of steam and motor, and of sailing vessels owned by the most important maritime countries, together with the proportion of the grand total owned by each country:—

WORLD'S SHIPPING TONNAGE, 1st JULY, 1938.

Nationality.	Steamers and Motorships.		Sailing Vessels and Barges.		Total.		Percentage on Total.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
United Kingdom	6,843	17,075	360	105	7,203	17,780	23.3	26.2
Australia and New Zealand	529	674	10	5	539	679	1.7	1.0
Canada (a)	787	1,212	94	81	881	1,293	2.8	1.9
Other British	902	1,158	154	38	1,056	1,196	3.4	1.8
Total, British Empire	9,061	20,719	618	229	9,679	20,948	31.2	30.9
Belgium	206	431	..	..	206	431	0.7	0.6
Denmark	694	1,129	1	..	695	1,129	2.3	1.7
France	1,246	2,881	61	23	1,307	2,904	4.2	4.3
Germany	2,321	4,232	7	12	2,328	4,244	7.5	6.2
Greece	638	1,889	..	..	638	1,889	2.1	2.8
Holland	1,473	2,852	9	3	1,482	2,855	4.8	4.2
Italy	1,156	3,259	137	31	1,293	3,290	4.2	4.8
Japan	2,187	5,007	..	..	2,187	5,007	7.1	7.4
Norway	1,963	4,613	2	1	1,965	4,614	6.3	6.8
Spain	793	948	46	11	839	959	2.7	1.4
Sweden	1,239	1,571	7	5	1,246	1,576	4.0	2.3
United States of America (b)	2,955	11,515	436	535	3,391	12,050	10.9	17.8
Other Foreign Countries	3,477	5,824	257	126	3,734	5,950	12.0	8.8
Total, Foreign Countries	20,348	46,151	963	747	21,311	46,898	68.8	69.1
Grand Total	29,409	66,870	1,581	976	30,990	67,846	100.0	100.0

(a) Including Great Lakes shipping.

(b) Including Philippine Islands and Great Lakes shipping.

The foregoing figures have been compiled from *Lloyd's Register of Shipping*, and only vessels of 100 tons or upwards have been included.

§ 5. Interstate Shipping.

1. System of Record.—*Interstate Shipping* comprises two elements: (a) Vessels engaged solely in interstate trade: and (b) Vessels trading between Australia and oversea countries and in the course of their voyage proceeding from one State to another. (It should be mentioned that these vessels, except under special circumstances, do not now engage in interstate carrying.) No complexity enters into the record of those in category (a), but with regard to the method of recording the movements of the overseas vessels (b) some explanation is necessary. Each State desires that its shipping statistics (which are prepared in the Commonwealth Bureau of Census and Statistics) shall show in full its shipping communication with oversea countries, but at the same time it is necessary to avoid any duplication in the statistics for Australia as a whole. In order to meet these dual requirements, a vessel arriving in any State from an overseas country—say United Kingdom—*via* another State, is recorded in the second State as from United Kingdom *via States*, thus distinguishing the movement from a *direct* oversea entry. Continuing the voyage, the vessel is in the third State again recorded for the statistics of the State concerned as from United Kingdom *via* other States. On an inward voyage the *clearance* from the first State to the second State is a *clearance* interstate, and is included with interstate tonnage in conformity with the pre-federation practice of the States, and to preserve the continuity of State statistics. Thus, movements of ships which are, from the standpoint of Australia as a whole, purely coastal movements, must for the individual States be recorded as “Overseas *via* other States” or “Interstate” according to the direction of the movement. The significance of the record of these movements will be more clearly seen from the following tabular presentation of the inward and outward voyages to and from Australia of a mail steamer which, it is presumed, reaches Fremantle (Western Australia) and then proceeds to the terminal port of the voyage—Sydney (New South Wales)—*via* the States of South Australia and Victoria. From the terminal port the vessel will commence the outward voyage, and retrace its inward track.

ITINERARY OF AN OVERSEAS VESSEL ON AUSTRALIAN COAST.

Particulars.	Recorded as—	
	For the State and for Australia.	For the States.
Inward Voyage—		
Enters Fremantle from United Kingdom	Overseas direct	
Clears Fremantle for Adelaide	Interstate direct
Enters Adelaide from United Kingdom
<i>via</i> Fremantle	Overseas <i>via</i> States
Clears Adelaide for Melbourne	Interstate direct
Enters Melbourne from United Kingdom
<i>via</i> Adelaide	Overseas <i>via</i> States
Clears Melbourne for Sydney	Interstate direct
Enters Sydney from United Kingdom
<i>via</i> Melbourne	Overseas <i>via</i> States
Outward Voyage—		
Clears Sydney for United Kingdom <i>via</i> Melbourne	Overseas <i>via</i> States
Enters Melbourne from Sydney	Interstate direct
Clears Melbourne for United Kingdom <i>via</i> Adelaide
Enters Adelaide from Melbourne	Overseas <i>via</i> States
Clears Adelaide for United Kingdom <i>via</i> Fremantle	Interstate direct
Enters Fremantle from Adelaide
Clears Fremantle for United Kingdom	Overseas direct	Interstate direct

From the method outlined above, the requirements for Australia and for the individual States are ascertained as follows:—(a) The aggregate of all ships recorded for each State as "Oversea direct" gives the oversea shipping for Australia as a whole; (b) the aggregate for all ships recorded in any State as "Oversea direct" plus those recorded as "Oversea via States" gives the total oversea shipping for that State; and (c) the aggregate for all ships recorded as "Oversea via States" may also be used, together with those recorded as "Interstate direct," to furnish figures showing the total interstate movement of shipping.

It should be remembered, however, that all overseas vessels do not follow the same itinerary as the vessel in the table above.

2. **Vessels and Tonnage Entered.**—(*Interstate direct.*) The following table gives the number and tonnage of vessels recorded as having entered each State from any other State during each of the years 1933-34 to 1937-38. The shipping of the Murray River, between the States of New South Wales, Victoria and South Australia, is not included:—

INTERSTATE SHIPPING: NUMBER AND TONNAGE OF VESSELS ENTERED.

State or Territory.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
NUMBER.					
New South Wales ..	1,679	1,945	1,862	2,076	2,179
Victoria ..	1,777	1,908	1,966	2,146	2,255
Queensland ..	508	587	567	599	652
South Australia ..	694	842	865	924	988
Western Australia ..	326	347	358	366	383
Tasmania ..	1,008	1,035	1,065	1,216	1,261
Northern Territory ..	23	27	22	29	25
Total ..	6,015	6,691	6,705	7,356	7,743
NET TONNAGE.					
New South Wales ..	4,664,917	5,334,778	5,105,740	5,693,751	5,977,315
Victoria ..	3,791,069	4,062,750	4,361,171	4,640,688	4,743,317
Queensland ..	1,281,334	1,410,487	1,495,200	1,616,188	1,674,662
South Australia ..	2,335,796	2,761,195	2,898,358	3,043,302	3,176,924
Western Australia ..	1,763,371	1,855,593	1,916,546	1,869,071	1,978,260
Tasmania ..	1,282,947	1,101,544	1,335,725	1,559,603	1,562,790
Northern Territory ..	56,694	59,011	66,710	71,057	72,996
Total ..	15,176,128	16,585,328	17,179,450	18,493,660	19,186,264

3. **Oversea Vessels Moving Interstate.**—(*Oversea via States.*) To ascertain the aggregate movement of shipping between the States during the year 1937-38 including the total interstate movements of oversea vessels, the figures in the following table

which give the number and tonnage of vessels entered from or cleared for oversea countries via other Australian States, must be added to those in the table preceding:—

SHIPPING ENTERED AND CLEARED FROM AND TO OVERSEA COUNTRIES VIA OTHER AUSTRALIAN STATES, 1937-38.

State or Territory.	Entered.		Cleared.		Total.	
	Vessels.	Net Tonnage.	Vessels.	Net Tonnage.	Vessels.	Net Tonnage.
New South Wales ..	501	2,643,380	473	2,600,441	974	5,243,821
Victoria ..	534	2,963,384	473	2,675,439	1,007	5,638,823
Queensland ..	306	1,842,669	260	1,506,727	566	3,349,396
South Australia ..	318	1,890,738	252	1,556,374	570	3,447,112
Western Australia ..	35	150,148	10	31,147	45	181,295
Tasmania ..	86	508,626	110	667,483	196	1,176,109
Northern Territory ..	..	..	..	..	..	..
Total ..	1,780	9,998,945	1,578	9,037,611	3,358	19,036,556

Oversea vessels moving interstate are with few exceptions not engaged in the active interstate trade of Australia, but are merely proceeding to the several States in continuation of their oversea voyages.

4. **Total Interstate Movement of Shipping.**—(i) *Australia.* The appended table shows the total interstate movement of shipping including oversea vessels moving interstate for each of the years 1933-34 to 1937-38:—

TOTAL INTERSTATE MOVEMENT OF SHIPPING: AUSTRALIA.

Year.	Entered.		Cleared.	
	Vessels	Net Tonnage.	Vessels.	Net Tonnage.
1933-34	7,463	23,114,881	7,462	23,282,301
1934-35	8,279	25,369,207	8,288	25,460,522
1935-36	8,502	26,857,399	8,508	26,860,842
1936-37	9,061	27,773,851	9,106	27,792,951
1937-38	9,523	29,185,209	9,540	29,136,482

(ii) *States.* The following table shows the number and tonnage of vessels which entered and cleared each State from and for other States during 1937-38, including the interstate movements of oversea vessels:—

INTERSTATE SHIPPING OF EACH STATE, 1937-38.

State or Territory.	Entered.		Cleared.	
	Vessels.	Net Tonnage.	Vessels.	Net Tonnage.
New South Wales ..	2,680	8,620,695	2,782	9,158,843
Victoria ..	2,789	7,706,701	2,773	7,674,454
Queensland ..	958	3,517,331	908	3,262,918
South Australia ..	1,306	5,067,662	1,281	4,919,220
Western Australia ..	418	2,128,408	355	1,925,231
Tasmania ..	1,347	2,071,416	1,419	2,128,354
Northern Territory ..	25	72,996	22	67,462
Total ..	9,523	29,185,209	9,540	29,136,482

5. **Vessels engaged Solely in Interstate Trade.**—The following table gives the number and net tonnage of vessels engaged solely in interstate trade which entered the ports of each state direct from other states during the year 1937-38 :—

VESSELS SOLELY IN INTERSTATE TRADE: NUMBER AND TONNAGE OF VESSELS ENTERED, 1937-38.

State or Territory.	Vessels Entered.	
	No.	Net Tonnage.
New South Wales	1,704	3,620,676
Victoria	1,896	2,794,327
Queensland	474	1,029,955
South Australia	759	1,763,575
Western Australia	117	436,647
Tasmania	1,186	1,081,461
Northern Territory	9	20,786
Total	6,145	10,747,427

The above figures have been compiled direct from the shipping returns, and are comparable with similar figures for the year 1936-37. Previous to that year, however, the figures were derived from calculations based on an assumption which did not hold in all cases.

6. **Interstate and Coastal Services.**—The subjoined table gives particulars, so far as they are available, of all steamships engaged in regular interstate or coastal services at the end of each of the years 1934 to 1938 :—

INTERSTATE AND COASTAL STEAMSHIP SERVICES IN AUSTRALIA.

Particulars.	1934.	1935.	1936.	1937.	1938.
Number of companies operating ..	31	30	29	30	30
Number of steamships	155	156	160	162	167
Tonnage { Gross	302,897	324,891	352,661	353,280	366,182
{ Net	168,056	180,468	197,256	197,130	200,131
Horse-power (Nominal)	33,510	36,037	37,188	37,887	39,598
Number of 1st class	3,914	4,311	4,450	4,410	3,909
passengers for which licensed (a) { 2nd class and steerage	1,755	1,920	1,695	1,801	1,719
Complement of Crew { Masters and officers	505	513	547	545	557
{ Engineers	419	548	579	585	606
{ Crew	4,045	4,264	4,458	4,515	4,663

(a) Exclusive of purely day passenger accommodation.

§ 6. Tonnage of Cargo.

1. **Oversea and Interstate Cargo.**—(i) *Australia.* The table hereunder shows the aggregate tonnage of oversea cargo discharged and shipped and the tonnage of interstate cargo shipped in all ports for the years 1933-34 to 1937-38. Cargo which was stated in cubic feet has been converted to tons measurement on the basis of 40 cubic feet to the ton.

CARGO MOVEMENT.

Year.	Oversea Cargo.				Interstate Cargo.	
	Discharged.		Shipped.		Shipped.	
	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.
1933-34	2,606,101	1,395,291	4,260,182	738,846	4,278,159	1,201,617
1934-35	2,969,914	1,722,485	5,220,757	857,976	5,244,386	1,346,422
1935-36	3,531,839	1,948,508	5,214,194	893,509	5,540,938	1,502,813
1936-37	3,655,623	2,024,051	5,027,746	933,416	6,501,393	1,596,869
1937-38	4,365,946	2,279,653	5,730,665	1,088,575	7,032,080	1,876,938

(ii) *Principal Ports.* The following table shows the tonnage of Oversea and Interstate Cargo discharged and shipped at principal ports, 1937-38 :-

TONNAGE OF CARGO DISCHARGED AND SHIPPED AT PRINCIPAL PORTS, 1937-38.

Port.	Discharged.			Shipped.		
	Oversea.	Interstate.	Total.	Oversea.	Interstate.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Sydney	2,217,376	1,290,246	3,507,622	1,266,804	909,609	2,176,413
Newcastle	194,976	1,669,272	1,864,248	445,305	2,500,635	2,945,940
Kembla	83,342	550,871	634,213	108,301	254,572	362,873
Other .. ..	..	..	..	22,391	14,199	36,590
Total, New South Wales	2,495,694	3,510,389	6,006,083	1,842,801	3,679,015	5,521,816
Melbourne	1,845,796	2,460,597	4,306,393	1,933,719	1,133,013	2,166,732
Geelong	270,610	218,035	488,645	482,140	69,595	551,735
Other	24,206	6,265	30,471	6,913	6,258	13,171
Total, Victoria	2,140,612	2,684,897	4,825,509	1,522,772	1,208,866	2,731,638
Brisbane	357,245	545,145	902,390	210,932	207,069	418,001
Cairns	16,064	44,653	60,717	155,909	110,785	266,694
Townsville	67,997	69,829	137,826	245,527	48,639	294,166
Other	16,321	82,427	98,748	244,348	77,094	321,442
Total, Queensland	457,627	742,054	1,199,681	856,716	443,587	1,300,303
Adelaide	585,343	880,677	1,466,020	526,716	483,328	1,010,044
Pirie	128,916	252,772	381,688	419,286	160,262	579,548
Walleroo	38,355	733	39,088	186,473	14,076	200,549
Whyalla .. ..	..	..	..	164,478	1,871,160	2,035,638
Other	39,945	6,790	45,835	212,808	19,132	231,940
Total, South Australia	791,659	1,140,972	1,932,631	1,509,761	2,547,958	4,057,719
Fremantle	559,288	375,535	934,823	514,816	50,330	565,146
Bunbury	41,532	624	42,156	204,325	27,181	231,506
Geraldton	50,404	7,918	58,322	130,092	..	130,092
Other	15,754	18,061	33,815	50,039	18,151	68,190
Total, Western Australia	666,978	402,138	1,069,116	899,272	95,662	994,934
Hobart	77,919	296,022	373,941	142,639	238,194	380,833
Launceston	6,824	121,044	127,868	24,703	101,257	125,960
Devonport	777	33,933	34,710	..	389,318	389,318
Other	4,965	80,433	85,398	20,457	202,603	223,060
Total, Tasmania	90,485	531,432	621,917	187,799	931,372	1,119,171
Darwin (Northern Territory)	2,544	10,782	13,326	119	2,558	2,677
Total, AUSTRALIA	6,645,599	9,022,664	15,668,263	6,819,240	8,909,018	15,728,258

2. **Nationality.**—The following table shows the total oversea cargo discharged and shipped according to the nationality of the vessels carrying during the years 1933-34 to 1937-38:—

TONNAGE(a) OF OVERSEA CARGO DISCHARGED AND SHIPPED.

Vessels Registered at Ports in —	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
British—					
Australia	257,497	307,440	329,208	329,990	437,346
United Kingdom	4,796,937	5,813,352	6,181,120	6,831,581	8,033,271
Canada	115,125	127,379	154,914	81,313	65,146
New Zealand	357,087	323,630	398,238	390,892	456,505
Other British	403,757	392,606	534,585	451,409	488,828
Total British	5,930,403	6,964,407	7,598,065	8,085,185	9,481,096
Per cent. on Total	65.89	64.66	65.57	69.46	70.41
Foreign—					
Denmark	184,626	154,172	160,285	159,640	209,716
France	108,736	169,802	140,435	113,584	150,424
Germany	276,821	297,020	346,544	392,269	462,246
Italy	103,921	66,319	33,520	58,491	109,570
Japan	635,142	913,552	914,856	542,761	378,065
Netherlands (b)	280,509	308,187	228,726	315,640	350,136
Norway	814,447	1,023,612	1,207,673	1,164,105	1,218,807
Sweden	325,114	408,462	390,080	310,934	316,300
United States of America	246,858	240,271	300,974	261,746	258,969
Other Foreign	93,843	225,328	266,892	236,481	529,510
Total Foreign	3,070,017	3,806,725	3,989,985	3,555,651	3,983,743
Per cent. on Total	34.11	35.34	34.43	30.54	29.59
Grand Total	9,000,420	10,771,132	11,588,050	11,640,836	13,464,839

(a) Tons weight and tons measurement combined.

(b) Includes Netherlands East Indies.

NOTE.—A summary of particulars relating to Shipping and Cargo for the year 1938-39 will be found in the Appendix to this volume.

§ 7. Miscellaneous.

1. **Lighthouses.**—*Transport and Communication Bulletin* No. 14, published by this Bureau, contained a list of the principal lighthouses on the coast of Australia, giving details of the location, number, colour, character, period, candle-power and visibility of each light so far as particulars were available.

2. **Distances by Sea.**—A statement giving the distances by sea between the ports of the capital cities of Australia and the most important ports in other countries which trade with Australia was also included in *Transport and Communication Bulletin* No. 14.

3. **Shipping Freight Rates.**—The *Quarterly Summary of Australian Statistics* gives a list of the ruling freight rates for general merchandise both in respect of oversea and interstate shipments. The latest figures available, which give the rates current at 31st March, 1939, show that the rate for general merchandise from Australia to United Kingdom and Continent was 63s. per ton weight or measurement, while the rates for

wheat (parcels) and wool (greasy) were respectively 31s. 3d. per ton weight and 1d. per lb. plus 5 per cent., less 10 per cent. The charter rates for wheat ranged between 31s. and 32s. per ton.

4. **Depth of Water at Main Ports.**—A table, compiled from information supplied by the Director of Navigation, showing the depth of water at the main ports of Australia at 1st January, 1939, was included in *Transport and Communication Bulletin* No. 29.

5. **Shipping Casualties.**—Courts of Marine Inquiry are constituted by a Magistrate assisted by skilled assessors, and when necessary are held at the principal port in each State and at Launceston (Tasmania). Such courts have power to deal with the certificates of officers who are found at fault. Particulars of shipping casualties reported on or near the coast during the year 1938 are shown in *Transport and Communication Bulletin* No. 29. This information also was furnished by the Director of Navigation.

6. **Commonwealth Navigation and Shipping Legislation.**—(i) *General.* An account in some detail of the Commonwealth navigation and shipping legislation was published in *Official Year Book* No. 17 (pp. 1053-5).

(ii) *Recent legislation.* Under the provisions of the Navigation Act the coasting trade of the Commonwealth in passengers and cargo is reserved by section 288 to ships licensed to engage in that trade. Licences are granted to ships complying with Australian conditions respecting wages, manning crew, accommodation and so on, stipulations which have confined the trade to Australian-owned vessels.

Provision was made in the Act for permits to be granted to unlicensed British ships to carry cargo and passengers on the coast when it was shown that the licensed service was inadequate. The permit system, however, was not entirely satisfactory and in 1926 the Act was amended to allow the Governor-General, by notice in the *Gazette*, to permit unlicensed British ships of a specified size and speed to engage in the passenger trade between particular ports. Exemptions under the Act were placed on a statutory basis by the Navigation Act of 1935 which permits unlicensed British ships of not less than 10,000 tons and a sea speed of not less than 14 knots to carry passengers between any two ports in Australia not connected by rail. In every case the voyage must be made in one ship without break of journey, transshipment, or second call at any port. On arriving at the port of destination the passenger may be taken on to the first port of call of the ship, which is either the first port of embarkation, or alternatively, a port connected with it by rail.

In the Navigation Act of 1935 also the carriage of wireless equipment was extended to all ships engaged in interstate trade. A similar provision for intra-state vessels has been made by some of the States.

The Navigation (Maritime Conventions) Act of 1934 was an amendment of the Navigation Act to enable the Commonwealth to give effect to the provisions of a number of maritime conferences of recent years, of which the most important were those dealing with the safety of life at sea and load lines.

In an effort to protect the interests of British shipping in the Pacific against subsidized foreign competition the New Zealand Government recently introduced a measure prohibiting foreign vessels from embarking passengers or cargo in a New Zealand port for any destination in Australia. On 3rd December, 1936, the British Shipping Protection Bill, designed to implement the New Zealand legislation, was introduced into the Australian Senate. After the speech on the second reading, the debate was adjourned.

7. **Ports and Harbours.**—A report in two volumes on "Transport in Australia," with special reference to Ports and Harbours facilities, was submitted to the Commonwealth Government by Sir George Buchanan, and published as two Parliamentary Papers (No. 86 printed 14th March, 1927, and No. 108 printed 9th May, 1927).

B. RAILWAYS.

§ 1. General.

1. **Introduction.**—The policy of Government ownership and control of railways has been adopted in each State and at the 30th June, 1938, only 787 route miles of the 27,973 open for general traffic in Australia were privately owned. Those owned by the

State Governments amounted to 24,985 miles, and those owned by the Commonwealth, 2,201 miles. In the following tables details of the four lines owned by the Commonwealth are grouped and shown with the totals for the various State-owned systems. Separate particulars for each Commonwealth line are given in *Transport and Communication Bulletin* No. 29, issued by this Bureau, and they were also given in Year Book No. 31, p. 125 *et seq.*

2. **Improvement of Railway Statistics.**—Earlier issues of the Year Book contain a condensation of the report issued in 1909 by the Commonwealth Statistician to the Minister for Home Affairs on the subject of "The Desirability of Improved Statistics of Government Railways in Australia" (see Year Book No. 7, p. 598).

Considerable improvement, both as regards the volume of information and the mode of presentation thereof in the statistical tables appearing in the reports of the several Railway Commissioners, has been made during recent years.

In an endeavour to adhere more closely to the figures used by the Railways Commissioners and to obtain greater uniformity, certain changes were made in the compilation of railways statistics from and including the year 1935-36; consequently the figures for the last three years are not entirely comparable with those for previous years. The differences, however, are relatively unimportant.

3. **Railway Communication in Australia.**—An account of the progress of railway construction in Australia since the opening of the first line in 1854 will be found in Year Book No. 6, p. 681. Further information regarding railway communication in Australia and proposals for unification of gauge in the various systems are given in Year Book No. 22, pp. 259 to 261.

4. **Government Railways. Lines under Construction and Lines Authorized, 1938.**—

(i) *Lines under Construction.* In spite of the great extensions of State railways since the year 1875 and also the construction of various railways by the Commonwealth Government, there are still, in some of the States, immense areas of country which are as yet practically undeveloped, and in which little in the nature of permanent settlement has been accomplished. The general policy of the States is to extend the existing lines inland in the form of light railways as settlement increases, and while it is true that lines which were not likely to be commercially successful in the immediate future have been constructed from time to time for the purpose of encouraging settlement, the general principle that the railways should be self-supporting is kept in view.

(a) *New South Wales.* In addition to that shown under (b) below, preliminary construction work has been commenced on the Sandy Hollow to Maryvale (approximately 147 miles), Sutherland to Cronulla (6.31 miles) and Bungendore to Captain's Flat (21.18 miles) railways in New South Wales. Construction work was also commenced on the Circular Quay section of the underground railway of Sydney.

(b) *Victoria.* In this State 35.50 miles of 5 ft. 3 in. gauge lines have been partially constructed, from Nowingi to Millewa South, work thereon being temporarily suspended. Under the provisions of the Border Railways Act 1922 (Vic. 3194) the following lines are under construction in New South Wales territory:—Euston to Lette (30.25 miles); and Yarrawonga to Oaklands (38 miles). Work has been suspended on the former line while traffic on the latter is being conducted by the Constructing Authority pending the transfer to the Railways Commissioners. On completion, these lines, which are of 5 ft. 3 in. gauge, will be taken over and operated by the Victorian Railways Commissioners.

(c) *Queensland.* In previous issues of the Year Book details were given of the scheme of railway construction under the provisions of the North Coast Railway Act 1910 (see Year Book No. 15, p. 551). On the 30th June, 1938, no railway construction work was in progress. The following lines are partially constructed, but work thereon is temporarily suspended:—Goondoon to Kalliwa Creek (18 miles); Yaraka to Powell's Creek (27 miles); Dajarra to Moonah Creek (41 miles); Rannes to Monto (63 miles); and Winton to 37-Mile (37 miles): a total of 186 miles.

(d) *Other.* At 30th June, 1938, no railway construction work was in progress in South Australia, Western Australia, Tasmania, or for the Commonwealth Government.

(ii) *Lines Authorized for Construction.* (a) *New South Wales.* At the 30th June, 1938, the following lines had been authorized for construction but not commenced:—Gilgandra to Collie (21.54 miles); Jerilderie towards Deniliquin (25 miles); Rand to Bull Plain (27.55 miles); Canowindra to Gregra (33.87 miles); St. Leonards to Eastwood (9.07 miles); Inverell to Ashford (32 miles); Gwabegar to Burren Junction (36.25 miles); Eastern Suburbs to Bondi (7.75 miles); and Western Suburbs to Western Road (5.55 miles); a total distance of 198.58 miles.

(b) *Victoria.* The following lines were authorized, but construction had not been commenced up to the end of June, 1938:—5 ft. 3 in. gauge: La La Siding to Big Pat's Creek (2.50 miles); Casterton to Nangeela (9 miles); and Orbost to Brodribb (6 miles). Under the Border Railways Act 1922, the following line has been authorized for construction in New South Wales Territory:—Mildura to Gol Gol (22 miles).

(c) *Queensland.* In addition to the new lines upon which work has been commenced, Parliament has authorized the construction of the following parts of the Great Western Railway: Section A, from Quilpie to Eromanga (120 miles); Section B, from Powell's Creek (224 miles); Section C, from 37-Mile to Springvale (324 miles); and Section D from Moonah Creek (216 miles). The following lines were also authorized for construction: Texas to Silverspur (9 miles); Mount Edwards to Maryvale (28 miles); Lanefield to Rosevale (17 miles); Gatton to Mount Sylvia (11 miles); Wandoan to Taroom (42 miles); Dirranbandi extension (52 miles); Yarraman to Nanango (16 miles); Brooloo to Kenilworth (10 miles); Dobbyn to Myally Creek (50 miles); and Pearamon towards Boongee (11 miles).

(d) *South Australia.* Parliament has authorized the construction of a line on the 3 ft. 6 in. gauge from Kielpa to Mangalo Hall (26.25 miles). The survey has been completed, but the work cannot be started without a special resolution of both Houses of Parliament.

(e) *Western Australia.* The following lines were authorized for construction up to the 30th June, 1938:—Yarramongy to Merredin (85 miles); Brookton to Dale River (28 miles); Boyup Brook to Cranbrook (95.23 miles); Manjimup to Mount Barker (107 miles); Leighton to Robb's Jetty (4.62 miles); Southern Cross—Southwards (27.38 miles); Yuna to Dartmoor (52 miles); a total distance of 399.23 miles. The surveys have been completed in respect of all the above lines, except the Boyup Brook to Cranbrook, the Manjimup to Mount Barker, and the Leighton to Robb's Jetty lines.

(f) *Tasmania.* There were no new railways authorized at 30th June, 1938.

(g) *Commonwealth.* There were no new railways authorized at 30th June, 1938.

5. **Grafton-South Brisbane (Uniform Gauge) Line.**—The line from Grafton (New South Wales) to Brisbane (Queensland) which was opened for traffic on 27th September, 1930, was constructed to overcome the break of gauge between Sydney and Brisbane; and was the first step towards uniform gauge railway communication between the capitals of the mainland States. To 30th June, 1938, the capital cost of construction and equipment was £4,362,500, the interest charge for the year 1937-38 being £218,125. During the same period, the working of the line, which is the responsibility of the New South Wales and Queensland Railways Commissioners, resulted in losses of £39,183 being shown on the New South Wales section and £10,330 on the Queensland section. In addition, the following amounts were paid as interest:—New South Wales, £72,179, and Queensland £27,029, the remainder, £118,917, being borne by the Commonwealth. Figures relating to the operation, etc., of the line are incorporated as far as possible with those for New South Wales and Queensland in the tables which follow. Year Book No. 31, p. 122, contains further particulars of the construction of the line.

6. **Mileage Open for Traffic, all Lines.**—(i) *General.* Almost all the railways open for general traffic in Australia are owned and controlled by the State or Commonwealth Governments. Private lines have been laid down for the purpose of opening up forest lands, mining districts or sugar areas. These lines are not generally used for the conveyance of passengers or the public conveyance of goods, and it should be understood that the private lines included in the tables below form only a small part of all private railways in Australia.

The subjoined table shows the route mileage of Commonwealth, State and private lines open for general traffic (exclusive of sidings and cross-overs) in each State for each of the years 1933-34 to 1937-38.

GOVERNMENT AND PRIVATE RAILWAYS : MILEAGE OPEN.

State or Territory.	1933-34.	1934-35.	1935-36	1936-37.	1937-38.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales	6,246.53	6,246.53	6,204.64	6,214.42	6,204.02
Victoria	4,745.71	4,745.71	4,745.71	4,745.71	4,745.71
Queensland	6,836.55	6,836.54	6,812.80	6,795.17	6,779.04
South Australia	3,775.81	3,775.90	3,775.90	3,776.29	3,860.67
Western Australia	5,090.87	5,089.50	5,089.33	5,088.04	5,106.82
Tasmania	786.45	776.46	776.46	782.57	782.55
Northern Territory	489.73	489.73	489.73	489.73	489.73
Aust. Cap. Territory	4.94	4.94	4.94	4.94	4.94
Australia	27,976.59	27,965.31	27,899.51	27,896.87	27,973.48

In previous issues of the Year Book particulars of mileage open were given for different periods from 1855 onwards. (See No. 15, p. 537.)

(ii) *Government and Private Lines Separately.* The next table shows for each State (a) the length of lines open for traffic owned by the State Government, and by the Commonwealth Government in that State and (b) the length of private lines available for general use by the public.

GOVERNMENT AND PRIVATE RAILWAYS : MILEAGE CLASSIFIED, 1937-38.

State or Territory.	Government Lines—		Private Lines available for General Traffic.	Total Open for General Traffic.
	State.	Commonwealth.		
	Miles.	Miles.	Miles.	Miles.
New South Wales	6,113.79	..	90.23	6,204.02
Victoria	4,720.77	..	24.94	4,745.71
Queensland	6,566.65	..	212.39	6,779.04
South Australia	2,557.38	1,252.39	50.90	3,860.67
Western Australia	4,375.83	453.99	277.00	5,106.82
Tasmania	651.00	..	131.55	782.55
Northern Territory .. ..	..	489.73	..	489.73
Aust. Cap. Territory .. ..	..	4.94	..	4.94
Australia	24,985.42	2,201.05	787.01	27,973.48

7. *Comparative Railway Facilities.*—The mileage of line open to the public for general traffic (including both Government and private lines) is shown in the subjoined statement in relation to both population and area at the 30th June, 1938 :—

GOVERNMENT AND PRIVATE RAILWAYS : COMPARISON OF FACILITIES, 1937-38.

Particulars.	N.S.W.	Vic.	Q'd.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Mileage of Railway— Per 1,000 of population	2.28	2.54	6.76	6.52	11.10	3.34	84.89	0.43	4.06
Per 1,000 sq. miles of Territory	20.05	54.00	10.11	10.16	5.23	29.85	0.94	5.26	9.40

8. Classification of Lines according to Gauge, 1937-38.—The next table gives a classification according to gauge of the route mileage open of (i) Commonwealth railways, given in the State or Territory in which situated; (ii) State railways; and (iii) Private railways open to the public for general traffic. Particulars of Government railways are up to the 30th June, 1938, and of private railways open for general traffic to the 31st December, 1938, as nearly as possible.

GOVERNMENT AND PRIVATE RAILWAYS : GAUGES, 1937-38.

State or Territory in which situated.	Route mileage having a gauge of—					Total.
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft. 0 in.	
COMMONWEALTH RAILWAYS.						
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
South Australia ..	..	654.21	598.18	..	..	1,252.39
Western Australia ..	..	453.99	..	..	..	453.99
Northern Territory ..	..	..	489.73	..	..	489.73
Aust. Cap. Territory ..	..	4.94	..	..	..	4.94
Total ..	..	1,113.14	1,087.91	..	..	2,201.05
STATE RAILWAYS.						
New South Wales ..	..	6,113.79	..	..	..	6,113.79
Victoria ..	4,599.00	..	..	121.77	..	4,720.77
Queensland ..	..	68.82	6,407.57	..	30.26	6,566.65
South Australia ..	1,480.49	..	1,076.89	..	..	2,557.38
Western Australia ..	..	..	4,375.83	..	..	4,375.83
Tasmania ..	..	..	639.07	..	11.33	651.00
Total ..	6,079.49	6,182.61	12,559.96	121.77	41.59	24,985.42
PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.						
New South Wales ..	..	53.50	36.73	..	..	90.23
Victoria ..	13.94	..	(a) 11.00	..	..	24.94
Queensland ..	..	..	80.87	..	131.52	212.39
South Australia ..	..	..	50.90	..	..	50.90
Western Australia ..	..	..	277.00	..	..	277.00
Tasmania ..	..	..	125.05	..	6.50	131.55
Total ..	13.94	53.50	581.55	..	138.02	787.01
ALL RAILWAYS OPEN FOR GENERAL TRAFFIC.						
New South Wales ..	..	6,167.29	36.73	..	..	6,204.02
Victoria ..	4,612.94	..	(a) 11.00	121.77	..	4,745.71
Queensland ..	..	68.82	6,548.44	..	161.78	6,779.04
South Australia ..	1,480.49	654.21	1,725.97	..	..	3,860.67
Western Australia ..	..	453.99	4,652.83	..	..	5,106.82
Tasmania ..	..	..	764.72	..	17.83	782.55
Northern Territory ..	..	..	489.73	..	..	489.73
Aust. Cap. Territory ..	..	4.94	..	..	..	4.94
GRAND TOTAL	6,093.43	7,349.25	14,229.42	121.77	179.61	27,973.48

(a) 3 ft. 0 in. gauge.

9. Summary of Operations, 1937-38.—In the following table a summary is given of the working of all railways open for general traffic in Australia during the year ended 30th June, 1938 :—

GOVERNMENT AND PRIVATE RAILWAYS : SUMMARY OF OPERATIONS, 1937-38.

Particulars.	Common-wealth Railways.	State Railways.	Private Railways. (a)	Total for Australia.
Mileage open (route) 30th June, 1938 Miles	2,201.05	24,985.42	787.01	27,973.48
Capital cost £	16,897,209	297,849,449	4,812,258	319,558,916
Cost per mile £	7,677	11,921	6,115	11,424
Gross revenue £	442,933	44,831,222	739,320	46,013,475
Gross revenue per train mile d.	140.19	141.22	133.47	141.09
Working expenses £	511,510	33,739,925	450,908	34,693,343
Working expenses per train mile d.	161.90	106.26	81.40	106.38
Net revenue £	-68,577	11,100,297	288,412	11,320,132
Net revenue per train mile d.	-21.71	34.97	52.07	34.71
Train miles run Miles	758,259	76,183,562	1,329,399	78,271,220
Passengers carried No.	99,670	384,842,376	1,360,009	386,302,055
Tons of goods, etc., carried Tons	132,050	35,596,795	4,499,682	40,228,527
Average number of employees No.	(b) 1,701	(b) 101,742	(c) 1,164	104,607
Average wage £	256	253	249	253

(a) Approximate. Complete particulars not available for all items.

(b) Exclusive of Construction Branch.

(c) Employees at 31st December, 1938.

§ 2. Government Railways.

1. Cost of Construction and Equipment.—The following table gives particulars of the mileage open and the capital cost of Government railways in Australia. The cost shown for Australia (£314,746,658) does not represent the total expenditure on construction and equipment as in three States, namely, Victoria, Queensland and Tasmania, legislation has been introduced for the purpose of reducing the capital indebtedness of the railways. Figures relating to capital cost do not include charges for works in the course of construction, surveys, discounts and flotation charges on loans allocated to the railways.

GOVERNMENT RAILWAYS : MILEAGE AND COST TO 30TH JUNE, 1938.

System.	Mileage Open.		Total Cost of Construction and Equipment.	Average Cost per Route Mile Open.	Cost per Head of Population.	Route Mileage per 1,000 of Population.
	Route.	Track.				
	Miles.	Miles.	£	£	£	Miles.
New South Wales	6,113.79	8,151.50	146,808,073	24,013	54.00	2.25
Victoria (a) ..	4,720.77	6,093.67	51,764,255	10,965	27.73	2.53
Queensland (a) ..	6,566.65	7,411.00	37,446,264	5,702	37.33	6.55
South Australia ..	2,557.38	3,090.51	29,582,615	11,568	49.95	4.32
Western Australia	4,375.83	4,917.59	25,779,661	5,891	56.02	9.51
Tasmania (a) ..	651.00	(b)	2,106,081	3,235	8.99	2.78
Commonwealth ..	2,201.05	2,316.37	16,897,209	7,677	..	..
Australia (a) ..	27,186.47	31,980.64	314,746,658	11,921	45.66	3.94

(a) See below. (b) Not available. (c) Excluding Tasmania. (d) Includes Grafton-South Brisbane line, £4,362,500.

The reductions made in the capital indebtedness referred to above were :—Victoria £25,684,423; Queensland, £28,000,000; and Tasmania, £4,378,000. After adding these figures to the capital costs of the respective States and adjusting the route mileage

for New South Wales and Queensland to exclude portions of the Grafton-South Brisbane line, the cost per route mile open in each State and for the Commonwealth railways is as follows:—New South Wales, £24,115; Victoria, £16,406; Queensland, £10,072; South Australia, £11,568; Western Australia, £5,891; Tasmania, £10,513; Commonwealth, £7,677; and for all Government railways in Australia, £13,726. The lowest average cost is in Western Australia, while the highest is in New South Wales. Very few engineering difficulties were encountered in Western Australia, and the fact that contractors were permitted to carry traffic during the term of their contract considerably reduced expenditure.

Adjusted figures for the cost per head of population for each State and for Australia are as follows:—New South Wales, £54.00; Victoria, £41.48; Queensland, £65.25; South Australia, £49.95; Western Australia, £56.02; Tasmania, £29.23; All Government railways in Australia, £54.14.

2. Expenditure on Construction and Equipment from Revenue and from Loans.—The following table gives particulars of the expenditure on construction and equipment from revenue and from loans:—

GOVERNMENT RAILWAYS: CAPITAL EXPENDITURE FROM REVENUE AND LOANS.

System.	Expenditure from Revenue to 30th June, 1938.	Net Loan Expenditure.			Total to 30th June, 1938.
		1935-36.	1936-37.	1937-38.	
	£	£	£	£	£.
New South Wales ..	666,864	2,201,837	1,864,088	2,343,455	149,507,395
Victoria (a) ..	5,458,243	280,900	361,893	492,208	75,634,178
Queensland ..	..	692,830	505,216	630,053	64,607,253
South Australia ..	..	420,233	160,011	112,537	34,497,721
Western Australia ..	640,020	(b) 116,240	(b) 175,412	(b) 346,373	b 25,289,007
Tasmania ..	18,121	47,859	81,856	59,660	(c) 7,272,441
Commonwealth ..	2,185,795	106,975	358,241	Cr. 938	11,433,544
Australia ..	8,969,043	3,866,874	3,506,717	3,983,348	d370,687,544

(a) Gross Loan Expenditure. (b) Includes expenditure on railways provided in Unemployment Relief Work programmes. (c) Includes Losses funded. (d) Includes £2,446,005 Commonwealth Loan Expenditure on Grafton-South Brisbane line.

3. Gross Revenue.—(i) General. The total revenue from all sources, the revenue per average mile worked and the revenue per train-mile run during the last five years were as follows:—

GOVERNMENT RAILWAYS: GROSS REVENUE.

Year.	N.S.W.(a)	Vic.(b)	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.	Australia.
TOTAL GROSS REVENUE.								
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
1933-34 ..	15,690	9,175	6,230	2,560	2,920	391	330	37,296
1934-35 ..	16,803	9,421	7,167	2,658	3,312	400	346	40,107
1935-36 ..	17,754	9,690	6,697	2,878	3,446	449	388	41,302
1936-37 ..	18,616	10,135	7,092	3,008	3,462	479	442	43,234
1937-38 ..	20,286	9,735	7,383	3,285	3,678	464	443	45,274

(a) Includes £800,000 per annum contribution from consolidated revenue towards losses on working of country development lines. (b) Includes contributions from consolidated revenue in respect of losses on non-paying lines, 1933-34, £134,424; 1934-35, £140,614; 1935-36, £163,859; 1936-37, £230,574 (includes £19,113 guarantees in respect of losses); and in 1937-38, £10,000 guarantees in respect of losses on certain lines.

GOVERNMENT RAILWAYS: GROSS REVENUE—*continued.*

Year.	N.S.W.(a)	Vic.(b)	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.	Australia.
GROSS REVENUE PER AVERAGE MILE WORKED.								
	£	£	£	£	£	£	£	£
1933-34 ..	2,546	1,943	949	1,012	671	606	154	1,375
1934-35 ..	2,726	1,996	1,092	1,051	760	620	161	1,478
1935-36 ..	2,899	2,053	1,020	1,138	791	696	181	1,525
1936-37 ..	3,040	2,147	1,080	1,189	795	735	206	1,596
1937-38 ..	3,318	2,062	1,124	1,285	841	714	202	1,666
GROSS REVENUE PER TRAIN-MILE RUN.								
	d.	d.	d.	d.	d.	d.	d.	d.
1933-34 ..	149.59	143.82	134.23	124.62	129.99	82.72	143.82	140.67
1934-35 ..	153.48	145.54	132.73	125.59	135.44	78.00	154.75	142.63
1935-36 ..	153.82	141.88	129.78	126.46	135.70	(c)64.90	159.86	141.05
1936-37 ..	156.51	141.33	131.30	128.76	136.77	61.63	147.31	142.16
1937-38 ..	161.20	130.40	129.83	129.00	138.52	57.70	140.19	141.22

(a) Includes £800,000 per annum contribution from consolidated revenue towards losses on working of country development lines. (b) Includes contributions from consolidated revenue in respect of losses on non-paying lines, 1933-34, £134,424; 1934-35, £140,614; 1935-36, £163,859; 1936-37, £230,574 (includes £19,113 guarantees in respect of losses); and in 1937-38, £10,000 guarantees in respect of losses on certain lines. (c) Includes steam and petrol rail car mileages excluded prior to 1935-36.

(ii) *Coaching, Goods and Miscellaneous Receipts.* (a) *Totals.* The gross revenue is composed of (a) receipts from coaching traffic, including the carriage of mails, horses, parcels, etc., by passenger trains; (b) receipts from the carriage of goods and live stock; and (c) rents and miscellaneous items. The subjoined table shows the gross revenue from 1934 to 1938, classified according to the three chief sources of receipts. The total of the three items specified has already been given in the preceding paragraph.

GOVERNMENT RAILWAYS: COACHING, GOODS AND MISCELLANEOUS RECEIPTS.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.	Australia.
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
COACHING TRAFFIC RECEIPTS.								
1933-34 ..	5,555	3,905	1,873	647	688	128	114	12,910
1934-35 ..	5,868	4,088	1,946	654	731	133	136	13,556
1935-36 ..	6,187	4,130	1,974	686	742	141	141	14,001
1936-37 ..	6,394	4,232	1,934	737	742	141	158	14,338
1937-38 ..	6,844	4,119	1,995	728	717	138	167	14,708
GOODS AND LIVE STOCK TRAFFIC RECEIPTS.								
1933-34 ..	7,802	4,572	4,147	1,763	2,060	248	142	20,734
1934-35 ..	8,583	4,556	4,987	1,853	2,405	255	135	22,774
1935-36 ..	9,155	4,768	4,482	2,027	2,527	294	173	23,426
1936-37 ..	9,661	5,029	4,903	2,098	2,541	324	195	24,751
1937-38 ..	10,831	4,945	5,121	2,353	2,769	311	190	26,520
MISCELLANEOUS RECEIPTS.								
	(a)	(b)						
1933-34 ..	2,333	698	211	150	171	15	74	3,652
1934-35 ..	2,352	778	233	152	175	12	75	3,777
1935-36 ..	2,412	792	241	164	178	13	74	3,874
1936-37 ..	2,561	875	255	172	179	14	89	4,145
1937-38 ..	2,611	671	267	203	192	16	86	4,046

(a) See note (a) to Gross Revenue table above.

(b) See note (b) to Gross Revenue table above.

(b) *Percentages.* The following table shows for each of the past two years the percentage which each class of receipts bears to the total gross revenue:—

GOVERNMENT RAILWAYS : PERCENTAGES OF RECEIPTS.

System.	1936-37.			1937-38.		
	Coaching.	Goods and Live Stock.	Miscellaneous.	Coaching.	Goods and Live Stock.	Miscellaneous.
	%	%	%	%	%	%
New South Wales ..	34.35	51.89	13.76	33.74	53.39	12.87
Victoria ..	41.75	49.62	8.63	42.31	50.79	6.90
Queensland ..	27.28	69.13	3.59	27.02	69.36	3.62
South Australia ..	24.51	69.77	5.72	22.17	71.64	6.19
Western Australia ..	21.43	73.40	5.17	19.48	75.30	5.22
Tasmania ..	29.51	67.66	2.83	29.72	66.89	3.39
Commonwealth ..	35.75	44.12	20.13	37.73	42.95	19.32
Australia ..	33.16	57.25	9.59	32.48	58.58	8.94

4. *Working Expenses.*—(i) *General.* In order to make an adequate comparison of the working expenses, allowance should be made for the variation of gauges and of physical and traffic conditions, not only on the different systems of the State and Commonwealth railways, but also on different portions of the same systems. When traffic is light, the percentage of working expenses is naturally greater than when traffic is heavy; and this is especially true in Australia, where ton-mile rates are in many cases based on a tapering principle—i.e., a lower rate per ton-mile is charged upon merchandise from remote interior districts—and where on many of the lines there is but little back loading.

The following table shows the total annual expenditure, the percentage thereof on gross revenue, and the expenditure per average mile worked and per train-mile run for the years 1934 to 1938:—

GOVERNMENT RAILWAYS : WORKING EXPENSES.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.	Australia.
TOTAL WORKING EXPENSES.								
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
1933-34 ..	11,204	6,242	4,494	2,029	2,186	385	376	26,916
1934-35 ..	11,565	6,506	5,087	2,241	2,383	472	380	28,634
1935-36 ..	11,848	6,857	5,213	2,414	2,488	561	387	29,768
1936-37 ..	12,355	7,259	5,465	2,557	2,620	620	411	31,287
1937-38 ..	13,760	7,830	5,887	2,867	2,710	676	512	34,242
PERCENTAGE ON GROSS REVENUE.								
	%	%	%	%	%	%	%	%
1933-34 ..	71.40	68.03	72.14	79.25	74.90	98.59	114.01	72.17
1934-35 ..	68.83	69.06	70.98	84.31	71.95	118.06	109.83	71.40
1935-36 ..	66.74	70.76	77.84	83.87	72.20	125.05	99.84	72.07
1936-37 ..	66.37	71.62	77.07	85.00	75.68	129.54	92.89	72.37
1937-38 ..	67.83	80.43	79.74	87.28	73.68	145.60	115.48	75.63

GOVERNMENT RAILWAYS: WORKING EXPENSES—*continued.*

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.	Australia.
PER AVERAGE MILE WORKED.								
	£	£	£	£	£	£	£	£
1933-34 ..	1,818	1,322	684	802	503	598	175	992*
1934-35 ..	1,876	1,378	775	886	547	732	177	1,055
1935-36 ..	1,935	1,452	794	954	571	870	181	1,099
1936-37 ..	2,017	1,538	832	1,011	601	953	192	1,155
1937-38 ..	2,251	1,659	897	1,122	620	1,039	233	1,260

PER TRAIN-MILE RUN.								
	d.	d.	d.	d.	d.	d.	d.	d.
1933-34 ..	106.81	97.83	96.83	98.76	97.36	81.55	163.96	101.52
1934-35 ..	105.64	100.50	94.21	105.89	97.44	92.08	169.96	101.83
1935-36 ..	102.65	100.39	101.01	106.06	97.97	(a)81.15	159.76	101.66
1936-37 ..	103.87	101.22	101.18	109.44	103.51	79.83	136.84	102.88
1937-38 ..	109.34	104.89	103.53	112.60	102.06	84.01	161.90	106.81

(a) See note (c), par. 3 (i) p. 118.

(ii) *Distribution.* The subjoined table shows the distribution of working expenses under four chief heads of expenditure for the years 1934 to 1938:—

GOVERNMENT RAILWAYS: DISTRIBUTION OF WORKING EXPENSES.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.	Australia.
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
MAINTENANCE OF WAY AND WORKS.								
1933-34 ..	2,654	1,565	1,162	368	553	96	168	6,566
1934-35 ..	2,433	1,570	1,291	394	553	116	152	6,509
1935-36 ..	2,161	1,517	1,344	445	569	122	145	6,303
1936-37 ..	2,320	1,627	1,451	471	610	130	139	6,748
1937-38 ..	2,614	1,777	1,537	528	644	135	179	7,414

ROLLING STOCK.

1933-34 ..	4,193	2,157	1,852	952	957	176	127	10,414
1934-35 ..	4,573	2,182	1,180	1,097	1,088	183	137	11,440
1935-36 ..	4,843	2,333	2,205	1,150	1,140	214	149	12,034
1936-37 ..	4,982	2,492	2,295	1,205	1,181	246	169	12,570
1937-38 ..	5,562	2,888	2,544	1,340	1,214	281	208	14,037

TRANSPORTATION AND TRAFFIC.

1933-34 ..	2,613	1,648	1,211	457	578	90	49	6,646
1934-35 ..	2,726	1,714	1,320	485	621	99	56	7,021
1935-36 ..	2,925	1,798	1,350	531	648	112	59	7,423
1936-37 ..	3,006	1,874	1,394	576	693	128	64	7,735
1937-38 ..	3,324	2,121	1,460	648	715	143	83	8,494

GOVERNMENT RAILWAYS: DISTRIBUTION OF WORKING EXPENSES

—continued.

Year.	N.S.W. £'000.	Victoria. £'000.	Q'land £'000.	S. Aust. £'000.	W. Aust. £'000.	Tasmania. £'000.	C'wealth. £'000.	Australia. £'000.
OTHER CHARGES.								
1933-34 ..	1,743	873	270	252	99	22	31	3,290
1934-35 ..	1,833	1,040	295	265	121	(a) 75	35	3,664
1935-36 ..	1,919	1,208	314	289	131	(a) 112	34	4,007
1936-37 ..	2,048	1,265	326	304	136	(a) 115	40	4,234
1937-38 ..	2,259	1,044	348	351	137	(a) 117	42	4,298

(a) Includes £54,000, 1935, and £94,000, 1936, 1937 and 1938, to replacement and depreciation fund.

5. Net Revenue.—The following table shows the net earnings, i.e., the excess of gross earnings over working expenses, and the amount of such net earnings per average mile worked and per train-mile run for the last five years:—

GOVERNMENT RAILWAYS: NET REVENUE.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.	Australia.
NET REVENUE.								
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
1933-34 ..	4,487	2,933	1,736	531	733	5	46	10,379
1934-35 ..	5,237	2,915	2,080	417	929	— 72	34	11,472
1935-36 ..	5,906	2,833	1,485	464	958	— 112	..	11,534
1936-37 ..	6,261	2,877	1,626	451	842	— 141	31	11,947
1937-38 ..	6,526	1,905	1,496	418	968	— 212	69	11,032

NET REVENUE PER AVERAGE MILE WORKED.

	£	£	£	£	£	£	£	£
1933-34 ..	728	621	265	209	168	9	22	383
1934-35 ..	850	618	317	165	213	— 112	16	423
1935-36 ..	964	601	226	184	220	— 174	..	426
1936-37 ..	1,023	609	248	178	193	— 218	14	441
1937-38 ..	1,067	403	228	163	221	— 325	31	406

NET REVENUE PER TRAIN-MILE RUN.

	d.	d.	d.	d.	d.	d.	d.	d.
1933-34 ..	42.78	45.99	37.40	25.86	32.63	1.17	—20.14	39.15
1934-35 ..	47.84	45.04	38.52	19.70	38.00	—14.08	—15.21	40.80
1935-36 ..	51.17	41.49	28.77	20.40	37.73	a—16.25	0.10	39.39
1936-37 ..	52.64	40.11	30.12	19.32	33.26	—18.21	10.47	39.28
1937-38 ..	51.86	25.52	26.30	16.40	36.46	—26.31	—21.71	34.41

(a) See note (c), par. 3 (i) p. 118.

In the graphs accompanying this Chapter the gross and net revenue and working expenses are shown from 1870 to 1938.

6. **Interest.**—The amount of interest payable on expenditure from loans for the construction and equipment of the Government railways in Australia during the five years ended 30th June, 1938, was as follows :—

GOVERNMENT RAILWAYS : INTEREST ON RAILWAY LOAN EXPENDITURE.

AMOUNT OF INTEREST PAYABLE.

Year.	N.S.W. (a)	Victoria.	Q'land. (a)	S. Aust.	W. Aust.	Tasmania.	C'wealth.	Australia. (a)
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
1933-34 ..	5,971	3,182	1,565	1,089	1,008	247	442	13,607
1934-35 ..	5,678	3,057	1,577	1,056	1,029	248	438	13,184
1935-36 ..	5,700	3,033	1,592	1,061	1,016	248	414	13,190
1936-37 ..	5,444	3,005	1,613	1,061	1,009	88	412	12,758
1937-38 ..	5,340	1,841	1,633	1,071	988	90	377	11,459

(a) Including interest charges on the Grafton-South Brisbane line, which for the year 1937-38 amounted to £218,125 and was contributed by New South Wales, £72,179; Queensland, £27,029; and the Commonwealth, £118,917. See par. 5, p. 113.

The interest payable on the cost of construction and equipment, after the expenditure from Consolidated Revenue (£8,969,043) for that purpose had been deducted, was at the rate of 3.75 per cent. in 1937-38.

Exchange on interest payments abroad and loan management and flotation expenses are not included in the above table. These items are not charged against the railways in Queensland, Western Australia and Tasmania and the figures for these States are not available. In the remaining States the amounts payable in 1937-38 were :—New South Wales, £764,312; Victoria, £184,014; and South Australia, £130,138.

7. **Profit or Loss.**—The following table shows, for the last five years, the actual profit or loss after deducting working expenses, interest and all other charges, excepting exchange, from the gross revenue :—

GOVERNMENT RAILWAYS : PROFIT OR LOSS.

PROFIT OR LOSS AFTER PAYMENT OF WORKING EXPENSES, INTEREST AND OTHER CHARGES.

Year.	N.S.W. (a)	Victoria. (b)	Q'land. (a) (b)	S. Aust.	W. Aust.	Tasmania. (b)	C'wealth.	Australia. (a)
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
1933-34 ..	- 1,485	- 248	171	- 557	- 277	- 241	- 488	- 3,228
1934-35 ..	- 440	- 142	503	- 639	- 99	- 320	- 472	- 1,712
1935-36 ..	206	- 199	- 107	- 597	- 57	- 360	- 414	- 1,656
1936-37 ..	817	- 129	14	- 609	- 167	- 230	- 381	- 811
1937-38 ..	1,186	64	- 138	- 653	- 20	- 302	- 445	- 427

(a) See note (a), par. 6, above.

(b) See par. 1 p. 116.

8. **Traffic.**—(i) *General.* Reference has already been made to the difference in the traffic conditions on many of the lines. These conditions differ not only in the several State and Commonwealth systems, but also on different lines in the same system, and apply to both passenger and goods traffic. By far the greater part of the population of Australia is confined to a fringe of country near the coast, more especially in the eastern

and southern-districts. A large proportion of the railway traffic between the chief centres of population is therefore carried over lines in the neighbourhood of the coast, and is thus, in some cases, open to seaborne competition. In more recent years the competition from the air is an important factor,

The following table gives particulars for the years 1933-34 to 1937-38 :—

GOVERNMENT RAILWAYS : TRAFFIC.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	C'wealth.	Australia.
NUMBER OF PASSENGER JOURNEYS.								
	'000.	'000.	'000.	'000.	'000.	'000.	'000.	'000.
1933-34 ..	142,521	131,367	22,878	16,325	12,103	1,789	88	327,071
1934-35 ..	160,212	139,689	24,328	16,660	12,876	2,134	98	355,997
1935-36 ..	171,143	139,539	25,244	17,431	12,421	2,322	96	368,196
1936-37 ..	177,837	141,343	25,527	17,777	12,710	2,331	109	377,634
1937-38 ..	189,349	137,895	25,688	17,632	12,011	2,267	100	384,942

PER AVERAGE MILE OF LINE WORKED.

	No.	No.	No.	No.	No.	No.	No.	No.
1933-34 ..	23,122	27,826	3,484	6,454	2,782	2,775	41	12,059
1934-35 ..	25,992	29,589	3,705	6,587	2,954	3,308	46	13,122
1935-36 ..	27,945	29,559	3,844	6,891	2,850	3,600	45	13,592
1936-37 ..	29,038	29,941	3,887	7,028	2,917	3,581	51	13,938
1937-38 ..	30,970	29,209	3,912	6,901	2,746	3,482	45	14,163

TONNAGE OF GOODS AND LIVE STOCK CARRIED.

	'000.	'000.	'000.	'000.	'000.	'000.	'000.	'000.
1933-34 ..	11,364	5,858	4,215	2,142	2,652	561	88	26,880
1934-35 ..	13,019	6,010	4,879	2,333	2,903	678	87	29,909
1935-36 ..	13,839	6,424	4,663	2,465	2,887	770	101	31,149
1936-37 ..	14,685	6,813	4,975	2,383	2,798	824	127	32,605
1937-38 ..	16,480	7,258	5,061	2,879	3,062	857	132	35,729

PER AVERAGE MILE OF LINE WORKED.

	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1933-34 ..	1,844	1,241	642	847	610	869	41	991
1934-35 ..	2,112	1,273	743	922	666	1,052	41	1,102
1935-36 ..	2,260	1,361	710	974	662	1,194	47	1,150
1936-37 ..	2,398	1,443	758	942	642	1,265	59	1,203
1937-38 ..	2,696	1,537	771	1,127	700	1,316	60	1,315

(ii) *Metropolitan and Country Passenger Traffic and Revenue 1937-38.* A further indication of the difference in passenger traffic conditions is obtained from the comparison of the volume of metropolitan and suburban and country traffic shown below.

**GOVERNMENT RAILWAYS : METROPOLITAN AND SUBURBAN, AND COUNTRY
PASSENGER TRAFFIC AND RECEIPTS, 1937-38.**

System.	Passenger Journeys.			Revenue.		
	Metropolitan and Suburban.	Country.	Total.	Metropolitan and Suburban.	Country.	Total.
	No.	No.	No.	£	£	£
N.S.W. ..	176,737,169	12,612,129	189,349,298	2,917,989	3,076,553	5,994,542
Victoria ..	132,044,095	5,850,581	137,894,676	2,281,235	1,403,144	3,684,379
Queensland ..	20,669,318	5,019,170	25,688,488	301,669	1,234,013	1,535,682
S. Australia ..	16,495,587	1,136,538	17,632,125	228,180	342,589	570,769
W. Australia ..	10,731,572	1,279,641	12,011,213	132,551	400,101	532,652
Tasmania ..	(a)	(a)	2,266,576	(a)	(a)	116,354
Commonwealth ..	..	99,670	99,670	..	120,737	120,737
Australia	356,677,741	25,997,729	384,942,046	5,861,624	6,577,137	12,555,115
	(b)	(b)		(b)	(b)	

(a) Not available.

(b) Incomplete, exclusive of Tasmania.

(iii) *Goods Traffic.* (a) *Classification.* Some indication of the differing conditions of the traffic in each system is also given by an examination of the tonnage of the various classes of commodities carried, and of the revenue derived therefrom. The following table shows the number of tons of various representative commodities carried during the year 1937-38 :—

GOVERNMENT RAILWAYS : CLASSIFICATION OF COMMODITIES CARRIED, 1937-38.

'000 TONS CARRIED.

System.	Coal and Coke.	Other Minerals.	Grain and Flour.	Hay, Straw and Chaff.	Wool.	Live Stock.	All other Commodities.	Total.
N.S.W. ..	8,022	1,863	1,885	290	185	891	3,344	16,480
Victoria ..	247	209	1,544	204	84	757	4,213	7,258
Q'land ..	733	595	278	(a)	83	479	2,893	5,061
S. Aust. ..	135	652	884	22	35	173	975	2,876
W. Aust. ..	307	297	909	42	27	114	1,366	3,062
Tas. ..	496	(b)	63	22	6	28	242	857
C'wealth ..	8	1	(a)	(a)	4	38	81	132
Australia	9,948	3,617	5,563	580	424	2,480	13,114	35,726

(a) Included with " Other."

(b) Included with " Coal and Coke."

(b) *Revenue.* The following table shows the revenue derived from goods and live stock traffic during 1937-38 :—

GOVERNMENT RAILWAYS : REVENUE FROM GOODS AND LIVE STOCK, 1937-38.

Class.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wealth.	Australia.
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
General Merchandise ..	6,693	4,017	3,332	1,570	2,271	193	121	18,197
Wool ..	711	184	408	76	70	5	9	1,463
Live stock ..	1,324	608	672	198	138	22	57	3,019
Minerals—								
Coal and coke ..	1,566	74	327	37	180	(a) 21	1	2,206
Others ..	537	62	382	472	110	(b) 70	2	1,635
Total ..	10,831	4,945	5,121	2,353	2,769	311	190	26,520

(a) Native coal.

(b) Minerals other than native coal.

(iv) *Passenger-Mileage.* The subjoined table gives particulars of passenger-mileage in respect of the Government railways in Australia for the years 1935-36 to 1937-38.

GOVERNMENT RAILWAYS : SUMMARY OF "PASSENGER-MILES."

Year ended 30th June	Passenger Train-Mileage.	Total Passenger-Miles.	Average Passengers' per Train-Mile.	Average Mileage per Passenger Journey.	Passenger Earnings.			Density of Traffic per Average Mile Worked.	
					Gross.	Per Average Mile Worked.	Per Passenger-Mile.		
									£
'000.	'000.	No.	Miles.	£'000.	£	d.	d.	No.	
NEW SOUTH WALES.									
1936	17,448	1,864,368	107	10.89	5,433	887	0.70	74.73	304,427
1937	17,837	1,952,887	109	10.98	5,623	918	0.69	75.66	318,881
1938	18,742	2,132,966	114	11.26	5,995	980	0.67	76.76	348,878
VICTORIA.									
1936	11,458	1,180,297	103	8.46	3,713	787	0.76	77.78	250,022
1937	11,886	1,233,554	104	8.73	3,807	806	0.74	76.86	261,303
1938	12,088	1,203,812	100	8.73	3,684	780	0.73	73.15	255,003
QUEENSLAND. (a)									
1936	5,430	(b)	(b)	(b)	1,470	226	(b)	64.95	(b)
1937	5,504	(b)	(b)	(b)	1,447	223	(b)	63.09	(b)
1938	5,696	(b)	(b)	(b)	1,494	228	(b)	62.97	(b)
SOUTH AUSTRALIA.									
1936	3,423	189,061	55	10.85	549	217	0.70	38.46	74,747
1937	3,504	205,329	59	10.55	592	234	0.69	40.56	81,179
1938	3,679	200,144	54	11.35	571	223	0.68	37.23	78,319
WESTERN AUSTRALIA.									
1936	2,386	(b)	(b)	(b)	564	129	(b)	55.78	(b)
1937	2,398	(b)	(b)	(b)	559	128	(b)	55.93	(b)
1938	2,544	(b)	(b)	(b)	533	122	(b)	50.25	(b)
TASMANIA.									
1936	(c) 858	32,911	39	14.17	120	187	0.88	33.66	51,033
1937	949	34,653	37	14.86	121	185	0.84	30.51	53,231
1938	1,045	32,917	32	14.52	116	179	0.85	26.72	50,563
COMMONWEALTH. (d)									
1936	256	22,952	90	237.84	105	49	1.10	98.25	10,702
1937	344	25,797	75	237.14	117	54	1.09	81.39	12,028
1938	385	25,965	67	257.92	121	55	1.12	75.30	11,817

(a) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) line. (b) Not available. (c) Estimated. (d) Railways controlled by Commonwealth Government.

(v) *Ton-Mileage.* Particulars regarding total "ton-miles" are given in the following table for each of the years 1935-36 to 1937-38:—

GOVERNMENT RAILWAYS : SUMMARY OF "TON-MILES."

Year ended 30th June—	Goods-Train-Mileage.	Total "Ton-miles."	Average Freight Paying Load		Goods and Livestock Earnings.				Density of Traffic per Average Mile Worked.
			per Ton.	per Ton.	Gross.	Per Average Mile Worked.	"Per Ton-Mile."	Per Goods-Train-Mile.	
	'ooo.	'ooo.	Tons.	Miles.	£'ooo.	£	d.	d.	Tons.
NEW SOUTH WALES.									
1936	10,253	1,666,603	163	123.32	9,155	1,495	1.31	214.30	272,134
1937	10,711	1,731,904	162	120.80	9,661	1,577	1.34	216.48	282,797
1938	11,461	1,854,936	162	114.05	10,831	1,772	1.40	226.80	303,402
VICTORIA.									
1936	4,933	759,037	154	118.15	4,768	1,010	1.51	231.98	160,787
1937	5,325	838,002	157	123.00	5,029	1,065	1.44	226.65	177,514
1938	5,829	927,444	159	127.78	4,945	1,047	1.28	203.61	196,460
QUEENSLAND. (a)									
1936	6,847	615,972	90	134.22	4,412	679	1.72	154.63	94,797
1937	7,343	665,989	91	139.89	4,824	742	1.73	157.68	105,658
1938	7,847	715,917	91	146.98	5,056	770	1.69	154.63	109,023
SOUTH AUSTRALIA.									
1936	2,039	312,789	153	126.91	2,027	801	1.56	238.64	123,664
1937	2,102	314,462	150	131.97	2,099	830	1.60	239.58	124,325
1938	2,432	365,012	150	126.80	2,353	921	1.55	232.20	142,834
WESTERN AUSTRALIA.									
1936	(b)3,709	353,011	92	122.29	2,527	580	1.72	163.48	80,997
1937	(b)3,677	346,777	94	123.92	2,541	583	1.76	165.85	79,588
1938	(b)3,828	390,913	102	127.67	2,769	633	1.70	173.62	89,372
TASMANIA. (c)									
1936	(b) 801	37,837	47	50.74	275	456	1.74	82.26	58,672
1937	(b) 915	41,151	45	51.50	302	498	1.76	84.98	63,212
1938	(b) 887	37,916	43	45.76	289	443	1.83	78.07	58,243
COMMONWEALTH. (d)									
1936	326	24,721	76	243.84	173	81	1.68	127.15	11,526
1937	376	29,742	79	234.59	195	91	1.57	124.34	13,868
1938	374	28,526	76	216.02	190	86	1.60	121.90	12,983

(a) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) line.
 (b) Estimated. (c) Exclusive of particulars of livestock carried. (d) Railways controlled by the Commonwealth Government.

9. **Rolling Stock.**—The following table shows the numbers of rolling stock in use at the 30th June for each of the years 1936 to 1938. Further details may be found in *Transport and Communication Bulletin No. 29.*

GOVERNMENT RAILWAYS : ROLLING STOCK.

System.	At 30th June—								
	1936.			1937.			1938.		
	Locos.	Coaching Stock.	Other Stock.	Locos.	Coaching Stock.	Other Stock.	Locos.	Coaching Stock.	Other Stock.
New South Wales ..	1,378	2,704	23,340	1,346	2,725	23,293	1,310	2,790	23,704
Victoria ..	602	2,450	21,056	588	2,474	21,021	574	2,458	21,029
Queensland ..	750	1,381	18,738	753	1,397	18,744	748	1,398	18,704
South Australia ..	365	610	8,720	327	608	8,436	329	606	8,013
Western Australia ..	420	489	11,096	417	485	11,070	420	477	11,097
Tasmania ..	92	220	2,045	93	226	2,046	94	233	2,073
Commonwealth ..	105	88	1,354	105	89	1,384	113	89	1,383
Australia ..	3,712	7,942	86,349	3,629	8,004	85,994	3,588	8,051	86,003

10. **Accidents.**—The following table gives particulars of the numbers of persons killed and injured through train accidents and the movement of rolling stock on the Government railways of Australia for each of the years 1935-36, 1936-37 and 1937-38 :—

GOVERNMENT RAILWAYS : ACCIDENTS.

System.	1935-36.		1936-37.		1937-38.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales ..	66	442	55	479	66	593
Victoria ..	46	188	55	144	48	442
Queensland ..	20	156	26	143	25	166
South Australia ..	14	143	14	172	21	182
Western Australia ..	14	383	18	703	14	190
Tasmania ..	4	17	3	46	6	66
Commonwealth ..	..	23	..	30	..	38
Australia ..	164	1,352	171	1,717	180	1,677

Further details relating to the number of passengers, employees and other persons affected by railway accidents are published on page 25 of *Transport and Communication Bulletin No. 29.*

11. **Consumption of Oil and Fuel.**—The appended table shows the quantities and values of oil and fuel consumed by the various Government Railway Departments during the year 1937-38 :—

GOVERNMENT RAILWAYS : CONSUMPTION AND VALUE OF OIL AND FUEL, 1937-38.

System.	Oil.				Coal.	
	Lubricating.		Fuel and Light, etc.		Tons.	Value.
	Gallons.	Value.	Gallons.	Value.		
New South Wales ..	404,038	45,852	1,202,550	42,381	1,502,326	994,049
Victoria ..	200,630	18,749	1,681,295	58,396	549,387	531,759
Queensland ..	211,225	22,508	502,346	32,933	439,209	401,802
South Australia ..	86,756	10,311	1,130,608	56,353	198,799	241,100
Western Australia ..	74,153	8,520	387,483	16,003	336,202	245,531
Tasmania ..	40,304	4,203	452,615	12,869	53,347	67,806
Commonwealth ..	23,574	2,470	150,934	6,132	27,450	41,721
Australia ..	1,040,680	112,613	5,507,831	225,067	3,106,720	2,523,768

12. **Staff Employed.**—The following table gives details of the average staff employed by the Government railways of Australia during 1937–38. Further details under this head may be found in *Transport and Communication Bulletin* No. 29.

GOVERNMENT RAILWAYS : AVERAGE STAFF EMPLOYED, 1937–38.

System.	Operating Staff.		Construction Staff.		All Employees—Staff.	
	Salaried.	Wages.	Salaried.	Wages.	Salaried.	Wages.
New South Wales ..	6,787	34,341	47	1,715	6,834	36,056
Victoria ..	3,478	20,467	(a)	(a)	3,478	20,467
Queensland ..	3,122	14,590	7	151	3,129	14,741
South Australia ..	1,336	7,064	3	25	1,339	7,089
Western Australia ..	1,302	7,176	2	85	1,304	7,261
Tasmania ..	208	1,871	(b)	(b)	208	1,871
Commonwealth ..	158	1,543	5	122	163	1,665
Australia ..	16,391	87,052	64	2,098	16,455	89,150

(a) In the State of Victoria, railway construction work is not under the control of the Railways Commissioners. (b) Construction work has been placed under the direction of the Chief Engineer of the Way and Works Section.

§ 3. Private Railways.

1. **Total Mileage Open, 1937–38.**—The bulk of the private railways in Australia have been laid down for the purpose of hauling timber, firewood, sugar-cane, coal, or other minerals, and they are not generally used for the conveyance of passengers or for public traffic. In many cases the lines are practically unballasted and easily removable.

The railways referred to in this section include only lines open to the public for general passenger and goods traffic. Complete particulars of lines used for special purposes only are not available.

2. **Lines Open for General Traffic.**—The following statement gives a summary of the operations of private railways open for general traffic for the year 1937–38 :—

PRIVATE RAILWAYS : SUMMARY OF OPERATIONS, 1937–38.

State.	Route-Miles Open.	Capital Cost.	Gross Revenue.	Working Expenses.	Train-Miles Run.	Passenger Journeys.	Goods, etc., Carried.	Employees at end of Year.
	Miles.	£'000.	£	£	'000.	'000.	'000 Tons.	No.
N.S.W. (a)	90.23	1,261	365,500	206,477	609	1,283	1,769	494
Vic. ..	24.94	82	8,595	7,982	24	9	39	18
Q'land (a)	212.39	309	32,109	27,630	96	4	246	49
S.A. (a) ..	50.90	(b)	(b)	(b)	91	..	2,076	39
W.A. ..	277.00	2,254	180,121	80,863	282	25	144	283
Tas. (a) ..	131.55	906	152,995	127,956	227	39	226	281
Australia (a)	787.01	4,812	739,320	450,908	1,329	1,360	4,500	1,164

(a) Incomplete. (b) Not available.

Some of the particulars given in the table are incomplete in respect of the States of New South Wales, Queensland, South Australia and Tasmania. In New South Wales and Queensland several lines, although owned by private companies, are operated by the Government Railway Departments, and Government rolling stock is used thereon, while some of the companies are not able to supply particulars of the capital cost, revenue and

working expenses of the lines which they operate. In some cases the figures relating to tonnage of goods, etc., include particulars of coal, ores, timber, sugar cane, etc., carried for private purposes, as figures relating to goods carried for the general public are not kept separate.

C. TRAMWAYS.

1. Systems in Operation.—(i) *General.* Tramway systems are in operation in all the States, and in recent years considerable extension has been made in the use of electrical traction, the benefit of which is now enjoyed in a number of the larger towns.

In many parts of Australia private lines used for special purposes in connexion with the timber, mining, sugar, or other industries are often called tramways, but they are more properly railways (see above), and the traffic on them has nothing in common with that of the street tramways for the conveyance of passengers, which are dealt with in the present section.

(ii) *Total Mileage Open and Classification of Lines.* The following tables show for each State the total mileage of tramway lines open for general passenger traffic for the year 1937-38, classified (a) according to the controlling authority, (b) according to the motive power used, and (c) according to gauge:—

TRAMWAYS : ROUTE MILEAGE OPEN, 1937-38.

Controlling Authority, Nature of Motive Power, and Gauge.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total Australia.
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ACCORDING TO CONTROLLING AUTHORITY.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Government ..	175.36	176.04	..	..	58.63	..	410.03
Municipal ..	..	..	66.70	76.84	11.90	29.29	184.73
Private ..	3.50	..	..	..	9.40	..	12.90
Total ..	178.86	176.04	66.70	76.84	79.93	29.29	607.66

ACCORDING TO MOTIVE POWER.

Electric ..	175.36	164.99	60.05	76.84	71.63	29.29	578.16
Steam or Petrol ..	3.50	..	6.65	..	8.30	..	18.45
Cable ..	..	11.05	..	..	..	..	11.05
Total ..	178.86	176.04	66.70	76.84	79.93	29.29	607.66

ACCORDING TO GAUGE.

Gauge—							
5 ft. 3 in. ..	..	5.18	..	..	..	..	5.18
4 ft. 8½ in. ..	178.86	170.86	60.05	76.84	..	..	486.61
3 ft. 6 in. ..	..	..	6.65	..	79.93	29.29	115.87
Total ..	178.86	176.04	66.70	76.84	79.93	29.29	607.66

Further details on this subject may be obtained from page 28 of *Transport and Communication Bulletin* No. 29.

(iii) *Cost of Construction and Equipment.* The table hereunder shows the total cost of construction and equipment of all tramways to the 30th June, 1938, classified according to the nature of the motive power. Further details relating to controlling authorities are available on page 28 of *Transport and Communication Bulletin* No. 29.

TRAMWAYS : COST OF CONSTRUCTION AND EQUIPMENT, 1937-38.

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
ACCORDING TO MOTIVE POWER.							
Electric	£ 8,943,388	£ 8,030,238	£ 2,341,403	£ 4,409,385	£ 1,751,078	£ 656,203	£ 26,131,695
Steam or Petrol	20,000	..	53,235	..	75,412	..	148,647
Cable ...	..	678,944	..	..	..	..	678,944
Total ..	8,963,388	8,709,182	2,394,638	4,409,385	1,826,490	656,203	26,959,286

(iv) *Summary of Operations, 1934 to 1938.* The following table gives a summary of the working of all tramway systems in Australia for the years 1934 to 1938 :—

TRAMWAYS : SUMMARY OF OPERATIONS.

Particulars.	1934.	1935.	1936.	1937.	1938.
Mileage open for traffic .. Miles	622.20	619.07	611.90	613.02	607.66
Cost of Construction and Equipment .. £'000.	25,614	26,068	26,654	26,949	26,959
Cost per mile £	41,166	42,108	43,559	43,961	44,366
Gross Revenue £'000.	7,176	7,398	7,567	7,735	7,835
Working Expenses £'000.	5,153	5,419	5,464	5,609	5,975
Net Earnings £'000.	2,023	1,979	2,103	2,126	1,860
Interest £'000.	1,204	1,166	1,135	1,102	1,117
Percentage of Working Expenses on Gross Revenue %	71.80	73.24	72.20	72.51	76.26
Percentage of Net Earnings on Capital Cost %	7.90	7.59	7.89	7.89	6.90
Tram-miles run ,000 miles	80,757	81,084	81,481	82,295	83,806
Gross revenue per tram mile .. d.	21.33	21.90	22.29	22.56	22.44
Working expenses per tram mile .. d.	15.31	16.04	16.09	16.36	17.11
Net earnings per tram mile d.	6.02	5.86	6.20	6.20	5.33
Passengers carried ,000	646,161	672,523	688,123	701,941	754,957
Passengers carried per tram mile .. No.	8.00	8.29	8.45	8.53	8.49
Average revenue per passenger journey .. d.	2.67	2.64	2.64	2.64	2.64
Persons employed at end of year .. No.	17,066	17,572	17,712	17,864	18,073

2. *Electric Tramways.*—(i) *Financial Operations.* The following table gives the capital cost and the financial results of electric tramways for each State during 1937-38, together with similar details for Australia for the last five years.

ELECTRIC TRAMWAYS : CAPITAL COST AND FINANCIAL RESULTS.

State.	Route-Miles Open at 30th June, 1938.	Capital Cost.	Gross Revenue.	Working Expenses.	Net Revenue.	Interest.	Employees at 30th June, 1938.
STATES, 1937-38.							
New South Wales ..	Miles. 175.36	£'000. 8,944	£'000. 3,529	£'000. 2,942	£'000. 587	£'000. 400	No. 8,351
Victoria ..	164.99	8,030	2,033	1,320	713	265	4,302
Queensland ..	60.05	2,341	818	612	206	122	1,882
South Australia ..	76.84	4,410	692	471	221	238	1,788
Western Australia ..	71.63	1,751	358	304	54	46	806
Tasmania ..	29.29	656	172	134	38	41	335
Australia ..	578.16	26,132	7,602	5,783	1,819	1,112	17,464

AUSTRALIA, 1933-34 TO 1937-38.

	Miles.	£'000.	£'000.	£'000.	£'000.	£'000.	No.
1933-34 ..	573.59	24,026	6,731	4,794	1,937	1,191	15,774
1934-35 ..	570.46	24,539	6,936	5,050	1,886	1,155	16,291
1935-36 ..	570.64	25,428	7,201	5,165	2,036	1,123	16,789
1936-37 ..	577.96	25,984	7,438	5,361	2,077	1,092	17,143
1937-38 ..	578.16	26,132	7,602	5,783	1,819	1,112	17,464

(ii) *Traffic and Accidents.* Particulars of the traffic of electric tramways and the accidents which occurred in the movement of rolling stock are shown in the following table for each State during 1937-38, and for Australia during the last five years:—

ELECTRIC TRAMWAYS : TRAFFIC AND ACCIDENTS.

State.	Average Mileage Open for Year.		Car-Miles Run.	Passenger Journeys.	Average Number Passengers per Car-Mile.	Accidents.	
	Route.	Track.				Killed.	Injured.
STATES, 1937-38.							
New South Wales	Miles. 175.36	Miles. 334.81	'000. 35,790	'000. 328,446	No. 9.18	No. 33	No. 1,571
Victoria ..	164.99	306.76	22,705	167,495	7.38	20	360
Queensland ..	60.05	106.49	7,874	89,534	11.37	6	532
South Australia ..	76.84	144.82	8,291	51,674	6.23	4	129
Western Australia ..	71.63	108.26	4,400	37,348	8.49	7	249
Tasmania ..	28.70	43.60	1,978	14,789	7.48	1	12
Australia ..	577.57	1,044.74	81,038	689,286	8.51	71	2,853
AUSTRALIA, 1933-34 TO 1937-38.							
	Miles.	Miles.	'000.	'000.	No.	No.	No.
1933-34 ..	573.43	1,019.69	74,858	602,234	8.04	57	1,784
1934-35 ..	570.12	1,009.00	75,203	626,901	8.34	65	1,882
1935-36 ..	570.42	1,016.63	76,684	652,491	8.51	70	2,226
1936-37 ..	576.79	1,025.99	78,526	673,227	8.57	74	2,535
1937-38 ..	577.57	1,044.74	81,038	689,286	8.51	71	2,853

D. MOTOR VEHICLES.

1. **The Motor Car and Motor Industry.**—(i) *Evolution of the Motor Car.* In the issue of the Year Book for 1927 (No 20, p. 319) a short history of the evolution of the motor car is given.

(ii) *Motor Industry.* Although motor cars are not entirely manufactured in Australia the capital invested in assembling and body-building plants is considerable. The importance of the industry is shown by the following figures which relate to the local manufacture of motor bodies and the importation of motor cars, fuel and tyres during the past three years :—

MOTOR VEHICLES, ETC. : LOCAL MANUFACTURE AND IMPORTS.

Particulars.	Unit.	1935-36.	1936-37.	1937-38.
Motor bodies built	No.	67,337	77,191	92,061
	£	6,043,735	6,461,314	7,400,497
Imports—				
Motor bodies	No.	1,699	786	646
	£	149,593	81,380	63,810
Chassis	No.	75,652	69,915	87,632
	£	5,507,957	5,458,640	7,355,586
Crude petroleum	Mil. gal.	65	60	70
	£	539,693	520,517	603,216
Petroleum spirit, etc.	Mil. gal.	255	282	333
	£	3,792,950	4,525,939	5,503,085
Pneumatic tyres and tubes	lb.	225,087	342,651	341,178
	£	18,826	27,032	30,968

Although precise figures are not available, the value of motor tyres and tubes produced in Australia during 1937-38 was approximately £4,000,000, and a thriving industry is engaged in the manufacture of spares, batteries and accessories.

2. **Registration.**—The arrangements for the registration of motor vehicles and the licensing of drivers and riders thereof are not uniform throughout Australia. Methods of registration, licence fees payable, etc., in each State were referred to in Official Year Book No. 16, pp. 337-340, and later issues up to No. 25.

3. **Public Vehicles.**—In all the capital cities of the States and in many of the most important provincial centres taxi-cabs and other vehicles ply for hire under licence granted either by the Commissioner of Police or the Local Government authority concerned. As most of these vehicles are independently controlled by individuals or small companies, it has not been possible to obtain complete data in respect of their operations.

4. **Motor Omnibuses.**—In both urban and provincial centres motor omnibus traffic has assumed considerable proportions during recent years, and has had a marked effect on railway and tramway services. The constitution of Boards empowered to allocate the routes over which omnibuses may operate arose from the belief that the economic waste resulting from duplication, by running services parallel with or contiguous to existing railway and tramway systems, is thus avoided. The general principle governing the allocation of routes is that the omnibus services should act as feeders to existing transport facilities. In some States the railway and tramway systems run motor services complementary to their main services to meet the competition of private enterprise and to endeavour to protect the existing transport utilities provided by public bodies. Such services are conducted in New South Wales by the Department of

Road Transport and Tramways, in Victoria by the Victorian Railways Commissioners, in South Australia by the South Australian Railways Commissioners and by the Municipal Tramways Trust, Adelaide, and in Tasmania by the Municipality of Hobart.

5. Motor Vehicles on the Register, etc.—(i) Year 1937–38. Particulars of the registration of motor vehicles, licences issued and revenue received for the year 1937–38 are contained in the subjoined table :—

MOTOR VEHICLES : REGISTRATIONS AND REVENUE, 1937–38.

State or Territory.	Motor Vehicles Registered at 30th June, 1938. (a)					Drivers' and Riders' Licences in force at 30th June, 1938.	Gross Revenue derived from—			
	Motor Cars.(b)	Commercial Vehicles (c)	Motor Cycles.	Total.	Per 1,000 of Population at 30th June, 1938.		Vehicle Registrations and Motor Tax.	Drivers' and Riders', etc., Licences.	Other Sources.	Total.
New South Wales ..	205,802	73,569	24,032	303,403	111.59	430,109	2,293,306	223,335	90,370	2,607,011
Victoria ..	145,179	477,943	27,333	250,455	134.14	340,438	1,730,644	85,214	38,804	1,854,662
Queensland ..	72,225	38,737	7,846	118,808	118.43	151,179	716,813	58,908	58,404	834,125
South Australia ..	56,882	23,206	10,048	90,136	152.18	137,627	615,590	60,135	10,065	685,790
Western Australia ..	36,386	22,596	7,079	66,061	143.56	83,564	381,548	25,840	25,675	433,063
Tasmania ..	16,648	4,511	3,646	24,805	105.92	29,090	133,749	14,543	10,737	159,029
Northern Territory ..	354	835	44	1,233	213.73	1,313	1,682	551	..	2,233
Australian Capital Territory ..	1,487	354	86	1,927	166.67	2,556	11,515	1,527	106	13,148
Australia ..	534,963	241,751	80,114	856,828	124.30	1,175,786	5,884,847	470,053	234,161	6,589,061

(a) Exclusive of Trailers (15,831), Road Tractors, etc. (1,659), and Dealers' Plates (3,741). (b) Includes Taxis and Hire Cars. (c) Includes Lorries, Vans, Buses and Utility Trucks. (d) Includes 44,579 vehicles registered as Primary Producers'.

Particulars relating to the number of motor vehicles registered at 30th June 1939, will be found in the Appendix to this volume.

(ii) *Quinquennium* 1934–1938. The following table shows the number of vehicles registered, licences issued, and revenue received therefrom during each of the years 1933–34 to 1937–38 :—

MOTOR VEHICLES : REGISTRATIONS AND REVENUE, AUSTRALIA.

Year.	Motor Vehicles Registered at 30th June.					Drivers' and Riders' Licences in force at 30th June.	Gross Revenue derived from—			
	Motor Cars.	Commercial Vehicles.	Motor Cycles.	Total.	Per 1,000 of Population at 30th June.		Vehicle Registrations and Motor Tax.	Drivers' and Riders', etc., Licences.	Other Sources.	Total.
1933–34	455,199	a 116,341	73,104	644,644	96.6	863,982	4,154,331	341,685	107,080	4,603,096
1934–35	457,684	b 155,721	75,045	688,450	102.4	910,218	4,507,034	363,194	153,586	5,023,814
1935–36	484,832	b 180,567	77,467	742,866	109.6	979,343	5,017,888	386,322	215,949	5,620,159
1936–37	499,289	b 214,296	77,912	791,497	115.9	1,092,973	5,413,282	448,914	218,671	6,080,867
1937–38	534,963	b 241,751	80,114	856,828	124.3	1,175,786	5,884,847	470,053	234,161	6,589,061

(a) Incomplete, Queensland commercial vehicles included with motor cars. (b) Includes Primary Producers' Vehicles, Victoria.

(iii) *Relation to Population.* The table hereunder gives the number of vehicles (exclusive of motor cycles) registered per 1,000 of population in each State at the 31st December, 1921, and at 30th June for each of the years 1934 to 1938 :—

MOTOR VEHICLES (EXCLUSIVE OF MOTOR CYCLES) REGISTERED PER 1,000 OF POPULATION.

Year.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Australia.
31st Dec. 1921 ..	15	16	8	24	12	13	(a)	..	15
30th June, 1934 ..	78	90	89	99	97	65	129	143	86
„ 1935 ..	83	97	96	98	105	70	95	148	91
„ 1936 ..	89	105	102	110	110	77	185	160	98
„ 1937 ..	96	112	105	119	119	82	191	162	104
„ 1938 ..	103	120	111	135	128	90	206	159	113

(a) Not available.

(iv) *Revenue per Motor Vehicle.* The following table gives the average revenue per vehicle (exclusive of motor cycles) received in respect of registration and motor tax in the several States for each year from 1933-34 to 1937-38. In some States the revenue from motor tax on cycles is not separately recorded. In these cases an amount based on the flat rate provided for cycles in the registration acts has been deducted from the total revenue received, and the average amounts shown must therefore be regarded as approximate only.

AVERAGE REVENUE PER VEHICLE FROM REGISTRATION FEES AND MOTOR TAX (EXCLUSIVE OF MOTOR CYCLES).

State or Territory.	1933-34.			1934-35.			1935-36.			1936-37.			1937-38.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
New South Wales ..	7	6	5	7	11	0	7	14	2	7	16	0	7	17	11
Victoria ..	7	0	2	7	3	5	7	5	11	7	5	10	7	7	8
Queensland ..	6	1	3	5	18	8	6	0	8	6	3	0	6	5	10
South Australia ..	7	19	2	8	11	11	8	8	6	a7	14	0	7	4	7
Western Australia ..	6	4	10	5	17	5	5	16	11	6	11	5	6	5	2
Tasmania ..	5	14	3	5	15	0	5	14	3	5	13	0	5	17	6
Northern Territory ..	b1	0	0	b1	0	0	1	5	0	1	7	0	1	8	1
Aust. Cap. Territory	5	3	9	5	12	1	5	12	2	6	6	0	5	18	7
Australia ..	6	19	6	7	2	2	7	4	0	7	4	9	7	5	2

(a) Decrease as compared with figures for 1935-36 largely due to the introduction during the year of a change in the method of registering, which enabled persons to register vehicles for six-monthly periods, instead of annually only, as before.

(b) Estimated.

6. **New Vehicles Registered.**—(i) *Year 1937-38.* The following table gives the number of new vehicles registered in the various States during the year 1937-38 :—

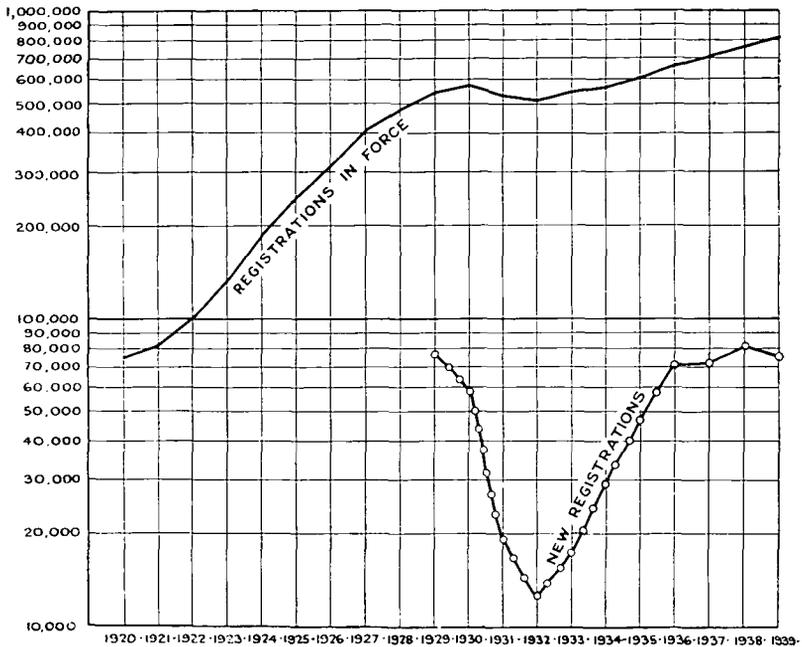
NEW MOTOR VEHICLES REGISTERED, 1937-38.

State or Territory.	Motor Cars.	Commercial Vehicles, etc.	Motor Cycles.	Total.
New South Wales ..	23,633	10,358	2,748	36,739
Victoria ..	14,954	(a) 8,604	2,946	26,504
Queensland ..	6,765	4,443	999	12,207
South Australia (b) ..	5,507	2,575	906	8,988
Western Australia (c) ..	2,273	663	416	3,352
Tasmania ..	1,802	707	287	2,796
Australian Capital Territory ..	191	52	21	264
Total ..	55,125	27,402	8,323	90,850

(a) Includes vehicles registered as Primary Producers'. (b) Excludes Northern Territory. (c) Metropolitan Area only.

Particulars of New Vehicles Registered during 1938-39 will be found in the Appendix to this volume.

MOTOR VEHICLE REGISTRATION—AUSTRALIA, 1920 TO 1939.

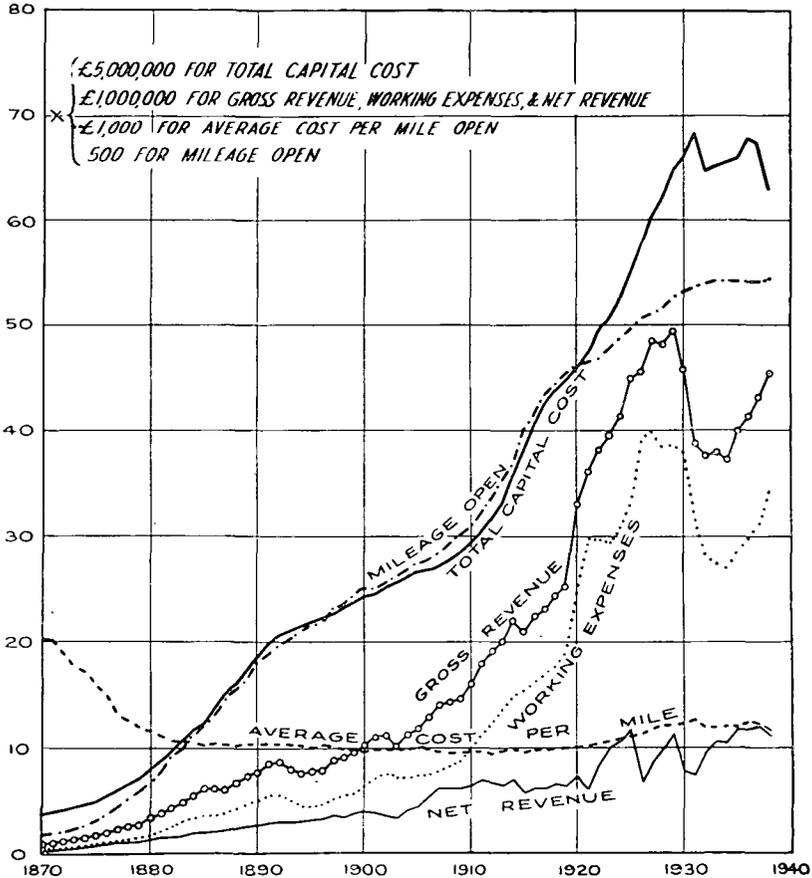


(See page 133.)

EXPLANATION.—This is a ratio graph, the vertical scale being logarithmic, and the curves rise and fall according to the rate of increase or decrease. Actual numbers are indicated by the scale at the side of the graph.

The graphs show for all motor vehicles other than motor cycles the registrations in force at 30th June each year and the number of new registrations during the year.

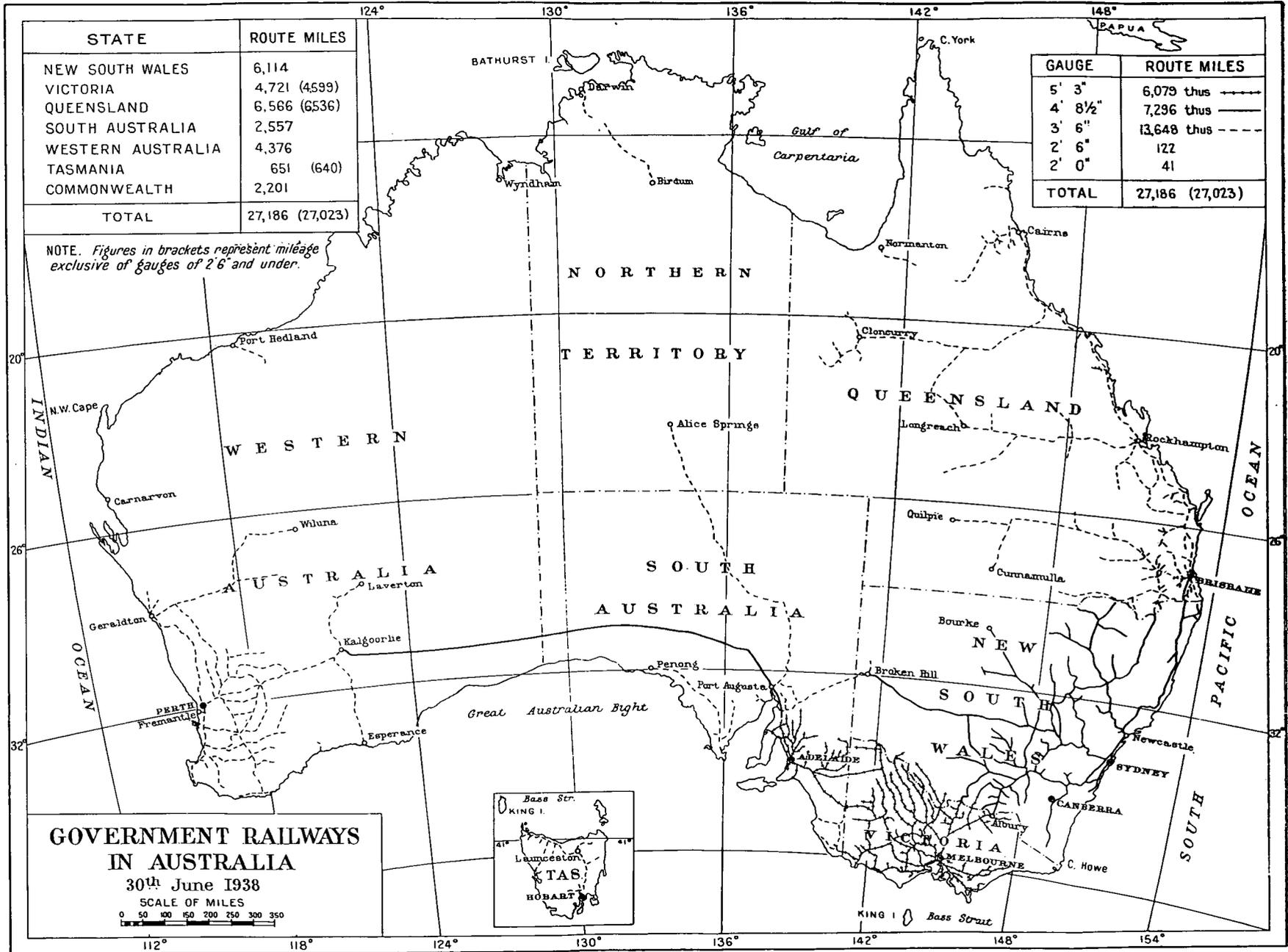
FINANCIAL POSITION OF THE GOVERNMENT RAILWAYS OF AUSTRALIA, 1870 TO 1938.



EXPLANATION.—The base of each square represents throughout ten years. The significance of the vertical height of each square varies according to the nature of the several curves.

In the curve for the total capital cost, the vertical side of each square represents £50,000,000.

In the curves for (i) gross revenue; (ii) working expenses; and (iii) net revenue, the vertical side of each square represents £10,000,000. For the curve of average cost per mile open, the vertical side of each square represents £10,000. The mileage open is shown by a broken line, the vertical side of each square representing 5,000 miles.



(ii) *Quinquennium*. 1934-1938. Particulars of new vehicles registered in Australia during the years 1933-34 to 1937-38 appear in the following table:—

NEW MOTOR VEHICLES REGISTERED : AUSTRALIA.(a)

Year.	Motor Cars.	Commercial Vehicles, etc.	Motor Cycles.	Total.
1933-34	(b) 20,427	(b) 7,931	3,936	32,294
1934-35	(b) 32,085	(b) 14,146	5,249	52,380
1935-36	50,427	19,851	6,673	76,951
1936-37	48,587	24,191	7,479	80,257
1937-38	55,125	27,402	8,323	90,850

(a) Excludes Northern Territory and extra-Metropolitan Area of Western Australia; also Australian Capital Territory prior to 1935-36. The footnote in Year Book No. 31 stated that figures for earlier years were approximate. Details for new cars and new commercial vehicles registered have now been revised, and may be taken as substantially accurate. (b) Revised.

7. World Motor Vehicle Statistics, 1939.—The result of the 1939 World Motor Census, conducted by the "American Automobile" magazine, from which the following particulars have been extracted, shows that there were 42,942,694 motor cars, trucks, and buses registered in various countries of the world at 1st January, 1939. This shows an increase of 1.2 per cent. on the figure for the previous year, 42,446,814, and is the highest figure yet attained.

The following table shows the number of motor vehicles registered in each continent at 1st January, 1939:—

MOTOR VEHICLES : WORLD REGISTRATIONS AT 1st JANUARY, 1939.

Continent.	Total Automobiles.	Motor Cars.(a)	Motor Trucks and Buses.(a)	Motor Cycles.(a)
Africa	655,755	521,696	131,234	54,820
America (exclusive of United States of America) ..	2,214,626	1,747,085	467,581	25,270
United States of America ..	29,211,651	25,081,121	4,130,531	110,126
Asia	666,550	413,268	251,232	101,958
Europe	9,065,475	6,301,286	2,639,189	2,507,180
Oceania	1,128,637	840,259	287,778	100,818
Total	42,942,694	34,904,715	7,907,545	2,900,172

(a) Not complete for all territories.

The next table gives the numbers of motor vehicles registered in various countries. For the purposes of comparison, the approximate population in millions of each country is also shown:—

COMPARATIVE MOTOR VEHICLE STATISTICS, 1st JANUARY, 1939.

Country.	Approximate Population in Millions.	Motor Cars, Trucks and Buses.	Motor Cycles.
Australia	7	799,750	80,250
Argentina	13	279,267	2,000
Canada	11	1,381,103	12,034
France	42	2,250,000	..
Germany	77	1,707,496	1,582,872
Great Britain	47	2,590,428	439,149
India	353	178,124	11,417
Italy	43	399,375	154,500
Japanese Empire	101	140,000	62,000
New Zealand	2	265,028	19,733
Union of South Africa	2	339,084	27,500
United States of America	130	29,211,651	110,126

The foregoing figures are in some cases approximations based on estimates furnished by Trade Commissioners or representative motor trade organizations in the several countries, and in other cases are incomplete, especially in relation to motor cycles.

E. TRAFFIC ACCIDENTS.

1. *General.*—The practice of reporting accidents occurring in a public thoroughfare is not uniform throughout the Commonwealth. Some States, like New South Wales, have not enforced the reporting of minor accidents while others, like Victoria, require that all accidents be reported. Because of this, the figures for each State are not comparable with regard to the number of accidents, and to a lesser extent with regard to the number of persons injured.

2. *Total Accidents Registered.*—(i) *Year 1937-38.* The following table gives particulars of the number of persons killed or injured in accidents (known to the police) which occurred in public thoroughfares during the year 1937-38 :—

ACCIDENTS (KNOWN TO THE POLICE) WHICH OCCURRED IN PUBLIC THOROUGHFARES : PERSONS KILLED AND INJURED, 1937-38.

State or Territory.	Accidents.	Persons Killed.			Persons Injured.		
		Total.	Per 1,000 of Mean Population	Per 100 Motor Vehicles Registered	Total.	Per 1,000 of Mean Population	Per 100 Motor Vehicles Registered
New South Wales ..	12,575	600	0.22	0.20	8,615	3.18	2.84
Victoria	19,305	436	0.23	0.17	7,682	4.13	3.07
Queensland	8,813	178	0.18	0.15	3,713	3.73	3.13
South Australia ..	12,210	116	0.20	0.13	3,205	5.43	3.56
Western Australia ..	4,944	105	0.23	0.16	692	1.51	1.05
Tasmania	4,338	46	0.20	0.19	1,163	4.95	4.69
Aus. Cap. Territory	78	2	0.19	0.10	27	2.58	1.40
Total	62,263	1,483	0.22	0.17	25,097	3.66	2.93

The ages of the persons killed or injured are given below :—

AGES OF PERSONS KILLED OR INJURED, 1937-38.

State or Territory.	Under 10 years.		10 to 59 years.		60 years and over.		Age not known.		Total.	
	Persons Killed.	Persons Injured.	Persons Killed.	Persons Injured.	Persons Killed.	Persons Injured.	Persons Killed.	Persons Injured.	Persons Killed.	Persons Injured.
New South Wales ..	40	684	471	7,211	89	720	..	..	600	8,615
Victoria ..	29	525	321	6,281	86	620	..	256	436	7,682
Queensland ..	11	275	128	2,998	29	286	10	154	178	3,713
South Australia ..	7	186	88	2,808	21	211	..	..	116	3,205
Western Australia ..	(a) 12	(a) 74	(b) 72	(b) 581	21	37	..	..	105	692
Tasmania ..	3	84	39	999	4	80	..	..	46	1,163
Aus. Cap. Territory ..	..	1	2	21	..	2	..	3	2	27
Total ..	(c) 102	(c) 1,829	(c) 1,121	(c) 20,899	250	1,956	10	413	1,483	25,097

(a) Under 16. (b) Sixteen and under 60. (c) Approximate.

(ii) Years 1929-30 to 1937-38. Approximate figures relating to the persons killed and injured in traffic accidents in Australia during the years 1929-30 to 1937-38 are given hereunder :—

ACCIDENTS (KNOWN TO THE POLICE) WHICH OCCURRED IN PUBLIC THOROUGHFARES : PERSONS KILLED AND INJURED, AUSTRALIA(a).

Particulars.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Persons killed ..	1,054	916	818	914	952	1,100	1,350	1,387	1,483
Persons injured ..	16,385	14,297	13,728	15,073	18,039	19,189	22,131	22,940	25,097

(a) Prior to 1935 figures were compiled by three States for the calendar year, and by one State or the years 1935 and 1936.

3. Accidents Involving Casualties.—The following table gives, for accidents in which persons were killed or injured, the causes of the accidents under forty-nine different headings. The table does not include particulars of South Australia or Extra-Metropolitan Western Australia. Twenty-five accidents, 77 deaths and 143 injuries occurring in New South Wales are duplicated in the table, accidents being included under two or more headings where the sole or main cause could not be determined :—

ACCIDENTS INVOLVING CASUALTIES CLASSIFIED ACCORDING TO DETAILED CAUSES : AUSTRALIA(a) 1937-38.

Cause of Accident.	Accidents.	Persons Killed.	Persons Injured.
Driver or rider—			
Skidding on roadway ..	..	..	..
Cutting in ..	..	..	..
Failure to exercise care at intersection ..	..	..	..
Excessive speed ..	..	..	..
Not keeping to left ..	..	..	..
Swerving to avoid vehicle or animal or other object or person ..	..	..	..
	504	21	630

(a) See above.

ACCIDENTS INVOLVING CASUALTIES CLASSIFIED ACCORDING TO
DETAILED CAUSES: AUSTRALIA(a) 1937-38—continued.

Cause of Accident.	Accidents.	Persons Killed.	Persons Injured.
<i>Driver or rider—continued.</i>			
Overtaking on near side or without sufficient clearance	332	22	422
Stopping or turning in front of other vehicle or leaving kerb without warning	566	16	637
Level crossing	66	24	79
Insufficient clearance to avoid passing vehicle	65	..	88
Vehicle overloaded (passengers)	24	1	40
Rounding corner carelessly or on wrong side	290	17	351
Reversing without due care	76	4	77
Obscured vision (except by rain)	178	16	191
Failing to give right of way	527	9	685
Breaking traffic regulations or failing to obey traffic officer's signal	205	10	246
Careless, negligent or inefficient driving	2,230	161	2,635
Insufficient clearance to avoid halting vehicle	112	..	128
Failing to see signal given by car ahead or mis-interpreting signal	129	2	150
Dazzled by sun or light	255	14	324
Vision obscured by rain	229	22	264
Driver or rider drunk	243	22	325
Hit and run motorist	175	11	193
Infirmity of driver or rider	98	10	126
Other	815	43	1,013
Total Driver or Rider	11,458	848	14,338
<i>Vehicle—</i>			
Defective mechanism and tyres	776	62	1,145
No lights	267	33	352
Unattended, out of control	28	4	33
Vehicle overloaded (not passengers)	40	5	42
Other (Queensland only)	3	1	2
Total Vehicle	1,114	105	1,574
<i>Pedestrian—</i>			
Crossing without due care	1,648	118	1,596
Walking in roadway	236	38	227
Running across roadway	728	35	713
Passing from behind or in front of stationary vehicle	340	17	337
Hesitating and/or faltering in crossing	262	21	263
Playing in roadway	186	10	180
Alighting from or boarding vehicle in motion	342	28	321
Alighting from moving vehicle on wrong side	33	3	34
Slipping or falling in crossing	45	5	40
Stepping from kerb or refuges without care	216	11	212
Standing in roadway	66	3	70
Pedestrian drunk	352	29	341
Infirmity of pedestrian	103	10	94
Other	30	2	31
Total Pedestrian	4,587	330	4,459
<i>Other—</i>			
Falling from moving vehicle	147	18	135
Horses shying, bolting or stumbling	152	27	144
Road faults including bad lighting	392	51	533
Animals obstructing roadway	108	2	129
Other	293	24	307
Total Other	1,092	122	1,248
GRAND TOTAL (a)	18,251	1,405	21,619

(a) See above.

F. AVIATION.

1. **Historical.**—A short review of the progress of civil aviation in Australia up to the date of foundation of a Civil Aviation Administration was given in Official Year Book No. 16, pp. 334-5.

2. **Foundation of Civil Aviation Administration.**—A brief account of the foundation and objects of this Administration will be found in Official Year Book No. 19, p. 299. In 1936 the organization was changed and the responsibility of regulating and controlling civil aviation in the Commonwealth was entrusted to a Board, consisting of four members and a secretary. The Board was a branch of the Defence Department. In January, 1939, the Civil Aviation Board was disbanded and the Civil Aviation Administration was made a separate Department under the Minister for Civil Aviation. The permanent head of the Department is the Director-General of Civil Aviation.

3. **Air Services.**—Since the year 1920 the grant of financial assistance for the establishment and maintenance of regular air transport services has been part of the Government's policy for the development of civil aviation in Australia. At the 30th June, 1939, twelve subsidized services were operating under contracts with the Civil Aviation Department, which provided that such space as is required on each trip must be reserved for mails.

The successful inauguration of the Empire Flying Boat Service from England to Australia in August, 1938, necessitated a re-organization of the internal air services. Mails for the Southern States and Western Australia are now distributed from Darwin. The use of faster aircraft has resulted in the mails being distributed to all States in the Commonwealth within two days of the arrival of the flying boat at Darwin.

Approval was granted in July, 1938, for the K.N.I.L.M. Company to extend their air route from Batavia to Sydney via Darwin. This service is operated twice weekly in each direction.

The extension of the flying boat service from Sydney to New Zealand has been considered by the respective Governments and it is expected this service will commence towards the end of 1939.

During the past year the most notable additions to Australia's network of air services has been the inauguration of the Sydney-Rabaul Air Service, weekly in each direction. This service commenced on the 30th May, 1938, and the frequency of the service between Sydney and Salamaua was increased to twice weekly in each direction on the 4th June, 1939. A twice daily service in each direction was also started between Brisbane and Toowoomba. Extensions and alterations to schedules have also been made to other subsidized and unsubsidized services.

A scheme for the rationalization of air mail services in Australia has been the subject of continuous negotiation during the past nine months, and as a preliminary the Government and a number of operating companies have entered into a short-term contract of six months commencing from 3rd July, 1939. The chief variation of the previous services is an alteration of the Ansett Airways route, minor alterations to Australian National Airways' routes and schedules, including a thrice weekly in each direction one-day trip between Melbourne and Perth, and an extension of Guinea Airways' routes to southern parts of South Australia. Two new services—Darwin-Dilli (Timor) (Guinea Airways) and Alice Springs-Wyndham (Connellan)—will also be commenced during the year. The following is a list of aircraft companies operating services in Australia as at the 30th June, 1939 :—

SUBSIDIZED AIR SERVICES AS AT 30th JUNE, 1939.

Service.	Route Mileage.	Frequency.	Operating Company and Type of Aircraft Used.	Miles Flown per week.	Miles Flown per year.
Sydney-Darwin-Singapore ..	4,669	Thrice WED.	Qantas Empire Airways Ltd., Short Empire Boat S-23	28,014	1,456,728
Perth-Darwin ..	2,316	Twice WED.	MacRobertson-Miller Aviation Co. Ltd., D.H.86, Lockheed Vega	9,264	481,728
Adelaide-Darwin ..	1,700	Thrice WED.	Guinea Airways Ltd., Lockheed Electra 10-A	10,200	530,400
Perth-Adelaide ..	1,453	Thrice WED.	Australian National Airways Pty. Ltd., Douglas DC.2	8,718	453,336
Adelaide-Melbourne ..	410	DED. (a)	Australian National Airways Pty. Ltd., Douglas DC.2	4,920	255,840
Brisbane-Cloncurry ..	997	Twice WED.	Qantas Empire Airways Ltd., D.H.86	3,988	207,376
Cloncurry-Mount Isa ..	63	Twice WED.	Qantas Empire Airways Ltd., D.H.90	252	13,104
Mount Isa-Daly Waters ..	568	WED.	Qantas Empire Airways Ltd., D.H.90	1,136	59,072
Daly Waters-Wyndham (b) ..	529	WED. ..	MacRobertson-Miller Aviation Co. Ltd., D.H.84; D.H.83	1,058	55,016
Cloncurry-Normanton (b) ..	216	WED. ..	Qantas Empire Airways Ltd., D.H.83	432	22,464
Sydney-Charleville ..	728	Twice WED.	Butler Air Transport Co., D.H.84	2,912	151,424
Sydney-Rabaul ..	2,522	WED. ..	W. R. Carpenter & Co., D.H. 86-B	5,044	262,288
Melbourne-Launceston-Hobart	408	DED., in- cluding Sundays(c)	Australian National Airways Pty. Ltd., Douglas DC.3	5,712	297,024
Melbourne-King Island-Laun- ceston	396	Thrice WED.	Australian National Airways Pty. Ltd., D.H.89; D.H.86	2,376	123,552
Launceston-Flinders Island ..	109	DED. ..	Australian National Airways Pty. Ltd., D.H.89; D.H.86	1,308	68,016
Brisbane-Cracow ..	290	WED. ..	Aircrafts Pty. Ltd., D.H.84 ..	580	30,160
Rockhampton-Mount Coolon ..	330	WED. ..	Air Taxis Pty. Ltd., Monopar ST-12	660	34,320
Sydney-Bega ..	205	Twice WED. (d)	Adastral Airways Ltd., D.H.90; Waco	820	42,640
Adelaide-Whyalla ..	150	Thrice WED. (e)	MacRobertson-Miller Aviation Co. Ltd., D.H.84; Fokker Universal	900	46,800
Perth-Wiluna-Kalgoorlie ..	813	WED. ..	Airlines (W.A.) Ltd., D.H.84; Stinson Reliant SR.7B	1,626	84,552
Melbourne-Mildura-Broken Hill -Adelaide-Renmark-Mildura- Melbourne	1,199	Round trip daily	Ansett Airways Ltd., Lockheed Electra 10-B	7,194	374,088
Melbourne-Narrandera-Wagga- Cootamundra-Sydney	520	DED. ..	Ansett Airways Ltd., Lockheed Electra 10-B	6,240	324,480
Melbourne-Hamilton ..	160	DED. ..	Ansett Airways Ltd., Airspeed Envoy	1,920	99,840
Cairns-Normanton-Burketown	450	WED. ..	Airlines of Aust., D.H.84 ..	900	46,800
Normanton-Koolatah-Norman- ton	370	Round trip fortnightly	Airlines of Aust., D.H.84 ..	185	9,620
Cairns-Cooktown ..	106	2½ times WED.	Airlines of Aust., D.H.84 ..	530	27,560
Brisbane-Townsville ..	725	7 times WED.	Airlines of Aust., D.H.84 .. Douglas DC.2; Stinson Model A	10,150	527,800
Townsville-Cairns ..	174	Twice DED. and once Sundays	Airlines of Australia Ltd., D.H. 89	4,524	235,248
Sydney-Brisbane ..	475	Twice DED. and once Sundays	Airlines of Australia Ltd., Douglas DC.3	12,350	642,200
Cairns-Batavia ..	350	Fortnightly each direction	Airlines of Australia Ltd., D.H.84	350	18,200
	23,491			134,263	6,981,676

(a) The contractor operates the Adelaide-Melbourne service six times weekly in each direction but is subsidized for the Civil Aviation Vote for three return trips weekly. Mails are carried on all trips.

(b) Aircraft specially fitted as ambulance carrier.

(c) No subsidy is paid in respect of the Sunday trips.

(d) The contractor operates the Sydney-Bega service six times weekly in each direction, but is subsidized for, and carries mails on, only two return trips weekly. Additional trips are shown in Schedule "B".

(e) The contractor operates the Adelaide-Whyalla service thrice weekly in each direction, but is subsidized for only one return trip weekly. Mails are carried on all trips.

NOTE.—"WED." signifies Weekly in each direction; "DED." signifies Daily in each direction.

UNSUBSIDIZED AIR SERVICES AS AT 30th JUNE, 1939.

Service.	Route Mileage.	Frequency.	Operating Company and Type of Aircraft Used.	Miles Flown per week.	Miles Flown per year.
Brisbane-Rockhampton-Cracow-Monto-Brisbane	786	Round trip once weekly	Aircrafts Pty. Ltd., D.H.84 ..	..	..
(a) Brisbane - Rockhampton-Monto-Brisbane	719	Round trip once weekly	Aircrafts Pty. Ltd., D.H.84 ..	719	37,388
(a) Brisbane-Kingaroy ..	90	DED. ..	Aircrafts Pty. Ltd., D.H.84 ..	1,080	56,160
(a) Brisbane-Toowoomba ..	80	Twice DED. and once Sunday	South Queensland Airways Ltd., D.H.84	2,080	108,160
Melbourne-Adelaide (via Mount Gambier and Narracoorte)	473	DED. ..	Australian National Airways Pty. Ltd., D.H.89	5,676	295,152
Melbourne-Sydney ..	455	Twice DED. and one return trip Sunday	Australian National Airways Pty. Ltd., Douglas DC.2	11,830	615,160
Melbourne-Hay ..	233	DED. ..	Victorian and Interstate Airways Pty. Ltd., Miles Merlin	2,796	145,392
(a) Sydney-Bega (b) ..	205	Four times WED. (b)	Adastra Airways Ltd., D.H.90; Waco	1,640	85,280
Sydney-Moree ..	330	Thrice WED.	North Western Airlines Ltd., D.H.90	1,980	102,960
Adelaide - Cowell - Cleve - Port Lincoln-Adelaide	378	Round trip three times weekly	Guinea Airways Ltd., D.H.89 ..	1,134	58,968
Adelaide-Kangaroo Island ..	95	Four times WED.	Guinea Airways Ltd., D.H.89 ..	760	39,520
Whyalla-Iron Knob ..	35	WED. ..	MacRobertson-Miller Aviation Co. Ltd., Fokker. Universal; D.H.84	70	3,640
	3,879			29,765	1,547,780

(a) Mails not carried.

(b) See subsidized services.—In addition company operates service twice weekly in each direction, with aid of Governmental subsidy.

NOTE.—“ WED.” signifies Weekly in each direction; “ DED.” signifies Daily in each direction.

AIR TRANSPORT SERVICES IN AUSTRALIA AS AT 30th JUNE, 1939 : SUMMARY.

	Aggregate Route Mileage of Operating Companies.	Miles Flown per week.	Miles Flown per year.
Subsidized Services	23,401	134,263	6,981,676
Unsubsidized Services	3,879	29,765	1,547,780
Total	27,280	164,028	8,529,456
K.N.I.L.M. Service (Darwin-Sydney)	2,225	8,900	462,800
Grand Total	29,505	172,928	8,992,256

4. Air Ambulance Services.—Air ambulance services were first established in Australia in 1928, when an agreement was entered into between the Queensland and Northern Territory Aerial Services Ltd. (now Qantas Empire Airways) and the Australian Inland Mission. The company provided the aircraft and pilot and the mission authorities the doctor. The base of the operations at that time was Cloncurry, and flights were made to outback centres in Western and Northern Queensland.

The value of the scheme was readily apparent and has resulted in the establishment of other such centres to serve the sparsely populated parts of the Commonwealth not readily accessible by other means of transport. Considerable impetus to the efficiency of the air ambulance service in ameliorating the hardships of settlers in the “ outback ”

was given by the introduction of a system of wireless communication by means of pedal transceivers. The simplicity of these small wireless units contributes largely to their value, power being supplied by a dynamo operated by bicycle pedals and morse messages may be transmitted by manipulating an automatic keyboard transmitter similar to a typewriter.

At the present time air ambulances services, popularly known as the "Flying Doctor" services, are established at the following centres:—Cloncurry, Port Hedland, Wyndham, Kalgoorlie, Broken Hill, Alice Springs. These services are operated by the Australian Aerial Medical Services. A flying doctor service operates from Katherine and is controlled by the Department of Health.

The Government recognizes the national importance of the scheme in making accessible medical aid to outback settlers, and an annual grant of £5,000 is provided for maintenance and extension of air ambulance services. This grant is administered by the Health, Postmaster-General's and Civil Aviation Departments.

5. **Training of Air Pilots.**—(i) *Subsidized Aero Clubs.* To encourage flying training activities the Government has adopted the policy of subsidizing selected aero clubs which have proved over a period that flying training operations can be carried on at such centres with success and continuity of operation. These approved clubs are encouraged by an increased bonus payment to extend their training activities to country centres. The following clubs are subsidized:

Royal Aero Club of New South Wales; Royal Victorian Aero Club; Royal Queensland Aero Club; Royal Aero Club of South Australia; Royal Aero Club of Western Australia; Tasmanian Aero Club; Newcastle Aero Club; Broken Hill Aero Club and Spencers Gulf Aero Club.

A three-year agreement, which expires on the 31st December, 1939, was entered into with the approved clubs and the measure of assistance included free hangar accommodation and use of aerodromes, as well as an establishment grant of £200 per annum, maintenance grant of £50 per annum for each aircraft which completes 200 hours flying in the year, bonus payments of £20 per annum for each pupil trained to private pilot's licence standard and £10 per annum for each pilot who renews his licence on club aircraft. These bonus payments are increased to £25 and £12 10s. respectively for licences obtained at club training centres which are more than 25 miles distant from the head-quarters of the club.

Air pageants and displays are held by the clubs from time to time at urban and rural centres, and these functions have an educational value in stimulating air-mindedness. During the year ended 30th June, 1939, 258 pupils qualified for private pilot's licences. Many graduates completed advanced training courses and others also qualified for their commercial pilots' and flying instructors' licences.

(ii) *Unsubsidized Training Organizations.* Flying training is also carried out by a number of private companies, clubs and private owners at various centres throughout the Commonwealth. These organizations do not receive financial assistance from the Government. During the year ended the 30th June, 1939, 188 pupils graduated for private pilots' licences, making a total of 446 pilots from all flying training organizations.

6. **Gliding.**—The Government subsidizes approved gliding clubs on the basis of £5 per primary glider, £7 10s. per secondary glider, and £10 per sailplane. Subsidized gliding clubs are in operation at Sydney, Melbourne, Brisbane, Perth, Hobart and Waikerie, South Australia. The total number of gliders owned by these clubs is twenty.

7. **Meteorological Aids to Aviation.**—In conjunction with the Commonwealth Meteorological Bureau the Civil Aviation Department has arranged a comprehensive network of aviation meteorological facilities for the use of air services. The organization is gradually being expanded to meet the needs of new air services and meteorological personnel have been and are being trained in the special application of the science of meteorology to aviation requirements.

Full forecasting aviation meteorological stations are now established at the following aerodromes:—Darwin, Broome, Perth, Adelaide, Melbourne, Sydney, Brisbane, Townsville, Port Moresby, Launceston, Canberra and Hobart. Secondary aviation meteorological

stations are in operation at the following aerodromes and flying boat bases :—Onslow, Kalgoorlie, Ceduna, Rockhampton, Cloncurry, Cooktown, Salamaua, Karumba, Groote Eylandt, Daly Waters and Oodnadatta. A secondary aviation station will be opened at Alice Springs at an early date. Rabaul, Willis Island and Hotham Heights also act as secondary aviation stations. Provision has also been made for the formation of reporting stations at Nhill, Holbrook and Kempsey when night flying is introduced between the capital cities. In preparation for the early commencement of the Tasman Air Service upper air and observing stations have been established at Lord Howe and Norfolk Islands and an observer is stationed on one of the boats which regularly crosses the Tasman Sea.

Forecasts over the whole of each air route section will be given by meteorological officers when required. This information is compiled from observations taken throughout the Commonwealth with the addition of other information received from specially selected stations on or in the vicinity of the various air routes. Pilots on regular air services are required to report to the meteorological officer prior to each flight and also on arriving at an aerodrome where a meteorological station is established. In this way the meteorologist receives further first hand information of the meteorological conditions of the particular route. Operation of aeradio stations over the whole of the routes of regular air services provides means for the rapid transmission of meteorological observations necessary for aircraft operation.

8. Radio.—The main portion of the radio organization referred to in previous issues of the Year Book has now been placed in operation, and it is now possible for aircraft to fly on ultra high frequency radio beacon courses between Brisbane—Sydney—Melbourne—Adelaide and Melbourne—Launceston—Hobart. Permanent aeradio communication stations are in operation at all points at which a radio beacon station is in operation. At most of these stations an additional navigation facility is provided by the use of Bellini-Tosi direction finding receivers. Aeradio communication facilities have also been provided at Perth, Cloncurry, Groote Eylandt and Karumba. Direction finding facilities of the Bellini-Tosi type are also available at these points and high frequency D/F receivers will be installed in the ensuing year. It is expected that the permanent communication stations at Kalgoorlie and Ceduna will be placed in operation in July, 1939. These two stations will also be equipped with H.F. D/F receivers later in the year. Radio communication equipment was installed in six control launches for the purpose of directing the arrival and departure of flying boats at and from flying boat bases.

Consequent upon the distribution of overseas air mails at Darwin and the resultant re-organization of the internal air routes to meet this new condition, it was essential that radio aids for air navigation be provided on the Darwin—Perth and Darwin—Adelaide routes. Low powered temporary aeradio stations were established at Port Hedland and Onslow, and use made of the coastal radio stations at Geraldton, Broome and Wyndham on the Perth—Darwin route. On the Darwin—Adelaide route low powered temporary stations were also established at Oodnadatta, Alice Springs and Daly Waters. These stations will all be replaced by permanent installations as soon as funds are available, as at present they do not provide a thoroughly efficient service. A contract has been let for the provision of the necessary equipment for the establishment of aeradio stations at Darwin, Townsville and Rockhampton. It is expected that these stations will be in operation by September, 1939, when the temporary facilities at these points will be superseded. During the year a contract was let for the supply of eighteen high frequency direction finding receivers. The first of these receivers will be available in July and they will be installed at Sydney and Lord Howe Island very soon after delivery.

It was necessary that an aeradio organization be established to provide radio facilities for the Trans-Tasman Air Mail Service and stations are being established at Lord Howe Island and Sydney. As well as the usual ground to air communication facilities, provision is being made for point to point working between Sydney and Auckland (New Zealand), and Sydney and Lord Howe Island. This organization will be placed in operation by September, 1939, together with the high frequency direction finding service at Sydney and Lord Howe Island.

9. **Aerodromes and Landing Grounds.**—On the 30th April, 1939, 256 landing grounds were directly controlled and maintained by the Commonwealth Government for civil aviation purposes. These aerodromes and emergency landing grounds are located at intervals over the following approved air routes :—Brisbane–Darwin, 2,028 miles; Adelaide–Darwin, 1,730 miles; Cloncurry–Normanton, 216 miles; Cootamundra–Charleville, 629 miles; Perth–Daly Waters, 2,252 miles (connecting with Brisbane–Darwin service); Ord River–Wyndham, 154 miles; Perth–Adelaide, 1,453 miles; Adelaide–Melbourne, 410 miles; Adelaide–Sydney (via Mildura and Cootamundra), 737 miles; Melbourne–Sydney, 455 miles; Melbourne–Hobart, 413 miles; Sydney–Brisbane, 475 miles; Brisbane–Cooktown, 1,006 miles.

A direct north-south route through Central Australia has been added to the list of trunk air routes maintained by the Civil Aviation Department. The preparation of this route necessitated the establishment of a number of emergency landing grounds and the improvement of existing aerodromes.

The construction of aerodromes at Cairns and Cooktown has been completed and these grounds are now being used as stopping places on the Sydney–Rabaul Air Service.

During the last year several additional aerodromes on the Inter-Capital Air Routes were equipped for night flying. The equipment generally consists of rotating and identification beacons, boundary and obstruction lighting, together with floodlights or flares for landing. On 30th April, 1939, night flying facilities were available at the following aerodromes :—Archerfield (Brisbane), Evans Head, Coff's Harbour, Kempsey, Kingsford Smith (Sydney), Goulburn, Holbrook, Cootamundra, Canberra, Benalla, Essendon (Melbourne), Nhill, Parafield (Adelaide), Cambridge (Hobart), Western Junction (Launceston), Maylands (Perth), and Darwin. The Cloncurry–Longreach section of the Brisbane–Darwin route and the Kalgoorlie–Cook section of the Perth–Adelaide route are also equipped for night flying. Aerodrome lighting installation is nearing completion at Tintinara, South Australia. Airway rotating beacons have also been installed at the following intermediate points along the main air routes :—Bowral, Adelong (New South Wales), Chiltern, Yea (Victoria), Bordertown, Tailem Bend, Mount Lofty and Oodnadatta (South Australia), Wiluna (Western Australia). These lights are visible up to 80 miles under conditions of good visibility and are a useful aid to air navigation.

Considerable activity has been displayed in the establishment of aerodromes by local authorities and private individuals, and at the 30th April, 1939, 227 aerodromes had been licensed by the Civil Aviation Department. The Department, in pursuance of its policy, provides technical advice to local authorities desirous of establishing landing grounds and this service has been largely availed of during the year. The total number of recognized landing grounds in Australia and New Guinea on the 30th April, 1939, was 485.

10. **Aircraft Parts and Materials.**—The increased use of locally-produced products in the maintenance and repair of aircraft has caused an appreciable rise in the number of firms authorized by the Department of Civil Aviation to issue release notes for aircraft materials and component parts certifying to compliance with approved specifications or designs. Of the 80 firms which have now been authorized to issue release notes (some issuing the certificates in more than one State), 49 are engaged in the manufacture of aircraft components or materials to designs and specifications approved by the Department of Civil Aviation and 33 are distributors of aircraft supplies imported under cover of satisfactory evidence of compliance with acceptable specifications, such as release notes issued with the approval of the airworthiness authorities of the country of origin, or of manufacturers' affidavits.

11. **Aircraft Maintenance.**—The system under which certificates of repair are issued is now well established, and an increasing number of firms who wish to perform repair work on aircraft or aero engine components, instruments or accessories, have had their workshop inspected by the Department. When the equipment has been found to be suitable and adequate for the performance of the intended overhaul and repair work, and the staff sufficiently qualified and experienced, authority is given to issue certificates of repair. A ground engineer's licence is issued to a senior employee who is responsible for signing the certificates of repair. This man inspects and supervises repair and overhaul

work, and where possible the repaired goods are impressed by him with an identification stamp which is loaned by the Department of Civil Aviation for the purpose. One copy of every certificate of repair issued is forwarded to the Department of Civil Aviation. These certificates serve as evidence to the aircraft operator that repair work not done by his own maintenance organization has been executed in properly equipped workshops by competent tradesmen in accordance with practices approved by the Department of Civil Aviation. Thirty-two (32) firms have now been extended authority to issue certificates of repair.

12. Statistical Summary.—The collection and compilation of aircraft statistics were undertaken by the Commonwealth Bureau of Census and Statistics on the 1st July, 1922. The subjoined table gives a summary of operations for the years ended 30th June, 1934 to 1938 :—

CIVIL AVIATION IN AUSTRALIA : SUMMARY.

Particulars.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Registered Aircraft Owners					
(a) No.	114	123	124	102	139
Registered Aircraft (a) No.	188	208	228	214	286
Licensed Pilots—(a)					
Private No.	429	569	714	744	937
Commercial No.	201	210	236	265	323
Licensed Navigators (a) No.	..	13	22	29	47
Licensed Aircraft Radio Telegraph Operators (a) No.	..	7	8	9	23
Licensed Aircraft Radio Telephone Operators (a) No.	..	..	7	4	5
Licensed Ground Engineers (a) No.	261	297	295	346	437
Aerodromes—(a)					
Government No.	64	65	63	72	74
Public No.	126	146	171	183	197
Government Emergency Grounds No.	135	138	148	151	153
Hours flown No.	35,487	45,693	62,479	84,010	113,647
Approx. Mileage Miles	3,061,449	3,854,424	5,819,751	8,731,612	12,291,570
Passengers carried—					
Paying No.	54,119	45,540	60,476	85,574	133,408
Non-paying No.	10,117	11,743	14,643	16,590	25,495
Total No.	64,236	57,283	75,119	102,164	158,903
Goods, weight carried (b) lb.	296,983	249,415	442,407	822,724	1,169,207
Mails, weight carried lb.	43,627	67,908	121,187	167,601	228,581
Accidents—					
Persons killed No.	10	28	20	19	10
Persons injured No.	12	10	6	14	4

(a) At 30th June. (b) Prior to 1935 stage freight has been included in some instances in South Australia and Western Australia.

Separate particulars of flying over the Darwin-Singapore Section of the Imperial Airways route, also included in the above table, are shown below :—

Particulars.	1934-35. (a)	1935-36.	1936-37.	1937-38.
Hours flown No.	1,186	2,159	3,767	3,788
Miles flown No.	140,706	290,542	494,105	488,417
Passengers carried No.	49	177	351	522
Goods, weight carried lb.	1,019	8,564	17,582	28,080
Mails, weight carried lb.	24,828	69,436	89,647	113,117

(a) December, 1934 to June, 1935.

Preliminary figures relating to the Operations of Civil Aircraft in Australia during the year 1938-39 will be found in the Appendix to this volume.

13. **New Guinea Activities.**—Since the discovery of gold in New Guinea in 1927, air transport has been introduced to the gold-fields as the most efficient means of communication and transport owing to the nature of the terrain of the country. Aviation has progressed considerably since 1927 and to-day air services operate to practically every part of the country. The greatest activity is between Salamaua and Lae on the north-east coast of the mainland of New Guinea to Wau and Bulolo, the two main centres of the gold-fields. Wau and Bulolo are located inland about 70 miles by native track over very mountainous country, and the journey occupies about a week. The approximate time by air is 25 minutes.

The European population of the gold-fields is over 1,200 and indentured native labourers number over 14,000. Every requirement for this number of people, including all types of mining and dredging machinery, motor cars, trucks, horses, cattle, building and other heavy materials, are carried by aircraft. The petrol required for the operation of motor transport on the gold-fields alone amounts to more than 12,000 gallons per month and this is also transported by air. During the year 1938 the average weight of cargo and mails carried per day was 32 tons.

The companies and persons operating in New Guinea and Papua are :—Guinea Airways Ltd., Bulolo Gold Dredging Ltd., Mandated Airlines Ltd., Stephens Aviation Ltd., Parers Air Transport Co., Catholic Mission Alexisshafen, Lutheran Mission Tinschhafen, Ray Parer, A. Collins and Australian Petroleum Company Ltd. W. R. Carpenter & Co. Ltd. operate a twice weekly service from Sydney to Port Moresby and Salamaua and a once weekly service from Salamaua to Rabaul. Mails, official passengers and cargo are carried by Guinea Airways Ltd. and Mandated Airlines Ltd. under contract with the New Guinea Administration between Salamaua and Lae, Bulolo, Wau, Surprise Creek, Madong, Wewak.

The subjoined table gives a summary of operations for the years ended 30th June, 1934 to 1938.

CIVIL AVIATION IN TERRITORY OF NEW GUINEA: SUMMARY.

Particulars.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Registered Aircraft Owners					
(a) .. No.	10	9	12	9	10
Registered Aircraft (a) No.	26	25	38	34	40
Licensed Pilots—(a)					
Private .. No.	4	3	5	4	12
Commercial .. No.	24	27	27	22	24
Licensed Navigators (a) No.		1	1		2
Licensed Ground Engineers					
(a) .. No.	37	42	41	36	37
Aerodromes—(a)					
Government .. No.	3	3	15	18	21
Public .. No.	3	5	15	19	19
Government Emergency Landing Grounds No.	15	3	6	8	6
Hours flown .. No.	10,061	13,022	18,114	16,371	15,445
Approximate mileage Miles	811,440	1,094,308	1,486,983	1,466,355	1,560,179
Passengers carried—					
Paying .. No.	10,799	14,200	15,943	11,718	12,247
Non-paying .. No.	209	203	616	1,382	1,017
Total .. No.	11,008	14,403	16,559	13,100	13,264
Goods, weight carried lb.	14,985,723	17,447,746	21,883,413	24,441,860	25,574,028
Mails, weight carried lb.	90,046	97,889	128,982	122,063	166,643
Accidents—					
Persons killed No.		2	1		1
Persons injured No.	1	3			1

(a) At 30th June.

Preliminary figures relating to the Operations of Civil Aircraft in New Guinea during the year 1938-39 will be found in the Appendix to this volume.

G. POSTS, TELEGRAPHS AND TELEPHONES.

§ 1. General.

1. **The Commonwealth Postal Department.**—In previous issues of the Year Book some account was given of the procedure in connexion with the transfer to the Federal Government of the postal, telegraphic and telephonic facilities of the separate States. (See Year Book No. 15, p. 601.)

Under the provisions of the Commonwealth Post and Telegraph Act, 1901, the Commonwealth Postal Department was placed under the control of a Postmaster-General, being a responsible Minister with Cabinet rank. The Director-General of Posts and Telegraphs controls the Department under the Postmaster-General, whilst the principal officer in each State is the Deputy Director, Posts and Telegraphs.

2. **Postal Facilities.**—(i) *Relation to Area and Population.* The subjoined statement shows the number of post offices, the area in square miles and the number of inhabitants to each post office (including non-official offices) in each State and in Australia at the 30th June, 1938. In order to judge clearly the relative postal facilities provided in each State, the area of country to each office as well as the number of inhabitants per office should be taken into account. The returns given for South Australia in this and all succeeding tables include those for the Northern Territory, while the returns for the Australian Capital Territory are included in those for New South Wales.

**POSTAL FACILITIES : RELATION TO AREA AND POPULATION,
AT 30th JUNE, 1938.**

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
Number of post offices (a) ..	2,521	2,564	1,242	789	612	512	8,240
Number of square miles of territory to each office in State ..	123	34	540	1,145	1,595	51	361
Number of inhabitants to each office	1,083	728	808	758	752	457	837
Number of inhabitants per 100 square miles ..	880	2,124	150	66	47	893	232

(a) Includes " Official," " Semi-Official," and " Non-Official " Offices.

The foregoing table does not include " telephone " offices at which there is no postal business.

(ii) *Number of Offices.* The following table shows the number of post offices in each State for the years 1908, 1918, 1928 and 1938 :—

NUMBER OF POST OFFICES.

State.	At 31st December—		At 30th June—					
	1908.		1918.		1928.		1938.	
	Official and Semi-Official.	Non-Official. (a)						
New South Wales ..	2,492	466	2,113	455	2,228	433	2,088	
Victoria ..	2,346	277	2,327	286	2,462	269	2,295	
Queensland ..	1,395	204	1,098	215	1,064	187	1,055	
South Australia ..	715	135	678	146	657	143	646	
Western Australia ..	392	125	494	130	559	126	486	
Tasmania ..	414	47	434	47	471	42	470	
Australia ..	7,754	1,254	7,144	1,279	7,441	1,200	7,040	

(a) Includes offices previously designated as " Allowance " and " Receiving " Offices.

(iii) *Employees and Mail Contractors.* The number of employees and mail contractors in the Central Office and in each of the States at specified dates is given in the appended table :—

POSTAL EMPLOYEES AND MAIL CONTRACTORS.

State.	At 31st December—		At 30th June—					
	1908.		1918.		1928.		1938.	
	Em- ployees.	Mail Con- tractors.	Em- ployees.	Mail Con- tractors.	Em- ployees.	Mail Con- tractors.	Em- ployees.	Mail Con- tractors.
Central Office ..	(a)	..	92	..	170	..	320	..
New South Wales ..	7,343	1,305	11,684	1,972	13,856	1,947	15,933	2,463
Victoria ..	5,989	776	8,249	1,105	10,950	1,142	12,628	1,465
Queensland ..	3,073	550	4,477	794	5,504	870	5,914	1,464
South Australia ..	1,871	237	2,737	368	4,144	413	3,814	371
Western Australia ..	1,670	206	2,462	271	2,883	358	3,228	386
Tasmania ..	843	177	1,212	250	1,509	236	1,673	225
Australia ..	20,789	3,251	30,913	4,760	39,016	4,966	43,510	6,374

(a) Included in Victorian Staff.

3. **Gross Revenue, Postmaster-General's Department.—Branches.** The gross revenue (actual collections) in respect of each branch of the Department during each of the last five years is shown in the table hereunder :—

GROSS REVENUE, POSTMASTER-GENERAL'S DEPARTMENT : BRANCHES.

Branch and Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
Postal—							
1933-34 ..	2,431	1,674	873	463	402	165	6,008
1934-35 ..	2,557	1,765	917	469	433	177	6,318
1935-36 ..	2,705	1,850	959	593	452	193	6,662
1936-37 ..	2,825	1,915	994	521	471	200	6,926
1937-38 ..	2,992	2,010	1,039	550	491	208	7,290
Telegraph—							
1933-34 ..	379	264	203	131	120	40	1,137
1934-35 ..	433	302	222	119	140	44	1,260
1935-36 ..	443	322	225	112	144	44	1,290
1936-37 ..	496	348	229	115	146	37	1,371
1937-38 ..	508	342	231	117	143	37	1,378
Wireless—							
1933-34 ..	128	119	28	36	17	9	337
1934-35 ..	133	110	30	37	19	10	339
1935-36 ..	141	118	35	39	22	11	366
1936-37 ..	163	136	44	45	27	14	429
1937-38 ..	185	156	52	51	33	16	493
Telephone—							
1933-34 ..	2,202	1,647	819	535	309	136	5,648
1934-35 ..	2,361	1,750	884	563	328	142	6,028
1935-36 ..	2,583	1,892	946	594	356	151	6,522
1936-37 ..	2,825	2,066	976	628	395	171	7,061
1937-38 ..	3,083	2,192	1,024	669	415	189	7,572
All Branches—							
1933-34 ..	5,140	3,704	1,923	1,165	848	350	13,130
1934-35 ..	5,484	3,927	2,053	1,187	922	372	13,945
1935-36 ..	5,872	4,181	2,165	1,249	974	399	14,840
1936-37 ..	6,309	4,465	2,243	1,309	1,039	422	15,787
1937-38 ..	6,768	4,700	2,346	1,387	1,082	450	16,733
Total revenue per capita—							
	£	£	£	£	£	£	£
1933-34 ..	1.96	2.03	2.02	1.98	1.93	1.53	1.97
1934-35 ..	2.07	2.14	2.14	2.01	2.08	1.62	2.08
1935-36 ..	2.20	2.27	2.23	2.11	2.18	1.73	2.20
1936-37 ..	2.34	2.41	2.28	2.20	2.30	1.82	2.32
1937-38 ..	2.48	2.52	2.34	2.32	2.35	1.92	2.43

Compared with the corresponding figures for the previous year, an increase of 6.0 per cent. is shown in the gross revenue earned, the increases in the several branches being as follows:—Postal 5.3 per cent., Telegraph 0.5 per cent., Wireless 14.9 per cent., and Telephone 7.2 per cent.

4. **Expenditure, Postmaster-General's Department.**—(i) *Distribution.* The following table shows, as far as possible, the distribution of actual expenditure on various items in each State during the year ended 30th June, 1938. The table must not be regarded as a statement of the working expenses of the Department, since items relating to new works, interest, etc. are included therein.

EXPENDITURE, POSTMASTER-GENERAL'S DEPT.: DISTRIBUTION, 1937-38.

Particulars.	Central Office.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£	£
Expenditure from Ordinary Votes—								
Salaries and payments in the nature of salary ..	58,294	2,028,709	1,454,186	761,649	502,283	382,064	188,147	5,375,332
General expenses ..	12,301	170,649	114,692	46,580	35,395	26,945	9,738	416,300
Stores and material ..	2,387	73,412	48,347	26,975	16,013	13,972	6,900	188,006
Mail services ..	260,525	432,530	274,692	223,467	78,310	82,926	36,980	1,389,430
Engineering services (other than New Works) ..	64,623	1,177,151	766,423	405,665	281,702	220,332	136,125	3,052,021
Other services ..	41,243	..	..	..	..	..	..	41,243
Total ..	439,373	3,882,451	2,658,340	1,464,336	913,703	726,239	377,890	10,462,332
Pensions and retiring allowances ..	..	25,180	28,372	..	..	24,783	..	78,335
Rent, repairs, maintenance, fittings, etc. ..	..	49,331	29,318	16,188	9,067	10,356	3,092	117,352
Proportion of audit expenses ..	..	4,220	2,884	1,541	925	709	371	10,650
New Works—								
Telegraph, telephone and wireless ..	..	1,224,704	1,009,646	280,388	144,000	154,162	87,615	2,900,515
New buildings, etc. ..	..	(b) 146,746	56,993	(b) 19,007	12,410	6,153	4,263	(b) 245,572
Other expenditure not allocated to States	3,320,804	..	..	..	..	..	..	3,320,804
	(c)							
Grand Total ..	3,760,177	5,332,632	3,785,553	1,781,460	1,080,105	922,402	473,231	17,135,560
								(d)

(a) Orient Steam Navigation Company's Overseas Mail Contract and expenditure on air mail services. (b) Includes credit of £451 (New South Wales, £300; Queensland, £151)—Repayment of Loan Expenditure of previous years. (c) Particulars of apportionment to States not available. (d) Including expenditure not apportioned to States.

(ii) *Total, 1934 to 1938.* The next table gives the actual payments made, as shown by records kept for Treasury purposes in respect of the Postal Department, for each of the last five years:—

EXPENDITURE, POSTMASTER-GENERAL'S DEPARTMENT, 1933-34 TO 1937-38.

Expenditure.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
	£	£	£	£	£
Total ..	12,288,173	13,458,581	14,424,388	15,622,255	17,135,560

The total expenditure increased by 9.6 per cent. during 1937-38.

5. Profit or Loss, Postmaster-General's Department.—(i) *States, 1937-38.* The foregoing statements of gross revenue and expenditure represent actual collections and payments made and cannot be taken to represent the actual results of the working of the Department for the year. The net results for each branch in the several States after providing for working expenses, depreciation and interest charges, including exchange, were as follows :—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT, 1937-38.

Branch.	Profit or Loss.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
		£	£	£	£	£	£	£
Postal	{ Profit	874,536	656,698	288,900	145,013	104,987	24,427	2,094,561
	{ Loss	..	..	..	..	..	..	..
Telegraph	{ Profit	33,932	51,949	..	..	191	..	73,020
	{ Loss	..	..	2,561	7,723	..	2,818	..
Wireless	{ Profit	53,612	48,560	..	11,560	..	..	82,211
	{ Loss	..	..	8,793	..	15,744	6,984	..
Telephone	{ Profit	672,562	455,045	196,018	2,984	1,818	..	1,283,684
	{ Loss	..	..	..	..	..	44,743	..
All Branches	{ Profit	1,634,692	1,212,252	473,564	151,834	91,252	..	3,533,470
	{ Loss	..	..	..	..	..	30,118	..

After providing for depreciation, pensions and retiring allowances and interest on capital, the year 1937-38 closed with a surplus of £3,533,476. For the preceding year a surplus of £3,340,930 was shown.

(ii) *Branches, 1934 to 1938.* The following statement gives particulars of the operating results of each branch for the period 1934 to 1938 :—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT : BRANCHES.

Year—	Branch Profits.				
	Postal.	Telegraph.	Wireless.	Telephone.	All Branches.
	£	£	£	£	£
1933-34	1,684,608	41,012	87,235	269,273	2,000,104
1934-35	1,828,279	15,019	162,343	402,332	2,407,973
1935-36	1,948,385	64,993	86,184	884,423	2,983,985
1936-37	2,055,903	79,791	87,718	1,117,458	3,340,930
1937-38	2,094,561	73,020	82,211	1,283,684	3,533,470

(a) Minus sign (—) denotes loss.

6. *Capital Account.*—The appended statement shows particulars of the fixed assets of the Postmaster-General's Department at 30th June, 1938 :—

FIXED ASSETS, POSTMASTER-GENERAL'S DEPARTMENT, 30th JUNE, 1938.

Particulars.	Net Value, 1st July, 1937.	Capital Expenditure, 1937-38.	Gross Value, 30th June, 1938.	Less Deprecia- tion, &c., 1937-38. (a)	Net Value, 30th June, 1938.
	£	£	£	£	£
Telephone service plant (ex- clusive of trunk lines) ..	35,918,074	3,099,405	39,017,479	739,175	38,278,304
Trunk and telegraph service plant (aerial wires) ..	10,548,021	256,337	10,804,358	86,473	10,717,885
Telegraph service plant ..	667,326	22,477	689,803	7,799	682,004
Postal service plant ..	420,564	8,922	429,486	3,344	426,142
Wireless plant ..	389,629	79,786	469,415	5,537	463,878
Sites, buildings, furniture and office equipment ..	9,785,461	311,560	10,097,021	50,456	10,046,565
Miscellaneous plant ..	752,739	124,412	877,151	66,244	810,907
Total	58,481,814	3,902,899	62,384,713	959,028	61,425,685

(a) Includes dismantled assets, depreciation written off, and assets transferred.

During the past quinquennium the value of the fixed assets has increased by 16.0 per cent., the net value at 30th June, 1933, being £52,955,384.

§ 2. Posts.

1. **Postal Matter Dealt With.**—(i) *Australia.* The following table gives a summary of the postal matter dealt with in Australia during the five years 1934 to 1938. Although mail matter posted in Australia for delivery therein is necessarily handled at least twice, only the numbers dispatched are included in the following table, which consequently gives the number of distinct articles handled :—

POSTAL MATTER DEALT WITH : AUSTRALIA.

Year.	Letters, Postcards, Letter Cards and Packets.		Newspapers.		Parcels.		Registered Articles other than Parcels.	
	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popu- lation.	Number (,000 omitted).	Per 1,000 of Popu- lation.
POSTED WITHIN AUSTRALIA FOR DELIVERY THEREIN.								
1933-34 ..	733,506	110,217	121,600	18,272	8,549	1,285	6,223	935
1934-35 ..	752,112	112,215	125,088	18,663	8,456	1,262	6,576	981
1935-36 ..	775,469	114,869	129,290	19,152	8,606	1,275	6,814	1,009
1936-37 ..	792,869	116,519	133,034	19,550	8,811	1,295	7,144	1,046
1937-38 ..	825,128	119,704	138,129	20,039	9,072	1,316	7,439	1,079
TOTAL POSTAL MATTER DEALT WITH.								
1933-34 ..	790,166	118,731	142,040	21,343	8,942	1,344	6,870	1,032
1934-35 ..	809,729	120,812	147,662	22,031	8,876	1,324	7,273	1,085
1935-36 ..	832,685	123,344	150,755	22,331	9,058	1,342	7,539	1,117
1936-37 ..	853,676	125,455	156,123	22,943	9,264	1,362	7,950	1,164
1937-38 ..	889,771	129,082	162,682	23,601	9,572	1,389	8,489	1,231

(ii) *States.* The next table shows the postal matter dealt with in each State during the year 1937-38.

POSTAL MATTER DEALT WITH : STATES 1937-38.(a)

State.	Letters, Postcards, Letter Cards and Packets.		Newspapers.		Parcels.		Registered Articles other than Parcels.	
	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.
POSTED FOR DELIVERY WITHIN AUSTRALIA.								
New South Wales	334,010	122,327	68,310	25,018	3,848	1,409	2,895	1,060
Victoria ..	236,393	126,614	27,674	14,822	1,805	967	1,980	1,060
Queensland ..	104,133	103,803	22,399	22,328	1,816	1,810	1,097	1,094
South Australia ..	60,159	100,590	7,503	12,546	789	1,320	607	1,015
Western Australia	54,199	117,783	6,352	13,805	686	1,490	578	1,256
Tasmania ..	36,234	154,729	5,891	25,155	128	549	282	1,205
Australia ..	825,128	119,704	138,129	20,039	9,072	1,316	7,439	1,079
OVERSEA DISPATCHED.								
New South Wales	11,207	4,105	2,475	906	112	41	280	102
Victoria ..	8,787	4,706	3,622	1,940	53	29	128	69
Queensland ..	3,357	3,346	920	917	4	13	47	46
South Australia ..	2,656	4,442	397	663	8	14	14	24
Western Australia	3,640	7,909	553	1,201	15	32	34	73
Tasmania ..	2,675	11,422	215	917	3	14	3	14
Australia ..	32,322	4,689	8,182	1,187	205	30	506	73
OVERSEA RECEIVED.								
New South Wales	13,142	4,813	8,246	3,020	144	53	302	111
Victoria ..	10,084	5,401	3,187	1,707	85	45	149	80
Queensland ..	2,780	2,771	1,596	1,591	24	24	35	35
South Australia ..	1,846	3,086	1,087	1,817	16	26	18	31
Western Australia	3,386	7,359	1,864	4,050	21	46	34	74
Tasmania ..	1,083	4,627	392	1,673	5	22	6	24
Australia ..	32,321	4,689	16,372	2,375	295	43	544	79

(a) See explanation in paragraph (i).

2. *Value-Payable Parcel Post.*—(i) *General.* The Postal Department undertakes to deliver registered articles sent by parcel post within Australia, or between Papua or Nauru and Australia, to recover from the addressee on delivery a specified sum of money fixed by the sender, and to remit the sum to the sender by money order, for which the usual commission is charged. The object of the system is to meet the requirements of persons who wish to pay at the time of receipt for articles sent to them, also to meet the requirements of traders and others who do not wish their goods to be delivered except on payment.

(ii) *Summary of Business.* The next statement gives particulars regarding the value-payable parcels posted in each State for the years 1934 to 1938 :—

VALUE-PAYABLE PARCEL POST : SUMMARY OF BUSINESS.

Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF PARCELS POSTED.							
	No.	No.	No.	No.	No.	No.	No.
1933-34 ..	395,972	40,769	204,459	21,309	79,030	1,782	653,321
1934-35 ..	309,024	36,959	200,358	19,940	76,174	1,720	644,175
1935-36 ..	324,800	39,700	192,539	20,340	76,946	2,023	656,348
1936-37 ..	326,045	35,510	186,439	20,367	75,068	1,573	645,002
1937-38 ..	328,459	34,681	184,080	20,592	70,719	1,168	639,699
VALUE COLLECTED.							
	£	£	£	£	£	£	£
1933-34 ..	377,752	55,395	248,002	22,502	83,524	1,970	789,055
1934-35 ..	304,750	50,469	244,829	19,965	83,364	1,936	765,313
1935-36 ..	389,595	55,577	236,608	22,347	81,538	2,597	788,262
1936-37 ..	398,582	50,529	230,656	22,343	84,382	2,111	788,603
1937-38 ..	395,969	48,250	232,797	24,124	78,196	1,591	780,927

REVENUE INCLUDING POSTAGE, COMMISSION ON VALUE, REGISTRATION AND MONEY ORDER COMMISSION.

	£	£	£	£	£	£	£
1933-34 ..	40,356	5,460	26,947	2,827	10,452	213	86,255
1934-35 ..	39,653	5,012	24,623	2,307	8,912	215	80,722
1935-36 ..	43,285	5,334	24,830	2,546	8,775	242	85,012
1936-37 ..	43,214	4,761	25,081	2,448	8,666	191	84,361
1937-38 ..	41,958	4,672	23,816	2,507	8,102	139	81,194

The number and value of parcels forwarded in New South Wales and Queensland are much higher than in any of the other States, although the system has also found favour in Western Australia. These three States have the largest areas, and consequently more people at long distances from business centres who avail themselves of the value-payable system. Although South Australia also has a large area, the population of that State is, comparatively, not widely spread.

3. *Sea-borne Mail Services.*—(i) *General.* In earlier issues of this work particulars of sea-borne mail services were included, but owing to the restrictions of space the insertion of this information terminated with Year Book No. 22.

(ii) *Amount of Subsidies Paid.* The following table shows the amounts of subsidies paid by the Commonwealth Postal Department for ocean and coastal mail services during the year ended 30th June, 1938 :—

MAIL SUBSIDIES : OCEAN AND COASTAL SERVICES, 1937-38.

Service.	Orient S.N. Co.	Queens- land Ports.	South Australian Ports.	Western Australian Ports.	Tas- manian Ports.
	£ Stg.	£	£	£	£
Annual subsidy ..	110,000	975	3,800	5,500	55,379

4. **Total Cost of Carriage of Mails.**—During the year 1937–38 the total amount paid for the carriage of mails, as disclosed by the Profit and Loss Account of the Postal Branch, was £1,396,578. Details appear hereunder:—

CARRIAGE OF MAILS: TOTAL COST, 1937–38.

Inland Mails.		Non-Contract Vessels.	Overland and Sea Transit.	Coastwise Mails.	Mails to Europe. (a)	Air Mails.	Tasmanian Subsidy.	Total.
By Road.	By Railway.							
£	£	£	£	£	£	£	£	£
527,167	464,265	39,092	6,378	11,501	137,500	180,875	29,800	1,396,578

(a) Orient contract.

5. **Transactions of the Dead Letter Offices.**—The table hereunder shows the number of letters, postcards and letter-cards, and packets and circulars, including Inland, Interstate and International, dealt with by the Dead Letter Offices in 1937–38, and the methods adopted in the disposal thereof:—

DEAD LETTER OFFICES: TRANSACTIONS, 1937–38.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
LETTERS, POSTCARDS AND LETTER-CARDS.							
Returned to writers or delivered ..	487,443	241,812	189,738	85,108	107,336	57,444	1,168,881
Destroyed in accordance with Act ..	86,349	31,716	16,473	8,855	5,260	3,840	152,493
Returned to other Countries as unclaimed ..	31,642	14,565	7,489	2,852	6,846	1,206	64,600
Total ..	605,434	288,093	213,700	96,815	119,442	62,490	1,385,974
PACKETS AND CIRCULARS.							
Returned to writers or delivered ..	247,322	148,417	217,016	11,247	56,784	36,066	716,852
Destroyed in accordance with Act ..	108,614	16,293	21,461	624	7,381	1,572	155,945
Returned to other Countries as unclaimed ..	1,165	6,473	3,996	2,068	850	414	14,966
Total ..	357,101	171,183	242,473	13,939	65,015	38,052	887,763
Grand Total (letters, packets, etc.) ..	962,535	459,276	456,173	110,754	184,457	100,542	2,273,737

During the year 1937–38 money and valuables to the amount of £89,314 were found in undeliverable postal articles.

6. **Money Orders and Postal Notes.**—(i) *General.* The issue of money orders and postal notes is regulated by sections 74 to 79 of the Post and Telegraph Act, 1901. A money order may be issued for payment of sums up to £20 within Australia, and not

exceeding £40 (in some cases £20, and in Mauritius £10) in places abroad. A postal note, which is payable only within Australia and in Papua, cannot be issued for a larger sum than twenty shillings.

(ii) *States, 1937-38.* Particulars regarding the business transacted in each State for the year 1937-38 are given hereunder :—

MONEY ORDERS AND POSTAL NOTES : TRANSACTIONS, 1937-38.

State.	Value of Money Orders Issued.	Value of Money Orders Paid.	Net Money Order Commission Received.	Value of Postal Notes Issued.	Poundage Received on Postal Notes.
	£	£	£	£	£
New South Wales ..	8,597,338	8,661,014	43,990	3,397,159	78,295
Victoria ..	3,463,670	3,716,856	20,412	2,183,188	53,126
Queensland ..	2,694,599	2,521,923	17,525	893,396	20,877
South Australia ..	1,027,235	1,013,405	5,902	524,348	12,655
Western Australia ..	1,528,092	1,417,563	9,540	501,139	11,202
Tasmania ..	647,915	604,668	3,402	206,459	4,793
Australia ..	17,958,849	17,935,429	100,771	7,705,689	180,948

(iii) *Australia, 1934 to 1938.* The next table shows the total number and value of money orders and postal notes issued and paid in Australia from 1933-34 to 1937-38 :—

MONEY ORDERS AND POSTAL NOTES : TRANSACTIONS, AUSTRALIA.

Year.	Money Orders.				Postal Notes.			
	Issued.		Paid.		Issued.		Paid.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	'000.	£'000.	'000.	£'000.	'000.	£'000.	'000.	£'000.
1933-34 ..	2,769	14,646	2,762	14,589	19,595	6,397	19,446	6,370
1934-35 ..	2,859	15,185	2,847	15,169	19,557	6,650	19,489	6,631
1935-36 ..	2,968	16,303	2,938	16,260	21,083	7,221	21,103	7,222
1936-37 ..	3,066	17,098	3,057	17,105	20,622	7,348	20,538	7,313
1937-38 ..	3,191	17,959	3,175	17,935	21,426	7,706	21,375	7,692

(iv) *Classification of Money Orders Issued and Paid. (a) Money Orders Issued.* The next table shows the number and value of money orders issued during the year 1937-38, classified according to the country where payable :—

MONEY ORDERS ISSUED : COUNTRY WHERE PAYABLE, 1937-38.

Where Issued.	Where Payable.				Total.
	In Australia.	In New Zealand.	In United Kingdom.	In Other Countries.	
	NUMBER.				
Australia ..	3,027,340	22,280	98,910	42,921	3,191,451
	VALUE.				
Australia ..	£ 17,534,390	£ 68,252	£ 213,310	£ 142,897	£ 17,958,849

(b) *Money Orders Paid.* The number and value of money orders paid during the year 1937-38, classified according to the country where issued, are given hereunder :—

MONEY ORDERS PAID : COUNTRY OF ISSUE, 1937-38.

Where Paid.	Where Issued.				Total.
	In Australia.	In New Zealand.	In United Kingdom.	In Other Countries.	
NUMBER.					
Australia	3,045,166	56,555	44,514	28,449	3,174,684
VALUE.					
Australia	£ 17,533,072	£ 147,458	£ 168,705	£ 86,194	£ 17,935,429

In the tables above, money orders payable or issued in foreign countries which have been sent from or to Australia through the General Post Office in London are included in those payable or issued in the United Kingdom.

(v) *Postal Notes Paid.* The subjoined table shows the number and value of postal notes paid in each State during the year 1937-38. Particulars regarding the total number and value of postal notes issued and paid in each of the last five years have been given previously.

POSTAL NOTES PAID : STATE OF ISSUE, 1937-38.

Issued in—	Postal Notes Paid in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
NUMBER.							
Same State	'000. 7,792	'000. 3,825	'000. 1,921	'000. 873	'000. 1,073	'000. 435	'000. 15,919
Other States	821	543	890	108	64	3,031	5,457
Total	8,613	4,368	2,811	981	1,137	3,466	21,376
VALUE.							
Same State	£'000. 2,862	£'000. 1,417	£'000. 724	£'000. 325	£'000. 406	£'000. 152	£'000. 5,886
Other States	302	221	312	45	19	907	1,806
Total	3,164	1,638	1,036	370	425	1,059	7,692

The number and value of postal notes paid in Australia during the year showed increases of 4.1 per cent. and 5.2 per cent. respectively on the corresponding figures for the year 1936-37.

§ 3. Telegraphs.

1. *General.*—(i) *Development of System.* A review of the development of the Telegraph Services in Australia was given in a previous issue of this work (see Year Book No. 15, p. 625). During the past few years substantial improvements in both the speed and grade of telegraph service throughout Australia have been effected, the entire system being subjected to intensive reorganization.

(ii) *External Circulation or Routing of Traffic.* The external circulation system of the Australian telegraph service has been considerably modified, direct communication having been established between cities and towns which formerly were served through intermediate repeating centres. The reorganization has eliminated the loss of time in transit, improved the grade of service, and led to economy as regards the labour formerly required in manual re-transmission. As a result of the reorganization there are now only five repeating centres, eighteen centres having been abolished.

(iii) *Carrier Wave System.* This system which permits a number of messages to be transmitted simultaneously over the one pair of wires is now in operation between Perth and Adelaide, Adelaide and Melbourne, Melbourne and Sydney, and Sydney and Brisbane. There are now 41,158 miles of one-way telegraph carrier channels in operation.

(iv) *Voice-Frequency System.* This system, which enables a number of telegraph channels to be superposed on a single telephone channel by employing frequencies from 420 to 2,460 cycles per second, was first introduced between Sydney and Tamworth. Between these two points 18 duo-directional channels have been provided by adopting the voice-frequency principle, equivalent to 9,360 miles of uni-directional channels. The system was extended to the Perth and Kalgoorlie route during 1937-38, and in view of its service and economic advantages, extensions to other main telegraph routes are contemplated.

(v) *Direct Telegraph Communication over Great Distances.* The telegraph system in Australia provides direct communication between many places separated by great distances as indicated in the following examples:—Sydney-Perth, 2,695 miles; Perth-Wyndham, 1,933 miles; Melbourne-Brisbane, 1,246 miles; Brisbane-Cairns, 1,056 miles; Brisbane-Cloncurry, 1,215 miles; Adelaide-Perth, 1,627 miles; Melbourne-Perth, 2,104 miles; Adelaide-Darwin, 1,940 miles; and Sydney-Adelaide, 1,068 miles. These direct channels provide a speedy service between the centres named, the average time involved in the transmission of a telegram being ten minutes.

(vi) *Machine Telegraphy.* In order to speed up transmission, machine printing telegraph systems have been introduced between capital cities and between important country centres. Murray multiplex machine apparatus is in operation between Sydney and Melbourne, Sydney and Brisbane, Sydney and Adelaide, Sydney and Perth, Sydney and Canberra, Sydney and Lismore, Sydney and Newcastle, Sydney and Wagga Wagga, Melbourne and Brisbane, Melbourne and Adelaide, Melbourne and Perth, Melbourne and Canberra, Adelaide and Perth, Brisbane and Rockhampton, and Brisbane and Townsville, providing telegraph outlets which permit the carriage of very heavy loads with a minimum transit time. The operation of the apparatus has been steadily improved, and the system now gives a high output. Between Melbourne and Mildura, Melbourne and Launceston, Sydney and Tamworth, Brisbane and Toowoomba, Brisbane and Mackay, Perth and Fremantle, and Perth and Kalgoorlie, start-stop telegraph printing systems are in operation.

(vii) *Phonogram Service.* Telephone subscribers may now telephone telegrams for onward transmission, or have messages telephoned to them. The fee for the service is small, and the innovation means, in effect, that the telegraph system is brought into the home of every telephone subscriber. The number of telegrams lodged by telephone during the twelve months ended 30th June, 1938, was 2,922,472 or 18.6 per cent. of the total lodgments, and the popularity of this facility is growing.

(viii) *Radiograms within Australia.* On 1st May, 1929, the rates for radiograms between Flinders Island, Wave Hill, Brunette Downs and other places within the Commonwealth were reduced to 1½d. per word with a minimum charge of two shillings. Communication at these rates was extended to Lord Howe Island in August, 1929.

(ix) *Pedal Wireless Stations.* A number of privately operated pedal wireless transceiver stations have been established at various centres throughout the Commonwealth, enabling telegrams to be exchanged with departmental telegraph offices. These pedal stations are sponsored by the Australian Aerial Medical Services and communicate by wireless with base stations established at Wyndham, Port Hedland, Cloncurry, Kalgoorlie, Broken Hill, Yunta, Nonning, Dalwallinu, Wave Hill, Camooweal and Port Lincoln. The radiogram rates of 1½d. per word with a minimum charge of two shillings apply to pedal station telegrams.

(x) *Picturegram Service.* During the year ended 30th June, 1938, 410 picturegrams were transmitted between Sydney and Melbourne, the revenue being £944. Any kind of picture or document may be accepted for transmission, the charges varying from 30s. to 67s. 6d. according to the size of the picture or document and the grade of transmission desired.

(xi) *Overseas Phototelegram Service.* An overseas phototelegram service, "via Beam," was inaugurated in October 1934, permitting the transmission in either direction of facsimiles between Sydney or Melbourne and England, of dimensions up to a maximum of ten inches by seven inches. The charges are calculated at the rate of three shillings and three pence per square centimetre with a minimum charge of £16 5s. as for 100 square centimetres.

(xii) *Ornamental Telegram Forms.* The use of appropriately designed telegram forms for conveying Christmas and New Year greetings continues to increase in volume and popularity. In 1938, 363,877 Greeting Telegrams were sent, an increase of 152.5 per cent. on the number (144,102) sent in 1929, the year of inception of the service.

During the year 1933-34 telegram forms of special design and attractive colouring in connexion with Mothers' Day messages, Birthday greetings and Congratulatory telegrams were placed at the disposal of the public. The popularity of these facilities is indicated by the increase in the number of Mothers' Day telegrams from 16,091 in 1934 to 58,468 in 1939. Complete statistics are not available in respect of Birthday greetings and Congratulatory messages, but it is estimated that the number of telegrams in these categories is approximately 750,000 annually. In 1936 two additional greeting facilities employing ornamental telegram stationery were introduced, one for the conveyance of social greetings and the other for use during Easter-tide. The number of Easter Greeting telegrams in 1935, prior to the introduction of the special form for the occasion, was 4,164. This figure increased to 13,636 in 1939. Extensive use is also being made of the Social telegram service, which is popular for conveying "bon voyage" greetings and for making social engagements.

(xiii) *Private Wire Teleprinter and Printergram Services.* In conformity with its policy of placing at the service of the public new developments in communication, the Department has now introduced the teleprinter service. This may be briefly defined as typewriting over electrical circuits, teleprinters being similar in performance to typewriters, except that the keyboard and distant printer are electrically connected by means of a telegraph line.

This facility combines the speed of the telegraph and the flexibility and personal touch of the telephone with the accuracy and permanency of the printed word. It affords the great advantage of direct and instantaneous communication between points within the same building or separated by distances up to thousands of miles. Communications are automatically produced at both ends exactly as sent, and information may be dispatched with the utmost privacy even in exposed situations where other means are unsuitable. It affords two-way communication at speeds up to 60 words a minute.

Printergram services connecting any business premises with the local Telegraph Office for the transmission and reception of telegrams are also available. This saves time and labour, while providing a permanent record of each transaction.

Forty-two private wire services employing 110 teleprinter units have already been installed, including a stock ticker service enabling the simultaneous communication of information from a single transmitting unit located in the Sydney Stock Exchange to each of 31 printer units installed in the offices of city stock-brokers.

2. **Telegraph Offices, Length of Lines and Wire.**—(i) *States.* The following table shows the number of telegraph offices and the length of telegraph lines and of telegraph wire available for use in each State at the 30th June, 1938 :—

TELEGRAPH OFFICES AND LINES : STATES, 30th JUNE, 1938.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.
Number of offices ..	3,056	2,452	1,562	824	929	536	9,359
Length of wire (miles)—							
Telegraph purposes only	12,875	7,686	14,836	6,422	8,544	664	51,027
Telegraph and telephone purposes ..	58,057	15,756	36,545	13,898	9,270	1,448	134,974
Length of line (miles)—							
Conductors in Morse cable	2,711	1,406	491	..	181	24	4,813
Conductors in submarine cable (statute miles) ..	4,057	413	323	230	193	477	5,693
Pole routes (miles) ..	32,743	19,146	14,718	14,961	12,057	3,495	97,120

A total length of 186,001 miles of wire is available for telegraph purposes, of which 134,974 miles are also used for telephone purposes. Compared with those for the previous year, the figures show an increase of 9,017 miles (5.1 per cent.) in the total length and an increase of 13,186 miles (10.8 per cent.) in the length of line used for both telegraph and telephone purposes.

(ii) *Summary for Australia.* The following table gives corresponding particulars for Australia for the years 1934 to 1938 :—

TELEGRAPH OFFICES AND LINES : AUSTRALIA, At 30th JUNE.

Particulars.	1934.	1935.	1936.	1937.	1938.
Number of offices ..	9,199	9,255	9,252	9,320	9,359
Length of wire (miles)—					
Telegraph purposes only ..	54,655	54,806	56,292	55,196	51,027
Telegraph and telephone purposes ..	102,953	104,203	113,277	121,788	134,974
Length of line (miles)—					
Conductors in Morse cable ..	4,538	4,694	4,815	4,863	4,813
Conductors in submarine cable (statute miles) ..	4,764	4,883	5,193	5,421	5,693
Pole routes (miles) ..	96,395	97,694	97,850	96,917	97,120

3. **Number of Telegrams Dispatched.**—(i) *States.* The following table shows the total number of telegrams dispatched in each State during 1937-38 according to the class of message transmitted :—

TELEGRAMS DISPATCHED(a) : STATES, 1937-38.

Class of Message Transmitted within Australia.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	No.	No.	No.	No.	No.	No.	No.
Paid and Collect—							
Ordinary ..	5,301,928	3,411,438	2,626,481	1,065,096	1,635,883	282,064	14,322,890
Urgent ..	220,511	63,055	69,115	34,349	42,425	7,767	437,222
Press ..	204,889	107,169	76,347	42,094	46,273	42,821	519,593
Lettergram ..	74,454	38,657	55,049	28,300	91,161	20,965	308,586
Radiogram ..	37,231	2,894	8,316	6,332	3,762	2,904	61,439
Total ..	5,839,013	3,623,213	2,835,308	1,176,171	1,819,504	356,521	15,649,730
Unpaid—							
Service ..	166,605	63,888	71,247	40,800	52,444	22,148	417,132
Shipping ..	22,866	82,505	16,054	3,734	12,759	4,864	142,782
Meteorological ..	232,309	107,537	110,776	145,733	118,046	41,291	755,692
Total ..	421,780	253,930	198,077	190,267	183,249	68,303	1,315,606
Grand Total ..	6,260,793	3,877,143	3,033,385	1,366,438	2,002,753	424,824	16,965,336

(a) Including radiogram traffic with islands adjacent to the Commonwealth and to ships at sea.

(ii) *Australia.* The number of telegrams dispatched to destinations within Australia during each of the last five years is given hereunder :—

TELEGRAMS DISPATCHED : AUSTRALIA, 1933-34 TO 1937-38.

Telegrams.	1933-34.	1934-35.	1935-36.	1936-37.	1937-38.
Number (a) ..	13,393,627	14,617,871	15,508,843	16,268,416	16,965,336

(a) See Note (a) above.

The increase in the volume of telegraph business has averaged 837,461 messages during each of the past five years.

4. **Letter-telegrams.**—Letter-telegrams are accepted at any hour at telegraph offices which are open for business after 7 p.m., subject to the condition that delivery is effected by posting at the letter-telegram office of destination.

5. **Revenue and Expenditure.**—Particulars of the revenue and net operating results of the telegraph systems for the years 1933-1934 to 1937-38 are given in earlier pages.

6. **Telegraph Density.**—The latest statistics available disclose that, on a population basis, Australia now occupies a pre-eminent position in the world in the use of the Telegraph Service, with an average of 2.4 messages annually per head of population. The United States of America has the second highest average of 1.5 followed by the United Kingdom with 1.3 per head of population. The following table gives the figures for the more important countries :—

TELEGRAPH DENSITY STATISTICS : PRINCIPAL COUNTRIES.

Country.	Percentage of Telegraph to Total Wire Communication.	Telegraph Communication per Head of Population.
Australia	3.1	2.4
Belgium	1.9	0.7
Canada	0.5	1.0
Czechoslovakia	1.4	0.3
Denmark	0.3	0.5
Finland	0.3	0.2
France	3.0	0.7
Germany	0.7	0.3
United Kingdom	2.9	1.3
Hungary	1.2	0.2
Japan	1.2	0.9
Netherlands	0.7	0.3
Norway	1.1	1.0
Poland	0.7	0.1
Spain	3.0	1.0
Sweden	0.4	0.6
Switzerland	0.6	0.4
Union of South Africa	2.4	0.7
United States of America	0.7	1.5

§ 4. Overseas Cable and Radio Communication.

1. **First Cable Communication with the Old World.**—In earlier issues of the Year Book will be found a detailed account of the connexion of Australia with the old world by means of submarine cables. (See No. 6, p. 770.)

2. **General Cable Service.**—Descriptions of the various cable services between Australia and other countries are given in Year Book No. 22, pp. 335 and 336.

3. **Merging of Cable and Wireless Interests.**—Following upon the recommendations of the Imperial Wireless and Cable Conference in London in 1928 which examined the situation that had arisen as the result of the competition of the Beam Wireless with the Cable services, the Imperial and International Communications Limited (since renamed Cable and Wireless Ltd.) was formed and took over the operations of the Pacific Cable Board and the control of the Eastern Extension Cable Company and the Marconi Wireless Company. Further particulars in relation to wireless services will be found in par. 5 of this section and in § 6, Radio Telegraphy and Telephony.

4. **Overseas Cable and Radio Traffic.**—(i) *States.* The number of telegrams received from and dispatched overseas in each State during the year 1937–38 is given hereunder :—

INTERNATIONAL TELEGRAMS : STATES, 1937–38.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number received ..	380,210	225,013	26,306	34,453	30,326	9,041	705,349
Number dispatched	373,575	248,196	31,942	37,793	43,143	10,185	744,834
Total ..	753,785	473,209	58,248	72,246	73,469	19,226	1,450,183

(ii) *Australia.* The subjoined table shows the number of international telegrams received from and dispatched overseas in Australia during 1936–37 and 1937–38 :—

INTERNATIONAL TELEGRAMS.—AUSTRALIA.

Messages.	Number Received.		Number Dispatched.		Total Number Received and Dispatched.	
	1936–37.	1937–38.	1936–37.	1937–38.	1936–37.	1937–38.
Number ..	692,727	705,349	746,739	744,834	1,439,466	1,450,183

5. **Cable and Beam Wireless Rates.**—(i) *Ordinary Messages.* As from the 25th April, 1938, the Cable and Beam Wireless rates per word for telegrams exchanged between Australia and British Empire Countries were reduced to the following levels:—Urgent, 2s. 6d.; Ordinary, 1s. 3d.; C.D.E. (5 letter code), 10d., (minimum 5 words); Deferred, 7½d.; British Government, 7½d.; Daily Letter Telegram, 5d., (minimum charge 10s. 5d. as for 25 words). Where, however, the charges between Australia and certain Empire countries (e.g., New Zealand, Fiji and some Pacific Islands) were below these levels, the rates were unaltered. No change was effected in the rates for traffic exchanged between Australia and foreign countries.

The following are the ordinary rates at present operating in regard to traffic with the principal countries, other than members of the British Empire:—

INTERNATIONAL TELEGRAM RATES.

To—	Rate per Word and Route.	
	Via Cable.	Via Beam.
European Countries	2s. 6d. to 2s. 7d.	1s. 11½d. to 2s. 5½d.
Asiatic Countries	2s. 5d. to 4s. 7d.	.. .. .
Africa	2s. 6d. to 5s. 6d.	2s. 2½d. to 2s. 11d.
United States of America	2s. 4d. to 2s. 8d.	2s. 1½d. to 2s. 5d.
Central America	3s. 2½d. to 4s. 4½d.	2s. 11½d. to 4s. 4½d.
West Indies	3s. 0d. to 5s. 1d.	2s. 8½d. to 4s. 11d.
South America	3s. 9d. to 5s. 9d.	3s. 8d. to 5s. 2½d.

(ii) *Deferred Telegrams (via Cable or Beam).* Under this system a reduction of 50 per cent. in the ordinary charge for international telegrams is made under certain conditions. Deferred telegrams are transmitted after ordinary rate telegrams and ordinary press telegrams have been disposed of.

(iii) *Daily Letter Telegrams.* The Daily Letter Telegram service was inaugurated in September, 1923, between Australia and Great Britain and Canada, later being extended to most countries in the British Empire and in Europe, to the United States and to certain other places. The charges are based on one-third of the tariff per word for ordinary messages, subject to a minimum charge as for 25 words. These messages are delivered on the morning of the second day following that of lodgment.

(iv) *Night Letter Telegrams.* A Night Letter Telegram service was introduced between Australia and New Zealand on 1st May, 1924, and was extended to Fiji on 1st December, 1924. The minimum charge for messages is fixed as for 25 words, the rates being— to New Zealand, 3s. 9d. minimum, 2d. for each additional word beyond 25; Suva, 5s. 10d. minimum, 3d. for each additional word; other places in Fiji, 7s. 4d. minimum, and 4d. for each additional word. Night Letter Telegrams are delivered on the morning following the day of lodgment.

(v) *Overseas Press Telegrams.* The rate on ordinary press telegrams exchanged with Great Britain prior to 15th April, 1939, was 4d. per word and on deferred press 3d. per word. As from this date a uniform tariff of 2½d. a word is applied uniformly to all Empire countries except Canada, Sudan, Palestine and Transjordan. In all cases where the reduced rate applies the deferred press service has been abolished.

(vi) *Social Greetings Telegram Service.* As from 1st May a Social Greeting Service was introduced between Australia and Empire points excluding Canada, India, Burma, New Zealand, Fiji and certain Pacific Islands. The minimum charge for messages is 5s. for thirteen words the indicator GLT being counted and charged for as one word. A charge of 5d. is made for each additional word. The texts of such telegrams are restricted to messages of a greeting character. This service replaces the special Christmas, Easter and Jewish New Year Greeting Telegram Service previously available to Empire points. These facilities are still available, on payment of the prescribed rates, to the Empire points which exclude the Social Greeting facility and also to foreign countries.

(vii) *De-Luxe Telegram Service.* A de-luxe telegram service has been established between Australia and certain of the more important overseas countries whereby, on payment of an additional fee of sixpence per telegram, the message will be delivered to the addressee on an ornamental form enclosed in a decorative envelope.

§ 5. Telephones.

1. Telephone Services.—(i) *Mileage in Australia.* The following table shows the mileage of lines for telephone purposes, giving trunk lines separately, at 30th June in each of the years 1935 to 1938 :—

TELEPHONE LINES : AUSTRALIA.

Particulars.	At 30th June—			
	1935.	1936.	1937.	1938.
Ordinary Lines—				
Conduits duct miles	7,128	7,771	8,546	9,664
" route miles	4,467	5,094	5,869	6,942
Conductors in aerial and underground cables miles	847,393	861,437	892,795	965,209
Working conductors in cables for junction circuits, not included above				
loop mileage	74,849	75,094	77,889	84,437
Open conductors single wire mileage	417,640	421,075	425,857	428,106
Trunk Lines—				
Telephone trunk lines only .. miles	231,125	230,684	224,447	218,146
Telegraph and telephone purposes ..	104,203	113,277	121,788	134,974

(ii) *Comparison with Other Countries.* During 1937–38 the service expanded at the satisfactory rate of 35,320 new telephones, which exceeded by 10 per cent. the corresponding figure for the preceding year. A notable feature was the marked improvement in the rate of development in country districts, the net additions being 9,707 telephones, the best total recorded for nine years. With an average of 91 telephones per 1,000 of population Australia occupies seventh place among the countries of the world having the greatest density of telephones. The average length of wire per instrument in Australia is 4.5 miles.

(iii) *Trunk Line System.* An underground telegraph and trunk line cable has been laid between Melbourne and Geelong (Victoria), about 46 miles, and will be placed in service at an early date. It accommodates the tele-communication channels serving Tasmania and the Western Districts of Victoria. An underground cable is also being laid between Sydney and West Maitland (New South Wales) to carry the channels to the Northern districts of New South Wales and to Brisbane. The Sydney–Brisbane group of channels was recently increased to ten and the Melbourne–Adelaide group to nine. Twelve additional circuits will be provided between Sydney and Melbourne during 1939, thus bringing the total number to 30.

The new semi-automatic positions which are to be installed in the Main Trunk Exchange, Melbourne, to deal with Interstate traffic, have been delivered and the preliminary work in connexion with their installation is in progress. In the Sydney Main Trunk Exchange up-to-date operating positions have been installed and additional facilities will shortly be provided to improve the service.

(iv) *Automatic Exchanges.* At the 30th June, 1938, there were 130 automatic or semi-automatic exchanges in operation, providing facilities for 311,836 automatic telephones, representing 49.5 per cent. of the total telephones in use.

(v) *Rural Automatic Exchanges.* Progress has been made with the establishment of automatic exchanges in country districts, and on the 30th June, 1938, 50 units were in operation. The rate of installation is being accelerated and equipment has been ordered for additional exchanges. The provision of automatic facilities in rural areas enables the residents concerned to enjoy the benefits of a continuous telephone service, which it is not practicable to furnish under manual conditions because of the heavy outlay entailed.

(vi) *Summary for States.* Particulars relating to the telephone service in each State for the years ended 30th June, 1936 to 1938, will be found in the following table :—

TELEPHONE SERVICES: SUMMARY.

Particulars.	Year (30th June).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus. tralia.
Exchanges ..	1936	1,967	1,651	995	561	647	345	6,166
	1937	1,985	1,663	1,012	570	652	354	6,236
	1938	2,004	1,682	1,029	509	652	355	6,291
Telephone Offices (in- cluding Exchanges)	1936	2,981	2,342	1,461	815	910	505	9,014
	1937	2,986	2,354	1,497	816	926	509	9,088
	1938	3,036	2,356	1,516	820	903	510	9,141
Lines connected ..	1936	160,323	128,313	53,784	39,911	23,020	12,310	417,661
	1937	170,724	135,751	55,796	41,467	23,838	12,895	440,471
	1938	181,458	143,657	58,626	43,307	24,968	13,482	465,498
Instruments con- nected	1936	215,803	177,397	70,844	52,585	30,882	15,357	562,868
	1937	229,727	187,753	73,793	55,019	32,346	16,217	594,855
	1938	244,590	198,761	77,929	57,630	34,210	17,055	630,175
(a) Subscribers' in- struments	1936	210,099	173,436	68,288	50,954	29,553	14,511	546,841
	1937	223,712	183,613	71,092	53,319	30,970	15,349	578,061
	1938	238,283	194,451	75,122	55,874	32,807	16,170	612,707
(b) Public tele- phones	1936	3,561	2,412	1,633	834	896	542	9,878
	1937	3,758	2,465	1,672	875	900	551	10,221
	1938	3,941	2,506	1,726	906	904	549	10,532
(c) Other local in- struments	1936	2,143	1,549	923	797	433	304	6,149
	1937	2,257	1,675	1,029	825	470	317	6,573
	1938	2,366	1,804	1,081	850	499	336	6,936
Instruments per 100 of population	1936	8.06	9.60	7.23	8.88	6.85	6.67	8.31
	1937	8.50	10.12	7.44	8.98	7.12	6.98	8.71
	1938	8.96	10.65	7.77	9.63	7.43	7.28	9.14
Earnings ..		£'000.	£'000.	£'000.	£'000.	£'000.	£'000.	£'000.
	1936	2,646	1,940	966	599	378	160	6,689
	1937	2,903	2,116	1,002	640	397	178	7,236
1938	3,194	2,250	1,063	685	425	194	7,811	
Working expenses ..	1936	1,592	1,222	560	458	277	168	4,277
	1937	1,753	1,280	603	470	292	176	4,574
	1938	1,936	1,361	652	516	326	192	4,983
Percentage of working expenses on earn- ings		%	%	%	%	%	%	%
	1936	60.16	62.97	57.97	70.55	73.41	105.10	63.95
	1937	60.41	60.46	60.14	73.42	73.55	99.11	63.21
1938	60.63	60.47	61.36	75.31	76.57	99.01	63.78	

The number of instruments per 100 of population increased from 8.71 in 1936-37 to 9.14 in 1937-38. The net addition during 1937-38 totalled 35,320 telephones, a gain of 5.94 per cent. Of the total instruments connected at 30th June, 1938, 245,680, or 39 per cent., were served by exchanges situated beyond the limits of the telephone networks of the six State capital cities. The metropolitan networks are limited to a radius of 15 miles from the General Post Office in Sydney and Melbourne, and 10 miles in the other State capital cities. Instruments of the modern handset pattern are rapidly increasing

in popularity. During 1937-38, 61,050 handsets were installed, compared with 51,363 in 1936-37, bringing the number in service to 191,095 or 30 per cent. of the total connexions.

(vii) *Systems in Use.* Automatic lines connected comprised 49 per cent. of the total lines in service in Australia, while magneto and common battery lines comprised 44 per cent. and 7 per cent. respectively. Details for each State are shown in *Transport and Communication Bulletin* No. 29 issued by this Bureau.

(viii) *Subscribers' Lines and Calling Rates.* The next table gives the number of subscribers' lines and the daily calling rate at central, suburban and rural telephone exchanges in the several States for the year 1937-38 :—

TELEPHONES : SUBSCRIBERS' LINES AND DAILY CALLING RATE, 1937-38.

State.	Central Exchanges.		Suburban Exchanges.		Rural Exchanges.		Total.	
	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.
	No.	No.	No.	No.	No.	No.	No.	No.
New South Wales ..	20,237	12.89	88,619	4.48	65,845	2.49	174,701	4.70
Victoria ..	10,773	10.12	78,294	4.16	49,714	1.78	138,781	3.77
Queensland ..	8,186	10.42	16,224	3.54	32,165	2.61	56,575	4.01
South Australia ..	6,032	9.90	17,057	3.45	18,325	1.77	42,014	3.64
Western Australia ..	8,006	6.99	6,036	4.07	9,956	1.88	23,998	4.14
Tasmania ..	3,236	4.67	1,562	2.56	8,072	2.29	12,870	2.92
Australia ..	56,470	10.38	208,392	4.17	184,077	2.21	448,939	4.15

A comparison of the daily calling rates for each class of exchange shows that New South Wales registered the greatest number per line at central and suburban, and Queensland at rural exchanges. For Australia as a whole, the average number of calls per line at central exchanges was more than double the number registered at suburban exchanges, while the average for suburban exchanges was almost double the number shown for rural exchanges.

(ix) *Effective Paid Local Calls.* The numbers of effective paid local calls from subscribers and public telephones in the various States during the years ended 30th June, 1937 and 1938 appear hereunder :—

TELEPHONES : NUMBER OF EFFECTIVE PAID LOCAL CALLS.

State.	Subscribers' Calls.		Calls from Public Telephones.		Total Calls.	
	1936-37.	1937-38.	1936-37.	1937-38.	1936-37.	1937-38.
	'000.	'000.	'000.	'000.	'000.	'000.
New South Wales ..	205,850	224,794	19,184	21,021	225,034	245,815
Victoria ..	142,524	152,305	9,369	10,078	151,893	162,383
Queensland ..	58,266	61,371	4,218	4,638	62,484	66,009
South Australia ..	38,821	41,028	3,248	3,511	42,069	44,539
Western Australia ..	25,920	27,507	1,366	1,432	27,286	28,939
Tasmania ..	9,330	10,159	735	799	10,065	10,958
Australia ..	480,711	517,164	38,120	41,479	518,831	558,643

(x) *Trunk Line Calls and Revenue.* In the next table the number of telephone trunk line calls recorded, the amount of revenue received, and the average revenue per call are shown for each of the States for the years 1935-36 to 1937-38 :—

TELEPHONES : TRUNK LINE CALLS AND REVENUE.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Total Calls—	'000.	'000.	'000.	'000.	'000.	'000.	'000.
1935-36 ..	12,441	9,778	6,527	3,733	1,991	1,471	35,941
1936-37 ..	13,245	10,322	6,541	3,942	2,118	1,573	37,741
1937-38 ..	14,217	11,007	6,851	4,211	2,230	1,727	40,243
Total Revenue—	£	£	£	£	£	£	£
1935-36 ..	599,000	432,635	365,237	165,208	102,328	49,351	1,713,759
1936-37 ..	644,434	470,541	368,171	178,043	113,219	61,185	1,835,593
1937-38 ..	711,872	518,212	387,431	194,909	122,915	68,114	2,003,453
Average Revenue per Call—	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
1935-36 ..	11.65	10.62	13.43	10.62	12.33	8.06	11.44
1936-37 ..	11.68	10.93	13.51	10.84	12.83	9.33	11.67
1937-38 ..	12.02	11.30	13.57	11.11	13.22	9.47	11.95

The number of trunk line calls during 1937-38 increased by two and a half millions or by 6.63 per cent. compared with the figures for the previous year, while the average revenue per call increased by 0.28d.

2. *Revenue from Telephones.*—Particulars regarding the revenue from telephone services are included in tables in § 1.

§ 6. Radio Telegraphy and Telephony.

1. *General.*—A statement in regard to the initial steps taken to establish radio telegraphy in Australia was given in Official Year Book No. 18, p. 343.

2. *Wireless Licences.*—(i) *General.* Under the Wireless Telegraphy Act and Regulations, no wireless station can be installed or operated without a licence from the Postmaster-General. Licences are issued for the following :—(a) Coast Stations, which are operated at various points around the coast and in Papua and New Guinea by Amalgamated Wireless (Australasia) Ltd., under agreement with the Commonwealth ; (b) Ship Stations (regulations under the Navigation Act 1935 require that all ships registered in Australia and engaged in interstate traffic shall have an efficient radio telegraph installation, which in the case of cargo vessels of less than 750 tons gross register shall include apparatus for automatically transmitting prescribed signals of distress, these vessels not being required to carry fully qualified operators ; similar legislation, designed to ensure the safety of life at sea, has also been introduced by the Governments of New South Wales, Victoria and Queensland) ; (c) Land Stations to be operated where no telegraph or telephone facilities exist ; (d) Broadcasting Stations, other than those of the National Broadcasting Service ; (e) Broadcast Listeners' Receiving Sets ; (f) Portable Stations on motor cars, etc. ; (g) Aircraft Stations ; (h) Experimental Stations ; and (i) Special Stations, i.e., stations other than those named above.

The following table shows the number of each class of licence issued in each State or Territory during the year 1937-38 :—

WIRELESS LICENCES, 1937-38.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	A.C.T.	Aust.
Coast ..	2	1	6	1	5	3	1	..	19
Ship ..	89	95	13	11	5	1	1	..	215
Aircraft ..	10	14	7	5	2	..	1	..	39
Land (a) ..	8	3	43	20	64	8	35	..	181
Broadcasting (b)	32	18	18	8	8	8	..	1	93
Broadcast Listeners' ..	402,315	315,406	117,487	111,622	71,324	36,013	165	1,663	1,055,995
Experimental ..	724	539	251	179	131	59	..	8	1,891
Portable ..	15	5	5	4	4	1	5	..	39
Special ..	39	24	16	..	6	..	..	..	85
Total Issued	403,234	316,105	117,846	111,850	71,549	36,093	208	1,672	1,058,557

(a) In addition to the licensed stations there were two operated by the Postmaster-General's Department, viz., Wave Hill (N.T.) and Carnooeal (Q.). (b) There were also twenty-four stations operated by the National Broadcasting Service, including a short-wave station (VLR, Lyndhurst, Victoria).

Similar particulars to the above in relation to the year 1938-39 will be found in the Appendix to this volume.

(ii) *Broadcast Listeners'*. The striking development of the use of the radio in Australia is illustrated by the following table, which gives the number of broadcast listeners' licences in force at the 30th June for each year from 1925 to 1938 :—

NUMBER OF BROADCAST LISTENERS' LICENCES.

In force at 30th June—	N.S.W. (a)	Victoria.	Q'land. (b)	S. Aust. (c)	W. Aust.	Tas.	Australia.
1925 ..	33,719	19,243	1,061	3,118	3,417	501	61,059
1926 ..	36,292	63,494	8,100	12,105	3,866	1,170	125,047
1927 ..	56,908	113,612	22,226	15,904	3,616	1,142	213,408
1928 ..	79,931	137,503	25,211	20,247	3,727	3,141	269,760
1929 ..	100,798	142,534	24,660	23,944	3,841	4,751	300,528
1930 ..	111,080	139,887	23,263	25,671	5,715	6,032	311,648
1931 ..	122,470	137,005	24,108	30,238	9,075	8,232	331,128
1932 ..	141,450	139,323	28,958	37,142	12,679	9,540	369,092
1933 ..	178,000	170,995	36,186	50,150	20,536	12,563	468,430
1934 ..	226,831	206,995	52,038	64,174	31,404	16,547	597,989
1935 ..	278,648	236,886	67,369	76,365	41,176	20,088	720,532
1936 ..	315,731	263,414	83,028	87,335	49,987	24,118	823,613
1937 ..	358,292	288,717	101,358	99,033	61,151	29,780	938,331
1938 ..	403,978	315,406	117,496	111,787	71,324	36,013	1,056,004

(a) Includes Australian Capital Territory. (b) Includes Papua. (c) Includes Northern Territory.

3. *Broadcasting.*—(i) *The National Broadcasting Service.* The technical services for the National Service are provided by the Postmaster-General's Department, and the programmes by the Australian Broadcasting Commission, a body consisting of five members, constituted under the provisions of the Australian Broadcasting Commission

Act. The fee for a broadcast listener's licence is 21s. per annum for a receiver situated approximately within 250 miles from a station of the National Service, and 15s. per annum in the territory beyond. Licences are issued free to blind persons. The Commission receives 12s. from each fee, the Department retaining the balance.

The National Broadcasting System of the Commonwealth at present comprises 26 transmitting stations, as follows:—2FC and 2BL Sydney, 2NC Newcastle, 2CO Corowa, 2NR Lawrence, 2CR Cummoek, 2CY Canberra, 3LO and 3AR Melbourne, 3GI Sale, 3WV Doon, 4QG and 4QR Brisbane, 4QN Townsville, 4RK Rockhampton, 5CL and 5AN Adelaide, 5CK Crystal Brook, 6WF and 6WN Perth, 6WA Minding, 6GF Kalgoorlie, 7ZR and 7ZL Hobart, 7NT Kelso, and Short Wave Station VLR Lyndhurst.

With the exception of VLR, all transmitters operate in the broadcast frequency band 550 to 1,500 kilocycles per second. Contracts are current for the supply of a further broadcast band station for installation at Dalby, Queensland, and for a second short wave station for installation at Perth, Western Australia.

Country regional stations normally radiate programmes from the central studio of the nearest capital city. To permit of this, each station is joined to its respective studio by a high quality programme transmission circuit, the total length of such circuits in use in the Commonwealth being 3,377 miles. A Commonwealth-wide system of network broadcasting is being more and more utilized, the total length of Interstate lines in use permanently for this purpose for the National Broadcasting Service alone being 4,552 miles. As occasion demands, wide-band telephone circuits to the extent of several thousands of miles are employed to supplement the Interstate network. Programme carrier channels having a 7,500 cycle band width and operating on the lower side band of a 42.5 k.c. carrier are extensively employed.

Short-wave programmes radiated by overseas stations, particularly from the Empire stations at Daventry, are received regularly at the departmental high-frequency receiving station at Mont Park, and are re-radiated over the National network when the subject matter is of sufficiently wide local interest.

(ii) *Commercial Broadcasting Stations.* The services of other broadcasting stations are conducted by private enterprise under licence from the Postmaster-General. Licences are granted on conditions which ensure satisfactory alternative programmes for listeners. The fee for a broadcasting station licence is £25 and the maximum period of a licence is three years, although they may be renewed annually at the discretion of the Postmaster-General. Licensees of these stations do not share in the listeners' licence fees, but rely for their income on revenue received from the broadcasting of advertisements and other publicity. The number of these stations in operation at 30th April, 1939, was 97, and there are several stations in prospect.

(iii) *Radio Inductive Interference.* The Postmaster-General's Department takes active measures to suppress, so far as possible, interference with broadcast reception resulting from the radiations of energy from electric machinery and appliances. During the year, the Department received 7,257 complaints of interfering noises, which, in all but a few instances, were satisfactorily disposed of.

(iv) *Prosecutions Under the Wireless Telegraphy Act.* During the year 2,656 persons were convicted for using unlicensed broadcasting receiving equipment. The total fines amounted to £4,810.

(v) *World Licence Distribution.* The following table shows the number of listeners' licences and the ratio of licences to population in the leading "radio" countries. These particulars are compiled from figures supplied by L'Union Internationale de Radio-diffusion.

WORLD LICENCE DISTRIBUTION, 31st DECEMBER, 1937.

Country.	Listeners' Licences.	
	Total.	Per 100 of Population.
United States of America	26,411,000 (a)	20.43
Denmark	704,062	18.99
Great Britain	8,479,500	18.35
Sweden	1,074,473	17.05
New Zealand	280,387	17.60
Australia	1,008,595	14.73
Germany	9,707,077	13.02
Netherlands	1,071,869	12.83
Belgium	1,018,108	12.20
Switzerland	504,132	12.09
Norway	304,913	10.52
France	4,163,692	9.93
Argentine	1,095,000	9.90
Canada (b)	1,103,768	9.78
South Africa	180,227	8.80
Czechoslovakia	1,044,382	6.89
Finland	231,696	6.26
Latvia	114,305	5.82
Estonia	48,949	4.33
Hungary	383,274	4.26
Eire	112,192	3.78
Japan	3,402,489 (a)	3.47
Poland	861,256	2.51
Soviet Union (c)	3,760,400	2.21
Palestine	28,515	2.15
Mexico	350,000 (a)	2.08
Italy	795,000	1.83

(a) Listeners are not licensed and the totals shown are estimates only of the number of receiving sets in operation. (b) At 31st March, 1938. (c) December, 1936 figures.

Australia ranks sixth amongst countries of the world in relation to licences per 100 of population.

4. Oversea Communication by Wireless.—(i) *Beam Wireless*. The Beam Wireless stations provided for under the agreement between the Commonwealth Government and Amalgamated Wireless (Australasia) Ltd. were completed early in 1927, and a direct beam wireless service to England was established on 8th April, 1927. A similar service to North America was opened on 16th June, 1928. Satisfactory communication is maintained daily over a period of hours, and the services are being well patronized by the public. A comparison of the rates charged for "Beam" and Cable messages is given in § 4, Overseas Cable and Radio Communication. Particulars of international traffic via "Beam" are given in par. (iv) (a) following.

(ii) *Overseas Wireless Telephone Service*. The volume of business transacted over the radio telephonic services terminating in Australia continues to grow at a satisfactory rate and the number of calls connected between the opening of the first of these services on the 30th April, 1930, and the 30th April, 1939, was 23,543. Of this total 13,319 calls originated in Australia.

Sixteen thousand and eighty-three calls have been completed over the Anglo-Australian service, 6,874 on the Australia-New Zealand channel, 61 on the Australia-Java service, 187 between Australia and Rabaul, 124 between Australia and the M.V. *Awatea* whilst that vessel was at sea and 214 over the direct Australia-United States of America service which was established on the 21st December, 1938.

The Australian telephone subscriber now has access to 36,500,000 telephones, or approximately 93 per cent. of the world's total. Telephone communication is practicable between the Commonwealth and 52 other countries, as well as to a number of Atlantic liners and the M.V. *Awatea* which trades between Australia and New Zealand.

(iii) *Wireless Communication in the Pacific.* New Zealand, the territories of New Guinea and Papua and the various small islands in the Pacific Ocean are served by a comprehensive system of wireless communication. In New Guinea and Papua, nine wireless telegraphy stations are established under an agreement between the Commonwealth and Amalgamated Wireless (Australasia) Ltd. for communication with ships at sea, and for inter-communication. Three of these stations Rabaul (New Guinea) and Port Moresby and Samarai (Papua) also have direct communication with the mainland of Australia. In addition, there are in New Guinea several low powered transmitters established by the New Guinea Administration for interior communication, while in both Papua and New Guinea several small stations are operated by gold exploration parties, missionary societies and others.

Direct communication by wireless telegraphy exists between Sydney and Suva (Fiji) and Noumea (New Caledonia), while Wellington (New Zealand) is linked with Sydney by wireless telephone. Other wireless telegraph stations in the Pacific include Auckland, Awarua and Chatham Islands (New Zealand), Port Vila (New Hebrides), Apia (Samoa), Tulagi and Vanikoro (Solomon Islands), Nauru (Marshall Islands), Ocean Island (Gilbert and Ellice Group), Truk and Yappu (Caroline Islands), and Guam (Marian Islands).

(iv) *Radiotelegraphic Traffic. (a) International.* The following statement shows particulars of international traffic "via Beam" to and from United Kingdom and other places during the year ended 30th June, 1938:—

RADIO TRAFFIC : INTERNATIONAL, 1937-38.

Class of Traffic.	Number of Words Transmitted to—			Number of Words Received from—		
	United Kingdom.	Other Places.	Total.	United Kingdom.	Other Places.	Total.
Ordinary (a) ..	1,647,156	740,927	2,388,083	1,386,127	274,528	1,660,655
Deferred (Ordinary) ..	1,151,903	554,516	1,706,419	1,170,837	176,731	1,347,568
Government (a) ..	100,659	18,294	118,953	96,438	10,306	106,744
Press (including deferred press) ..	207,077	27,077	234,154	2,270,674	78,421	2,349,095
Daily letter and greeting telegrams ..	1,678,281	938,597	2,616,878	1,255,014	366,362	1,621,376
Total ..	4,785,076	2,279,411	7,064,487	6,179,090	906,348	7,085,438

(a) Includes Code telegrams.

(b) *Coast Stations.* Particulars of the traffic handled by the several coast stations during the year 1937-38 are as follows :—

RADIO TRAFFIC : COAST STATIONS, 1937-38.

State or Territory.	Total Paying Words.	Particulars.			
		Messages.			
		Paying.	Service.	Weather.	Total.
	No.	No.	No.	No.	No.
New South Wales	1,525,671	95,428	9,636	7,687	112,751
Victoria	102,257	11,093	70	1,900	13,063
Queensland	273,466	20,218	289	5,130	25,637
South Australia	66,862	6,158	604	778	7,540
Western Australia	184,092	12,606	897	3,556	17,059
Tasmania	96,667	6,058	656	4,274	10,988
Northern Territory	63,732	3,246	641	3,527	7,414
Australia	2,312,747	154,807	12,793	26,852	194,452
Papua	690,229	32,663	1,169	1,782	35,614
Grand Total	3,002,976	187,470	13,962	28,634	230,066

(c) *Island Stations.* Particulars of the island radio traffic dealt with during the year 1937-38 are given in the following table :—

RADIO TRAFFIC : ISLAND STATIONS, 1937-1938.

Particulars.	To Australia.	From Australia.	Inter-Island.	Ship.	Total.
	No.	No.	No.	No.	No.
Messages	26,838	21,726	26,776	2,440	77,780
Words	415,550	369,315	360,970	29,736	1,175,571

5. *Proficiency Certificates.*—Every transmitting station, in respect of which a licence is issued, must be operated by a person holding a certificate of proficiency.

During the year ended 30th April, 1939, 511 Operators' Certificates of Proficiency were awarded.

The number of each class were :—Commercial—First Class, 70 ; Second Class, 72 ; Third Class, 18 ; Aircraft—First Class, 2 ; Second Class, 12 ; Third Class, 75 ; Broadcast Station, 73 ; and Amateur, 189.