

CHAPTER VII.

TRANSPORT AND COMMUNICATION.

A. SHIPPING.

§ 1. System of Record.

So far as oversea vessels are concerned the system of record treats Australia as a unit, and counts, therefore, only one entry and one clearance 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 entered on forms which are forwarded to the Commonwealth Bureau of Census and Statistics. These forms, which collectively provide a complete record of the movements of every vessel in Australian waters, furnish the material for the compilation of the Shipping and Migration Returns. The arrangement referred to has been in operation since the 1st July, 1924.

From the 1st July, 1914, the statistical year for the record of Trade and Shipping of Australia was altered from the calendar year to the fiscal year ending 30th June.

In all instances the tonnage quoted is net tonnage.

§ 2. Oversea Shipping.

1. **Total Movement.**—The following table gives the number and tonnage of oversea steam and sailing vessels entering Australian ports during the years 1922–23 to 1926–27 :—

TOTAL OVERSEA SHIPPING, ENTERED.—AUSTRALIA, 1922-23 TO 1926-27.

Year.	Steam.		Sailing.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1922-23	1,341	4,599,021	148	138,833	1,489	4,737,854
1923-24	1,437	4,808,129	109	103,007	1,546	4,911,136
1924-25	1,675	5,535,871	51	60,529	1,726	5,596,400
1925-26	1,537	5,245,222	46	58,583	1,583	5,303,805
1926-27	1,598	5,512,840	26	46,030	1,624	5,558,870

The average tonnage of vessels entered has risen from 3,182 tons per vessel in 1922–23 to 3,421 tons in 1926–27.

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. **Comparison with other Countries.**—The place of Australia among various countries in regard to oversea shipping is indicated in the following table, which gives the latest available figures for total tonnage and tonnage per head of population.

OVERSEA SHIPPING.—VARIOUS COUNTRIES.

Country.	Calendar Year.	Tonnage Entered and Cleared.	
		Total, 000 omitted.	Per Inhabitant.
Australia	1927(a)	11,164	1.79
Belgium	1926	53,942	6.85
Brazil	1926	72,526	1.96
Canada	1927	46,015(c)	4.83
France	1926	81,888(h)	2.00
Germany	1925	64,656	1.02
Great Britain	1926	169,815	3.75
India	1926	17,040	0.05
Japan	1925	86,098	1.03
Netherlands	1926	73,191	9.72
New Zealand	1926	4,499	3.34
Norway	1926	11,974	4.29
Spain	1926	56,133	2.51
Sweden	1926	27,221	4.48
Union of South Africa	1926	12,742	1.69
United States	1926	159,527(c)	1.36

(a) To 30th June. (b) With cargoes only. (c) Exclusive of vessels trading on lakes and rivers between Canada and the United States.

3. Shipping Communication with various Countries.—In view of the defects in records purporting to show vessels and tonnage for particular countries (as pointed out on p. 265 of Official Year Book No. 17) it has been decided to restrict the statistics relating to the direction of shipping to and from Australia to the following tables in which countries situated on the main trade routes have been grouped. The grouping into larger geographical divisions to some extent avoids the limitations referred to, except in the case of Africa owing to its geographical situation as a place of call for vessels proceeding to or from other ports.

OVERSEA SHIPPING, AUSTRALIA.—DIRECTION, 1922-23 TO 1926-27.

Countries.	Cargo and Ballast.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.
TONNAGE ENTERED.						
United Kingdom and European Countries	Cargo	1,926,907	1,769,446	1,797,322	1,815,268	1,834,752
	Ballast	72,819	23,690	186,256	21,444	31,267
New Zealand	Cargo	392,526	500,001	459,252	507,238	474,639
	Ballast	167,187	401,959	393,706	256,003	212,953
Asiatic Countries and Islands in the Pacific	Cargo	821,036	893,179	1,002,634	1,090,062	1,217,572
	Ballast	279,043	188,762	390,300	210,196	288,287
Africa	Cargo	32,025	25,036	26,709	23,070	16,540
	Ballast	122,660	24,015	145,216	66,494	91,582
North and Central America	Cargo	911,026	1,059,229	1,138,091	1,283,073	1,353,526
	Ballast	2,944	5,403	17,235		27,228
South America	Cargo	5,470	12,039	18,895	10,373	1,840
	Ballast	4,211	8,377	25,784	20,584	8,684
	Cargo	4,088,990	4,258,930	4,437,903	4,729,084	4,898,869
	Ballast	648,864	652,206	1,158,497	574,721	660,001
Total		4,737,854	4,911,136	5,596,400	5,303,805	5,558,870

TONNAGE CLEARED.

United Kingdom and European Countries	Cargo	2,193,528	2,127,662	2,786,002	2,344,201	2,543,362
	Ballast	11,776	13,699	8,097	17,590	15,224
New Zealand	Cargo	518,972	792,565	768,625	678,616	627,538
	Ballast	49,097	61,943	59,349	57,710	41,020
Asiatic Countries and Islands in the Pacific	Cargo	922,243	1,066,807	1,033,553	1,120,019	1,181,485
	Ballast	100,832	193,982	224,522	273,054	298,862
Africa	Cargo	121,175	105,127	174,697	154,250	155,300
	Ballast		3,553	14,020	3,412	16,425
North and Central America	Cargo	436,800	443,864	408,476	492,088	445,835
	Ballast	35,011	75,201	58,762	162,008	199,209
South America	Cargo	39,816	118,525	64,433	58,090	74,531
	Ballast	23,675	8,745	3,583	3,840	6,309
	Cargo	4,282,534	4,654,550	5,235,786	4,847,264	5,028,051
	Ballast	220,391	357,128	368,333	517,620	577,049
Total		4,502,925	5,011,678	5,604,119	5,364,884	5,605,100

4. Nationality of Oversea Shipping.—(i) *General.* The greater part of the shipping visiting Australia is of British nationality, though in 1926-27 the proportion of British tonnage, 74.68 per cent., was the lowest recorded since 1920-21, in which year the percentage was 69.69 per cent.

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

OVERSEA SHIPPING, AUSTRALIA.—NATIONALITY OF VESSELS ENTERED,
1922-23 TO 1926-27.

Nationality.	Tonnage.				
	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.
BRITISH—					
Australian	645,867	486,170	424,634	381,178	405,968
United Kingdom	2,754,316	2,939,210	3,209,865	2,967,317	3,097,888
Canadian	110,095	95,655	70,165	68,091	86,701
New Zealand	66,521	307,928	488,481	492,255	458,716
Other British	72,438	55,302	62,772	76,226	102,201
Cargo	3,226,702	3,342,994	3,418,124	3,549,627	3,704,196
Ballast	422,535	541,271	837,793	435,440	447,278
Total British	3,649,237	3,884,265	4,255,917	3,985,067	4,151,474
Per cent. on total	77.02	79.09	76.05	75.14	74.68
FOREIGN—					
Danish	39,394	54,161	43,311	85,152	61,376
Dutch	141,264	138,716	162,385	124,824	115,363
French	114,102	84,701	104,312	109,417	99,832
German	44,666	44,354	81,213	76,650	140,810
Italian	50,608	61,312	115,931	62,046	61,583
Japanese	243,935	143,954	297,657	246,193	210,486
Norwegian	148,873	173,311	219,258	264,037	302,958
Swedish	82,230	90,641	86,704	96,625	111,920
United States	194,180	191,938	186,089	205,391	231,468
Other Foreign	29,365	43,783	43,623	48,403	71,600
Cargo	862,288	915,936	1,019,779	1,179,457	1,194,673
Ballast	226,329	110,935	320,704	139,281	212,723
Total Foreign	1,088,617	1,026,871	1,340,483	1,318,738	1,407,396
Per cent. on total	22.98	20.91	23.95	24.86	25.32
Cargo	4,088,990	4,258,930	4,437,903	4,729,084	4,898,869
Per cent. on total	86.30	86.72	79.30	89.16	88.13
Ballast	648,864	652,206	1,153,497	574,721	660,001
Per cent. on total	13.70	13.28	20.70	10.84	11.87
Grand Total	4,737,854	4,911,136	5,596,400	5,303,805	5,558,870

The Australian tonnage which entered Australia from overseas during the year 1926-27 represented 7.30 per cent. of the total tonnage entered. This figure was less than the average for the quinquennium, which was 8.98 per cent., the decrease being due mainly to the disposal of vessels owned by the Commonwealth Government to foreign or other Australian owners. In the latter instance, the purchasers generally are using the vessels in the interstate trade.

(ii) *Proportion of British and Foreign with Cargo. (a) Tonnage of Vessels.* The relative proportions of British and foreign tonnage which entered Australia with cargo during the last five years are given in the next table. These figures may be considered to indicate more accurately the proportion of the actual carrying trade done than does the total tonnage.

**OVERSEA SHIPPING, AUSTRALIA.—PERCENTAGE BRITISH AND FOREIGN
ENTERED WITH CARGO, 1922-23 TO 1926-27.**

Nationality.	1922-23.	1923-24.	1924-25.	1925-26	1926-27.
British	78.91	78.49	77.02	75.06	75.61
Foreign	21.09	21.51	22.98	24.94	24.39
Total	100.00	100.00	100.00	100.00	100.00

During the period under review the average annual proportion of foreign tonnage entering with cargo was 23.08 per cent.

(b) *Tonnage of Cargo.* In Transport and Communication Bulletin, No. 19 (p. 36) published by this Bureau, a statement is given of the tonnage of oversea cargo discharged and shipped during the year 1926-27 according to the nationalities of the vessels engaged in the carrying trade.

While the tonnage of British vessels entering with cargo represented 75.61 per cent. of the total, the amount of cargo discharged from such vessels was 72.51 per cent. The foreign country which had the largest amount of shipping tonnage engaged with Australia during the year 1926-27 was Norway, its vessels contributing 5.45 per cent. of the total tonnage entered with cargo and 7.79 per cent. of the total cargo discharged and 7.26 per cent. of the cargo shipped.

(iii) *Principal Foreign Countries Engaged.* The following table shows the tonnage entered and cleared in connexion with the principal foreign countries engaged in the oversea carrying trade of Australia :—

OVERSEA SHIPPING, AUSTRALIA.—FOREIGN TONNAGE, 1926-27.

Countries.	Nationality.							
	Japanese.		French.		United States.		Dutch.	
	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.	Entered.	Cleared.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
EUROPEAN COUNTRIES—								
United Kingdom .. .. .	..	12,758	..	..	..	6,172	..	6,600
France .. .. .	..	..	30,228	29,327	..	..	..	..
Other European Countries .. .. .	..	..	6,093	17,231	..	3,801	55,452	62,834
ASIATIC COUNTRIES AND ISLANDS IN THE PACIFIC—								
Netherlands East Indies .. .. .	..	..	..	1,109	4,960	3,529	17,831	14,920
Japan	167,815	168,465	..	..	..	..	..	..
Straits Settlements	3,247	6,022	..	..	..	..	37,274	44,932
Other Asiatic Countries	6,736	8,087	..	..	..	31,821	..	..
New Zealand	3,386	3,386	..	..	..	..	..	..
New Caledonia .. .. .	..	..	51,951	50,574	..	..	2,060	..
Other Pacific Islands	6,009	..	11,560	11,562	..	5,257	..	..
AFRICAN COUNTRIES .. .. .	..	8,011	..	..	1,427	2,452	..	..
NORTH AMERICAN COUNTRIES—								
United States	15,898	..	..	..	211,050	186,837	2,746	..
Canada	7,395	..	..	..	14,031	3,331	..	..
SOUTH AMERICAN COUNTRIES .. .. .	..	..	..	..	..	6,843	..	..
With Cargo	167,884	200,600	79,873	109,803	230,041	210,637	109,044	124,395
In Ballast	42,602	6,129	19,959	..	1,427	39,406	6,319	4,891
Total	210,486	206,729	99,832	109,803	231,468	250,043	115,363	129,286

The largest proportion of the foreign tonnage entered is employed between its home ports or the colonies of its own country and Australia, e.g., French shipping is engaged chiefly between Australia, France and New Caledonia, while Dutch ships are employed almost entirely between Australia and the Netherlands, the Netherlands East Indies, or Straits Settlements. The bulk of the Japanese tonnage was recorded as entering from and clearing for Japan.

(iv) *Nationality of Steam and Sailing Tonnage.* A further analysis is appended, distinguishing between steam and sailing vessels of British and foreign nationality which entered Australia during the years 1922-23 to 1926-27.

OVERSEA SHIPPING, AUSTRALIA.—NATIONALITY OF STEAM AND SAILING VESSELS ENTERED, 1922-23 TO 1926-27.

Description and Nationality of Vessels.	1922-23.		1923-24.		1924-25.		1925-26.		1926-27.	
	Ton-nage.	Per-cent- age.	Ton-nage.	Per-cent- age.	Ton-nage.	Per-cent- age.	Ton-nage.	Per-cent- age.	Ton-nage.	Per-cent- age.
Steam—										
British ..	3,634,411	79	3,866,900	80	4,242,511	77	3,972,307	76	4,146,144	75
Foreign ..	964,610	21	941,229	20	1,293,360	23	1,272,915	24	1,366,696	25
Total Steam	4,599,021	100 (97)	4,808,129	100 (98)	5,535,871	100 (99)	5,245,222	100 (99)	5,512,840	100 (99)
Sailing—										
British ..	14,826	11	17,365	17	13,406	22	12,760	22	5,330	12
Foreign ..	124,007	89	85,642	83	47,123	78	45,823	78	40,700	88
Total Sailing	138,833	100 (3)	103,007	100 (2)	60,529	100 (1)	58,583	100 (1)	46,030	100 (1)
Steam and Sailing—										
British ..	3,649,237	77	3,884,265	79	4,255,917	76	3,985,067	75	4,151,474	75
Foreign ..	1,088,617	23	1,026,871	21	1,340,483	24	1,318,738	25	1,407,396	25
Total ..	4,737,854	100	4,911,136	100	5,596,400	100	5,303,805	100	5,558,870	100

As might naturally be expected there was a considerable decline in the figures for sailing tonnage during the period under review.

5. *Tonnage in Ballast.*—(i) *Total and Percentage by Nationality.* The following table shows the tonnage according to nationality of oversea vessels which entered and cleared Australia in ballast during the years 1922-23 to 1926-27 :—

OVERSEA SHIPPING, AUSTRALIA.—TONNAGE IN BALLAST, 1922-23 TO 1926-27.

Year.	Entered.			Cleared.		
	British.	Foreign.	Total.	British.	Foreign.	Total.
TOTAL TONNAGE.						
1922-23 ..	422,535	226,329	648,864	155,605	64,786	220,391
1923-24 ..	541,271	110,935	652,206	254,069	103,059	357,128
1924-25 ..	837,793	320,704	1,158,497	164,972	203,361	368,333
1925-26 ..	435,440	139,281	574,721	309,398	208,222	517,620
1926-27 ..	447,278	212,723	660,001	415,806	161,243	577,049
PERCENTAGE.						
1922-23 ..	11.58	20.79	13.70	4.49	6.23	4.89
1923-24 ..	13.93	10.80	13.28	6.48	9.45	7.13
1924-25 ..	19.68	23.92	20.70	4.41	10.93	6.57
1925-26 ..	9.15	10.56	10.84	7.63	3.88	9.64
1926-27 ..	10.77	15.11	11.87	10.04	11.03	10.29

(ii) *Tonnage entered in Ballast—States.* The tonnage which entered each State in ballast during 1926–27 was as follows :—

OVERSEA TONNAGE IN BALLAST ENTERING STATES, 1926-27.

State.	N. S. W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	N. Ter.	Total.
Tonnage ..	265,247	67,994	7,639	73,052	211,272	29,922	4,875	660,001
Percentage on total ..	40.19	10.30	1.16	11.07	32.01	4.53	0.74	100.00

In normal times the large exports of coal from New South Wales afford special inducements to vessels in search of freights. The tonnage in ballast into New South Wales is mainly for coal cargo, into Victoria for wheat, into South Australia for wheat and ore, and into Western Australia for timber and wheat.

§ 3. Shipping of Ports.

1. **Tonnage Entered.**—The total shipping tonnage—oversea, interstate, and coast-wise—which entered the more important ports of Australia during the year 1926–27, together with similar information in regard to some of the ports of New Zealand for the year 1927 and of Great Britain for the year 1926—will be found in the next table :—

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

Port.	Tonnage Entered.	Port.	Tonnage Entered.
AUSTRALIA—		ENGLAND AND WALES—	
Sydney	9,546,973	London	24,577,346
Melbourne	7,324,530	Liverpool (inc. Birkenhead)	15,950,054
Adelaide	4,877,664	Southampton	10,772,442
Newcastle	4,815,525	Plymouth	5,751,295
Brisbane	3,315,130	Hull	5,598,950
Fremantle	3,283,438	Cardiff	5,084,954
Townsville	1,028,106	Tyne Ports	5,050,076
Hobart	808,534	Manchester (inc. Runcorn)	4,031,120
Geelong	770,886	Bristol	3,155,487
Kembla	709,003	Swansea	2,760,963
Pirie	684,501	Middlesbrough	2,403,640
Cairns	618,026	Grimsby (inc. Immingham)	2,097,389
Albany	581,219	Newport	2,061,140
Mackay	458,579	Beaumaris (inc. Holyhead)	1,872,553
Bunbury	379,319	Dover	1,757,945
Burnie	371,516	Sunderland	1,462,648
Launceston	369,082	Falmouth	1,009,227
Thursday Island	356,807	Blyth	985,807
Wallaroo	331,778		
Devonport	313,067	SCOTLAND—	
Bowen	246,576	Glasgow	5,643,735
Rockhampton	212,541	Leith	2,062,411
NEW ZEALAND—		NORTHERN IRELAND—	
Wellington	3,430,594	Belfast	4,105,819
Auckland	2,450,714		
Lytelton	1,961,630		
Otago	951,504		

Transport and Communication Bulletin No. 19 gives more detailed information regarding the shipping entered at Australian ports.

§ 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 1923 to 1927, 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. As the Shipping Registers are the source of information, it follows that the figures given below will be subject to additions in the future, inasmuch as vessels already built may be added to the register at some future date.

VESSELS BUILT IN AUSTRALIA, 1923 TO 1927.

Year.	Steamers built of—					Oil Motor Vessels.	Sailing.	Pontoons, Dredges, etc.	Total.
	Wood.	Iron.	Steel.	Com- posite.	Total.				
	1923	3	1					4	9	1	2	16
1924 ..	2	..	2	..	4	14	..	..	18
1925 ..	..	..	6	..	6	19	1	..	26
1926 ..	1	..	..	..	1	7	..	..	8
1927 ..	..	..	..	..	..	4	..	..	4

TONNAGE.

Year.	Steamers.		Oil Motor Vessels.		Sailing.		Pontoons, Dredges, etc.		Total.	
	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.
	1923 ..	7,089	4,011	161	118	100	80	414	386	7,764	4,595
1924 ..	19,665	11,480	331	242	..	..	..	..	19,996	11,722
1925 ..	4,074	1,478	302	238	13	13	..	..	4,389	1,729
1926 ..	36	27	108	63	..	..	..	..	144	90
1927 ..	..	..	76	52	..	..	..	..	76	52

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, 1927 :—

VESSELS ON THE STATE REGISTERS, 31st DECEMBER, 1927.

States and Territory.	Steam.				Sailing.				Barges, Hulks, Dredges, etc., not Self-propelled.		Total.	
	Dredges and Tugs.		Other.		Fitted with Auxiliary Power.		Other.		No.	Net Tons.		
	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.		
	New South Wales ..	53	1,522	423	91,863	226	3,032	232	11,135	49	12,741	983	120,293
Victoria ..	36	3,841	189	188,929	39	1,145	67	4,412	68	27,575	399	225,902
Queensland ..	19	2,750	53	14,548	37	492	100	1,517	32	4,405	241	23,712
South Australia ..	17	647	79	34,067	47	2,811	34	822	50	7,601	227	45,948
Western Australia ..	9	173	29	14,826	17	415	315	4,668	23	7,210	393	27,292
Tasmania ..	6	478	52	3,751	51	1,246	68	2,661	2	563	179	8,699
Northern Territory ..	..	..	..	..	1	17	21	207	..	..	22	224
Total ..	140	9,411	825	347,984	418	9,158	837	25,422	224	60,095	2,444	452,070

Particulars of the number of vessels on the registers classified according to tonnage will be found in the Transport and Communication Bulletin issued by this Bureau.

§ 5. Interstate Shipping.

1. **System of Record.**—*Interstate Shipping* comprises two elements, viz. :—(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.) A detailed explanation of the methods adopted in dealing with the returns under each heading will be found on page 272 of Official Year Book No. 17, but limitation of space precludes its repetition in the present volume.

2. **Vessels and Tonnage Entered.**—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 1922-23 to 1926-27. The shipping on 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, 1922-23 TO 1926-27.

States and Territory.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.
NUMBER.					
New South Wales ..	1,848	2,071	1,902	1,759	2,022
Victoria ..	1,886	1,920	1,815	1,743	1,870
Queensland ..	548	519	460	452	487
South Australia ..	822	867	798	838	949
Western Australia ..	364	363	421	337	366
Tasmania ..	1,169	1,193	1,091	1,024	1,014
Northern Territory ..	18	22	24	20	24
Total ..	6,655	6,955	6,511	6,173	6,732

TONNAGE.					
New South Wales ..	4,278,072	4,677,576	4,581,395	4,244,524	4,626,263
Victoria ..	3,581,571	3,724,273	3,593,320	3,394,123	3,787,217
Queensland ..	1,123,192	1,032,101	1,041,754	1,011,106	1,056,045
South Australia ..	2,453,776	2,501,928	2,348,566	2,391,535	2,725,309
Western Australia ..	1,630,730	1,668,713	1,900,077	1,648,977	1,778,919
Tasmania ..	1,023,645	1,200,569	1,098,556	1,161,672	1,171,857
Northern Territory ..	52,107	54,347	57,658	51,760	62,663
Total ..	14,143,093	14,859,507	14,621,326	13,903,697	15,208,273

3. **Oversea Vessels Moving Interstate.**—To ascertain the aggregate movement of shipping between the States during the year 1926-27, 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, 1926-27.

States and Territory.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ..	594	2,745,312	505	2,389,971	1,099	5,135,283
Victoria ..	593	2,711,810	493	2,317,974	1,086	5,029,784
Queensland ..	226	1,189,536	242	1,228,349	468	2,417,885
South Australia ..	370	1,918,052	267	1,439,753	637	3,357,805
Western Australia ..	59	209,635	8	26,227	67	235,862
Tasmania ..	25	98,902	88	502,396	113	601,298
Northern Territory ..	..	..	..	..	..	..
Total ..	1,867	8,873,247	1,603	7,904,670	3,470	16,777,917

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 voyage.

4. *Vessels engaged Solely in Interstate Trade.*—Eliminating all interstate movements of oversea vessels, the number and tonnage of vessels engaged solely in the interstate trade for Australia as a whole during the years 1922-23 to 1926-27 were as follows :—

NUMBER AND TONNAGE OF VESSELS ENGAGED SOLELY IN INTERSTATE TRADE, 1922-23 TO 1926-27.

Year.	Entered.		Cleared.	
	No.	Tons.	No.	Tons.
1922-23	5,230	7,506,324	5,624	7,624,311
1923-24	5,565	8,228,391	5,546	8,109,094
1924-25	4,909	6,960,923	4,906	6,953,546
1925-26	4,690	6,677,578	4,628	6,622,175
1926-27	5,129	7,303,603	5,146	7,422,571

5. *Total Interstate Movement of Shipping.*—(i) *Australia.* The appended table shows the total inward interstate movement of shipping for each of the years 1922-23 to 1926-27 :—

TOTAL INWARD INTERSTATE MOVEMENT OF SHIPPING, 1922-23 TO 1926-27.

Vessels.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.
	Tons.	Tons.	Tons.	Tons.	Tons.
Oversea vessels moving interstate	14,214,800	14,437,674	15,856,487	15,001,432	16,777,917
Vessels solely interstate ..	7,506,324	8,228,391	6,960,923	6,677,578	7,422,571
Total	21,721,124	22,666,065	22,817,410	21,679,010	24,200,488

(ii) *States.* The following table shows the number and tonnage of vessels which entered and cleared each State during 1926-27, including the coastal movements of oversea vessels :—

INTERSTATE SHIPPING OF EACH STATE, 1926-27.

States and Territory.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	2,616	7,371,575	2,603	7,287,965
Victoria	2,463	6,499,027	2,504	6,641,030
Queensland	713	2,245,581	771	2,476,896
South Australia	1,319	4,643,361	1,305	4,574,631
Western Australia	425	1,988,554	370	1,824,593
Tasmania	1,039	1,270,759	1,040	1,331,563
Northern Territory	24	62,663	23	63,810
Total, Australia	8,599	24,081,520	8,616	24,200,488

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 1923 to 1927 :—

AUSTRALIAN INTERSTATE AND COASTAL STEAMSHIP SERVICES, 1923 TO 1927.

Particulars.	1923.	1924.	1925.	1926.	1927.
Number of companies making returns	35	39	41	44	40
Number of steamships	205	207	209	216	212
Tonnage { Gross	384,650	382,822	384,004	375,893	398,894
{ Net	220,042	217,609	216,390	214,028	214,703
Horse-power (Nominal)	36,934	37,841	38,750	37,129	39,545
Number of passengers for which licensed					
{ 1st class	9,184	9,538	9,110	8,686	7,909
{ 2nd class and steerage	4,756	4,343	4,204	3,650	3,438
Complement of Crew { Masters and officers	704	681	684	691	698
{ Engineers	645	631	645	342	662
{ Crew	5,614	5,336	5,190	5,102	5,176

§ 6. *Tonnage of Cargo.*

The table hereunder shows the aggregate tonnage of oversea cargo discharged and shipped in Australian ports, and the tonnage of interstate cargo shipped in all ports for the years 1922-23 to 1926-27. Cargo which was stated in cubic feet has been converted to weight on the basis of 40 cubic feet to the ton.

AUSTRALIAN SHIPPING—CARGO MOVEMENT, 1922-23 TO 1926-27.

Year.	Oversea Cargo.		Interstate Cargo.
	Discharged.	Shipped.	Shipped.
	Tons.	Tons.	Tons.
1922-23	3,718,795	4,064,196	5,137,651
1923-24	4,377,171	4,981,521	6,358,191
1924-25	4,696,112	6,498,098	6,413,975
1925-26	5,342,621	5,169,407	5,735,973
1926-27	5,955,212	5,246,141	6,796,156

More detailed information regarding the volume of trade at each of the principal ports is contained in Transport and Communication Bulletin No. 19 issued by this Bureau.

§ 7. Commonwealth Government Shipping and Shipbuilding Activities.

1. **Local Building Programme.**—The original Commonwealth Government programme of ship construction in Australia provided for 48 vessels, 24 of which were to be wooden sailing vessels, and the remainder steel cargo ships. Owing to certain variations, the programme resulted in the building of 21 steel cargo vessels and 2 five-masted schooners with auxiliary power.

Particulars of the vessels built in Australia to 31st December, 1922, were included in a previous issue of this book (see Year Book Nos. 16, p. 273 and 17, p. 269).

2. **Vessels Built in the United Kingdom.**—In addition to the vessels previously referred to, five steamers each approximately 8,450 tons net were constructed in yards in the United Kingdom.

These vessels each have an approximate length of 520 feet by 68 feet beam, and a capacity of 900,000 cubic feet, of which 370,000 cubic feet are insulated.

3. **Australian Commonwealth Line of Steamers.**—(i) *Foundation of Line.* The Commonwealth Shipping Act 1923 provided for the establishment of the Australian Commonwealth Line of Steamers under the control of a Board of Directors consisting of not less than three nor more than five members. The date at which the Act was to come into force was fixed by proclamation as 1st September, 1923.

The whole of the right, title, and interest of the Commonwealth in and to the 50 vessels (155,302 tons net) of the Commonwealth Government Line of Steamers, and appurtenances used for the purposes of such vessels, was vested in the Board, also four other vessels (15,442 tons net) which were under construction at the time of transfer. The valuation of the vessels, tackle, apparel, gear, furniture, stores and equipment was fixed at £4,718,150, office furniture and fittings at £7,500, and stores on hand £23,700, making a total of £4,749,350.

The balance-sheet of the Commonwealth Shipping Board, covering the activities of the Australian Commonwealth Line of Steamers and the Cockatoo Island Dockyard to the 31st March, 1927, shows liabilities to the total of £6,676,476 and assets £4,754,070. The operations for the three years 1923 to 1927 show an accumulated loss of £1,922,406, the loss on operations for 1926-27 being £593,572.

(ii) *Disposal of Line.* At the end of the year 1927, the only vessels owned by the Commonwealth Government Line of Steamers were as follows (net tonnage in parenthesis):—*Largs Bay* (8,432), *Jervis Bay* (8,423), *Moreton Bay* (8,420), *Esperance Bay* (8,415), and *Hobson's Bay* (8,413) all one-class passenger-carrying steamers, and the freighters *Fordsdale* (5,661) and *Ferndale* (5,656); a total net tonnage of 53,420 tons.

Following an investigation by the Parliamentary Joint Committee of Public Accounts into the operations of the Commonwealth Shipping Board, it was decided to dispose of the remaining vessels of the line, and tenders for their purchase were called in January, 1928. Three tenders were submitted, and that on behalf of the White Star Line, £1,900,000, was accepted, and the sale effected in April, 1928. The contract of sale provided, *inter alia*, that the purchaser was to maintain a service equivalent to that provided under the management of the Commonwealth Shipping Board and also to maintain an efficient Australian organization.

§ 8. 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, 1927.

Nationality.	Steam and Motor.		Sailing.		Total.		Percentage on Total.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Great Britain and Nthn. Ireland	7,820	19,179,029	396	129,993	8,216	19,309,022	26.08	30.96
Australia and New Zealand	614	773,809	18	9,250	632	783,059	2.01	1.26
Canada(a)	561	835,200	225	99,898	786	935,098	2.49	1.50
Other British ..	682	773,637	229	53,123	911	826,765	2.89	1.33
Total, British Empire ..	9,677	21,561,675	868	292,269	10,545	21,853,944	33.47	35.05
Belgium ..	221	494,839	3	4,390	224	499,229	0.71	0.80
Denmark ..	649	1,031,798	99	28,048	748	1,059,846	2.37	1.70
France ..	1,525	3,361,679	227	108,301	1,752	3,469,980	5.56	5.56
Germany ..	1,951	3,320,492	39	42,554	1,990	3,363,046	6.32	5.39
Greece ..	474	1,025,730	10	3,083	484	1,028,813	1.54	1.05
Holland ..	1,125	2,645,025	31	8,978	1,156	2,654,003	3.67	4.26
Italy ..	1,132	3,395,522	297	87,861	1,429	3,483,383	4.54	5.59
Japan ..	2,035	4,033,304	..	..	2,035	4,033,304	6.46	6.47
Norway ..	1,777	2,802,552	28	21,673	1,805	2,824,225	5.73	4.53
Spain ..	793	1,135,725	92	25,644	885	1,161,369	2.81	1.86
Sweden ..	1,220	1,328,745	151	36,645	1,371	1,365,390	4.35	2.19
United States of America(b) ..	3,135	11,256,255	805	898,767	3,940	12,155,022	12.51	19.49
Other Foreign Countries ..	2,606	3,122,974	532	282,999	3,138	3,405,973	9.96	5.46
Total, Foreign Countries ..	18,643	38,954,640	2,314	1,548,943	20,957	40,503,583	66.53	64.95
Grand Total ..	28,320	60,516,315	3,182	1,841,212	31,502	62,357,527	100.00	100.00

(a) Sea-going. (b) Including Philippine Islands.

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

§ 9. Ferries.

1. **New South Wales.**—The ferry services in Port Jackson are under the control of two companies, which during the year 1927 had 68 vessels in commission, 66 of which were double-ended screw steamers, the remaining two being motor driven. It is claimed for the steamers that they are superior in size and equipment to boats employed on similar service in any other part of the world.

2. **Victoria.**—The Williamstown City Council owns one steamer which is engaged in the transport of passengers between Port Melbourne and Williamstown. There are several other steamers which are engaged during the summer season in the carriage of passengers and goods to the several seaside resorts. Particulars of these services, however, are not included in the table in sub-par. 6 following.

3. **Queensland.**—The Brisbane City Council and the Balmoral Shire Council control the ferry services in the Metropolitan area, but such ferries are really substitutes for bridges and have therefore not been included in the table hereunder.

4. **Western Australia.**—The ferries plying on the Swan River during 1927 were operated by a private company, and consisted of 8 petrol-driven vessels. At South Perth the Western Australian Government employed 4 vessels, 2 of which were steamers.

5. **Tasmania.**—In and around Hobart there were in 1927, 4 ferry services, 2 being controlled by private companies which had 6 steamers in commission, 1 by the Public Works Department with 2 motor-propelled vessels, and 1 by the Railway Department with 1 steamer.

6. **Particulars of Working.**—The subjoined table shows for the year 1927, so far as returns are available, the most important items in connexion with the operation of the ferry services in the several States :—

FERRIES.—PARTICULARS OF WORKING, 1927.

Particulars.	New South Wales.	Victoria.	Western Australia.	Tasmania.	Total.
Boats in Service—					
Steam .. No.	66	1	2	7	76
Other .. No.	2	..	10	2	14
Total .. No.	68	1	12	9	90
Number of passengers which boats are licensed to carry .. No.	46,380	342	1,750	2,850	51,331
Revenue .. £	786,432	5,990	16,784	(d) 22,282	831,488
Working Expenses .. £	719,880	7,271	14,923	31,168	773,242
Passengers carried(b)	51,471,816	300,000	1,275,713	(d) 695,101	53,742,630
Mileage of Boats miles (a)		19,050	92,674	94,895	(c) 206,619
Accidents—					
Killed .. No.	21	..	..	..	21
Injured .. No.	143	..	2	..	145
Employees—					
Salaried Staff .. No.	48	..	3	1	52
Wages Staff .. No.	1,184	8	29	37	1,258

(a) Not Available. (b) Approximate. (c) Incomplete. (d) Exclusive of Bellerive Ferry.

7. **Other Services.**—In addition to the foregoing there are throughout the several States a number of row-boat ferry services, and on many of the principal inland rivers punts are in operation.

§ 10. Miscellaneous.

1. **Lighthouses.**—Transport and Communication Bulletin No 14, published by this Bureau, contains 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 are 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 30th June, 1928, show that the rate for general merchandise from Australia to United Kingdom and Continent was 63s. per ton weight or measurement, as compared with 55s. per ton in 1915.

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, 1928, has been included in the Transport and Communication Bulletin No. 18. published by this Bureau.

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 found to be at fault. Particulars of shipping casualties reported on or near the coast during the year 1926-27 are shown in the Transport and Communication Bulletin No. 19. This information has also been 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), but considerations of space preclude its repetition in this present volume.

(ii) *Amending Acts.* Under the provisions of the Navigation Act 1926 (March, 1926), permission may be granted by the Governor-General in Council in certain specified circumstances to unlicensed British ships to engage in passenger tourist traffic between any specified Commonwealth ports. Certain vessels were granted permission to engage in the carriage of passengers between the port of Hobart and the ports of Brisbane, Sydney and Melbourne during the period 6th March, 1926, to 31st May, 1926, and between the 1st January, 1927, and 31st May, 1927. This permission may be renewed from time to time as occasion demands. The Navigation Act 1925 (July, 1925), conferred authority for the suspension, for any specified time, if in the opinion of the Governor-General in Council such is expedient in the public interest, of the operation of the provisions of that part of the principal Act relating to the engagement of ships in the coasting trade by exempting under certain circumstances any ship or class of ships from compliance with any specified provision or provisions of the Act.

7. Ports and Harbours.—A report in two volumes on *Transport in Australia*, with special reference to Ports and Harbours facilities, has been submitted to the Commonwealth Government by Sir George Buchanan, and published as a Parliamentary Paper, but the subject-matter is too voluminous to be dealt with in this present volume.

B. RAILWAYS.

§ 1. General.

1. Introduction.—In the following pages statistics relating to State-owned lines are, in the main, dealt with separately from those under the control of the Commonwealth Government. The State railways are referred to throughout as "State" and the Commonwealth railways as "Federal" railways. A summary in regard to Federal and State railways will, however, be found in § 4 following.

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, page 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 Railways Commissioners, has been made during recent years.

3. Railway Communication in Australia.—(i) *General.* 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. In the eastern, south-eastern and southern parts of Australia there is now a network of railway lines converging from the various agricultural, pastoral and mining districts towards the principal ports, which are themselves connected by systems of lines running approximately parallel to the coast. In the east, lines radiating from Cairns, Townsville, Rockhampton, Brisbane and Sydney extend inland in various directions for distances ranging up to over 600 miles; in the south-east there are numerous lines, those in Victoria converging towards Melbourne, while others in New South Wales have their terminus in Sydney; in the south there are four main lines, with numerous branches, running from Melbourne; while from Adelaide one main line, with several branches to the coastal towns, runs inland in a northerly direction for a distance of nearly 700 miles and another line runs in a south-easterly direction to various ports, meeting the main line from Melbourne on the border of South Australia and Victoria near Serviceton. The South Australian and Victorian railway systems also meet on the

border at two other points, one near Pinnaroo, and the other at Rennick, near Mount Gambier. In Western Australia there is a connected system of main or trunk lines between the ports of the State and the agricultural, pastoral, and mining districts, and two short lines, one on the north-west, the other on the south coast, which are unconnected with the main system. In the northern portion of Queensland there were also several disconnected lines running inland from the more important ports, but during the year 1924-25 an uninterrupted service as far north as Cairns was established. In Tasmania the principal towns are connected by a system of lines, and there are also, more especially in the western districts, several lines which have been constructed for the purpose of opening up mining districts.

By the opening, in 1917, of the Trans-Australian railway from Port Augusta to Kalgoorlie, through communication by rail was established between the eastern States and the Western Australian railway system.

(ii) *The Main Interstate Lines.* The main interstate lines, which permit of direct communication between the five capital cities—Brisbane, Sydney, Melbourne, Adelaide, and Perth—cover a distance from end to end of 3,474.80 miles or 3,479.82 miles via Newcastle. The schedule time for the journey from Brisbane to Perth is six days one hour forty-two minutes, the time being taken over all.

The longest railway journey which can be undertaken in Australia on one continuous line of railway is from Dajarra in Queensland to Meekatharra in Western Australia, a total distance of approximately 5,500 miles.

4. *Non-conformity of Gauge.*—(i) *General.* With but few exceptions, all the railway lines in Australia open for general traffic are now owned and managed by the respective States in whose territory they run, or by the Commonwealth Government; but, unfortunately, for the purpose of interstate traffic the construction of the various systems in different parts of Australia has proceeded without uniformity of gauge. A statement giving the reasons for the adoption of the various gauges in the several States appeared in Year Book No. 15, p. 534, but considerations of space preclude its repetition in the present issue.

(ii) *Interstate Junctions.* Connexions at border stations were established as follows:—Victoria and New South Wales, at Albury, 14th June, 1883; Victoria and South Australia, at Serviceton, 19th January, 1887; and New South Wales and Queensland, at Wallangarra, 16th January, 1888. Through trains were unable to run on this latter section until the completion of the Hawkesbury River Bridge on 1st May, 1889. On the 22nd October, 1917, through communication from east to west was made possible by the opening of the Trans-Australian line.

(iii) *Proposals for Unification.* The question of the unification of gauges in the several States has been under consideration for several years, and numerous conferences on the subject have been held from time to time between the several Railways Commissioners and between the Premiers of the States concerned. Reference to these conferences has been made in previous issues of the Year Book.

Some advancement, however, has been made in this connexion by the commencement of a 4 ft. 8½ in. gauge line between Kyogle (New South Wales) and South Brisbane (Queensland), which, when completed, will establish uninterrupted standard gauge communication between Sydney and South Brisbane. The mileage involved in this project is 87.12 miles, of which 60.56 miles is in Queensland Territory. The construction of this line is under the control of a Council, consisting of the Commonwealth Railways Commissioner, the Chief Railway Commissioner for New South Wales, and the Commissioner for Railways, Queensland.

The following further proposals for modifying the disadvantages attending the multiplicity of gauges have been recommended to and accepted by Parliament by the Commonwealth Parliamentary Standing Committee on Public Works:—

- (a) Extension of the Trans-Australian Railway from Port Augusta to Red Hill, 83 miles of 4 ft. 8½ in. gauge at the expense of the Commonwealth Government, which will at the expense of the South Australian Government lay a third rail to conform to the South Australian gauge of 5 ft. 3 in. from a point near Port Pirie to Red Hill; and

(b) *Laying of a third rail from Red Hill to Adelaide by the South Australian Government at the expense of the Commonwealth Government to provide a railway of 4 ft. 8½ in. gauge over the existing 5 ft. 3 in. gauge line from Red Hill to Adelaide, a total distance of approximately 107 miles.*

When these proposals are completed, through passengers over the Trans-Australian line will not need to change at Port Augusta and Terowie.

(iv) *Estimated Cost of Unification of Gauges.* The scheme recommended by the Royal Commission of 8th February, 1921, and adopted by the Prime Minister and Premiers of the several States in conference during November of the same year, as the first step, will provide a standard 4 ft. 8½ in. gauge railway between Brisbane and Fremantle, and the conversion of the whole of the broad-gauge lines of Victoria and South Australia, at an estimated cost of £21,600,000, spread over a period of approximately eight years. The details of the estimate of £21,600,000, which provides for a main trunk line between Fremantle and Brisbane, and the conversion of the 5 ft. 3 in. gauge lines in Victoria and South Australia, together with the quota from each State and the Commonwealth Government in terms of the allocation of cost agreed upon, were given in a previous issue (see Year Book No. 16, p. 278).

The estimated cost of converting the whole of the lines in the States concerned was given as approximately £57,200,000.

5. *Rolling Stock Gauges.*—Allied to the question of the gauges of the railways of Australia is that of the rolling stock gauges in use, the rolling stock gauge being the maximum transverse dimensions to which the rolling stock may be constructed. Particulars in respect of such dimensions have been published in previous issues of this work. (See Official Year Book, No. 18, p. 274.)

6. *Mileage Open for Traffic, all Lines.*—(i) *General.* In all the States the principle that the control, construction, and maintenance of the railways should be in the hands of the Government has long been adhered to, excepting in cases presenting unusual circumstances. In various parts of Australia, lines have been constructed and managed by private companies, but at the present time nearly the whole of the railway traffic is in the hands of the State or Commonwealth Governments. A large proportion of the private lines has been laid down for the purpose of opening up forest lands, mining districts, or sugar areas, and these lines are not generally used for the conveyance of passengers or the public conveyance of goods. (See § 5 *Private Railways*, hereinafter.)

The subjoined table shows the route mileage of Federal, State, and private lines open for traffic (exclusive of sidings and cross-overs) in each State for each of the years 1922–23 to 1926–27. The railway mileage given for each State includes both Federal, State, and private railways in that State:—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE OPEN, 1923 TO 1927.

State or Territory.	1922–23.	1923–24.	1924–25.	1925–26.	1926–27.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	5,689.18	5,847.13	5,986.39	6,072.46	6,080.68
Victoria ..	4,393.48	4,496.34	4,542.45	4,687.68	4,704.63
Queensland ..	7,180.10	7,341.83	7,433.46	7,576.32	7,711.77
South Australia ..	3,503.40	3,577.01	3,577.01	3,624.41	3,659.49
Western Australia ..	4,844.93	4,908.77	5,040.65	5,202.23	5,244.13
Tasmania ..	896.36	908.38	904.08	1,072.41	1,062.26
Federal Capital Territory ..	4.94	4.94	4.94	4.94	4.94
Northern Territory ..	198.68	198.68	198.68	198.68	198.68
Australia ..	26,711.07	27,283.08	27,687.66	28,439.13	28,666.58

In previous issues of the Year Book particulars 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 owned by the State Government, and by the Commonwealth Government in that State, all of which lines are open for general use by the public, (b) the length of private lines available for general use by the public, and (c) the length of the private lines not so available. The mileages specified in the case of Government and private lines are to the 30th June, 1927 :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE CLASSIFIED, 1926-27.

State or Territory.	Government Lines—		Private Lines available for General Traffic.	Total Open for General Traffic.	Private Lines used for special Purposes only.	Grand Total.
	State.	Federal.				
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales	5,750.04	..	142.03	5,892.07	188.61	6,080.68
Victoria ..	4,634.22	..	24.94	4,659.16	45.47	4,704.63
Queensland ..	6,301.57	..	302.02	6,603.59	1,108.18	7,711.77
South Australia ..	2,527.80	1,075.41	33.80	3,637.01	22.48	3,659.49
Western Australia	3,918.05	453.99	277.00	4,649.04	595.09	5,244.13
Tasmania ..	658.25	..	187.61	845.86	216.40	1,062.26
Federal Capital Territory ..	..	4.94	..	4.94	..	4.94
Northern Territory	..	198.68	..	198.68	..	198.68
Australia ..	23,789.93	1,733.02	967.40	26,490.35	2,176.23	28,666.58

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 population and area respectively :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—COMPARISON OF FACILITIES, 1927.

Particulars.	N.S.W.	Vic.	Q'd.	S.A.	W.A.	Tas.	Fed. Cap. Ter.	Nor. Ter.	Aust.
Mileage of Railway— Per 1,000 of population ..	2.56	2.73	8.62	6.41	13.62	5.10	0.65	46.64	4.65
Per 1,000 sq. miles or Territory ..	19.65	53.53	11.50	9.63	5.37	40.52	5.26	0.38	9.64

8. *Classification of Lines according to Gauge, 1926-27.*—The next table gives a classification, according to gauge, of the total mileage, exclusive of sidings and crossovers, of (i) Federal railways, given in the State or Territory in which situated; (ii) State railways; (iii) Private railways open to the public for general traffic; and (iv) Private lines open for special purposes. Particulars of Government railways are up to the 30th June, 1927; of private railways open for general traffic, to the 31st December, 1927, as nearly as possible; and of private railways open for special purposes to the 30th June, 1927.

RAILWAYS.—GOVERNMENT AND PRIVATE.—GAUGES, 1926-27.

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.	3 ft. 0 in.	2 ft. 6 in.	2 ft. 3 in.	2 ft. 0 in.		1 ft. 8 in.

FEDERAL RAILWAYS.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
South Australia	597.46	477.95	..	..	..	..	..	1,075.41
Western Australia	453.99	..	..	..	..	..	..	453.99
Federal Capital Territory	4.94	..	..	..	..	..	..	4.94
Northern Territory	198.68	..	..	..	..	..	198.68
Total	1,056.39	676.63	..	..	..	..	..	1,733.02

STATE RAILWAYS.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	..	5,710.53	39.51	..	..	..	..	..	5,750.04
Victoria ..	4,512.45	..	..	121.77	..	..	..	..	4,634.22
Queensland ..	..	..	6,271.31	..	..	..	30.26	..	6,301.57
South Australia ..	1,244.44	..	1,233.36	..	..	..	..	..	2,527.80
Western Australia ..	..	..	3,913.05	..	..	..	..	..	3,913.05
Tasmania ..	..	..	633.42	..	..	..	24.83	..	658.25
Total ..	5,756.89	5,710.53	12,145.65	..	121.77	..	55.09	..	23,739.93

PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	..	78.97	36.73	..	..	..	26.33	..	142.03
Victoria ..	13.94	..	..	11.00	..	..	..	..	24.94
Queensland ..	..	..	124.22	..	7.00	..	170.80	..	302.02
South Australia ..	..	..	33.80	..	..	..	..	..	33.80
Western Australia ..	..	..	277.00	..	..	..	..	..	277.00
Tasmania ..	..	..	171.12	..	..	..	16.48	..	187.61
Total ..	13.94	78.97	642.87	11.00	7.00	..	213.62	..	967.40

PRIVATE RAILWAYS OPEN FOR SPECIAL PURPOSES.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	..	174.99	3.44	..	..	..	10.18	..	188.61
Victoria ..	18.37	..	10.00	4.50	..	..	12.60	..	45.47
Queensland ..	..	..	245.16	..	..	..	363.02	..	1,108.18
South Australia ..	..	..	..	6.38	2.00	3.75	10.35	..	22.48
Western Australia ..	..	..	543.84	..	..	..	13.75	37.50	595.09
Tasmania ..	..	11.25	122.64	5.98	35.52	..	41.01	..	216.40
Total ..	18.37	186.24	925.08	16.86	37.52	3.75	950.91	37.50	2,176.23

ALL RAILWAYS.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	..	5,904.49	79.88	..	..	..	36.51	..	6,080.68
Victoria ..	4,544.76	..	10.00	15.50	121.77	..	12.60	..	4,704.63
Queensland ..	..	..	6,640.69	..	7.00	..	1,064.03	..	7,711.77
South Australia ..	1,244.44	597.46	1,795.11	6.38	2.00	3.75	10.35	..	3,659.49
Western Australia ..	..	453.99	4,738.89	..	..	..	13.75	37.50	5,244.13
Tasmania ..	..	11.25	927.18	5.98	35.52	..	82.33	..	1,062.26
Federal Capital Territory ..	..	4.94	..	..	..	..	..	..	4.94
Northern Territory ..	..	..	193.68	..	..	..	..	..	193.68
GRAND TOTAL	5,789.20	7,032.13	14,390.23	27.86	166.29	3.75	1,219.62	37.50	23,666.58

§ 2. Federal Railways.

1. **General.**—On the 1st January, 1911, the Commonwealth Government took over the Northern Territory from the South Australian Government, and at the same time the railways from Darwin to Pine Creek in the Northern Territory, and from Port Augusta to Oodnadatta in South Australia, came under its control. Subsequently the construction of a transcontinental line from Port Augusta in South Australia to Kalgoorlie in Western Australia was undertaken by the Commonwealth Government, while a line has been constructed in the Federal Capital Territory, connecting Canberra with the New South Wales railway system at Queanbeyan. In 1917 an Act was passed by which all the Federal railways were vested in a Commonwealth Railways Commissioner.

2. **Northern Territory Railway.**—(i) *Darwin to Katherine.* On the 1st January, 1911, the line from Darwin to Pine Creek came under the jurisdiction of the then Department of External Affairs, and was worked under the Administrator of the Northern Territory. As mentioned above, the management of this railway is now vested in the Commonwealth Railways Commissioner.

In the Northern Territory Acceptance Act the construction of a transcontinental line from South Australia is provided for. The extension of the line from Pine Creek to Katherine River was completed, and the first train ran through to Emungalan (Katherine River) on 13th May, 1917.

(ii) *Proposed Extension.* The recommendations of the Parliamentary Standing Committee on Public Works in connexion with the North-South line were indicated in a previous issue of this work. (See Year Book No. 18, p. 278.)

(iii) *Line Authorized for Construction.* The Northern Territory Railway Extension Act 1923 provides for the construction of a 3 ft. 6 in. gauge line from the present terminus at Emungalan to Daly Waters, a distance of approximately 160 miles. The estimated cost of this line is £1,545,000, including the cost of a bridge over the Katherine River which was completed in May, 1926, although the first train crossed on 21st January, 1926. The terminus of the line was moved to the new station at Katherine River on 14th December, 1926, and at the 30th June, 1927, the rails had been laid a further distance of 29 miles from the Katherine River station towards Daly Waters.

3. **Port Augusta to Oodnadatta Railway.**—(i) *General.* This line was taken over by the Commonwealth Government from 1st January, 1911, but was held under lease by the South Australian Government until 31st December, 1913. From the 1st January, 1914, the line was worked under agreement by the South Australian Government for and on behalf of the Commonwealth, but from 1st January, 1926, the management devolved upon the Commonwealth Railways Commissioner.

(ii) *Extension Authorized.* The Railways (South Australia) Agreement Act 1926, assented to by the Commonwealth Parliament in February, 1926, ratified the agreement between the Commonwealth and South Australian Governments for the construction of a 3 ft. 6 in. gauge line between Port Augusta and Alice Springs. This involves the construction of an extension to Alice Springs of the existing 3 ft. 6 in. gauge line from Port Augusta to Oodnadatta. The estimated cost, exclusive of rolling stock, of the proposed extension, which comprises 292 miles, is £1,700,000. The permanent survey of the line has been completed, and, at 30th June, 1927, 14½ miles of the line were laid. The remainder of the first section 21¼ miles from Oodnadatta has since been completed, and the contract for the construction of the balance of 270¾ miles to Alice Springs was signed on the 11th August, 1927.

4. **Federal Capital Territory Railway—Queanbeyan-Canberra.**—This line was built by the Railway Construction Branch of the Public Works Department, New South Wales, and, when completed, was taken over by the Chief Commissioner of Railways for that State, who worked the line for and on behalf of the Commonwealth Government until 1st July 1928, on which date the management was taken over by the Commonwealth Railways Commissioner. The line was opened for departmental goods traffic on 25th May, 1914. It connects with the New South Wales railway system at Queanbeyan, is 4.94 miles in length, and has sidings of an aggregate length of 2.00 miles.

5. **Trans-Australian Railway (Kalgoorlie to Port Augusta).**—In the issue of the Year Book for 1918 (No. 11, pp. 663 to 666 and p. 1213), a short history of the construction of the Trans-Australian line is given, also a description of the country through which the line passes between Kalgoorlie and Port Augusta.

On the 22nd October, 1917, the first through train left Port Augusta with an official party on board for Kalgoorlie. It should be mentioned that owing to deviations from the original route, the length of this line was reduced from 1,063.39 miles to 1,051.45 miles, a saving of 11.94 miles.

6. Lines Open, Surveyed, etc.—The following table shows the lines open for traffic under the control of the Commonwealth Government at 30th June, 1927, together with the lines which have been or are being surveyed :—

RAILWAYS, FEDERAL, 30th JUNE, 1927.

Terminals.	Miles.
OPEN FOR TRAFFIC.	
Trans-Australian—Port Augusta (South Australia) to Kalgoorlie (Western Australia)	1,051.45
Central Australia Railway—Port Augusta to Oodnadatta (South Australia)	477.95
Queanbeyan to Canberra (Federal Capital Territory)	4.94
North Australia Railway—Darwin to Emungalan, Katherine River	198.68
Total opened for traffic	1,733.02
SURVEYED OR BEING SURVEYED.	
Katherine River to Mataranka (Northern Territory)	65.44
Mataranka to Daly Waters (Northern Territory)	95.00
Kingoonya to Boorthanna (South Australia)	176.44
Oodnadatta to Alice Springs	115.00
Canberra to Jervis Bay (Federal Capital Territory)	140.22
Canberra (Federal Capital Territory) to Federal Capital Territory Border in the direction of Yass (New South Wales)	11.67
Daly Waters (Northern Territory) to Oodnadatta (South Australia)	851.50
Port Augusta to Crystal Brook (South Australia)	69.25
Total surveyed or being surveyed	1,524.52

In addition, a trial survey from the proposed deep water port at Rocky Island (Gulf of Carpentaria) to Borroloola has been completed in connexion with the possibility of developing a port at the mouth of the McArthur River.

7. Mileage open, worked, and Train miles run.—The next table shows the length of the Federal railways open for traffic, average miles worked, and the train miles run in the years 1923 to 1927 :—

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES, 1923 TO 1927.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
	Miles.	Miles.	Miles.	Miles.	
1923	1,051	478	5	199	1,733
1924	1,051	478	5	199	1,733
1925	1,051	478	5	199	1,733
1926	1,051	478	5	199	1,733
1927	1,051	478	5	199	1,733

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES,
1923 to 1927—*continued.*

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Central Australia.	Federal Capital Territory.	North Australia.	

AVERAGE MILES WORKED.

	Miles.	Miles.	Miles.	Miles.	Miles.
1923	1,051	478	5	199	1,733
1924	1,051	478	5	199	1,733
1925	1,051	478	5	199	1,733
1926	1,051	478	5	199	1,733
1927	1,051	478	5	199	1,733

TRAIN MILES RUN.

1923	449,609	303,187	1,065	20,823	774,684
1924	453,742	293,529	4,731	18,412	770,414
1925 (a) ..	472,459	283,762	5,999	51,279	813,499
1926 (a) ..	471,322	192,773	7,123	60,641	731,859
1927 (a) ..	487,160	263,227	12,402	69,872	832,661

(a) Traffic Train Mileage (exclusive of "Assistant" and "Light" mileages).

8. Cost of Construction and Equipment.—In the following table particulars are given of the cost of construction and equipment for traffic of the undermentioned railways for each of the years 1923 to 1927 :—

RAILWAYS, FEDERAL.—CAPITAL COST, 1923 TO 1927.

Year ended 30th June—	Railway.				Total.
	Trans- Australian.	Central Australia.	Federal Capital Territory. (b)	North Australia.	

TOTAL COST OF CONSTRUCTION AND EQUIPMENT OF LINES OPEN.

	£	£	£	£	£
1923	7,301,433	2,309,136	48,144	1,725,666	11,384,379
1924	7,379,785	2,342,490	50,720	1,726,877	11,499,872
1925	7,435,771	2,554,068	50,720	1,727,412	11,767,971
1926	7,515,553	2,663,099	50,974	1,736,360	11,965,986
1927	7,614,277	2,854,801	82,945	1,750,772	12,302,795

COST PER MILE OPEN.

1923	6,944	4,831	9,746	8,686	6,569
1924	7,019	4,901	10,267	8,692	6,636
1925	7,072	5,345	10,267	8,694	6,790
1926	7,148	5,572	10,318	8,739	6,905
1927	7,242	5,973	13,964	8,812	7,099

(a) Exclusive of Rolling Stock the property of South Australian Government Railways.

(b) Exclusive of Rolling Stock the property of New South Wales Government Railways.

The sum of £1,533,027 of which £109,990 was for surveys, etc., has been provided from revenue for capital purposes to 30th June, 1927, and has been included in the total shown above.

9. Gross Revenue.—(i) *Total, per average mile worked, and per train mile run.* The following table shows the total revenue from all sources, the revenue per average mile worked, and the revenue per train mile run for each of the undermentioned railways for the financial years 1923 to 1927 inclusive :—

RAILWAYS, FEDERAL.—GROSS REVENUE, TOTAL, ETC., 1923 TO 1927.

Yearended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
TOTAL GROSS REVENUE.					
	£	£	£	£	£
1923 ..	208,925	108,770	2,883	15,835	336,413
1924 ..	227,420	105,124	4,080	16,802	353,426
1925 ..	256,647	110,256	7,029	35,180	409,112
1926 ..	276,430	82,649	11,665	41,347	412,091
1927 ..	303,212	125,039	14,739	55,718	498,708

GROSS REVENUE PER AVERAGE MILE WORKED.					
1923 ..	199	228	584	80	194
1924 ..	216	220	826	85	204
1925 ..	244	231	1,423	177	236
1926 ..	263	173	2,363	208	238
1927 ..	288	262	2,985	280	288

GROSS REVENUE PER TRAIN-MILE RUN.					
	d.	d.	d.	d.	d.
1923 ..	111.52	86.10	649.69	182.51	104.22
1924 ..	120.29	87.96	220.04	219.01	111.16
1925 ..	130.37	93.25	281.20	164.65	120.69
1926 ..	140.67	101.68	383.98	160.57	134.41
1927 ..	149.36	114.00	285.22	191.38	143.73

(ii) *Classification and Percentages.* 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 for 1923 to 1927 classified according to the three chief sources of receipts, together with their percentages on the total revenue. The totals of the three items are given in the preceding table.

RAILWAYS, FEDERAL.—RECEIPTS, VARIOUS SOURCES, 1923 TO 1927.

Year ended 30th June—	Railway.									
	Trans-Australian.		Central Australia.		Federal Capital Territory.		North Australia.		Total.	
	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.

COACHING TRAFFIC RECEIPTS.										
	£	%	£	%	£	%	£	%	£	%
1923 ..	138,304	66.20	17,027	16.48	47	1.03	397	2.51	156,675	46.57
1924 ..	144,352	63.48	17,764	16.90	754	18.48	2,778	16.83	165,648	46.87
1925 ..	157,173	61.24	18,732	16.99	2,228	31.70	3,367	9.57	181,500	44.86
1926 ..	172,371	62.35	20,418	24.72	3,144	26.95	3,852	9.31	199,785	48.48
1927 ..	178,695	58.93	20,402	16.32	3,760	25.51	5,595	10.04	208,452	41.80

GOODS AND LIVE STOCK RECEIPTS.										
	£	%	£	%	£	%	£	%	£	%
1923 ..	31,005	14.84	87,552	80.49	2,819	97.78	7,163	45.23	128,539	38.21
1924 ..	34,486	15.16	84,278	80.17	3,326	81.52	6,141	36.55	128,231	36.29
1925 ..	53,313	20.77	88,544	80.31	4,801	68.80	19,359	55.03	166,017	40.58
1926 ..	51,370	18.50	58,479	70.74	8,521	73.05	22,836	55.36	141,256	34.28
1927 ..	63,947	21.09	103,407	82.70	10,979	73.49	25,777	46.26	204,110	40.93

MISCELLANEOUS RECEIPTS.										
	£	%	£	%	£	%	£	%	£	%
1923 ..	39,616	18.96	3,291	3.03	20	1.08	8,275	52.26	51,199	15.22
1924 ..	48,582	21.36	3,082	2.93	17	0.69	7,883	46.92	59,547	16.84
1925 ..	46,161	17.99	2,980	2.70	..	..	12,454	36.40	61,595	15.06
1926 ..	52,689	19.06	3,752	4.54	..	..	14,609	35.33	71,050	17.24
1927 ..	60,570	19.98	1,230	0.98	..	..	24,346	43.70	86,146	17.27

The miscellaneous receipts for the year 1926-27 include an amount of £28,514, revenue from dining cars and refreshment services on the Trans-Australian Railway. A sum of £27,854 was received from this source during the previous year.

10. Working Expenses.—(i) *Total*. The following table shows the total working expenses, and the percentages on the corresponding gross revenues of each railway for each year from 1923 to 1927.

Details of the annual expenditure on (a) maintenance of ways, works and buildings, (b) locomotives, carriages and wagons repairs and renewals, (c) traffic expenses, and (d) compensation, general and miscellaneous charges, are given in (iii) following.

RAILWAYS, FEDERAL.—WORKING EXPENSES, TOTAL, ETC., 1923 TO 1927.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
TOTAL WORKING EXPENSES.					
	£	£	£	£	£
1923	250,280	178,181	1,588	30,984	461,033
1924	265,121	176,711	3,268	30,077	475,177
1925	294,164	158,009	4,882	40,015	497,070
1926	282,999	187,835	6,946	43,240	521,020
1927	271,886	131,613	10,036	57,960	471,495
PERCENTAGE OF WORKING EXPENSES ON REVENUE.					
	%	%	%	%	%
1923	119.79	163.81	55.08	195.67	142.83
1924	116.58	168.10	80.10	179.01	137.04
1925	114.61	143.31	69.45	113.76	134.45
1926	102.38	227.27	59.55	104.58	126.43
1927	89.67	105.25	68.09	104.02	94.53

The percentage of working expenses on revenue shows a distinct improvement during the year ended 30th June, 1927, the Federal Territory Railway, where large extraordinary expenditure in connexion with the opening of Parliament at Canberra was experienced during the year, being the only one of the four railways showing an increase. The improvement has been brought about in spite of higher prices of coal and other materials, and more liberal rates and conditions granted by the Arbitration Court, and is the result of closer supervision and control of expenditure.

(ii) *Averages*. The next table gives the working expenses per average mile worked and per train-mile run for each railway for the years 1923 to 1927:—

RAILWAYS, FEDERAL.—WORKING EXPENSES, AVERAGES, 1923 TO 1927.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
WORKING EXPENSES PER AVERAGE MILE WORKED.					
	£	£	£	£	£
1923	238	373	322	156	266
1924	252	370	662	151	274
1925	280	331	988	201	287
1926	269	393	1,406	218	301
1927	254	275	2,032	292	272
WORKING EXPENSES PER TRAIN-MILE RUN.					
	d.	d.	d.	d.	d.
1923	133.60	141.04	357.85	357.11	142.83
1924	140.35	147.86	176.25	392.05	149.45
1925	149.43	133.64	195.31	187.29	146.65
1926	144.10	233.85	234.04	171.13	170.86
1927	133.95	120.00	194.21	199.08	135.90

(iii) *Classification and Percentages.* The subjoined table shows the distribution of working expenses among four chief heads of expenditure for the years 1923 to 1927, together with their percentages on the total working expenses which are given in 10 (i) hereinbefore :—

RAILWAYS, FEDERAL.—DISTRIBUTION OF WORKING EXPENSES, 1923 TO 1927.

Year ended 30th June—	Railway.								Total.	
	Trans-Australian.		Central Australia.		Federal Capital Territory.		North Australia.			
	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.	Total.	Per Cent.

MAINTENANCE.

	£	%	£	%	£	%	£	%	£	%
1923 ..	72,322	29.10	83,014	46.59	810	51.01	16,350	52.77	172,996	37.52
1924 ..	77,892	29.38	71,087	40.23	711	21.76	13,858	46.08	163,548	34.42
1925 ..	83,219	28.29	57,411	36.33	906	18.56	14,155	35.37	155,691	31.32
1926 ..	88,490	31.27	100,583	53.55	782	11.26	15,866	36.69	205,721	39.48
1927 ..	73,564	27.06	49,765	37.81	1,270	12.66	22,183	38.27	146,782	31.13

LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.

	£	%	£	%	£	%	£	%	£	%
1923 ..	110,652	44.21	73,476	41.24	721	45.40	7,528	24.30	192,377	41.73
1924 ..	115,107	43.42	84,029	47.55	1,900	58.14	8,179	27.19	209,215	44.03
1925 ..	133,467	45.37	77,809	49.24	2,756	56.45	12,891	32.22	226,923	45.66
1926 ..	116,966	41.33	61,694	32.84	4,257	61.29	14,336	33.15	197,253	37.86
1927 ..	122,740	45.14	54,396	41.71	5,189	51.70	16,898	29.16	190,723	42.36

TRAFFIC EXPENSES.

	£	%	£	%	£	%	£	%	£	%
1923 ..	37,139	14.84	18,589	10.43	57	3.59	6,481	20.92	62,266	13.51
1924 ..	39,936	15.06	18,533	10.49	657	20.10	7,348	24.42	66,472	13.90
1925 ..	41,164	14.00	19,310	12.23	1,220	24.99	11,186	27.95	72,886	14.66
1926 ..	40,927	14.46	19,994	10.65	1,907	27.45	11,784	27.26	74,612	14.32
1927 ..	42,185	15.52	20,512	15.59	3,577	35.64	17,381	29.99	83,655	17.74

OTHER CHARGES.

	£	%	£	%	£	%	£	%	£	%
1923 ..	29,667	11.85	3,102	1.74	..	..	625	2.01	33,394	7.24
1924 ..	32,186	12.14	3,062	1.73	..	..	694	2.31	35,942	7.56
1925 ..	36,314	12.34	3,473	2.20	..	..	1,783	4.46	41,570	8.36
1926 ..	36,616	12.94	5,564	2.96	..	..	1,254	2.90	43,434	8.34
1927 ..	33,397	12.28	6,440	4.89	..	..	1,493	2.58	41,335	8.77

11. *Passenger Journeys, and Tonnage of Goods and Live Stock.*—(i) *General.* In the next table particulars are given of the passenger journeys and tonnage of goods and live stock carried on the Federal railways during the years 1923 to 1927 :—

RAILWAYS, FEDERAL.—TRAFFIC, 1923 TO 1927.

Year ended 30th June—	Railway.				Total.	
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.		

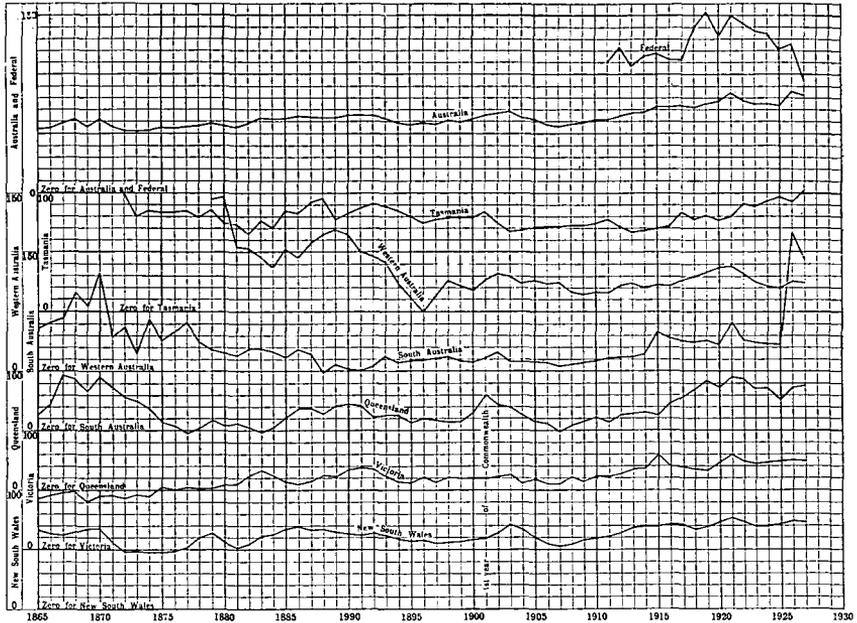
PASSENGER JOURNEYS.

	No.	No.	No.	No.	No.
1923 ..	32,914	67,311	..	3,063	103,288
1924 ..	31,805	67,657	32,616	3,511	135,589
1925 ..	32,362	65,322	110,499	3,798	211,981
1926 ..	34,512	65,250	138,923	5,293	243,978
1927 ..	34,779	55,284	125,605	5,716	221,384

TONNAGE OF GOODS AND LIVE STOCK CARRIED.

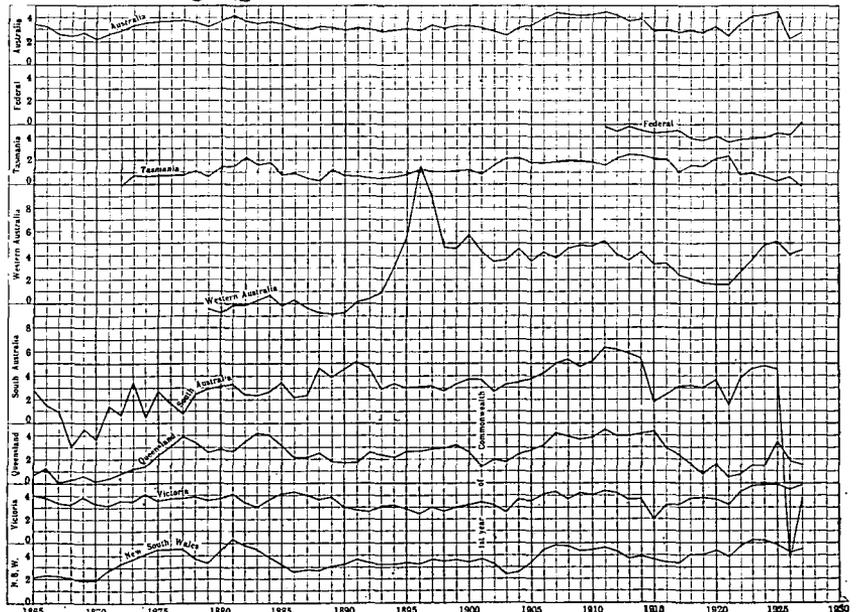
	tons.	tons.	tons.	tons.	tons.
1923 ..	33,252	72,392	14,702	2,954	123,300
1924 ..	32,858	69,179	18,504	3,167	123,708
1925 ..	42,225	63,622	25,405	15,259	146,511
1926 ..	37,848	46,870	45,933	15,275	145,926
1927 ..	43,503	81,048	84,450	15,612	224,613

PERCENTAGES OF WORKING EXPENSES ON GROSS REVENUE OF GOVERNMENT RAILWAYS, 1865 TO 1927.



EXPLANATION.—The base of each small square represents throughout one year. The vertical side of a small square denotes throughout 10 per cent., the heavy zero lines being different for each State and Australia, with, however, the exceptions that the zero lines for Australia and Federal are identical.

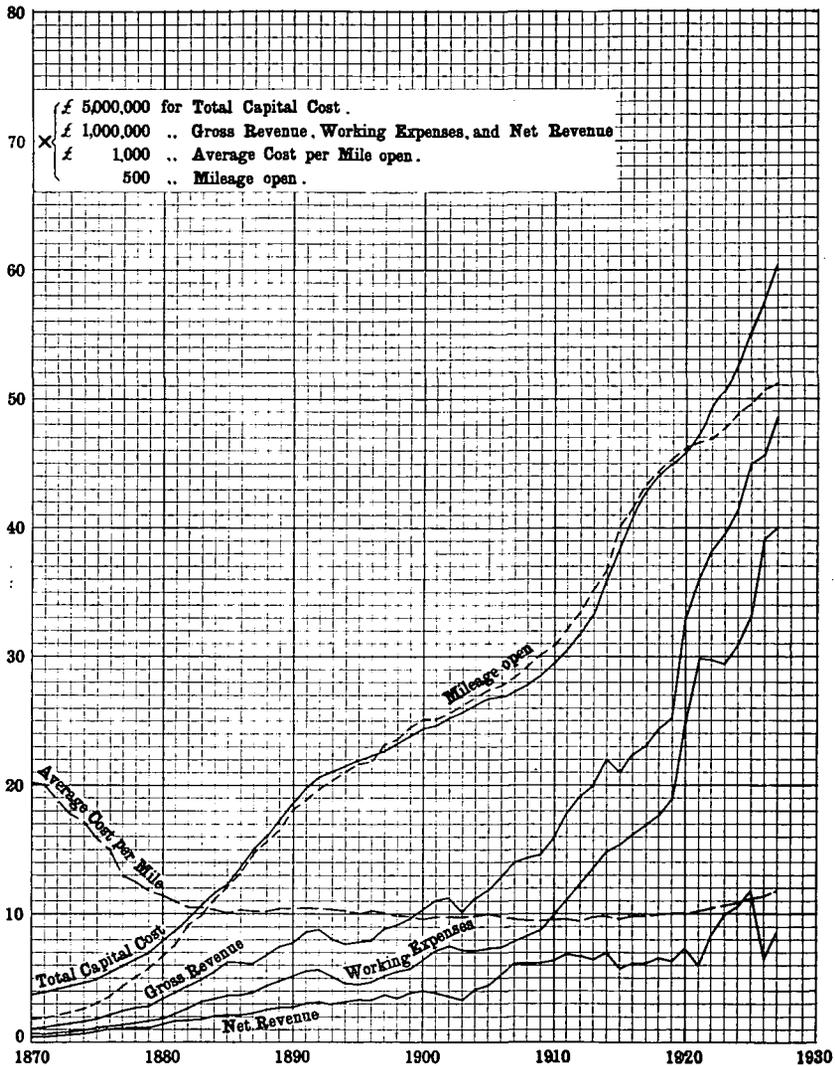
PERCENTAGES OF NET REVENUE ON CAPITAL COST OF GOVERNMENT RAILWAYS, 1865 TO 1927.



EXPLANATION.—The base of each small square represents throughout one year. The vertical side of a small square denotes 1 per cent., the thick zero lines, however, for each State and Australia being different, but the zero line for Federal is the same as that for Australia.

Where the curve for any State falls below that State's zero line, loss is indicated, the working expenses having exceeded the gross revenue.

FINANCIAL POSITION OF THE GOVERNMENT RAILWAYS OF AUSTRALIA, 1870 TO 1927.



(See page 292.)

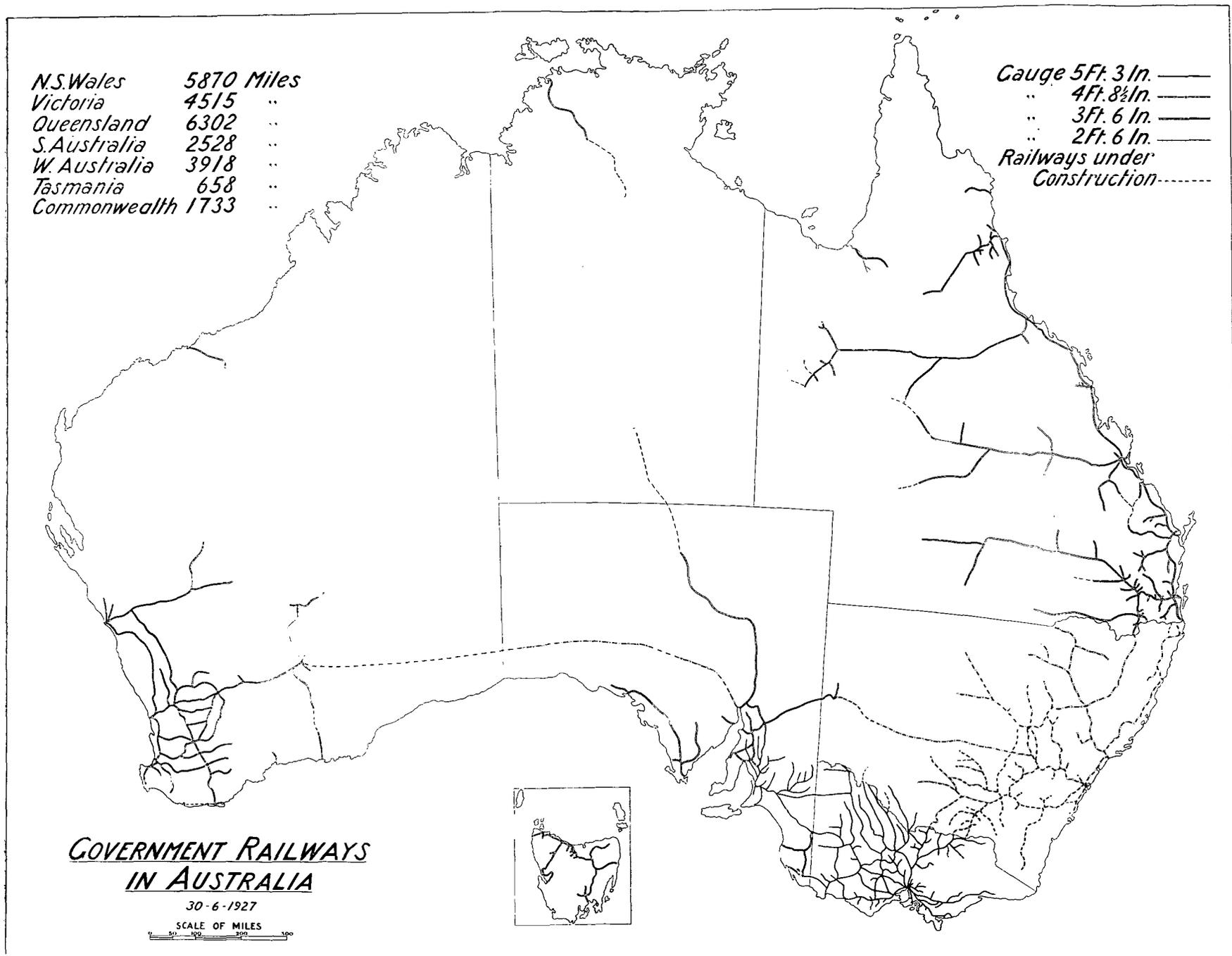
EXPLANATION.--The base of each small square represents throughout one year. The significance of the vertical height of each square varies according to the nature of the several curves.

In the curve for the total capital cost, the vertical side of each square represents £5,000,000.

In the curves for (i) gross revenue, (ii) working expenses, and (iii) net revenue, the vertical side of each small square represents £1,000,000. For the curve of average cost per mile open, the vertical side of each small square represents £1,000. The mileage open is shown by a dotted curve, the vertical side of each small square representing 500 miles.

N.S. Wales	5870 Miles
Victoria	4515 ..
Queensland	6302 ..
S. Australia	2528 ..
W. Australia	3918 ..
Tasmania	658 ..
Commonwealth	1733 ..

Gauge 5 Ft. 3 In.	——
.. 4 Ft. 8½ In.	——
.. 3 Ft. 6 In.	——
.. 2 Ft. 6 In.	——
Railways under Construction	-----



(ii) *Passenger-Mileage Summary.* The appended table gives particulars of "Passenger-Mileage" on each of the Federal railways for the year 1926-27 :—

RAILWAYS, FEDERAL.—PASSENGER-MILES SUMMARY, 1926-27.

Railway.	Passenger Train Mileage.	Number of Passenger Journeys.	Total "Passenger-Miles."	Amount	Average Number of Passengers carried per Train Mile.	Average Mileage	Average Earnings per "Passenger-Mile."	Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
				Received from Passengers.		per Passenger Journey.			
			,000 omitted.	£		Miles.	d.	£ s. d.	
Trans-Australian ..	372,517	34,779	29,871	139,869	80	859	1.12	4 0 5	28,409
Central Australia ..	46,070	55,284	2,648	15,500	57	48	1.40	0 5 7	5,541
Federal Capital Territory ..	7,880	125,605	494	2,732	63	4	1.33	0 0 5½	100,115
North Australia ..	7,221	8,716	618	5,113	86	108	1.98	0 17 11	3,113

(iii) *Ton-Mileage Summary.* Particulars of ton-mileage are shown hereunder in respect of each of the Federal railways for the year 1926-27 :—

RAILWAYS, FEDERAL.—"TON-MILEAGE" SUMMARY, 1926-27.

Railway.	Goods Train Mileage.	Total Tons Carried.	Total "Ton-Miles."	Goods Earnings.	Average Freight-paying Load per Train Mile.	Average Haul per ton.	Earnings per "Ton-Mile."	Density of Traffic per Average Mile Worked.
			,000 omitted.	£	Tons.	Miles.	d.	
Trans-Australian ..	114,643	43,503	10,350	63,947	90	238	1.43	9,843
Central Australia ..	217,157	81,048	12,706	103,407	59	157	1.95	26,583
Federal Capital Territory ..	4,522	84,450	421	10,979	93	5	6.26	85,279
North Australia ..	62,651	15,612	2,702	25,777	43	173	2.29	13,601.

12. *Passenger Fares, Goods Rates, and Parcel Rates.*—In previous issues of the Year Book particulars were included of Passenger Fares, Goods Rates (Ordinary Goods and Agricultural Produce), and Parcels Rates, but it is not proposed to republish this information herein.

13. *Rolling Stock, 1927.*—The following table shows the numbers of locomotives and rolling stock in use on the Federal railways, classified according to gauge :—

RAILWAYS, FEDERAL.—LOCOMOTIVES AND ROLLING STOCK, 1927.

Railway.	Gauge.			Total.	Gauge.			Total.	Gauge.			Total.
	4 ft. 8½ in.	3 ft. 6 in.			4 ft. 8½ in.	3 ft. 6 in.			4 ft. 8½ in.	3 ft. 6 in.		
LOCOMOTIVES.				COACHING STOCK.				STOCK OTHER THAN COACHING.				
Trans-Australian	68	..	68	49	..	49	734	..	734			
Central Australia	..	21	21	..	12	12	..	308	308			
North Australia	..	13	13	..	12	12	..	312	312			
Total ..	68	34	102	49	24	73	734	620	1,354			

The Federal Capital Territory Railway was worked by the New South Wales Government Railway Department, using its own rolling stock.

14. *Employees.*—(i) *General.* The following table shows the number of employees on the Federal railways at 30th June in each year from 1923 to 1927 inclusive, classified according to salaried and wages staffs :—

RAILWAYS, FEDERAL.—EMPLOYEES, 1923 TO 1927.

Railway.	30th June—									
	1923.		1924.		1925.		1926.		1927.	
	Salaried Staff.	Wages Staff.								
	No.	No.								
Trans-Australian	157	852	162	761	173	906	} 218	870	132	811
Central Australia ..	(a)	(a)	(a)	(a)	(a)	(a)		345	66	523
North Australia ..	9	71	14	107	17	147	} 184	29	648	
Federal Capital Territory (b)
Total ..	166	923	176	868	190	1,053	218	1,309	227	1,982

(a) Worked by South Australian Government Railways.

(b) Worked by New South Wales Government Railways.

Of the 227 salaried staff employed, 32 were engaged in the Construction Branch (4 on the Trans-Australian Line, 15 on the Central Australia Line, and 13 on the North Australia Line), the corresponding particulars for the wages staff being :—Trans-Australian Line 166, Central Australia Line 264, and North Australia Line 487, a total of 917 persons.

(ii) *Average Employed throughout Year.* The average number of employees throughout the year 1926–27 was 227 salaried staff (32 of whom were on construction work) and 1,750 wages staff (Construction, 697).

15. *Accidents.*—(i) *Classification.* The table hereunder furnishes a classification of accidents on the Federal railways during the year 1926–27 :—

RAILWAYS, FEDERAL.—ACCIDENTS, 1926-27.

Classification.	Trans-Australian.		Central Australia.		Federal Capital Territory.		North Australia.		All Federal Railways.		
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	
Train Accidents—											
Passengers	
Employees	
Accidents on line (other than train accidents)—											
Passengers	
Employees	7	..	..	..	..	4	..	..
Other Persons	1	..	..	..	1	1	11	
Shunting Accidents—											
Passengers	
Employees	4	..	3	1	..	..	1	7	
Other Persons	
Employees proceeding to or from duty within the Railway boundary	
Persons killed or injured at crossings	
Trespassers	1	..	2	..	..	..	..	3	
Miscellaneous	
Total	12	1	5	1	..	5	2	22

(ii) *Particulars for Quinquennium 1923-27.* The following table shows the number of accidents in each of the years 1923 to 1927 :—

RAILWAYS, FEDERAL.—ACCIDENTS, 1923 TO 1927.

Railway.	Number of Persons.									
	Killed.					Injured.				
	1923.	1924.	1925.	1926.	1927.	1923.	1924.	1925.	1926.	1927.
Trans-Australian	1	1	..	..	..	14	9	6	6	12
Central Australia	..	..	2	1	1	7	7	3	18	5
Federal Territory Capital	..	..	..	..	1	..	1	4	..	5
North Australia	..	1	..	..	..	1	1	4	..	5
Total	1	2	2	1	2	22	17	13	24	22

§ 3. State Railways.

1. *Administration and Control of State Railways.*—The policy of Government control of the railways has been adopted in each State, and earlier issues of the Year Book (see No. 6, p. 693) contain a description of the methods adopted by the various State Governments in the control and management of their railways.

2. *Mileage Open, 1923 to 1927.*—(i) *General.* The following table shows the length of State railways open for traffic on the 30th June in the years 1923 to 1927 :—

RAILWAYS, STATE.—MILEAGE OPEN FOR TRAFFIC, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1923	5,318	4,333	5,906	2,373	3,555	663	22,148
1924	5,523	4,434	6,040	2,452	3,629	673	22,751
1925	5,655	4,483	6,114	2,452	3,733	673	23,111
1926	5,742	4,627	6,240	2,499	3,864	673	23,645
1927	5,750	4,634	6,302	2,528	3,918	658	23,790

A graph indicating the mileage open in Australia at the end of each of the years 1870 to 1927 accompanies this chapter.

The appended statement shows the actual mileage opened for traffic in the year 1927, also the annual average increase in mileage opened since 1917 in each State :—

RAILWAYS, STATE.—MILEAGE OPENED ANNUALLY.

Mileage.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
Mileage opened during 1926-27	8.22	6.95	61.53	28.70	53.70	14.65a	144.45
Average annual mileage increase for 10 years to 30th June, 1927 ..	131.30	51.16	108.78	30.71	49.29	7.66	378.90

(a) The Sorell line was closed for traffic during the year, and no new mileage opened.

(ii) *New South Wales.* During the year ended 30th June, 1927, the following extensions and new lines were opened for traffic :—Richmond to Kurrabung (6.98 miles) and Sydney Central Station to St. James, underground electric railway (1.24 miles), making a total for the year of 8.22 miles.

(iii) *Victoria*. Readjustments to existing lines and the opening of the Goroke to Morea (Carpolac) Line (9.05 miles) increased the mileage for the year 1926-27 by 6.95 miles.

(iv) *Queensland*. During 1926-27, 61.53 miles of new lines were opened for traffic, viz. :—Ceratodus to Mulgeldie (26.16 miles); Many Peaks to Barrimoon (14.55 miles); Nipan to Theodore (13.72 miles); and Mount Molloy to Rumula (7.10 miles).

(v) *South Australia*. During the year 1926-27, 6.53 miles of 5 ft. 3 in. gauge (Paringa to Renmark 1.99 miles, and Bumbunga to Lochiel 4.54 miles), and 22.17 miles (Kimba to Buckleboo) of 3 ft. 6in. gauge were opened for traffic, making a total increase for the year of 28.70 miles.

(vi) *Western Australia*. The following new mileage was opened for traffic during the year :—Dwarda to Narrogin (37.01 miles), and Jardee to Pemberton (16.69 miles), making a total increase for the year of 53.70 miles.

(vii) *Tasmania*. No new extensions were opened during the year. The Sorell line (Bellerive to Sorell), 14.65 miles, was closed for traffic on 1st July, 1926.

3. Length and Gauge of Railway Systems in each State.—In all the States the Government railways are grouped, for the convenience of administration and management, into several divisions or systems. A summary showing concisely the gauge and length of the main and branch lines included in each division or system in the different States for the year ended 30th June, 1927, is given in the Transport and Communication Bulletin No. 19 issued by this Bureau.

4. Average Mileage Worked and Train-Miles Run.—The total mileage open for traffic at the end of each financial year has been given previously, but, in considering the returns relating to revenue and expenditure and other matters, it is desirable to know the average number of miles actually worked during each year. The next table shows the average number of miles worked and the total number of train-miles run by the Government railways of each State during the years 1923 to 1927 inclusive :—

RAILWAYS, STATE.—MILEAGE WORKED AND MILES RUN, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
AVERAGE MILEAGE WORKED.							
1923 ..	5,197	4,314	5,868	2,359	3,552	663	21,953
1924 ..	5,460	4,369	5,960	2,416	3,593	668	22,466
1925 ..	5,571	4,448	6,078	2,452	3,669	673	22,891
1926 ..	5,722	4,526	6,145	2,491	3,837	673	23,394
1927 ..	5,747	4,627	6,259	2,523	3,906	658	23,720
TRAIN-MILES RUN.							
1923 ..	21,693,861	16,394,239	10,917,584	5,792,798	4,505,299	1,434,816	60,738,597
1924 ..	23,755,897	17,244,507	11,647,077	6,791,620	4,839,285	1,416,216	65,694,602
1925 (a) ..	23,304,916	17,482,006	12,107,995	6,653,248	4,843,304	1,358,980	65,750,449
1926 (a) ..	24,624,995	17,575,547	12,866,323	6,846,149	4,862,505	1,342,475	68,117,994
1927 (a) ..	26,325,847	18,030,749	11,905,663	6,959,734	5,273,894	1,303,023	69,798,910

(a) Traffic Train Miles (exclusive of "Assistant" and "Light" mileages).

The particulars of train-miles run given in the foregoing table are not strictly comparable over the quinquennium owing to the fact that "assistant" and "light" mileages have been excluded for the years 1924-25 to 1926-27.

5. Lines under Construction, and Lines Authorized, 1927.—(i) *General*. The following statement gives particulars up to the 30th June, 1927, of the mileage of State railways (a) under construction, and (b) authorized for construction but not commenced :—

RAILWAYS, STATE.—MILEAGE UNDER CONSTRUCTION AND AUTHORIZED,
30th JUNE, 1927.

Particulars.	N.S.W.	Vic. (a)	Q'land.	S.A.	W.A.	Tas.	All States.
Mileage under construction	274.83	(b)67.75	253.00	20.25	93.50	..	709.33
Mileage authorized but not commenced ..	408.57	103.25	1,165.00	26.25	467.00	..	2,170.07

(a) See sub-section (b) below.

(b) Exclusive of 186 miles on which work has been suspended.

(ii) *Lines under Construction.* In spite of the great extensions of State railways since the year 1875, 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.* The total mileage under construction was 274.83 miles, consisting of the following lines:—Ivanhoe to Menindie (117.44 miles); Booyong to Ballina (12.79 miles); Uranquinty towards Moon's Siding (28.33 miles); Ungarie to Naradhan (38.09 miles); Kyogle to Richmond Gap (26.66 miles); Regent's Park to Bankstown (2.35 miles); Moss Vale to Port Kembla (38.08 miles); and City and Suburban Railway (11.09 miles).

(b) *Victoria.* In this State 29.75 miles of 5 ft. 3 in. gauge lines are being constructed, viz.:—Marnoo to Wallaloo (6.50 miles); Bowser to Peechelba (12.25 miles); South Kensington to West Footscray (2.50 miles); and Albion to Broadmeadows (8.50 miles). The Border Railways Act 1922 (Vic. 3194) provides for the construction of 38 miles in New South Wales Territory, viz.:—Gonn Crossing to Stony Crossing. On completion this line, which is 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, 1927, the following lines, of an aggregate length of 253 miles, were under construction:—Southern Division—4 ft. 8½ in. gauge—South Richmond to Richmond Gap (68 miles); 3 ft. 6 in. gauge—Hannaford towards Surat (25 miles); and Mulgeldie to Monto (8 miles). Central Division—Barrimoon to Monto (30 miles); and Morella to Winton (68 miles). Northern Division—Duchess to Mount Isa (54 miles). The following lines are partially constructed, but work thereon is temporarily suspended:—Wallaville to Kalliwa Creek (18 miles); Yaraka to Powell's Creek (27 miles); Dajarra to Moonah Creek (41 miles); Thangool to Monto (63 miles); and Winton to 37-Mile (37 miles); a total of 186 miles.

(d) *South Australia.* The construction of the following line was in progress at 30th June, 1927:—5 ft. 3 in. gauge—Renmark to Barmera (20.25 miles). The conversion to 5 ft. 3 in. gauge of the Western system (3 ft. 6 in. gauge), about 206 miles, is in hand, and nearing completion.

(e) *Western Australia.* The following lines were in course of construction by the Public Works Department on the 30th June, 1927:—Norseman to Salmon Gums (58.50 miles); and Albany to Denmark Railway Extension (35 miles); a total of 93.50 miles.

(f) *Tasmania.* At 30th June, 1927, no railway construction work was in progress.

(iii) *Lines Authorized for Construction.* (a) *New South Wales.* At the 30th June, 1927, the following lines had been authorized for construction but not commenced:—Gilgandra to Collie (21.51 miles); Grafton to South Grafton, with bridge over Clarence

River (2.34 miles); Camurra to Boggabilla (70 miles); Wyalong to Condobolin (33 miles); Jerilderie towards Deniliquin (25.00 miles); Rand to Bull Plain (27.55 miles); Canowindra to Gregra (33.87 miles); Tempe to East Hills (7.72 miles); St. Leonards to Eastwood (9.07 miles); Sandy Hollow, via Gulgong to Maryvale (146.5 miles); and Inverell to Ashford (32 miles); a total distance of 408.57 miles.

(b) *Victoria*. The following lines were authorized, but construction had not been commenced up to the end of June, 1927:—5 ft. 3 in. gauge: La La Siding to Big Pat's Creek (2.50 miles); Darling to Glen Waverley (5.75 miles); and Orbost to Brodrigg (6 miles). Under the Border Railways Act 1922, the following lines have been approved for construction in New South Wales territory:—Yarrowonga (Victoria) to Oaklands (New South Wales) (37 miles); Euston (New South Wales) to Benanee and beyond (New South Wales) (30 miles); and Gol Gol Extension (22 miles); an aggregate distance of 103.25 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—Inglewood to Texas and Silverspur (44 miles); Mount Edwards to Maryvale (28 miles); Lanefield to Rosevale (17 miles); Gatton to Mount Sylvia (11 miles); Wandoo 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); a total of 1,165 miles.

(d) *South Australia*. Parliament has authorized the construction of a line on the 3 ft. 6 in. gauge from Keilpa to Mangalo Hall (26.25 miles).

(e) *Western Australia*. The following lines were authorized for construction up to the 30th June, 1927:—Pemberton to Denmark (28 miles); Yarramony eastwards (85 miles); Brookton to Dale River (27 miles); Lake Brown to Bullfinch (50 miles); Ejjanding northwards (70 miles); Boyup Brook to Cranbrook (100 miles); and Manjimup to Mount Barker (107 miles); a total distance of 467 miles.

(f) *Tasmania*. There were no new railways authorized on which work had not been commenced at 30th June, 1927.

6. **Cost of Construction and Equipment.**—(i) *General*. The total cost of construction and equipment of the State railways as distinct from those owned by the Commonwealth Government at the 30th June, 1927, amounted to £291,482,593, representing an average cost of £47.35 per head of population. If the cost of railways owned by the Commonwealth Government is included, the total capital cost (£303,785,388) is equivalent to an amount of £49.26 per head of the population of the Commonwealth; while the total mileage open (25,522.95 miles) per 1,000 of population is 4.14 miles. Particulars of the capital expenditure incurred on lines open for traffic are given in the following table:—

RAILWAYS, STATE.—MILEAGE AND COST TO 30th JUNE, 1927.

State.	Length of Line Open (Route).	Total Cost of Construction and Equipment.	Average Cost per Mile Open.	Cost per Head of Population.	Mileage per 1,000 of Population at 30th June, 1927.
	Miles.	£	£	£	Miles.
New South Wales (a) ..	5,750.04	111,226,149	19,344	46.92	2.43
Victoria	4,634.22	(b) 70,298,673	(b) 15,169	40.72	2.68
Queensland	6,301.57	54,496,012	8,648	60.93	7.05
South Australia (a) ..	2,527.80	(c) 28,120,046	(c) 11,124	49.26	4.43
Western Australia (a) ..	3,918.05	20,855,604	5,322	54.16	10.18
Tasmania	658.25	6,486,109	9,854	31.16	3.16
All States	23,789.93	291,482,593	12,252	47.35	3.87

(a) Exclusive of Federal railways.

(b) Exclusive of cost of line from Murrayville to South Australian border (12.53 miles).

(c) Exclusive of cost of line from Mount Gambier to Victorian border (11.67 miles).

The lowest average cost (£5,322) per mile open is in Western Australia, and the highest (£19,344) in New South Wales, as compared with an average of £12,252 for all States. There were few costly engineering difficulties in Western Australia, and the fact that contractors were permitted to carry traffic during the term of their contracts considerably reduced expenditure, particularly in respect of all goldfield contracts.

In the table above the figures relating to cost of construction and equipment do not include the discounts and flotation charges on loans allocated to the railways. This will explain the differences between the amounts shown therein for Queensland, South Australia, and Western Australia, and those shown in the Railway Reports for these States.

(ii) *Capital Cost, All Lines. (a) Total.* The increase in the total capital cost of construction and equipment of Government railways for each year from 1923 to 1927 is shown in the following table:—

RAILWAYS, STATE.—CAPITAL COST OF LINES OPEN, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria. (a)	Q'land.	S. Aust. (b)	W. Aust.	Tasmania.	All States. (a, b)
TOTAL COST OF LINES OPEN.							
1923 ..	£ 87,713,871	£ 64,615,435	£ 44,823,991	£ 20,234,003	£ 18,555,115	£ 6,199,725	£ 242,142,140
1924 ..	91,792,167	65,880,792	47,367,439	21,410,602	18,967,443	6,374,784	251,793,227
1925 ..	98,060,216	67,136,069	49,453,595	23,637,283	19,643,517	6,416,194	264,346,874
1926 ..	103,674,668	68,888,145	51,555,649	25,529,866	20,327,456	6,450,185	276,425,969
1927 ..	111,226,149	70,298,673	54,496,012	28,120,046	20,855,604	6,486,109	291,482,593

COST PER MILE OPEN.

1923 ..	16,494	14,883	7,590	8,527	5,219	9,346	10,938
1924 ..	16,621	14,856	7,842	8,733	5,227	9,474	11,067
1925 ..	17,338	14,974	8,088	9,641	5,263	9,535	11,435
1926 ..	18,056	14,887	8,262	10,216	5,260	9,586	11,690
1927 ..	19,344	15,169	8,648	11,124	5,322	9,854	12,252

(a) Exclusive of cost of line from Murrayville to South Australian border (12.53 miles).

(b) Exclusive of cost of line from Mount Gambier to Victorian border (11.67 miles).

(b) *From Consolidated Revenue.* The following table shows the amounts provided from Consolidated Revenue for construction and equipment to 30th June, 1927:—

RAILWAYS, STATE.—EXPENDITURE FROM CONSOLIDATED REVENUE FOR CONSTRUCTION AND EQUIPMENT TO 30th JUNE, 1927.

To 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
1927 ..	£ 659,930	£ 4,037,566	£ ..	£ 1,943,512	£ 643,158	£ 16,935	£ 7,301,101

(iii) *Loan Expenditure.* The subjoined table shows the total loan expenditure on Government railways (including lines both open and unopen) in each State, except Tasmania, and on Government railways and tramways in the latter State for the years 1923 to 1927:—

RAILWAYS, STATE.—LOAN EXPENDITURE, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	All States.
	£	£	£	£	£	£	£
1923 ..	4,177,273	1,674,643	2,134,162	659,120	519,557	254,120	9,418,875
1924 ..	2,914,722	1,395,282	2,318,205	779,441	561,988	250,514	8,220,152
1925 ..	4,246,963	1,483,720	1,741,805	2,151,329	534,103	28,638	10,186,558
1926 ..	6,060,259	1,489,285	2,826,188	2,764,511	642,854	17,255	13,800,352
1927 ..	6,229,347	1,821,005	2,470,083	2,460,555	642,225	29,824	13,653,039

(a) Including tramways.

The following statement shows the total loan expenditure on railways to the 30th June, 1927 :—

RAILWAYS, STATE.—TOTAL LOAN EXPENDITURE TO 30th JUNE, 1927.

State ..	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania	All States.
	£	£	£	£	£	£	£
Expenditure	115,513,298	69,455,840	57,345,178	28,728,256	20,810,744	6,922,406	298,775,722

(a) Including tramways.

7. Gross Revenue.—(i) *General.* The total revenue from all sources, the revenue per average mile worked, and the revenue per train-mile run during each financial year from 1923 to 1927 inclusive were as follows :—

RAILWAYS, STATE.—GROSS REVENUE, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
TOTAL GROSS REVENUE.							
	£	£	£	£	£	£	£
1923 ..	15,221,333	11,347,057	5,420,400	3,710,922	2,915,985	572,417	39,188,114
1924 ..	15,616,577	11,958,635	5,714,036	3,929,428	3,227,371	585,468	41,031,515
1925 ..	16,789,452	12,759,197	7,109,210	4,012,736	3,359,501	548,256	44,558,352
1926 ..	16,939,032	12,671,061	7,437,090	4,237,718	3,337,292	545,191	45,167,384
1927 ..	18,906,543	13,652,434	7,325,677	4,062,133	3,607,939	539,352	48,094,128

GROSS REVENUE PER AVERAGE MILE WORKED.

	£	£	£	£	£	£	£
1923 ..	2,929	2,630	924	1,573	821	863	1,785
1924 ..	2,860	2,737	959	1,627	898	877	1,828
1925 ..	3,010	2,869	1,170	1,637	916	815	1,947
1926 ..	2,960	2,798	1,210	1,701	870	810	1,930
1927 ..	3,290	2,951	1,170	1,610	924	819	2,028

GROSS REVENUE PER TRAIN-MILE RUN.

	d.	d.	d.	d.	d.	d.	d.
1923 ..	168.39	166.11	119.15	153.74	155.34	95.74	154.86
1924 ..	173.65	172.95	125.94	152.43	167.09	101.35	160.71
1925 ..	172.70	175.16	140.92	144.75	166.47	98.82	162.64
1926 ..	165.09	173.03	138.73	148.56	161.72	97.47	159.14
1927 ..	172.36	181.72	147.67	140.08	164.19	99.34	165.37

The amounts of revenue earned per average mile worked and per train-mile run in respect of (a) coaching and (b) goods and live stock traffic, separately, are given later.

(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 for 1923 to 1927, classified according to the three chief sources of receipts. The total of the three items specified has already been given in the preceding paragraph.

RAILWAYS, STATE.—COACHING, GOODS, ETC., RECEIPTS, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
COACHING TRAFFIC RECEIPTS.							
1923 ..	£ 6,694,353	£ 5,664,738	£ 2,008,282	£ 1,270,590	£ 972,318	£ 262,373	£ 16,872,654
1924 ..	6,797,888	5,914,559	2,092,693	1,286,298	996,776	253,386	17,341,600
1925 ..	6,942,093	5,981,437	2,482,026	1,317,102	971,323	221,668	17,915,649
1926 ..	7,101,229	6,070,555	2,454,689	1,277,463	969,160	206,728	18,079,824
1927 ..	7,473,545	6,304,382	2,516,476	1,221,106	980,762	201,048	18,697,319

GOODS AND LIVE STOCK TRAFFIC RECEIPTS.

1923 ..	7,868,769	4,953,192	3,290,471	2,378,034	1,768,211	294,831	20,553,508
1924 ..	8,096,274	5,204,526	3,487,987	2,558,706	2,050,707	318,668	21,716,868
1925 ..	9,010,929	5,775,522	4,477,985	2,607,628	2,198,322	312,706	24,383,092
1926 ..	8,941,123	5,565,451	4,817,222	2,578,700	2,174,895	320,748	24,398,139
1927 ..	10,490,593	6,344,096	4,629,103	2,662,866	2,413,852	319,276	26,859,786

MISCELLANEOUS RECEIPTS.

1923 ..	658,211	729,127	121,647	62,298	175,456	15,213	1,761,952
1924 ..	722,415	839,550	133,356	84,424	179,888	13,414	1,973,047
1925 ..	816,430	1,002,238	149,199	88,006	189,856	13,882	2,259,611
1926 ..	896,680	1,035,055	165,179	381,555	193,237	17,715	2,689,421
1927 ..	942,405	1,003,956	180,098	178,161	213,375	19,028	2,537,023

The increase in miscellaneous receipts in the State of South Australia during 1925-26 was due to the inclusion of £225,242 on account of Border Railway adjustments with the State of Victoria, and £78,619 earned by Bookstalls and Refreshment Rooms which were operated departmentally for the first time.

(b) *Percentages.* The following table shows for the two years 1925-26 and 1926-27 the percentage which each class of receipts bears to the total gross revenue:—

RAILWAYS, STATE.—PERCENTAGES OF RECEIPTS, 1926 AND 1927.

State.	1926.			1927.		
	Coaching.	Goods and Live Stock.	Miscel- laneous.	Coaching.	Goods and Live Stock.	Miscel- laneous.
	%	%	%	%	%	%
New South Wales ..	41.92	52.78	5.30	39.53	55.49	4.98
Victoria ..	47.91	43.92	8.17	46.18	46.47	7.35
Queensland ..	33.01	64.77	2.22	34.35	63.19	2.46
South Australia ..	30.15	60.85	9.00	30.06	65.55	4.39
Western Australia ..	29.04	65.17	5.79	27.18	66.90	5.92
Tasmania ..	37.92	58.83	3.25	37.27	59.20	3.53
All States ..	40.03	54.02	5.95	38.88	55.85	5.27

(c) *Averages for Coaching Traffic Receipts.* The subjoined table shows the receipts from coaching traffic per average mile of line worked and per passenger-train-mile in each State for the year ended the 30th June, 1927 :—

RAILWAYS, STATE.—COACHING TRAFFIC RECEIPTS, AVERAGES, 1927.

State.	Number of Passenger-Train-Miles.	Coaching Traffic Receipts.		
		Gross.	Per Average Mile Worked.	Per Passenger-Train-Mile.
	No.	£	£	d.
New South Wales	15,043,747	7,473,545	1,300	119.23
Victoria	11,846,258	6,304,382	1,363	127.72
Queensland	4,210,566	2,516,476	402	143.44
South Australia	4,002,375	1,221,106	484	73.22
Western Australia	2,122,285	980,762	251	110.91
Tasmania	575,377	201,048	305	83.86
All States	37,800,608	18,697,319	788	118.71

(a) Includes "Assistant" and "Light" Mileage.

(d) *Averages for Goods and Live Stock Traffic.* The gross receipts from goods and live stock traffic per average mile worked, per goods-train-mile, and per ton carried, for the year ended the 30th June, 1927, are given below :—

RAILWAYS, STATE.—GOODS AND LIVE-STOCK TRAFFIC RECEIPTS, AVERAGES, 1927.

State.	Number of Goods-Train-Miles.	Goods and Live-Stock Tonnage.	Goods and Live-Stock Traffic Receipts.			
			Gross.	Per Average Mile Worked.	Per Goods-Train-Mile.	Per Ton Carried.
	No.	Tons.	£	£	d.	d.
New South Wales	11,282,100	17,224,894	10,490,593	1,825	223.16	146.17
Victoria	6,184,491	9,234,923	6,344,096	1,371	246.19	164.87
Queensland	7,695,097	4,315,513	4,629,103	740	144.38	257.44
South Australia	2,957,359	3,671,686	2,662,866	1,056	216.10	174.06
Western Australia	2,359,195	3,438,587	2,413,852	618	172.46	168.48
Tasmania	742,350	730,273	319,276	485	103.22	104.93
All States	32,220,592	38,615,876	26,859,786	1,132	200.07	166.94

(a) Includes "Assistant" and "Light" Mileage.

8. *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 railways of the different States, but also on different portions of the same system. Where traffic is light, the percentage of working expenses is naturally greater than where 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 and the percentage thereof on gross revenue in each State for the years 1923 to 1927 :—

RAILWAYS, STATE.—WORKING EXPENSES, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	AD States.
TOTAL WORKING EXPENSES.							
	£	£	£	£	£	£	£
1923	10,644,974	8,181,926	4,714,262	2,781,547	2,210,348	514,350	29,052,407
1924	10,917,491	8,718,394	4,990,749	2,901,298	2,297,980	552,877	30,378,789
1925	11,939,686	9,429,728	6,425,167	2,935,755	2,355,087	581,590	32,617,013
1926	12,519,993	9,563,147	6,459,792	27,081,130	2,509,049	504,038	38,622,149
1927	13,795,853	10,193,581	6,495,322	25,797,751	2,685,693	551,192	39,519,392

(a) See (ii) below.

PERCENTAGE OF WORKING EXPENSES ON GROSS REVENUE.

	%	%	%	%	%	%	%
1923	69.97	72.11	86.97	74.96	75.80	89.86	74.14
1924	69.91	72.90	87.34	73.84	71.20	94.43	74.03
1925	71.20	73.90	76.31	73.16	70.10	96.96	73.20
1926	73.91	75.35	86.86	167.10	75.13	92.45	85.51
1927	72.97	74.06	88.67	142.73	74.44	102.20	82.17

The variation in the percentage of working expenses on the gross revenue in each State for the years 1865 to 1927 is illustrated in the graph which accompanies this chapter.

(ii) *Special Expenditure.* The large increases in the working expenses in South Australia during the years 1925–26 and 1926–27 are due to amounts of £3,982,314 and £1,962,079 on account of accumulated and deferred charges being debited against the revenues for those years. This expenditure has been shown in this way in deference to the wishes of the South Australian railway authorities. Eliminating these amounts, the percentage of working expenses on gross revenue for South Australia during 1925–26 and 1926–27 would have been 73.12 per cent. and 94.43 per cent., and for all States 76.70 per cent. and 78.09 per cent., respectively.

(iii) *Averages.* The next table shows the working expenses per average mile worked and per train-mile run in each State for the years 1923 to 1927 :—

RAILWAYS, STATE.—WORKING EXPENSES, AVERAGES, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
WORKING EXPENSES PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1923	2,049	1,896	803	1,179	622	775	1,323
1924	1,999	1,995	837	1,201	640	828	1,352
1925	2,143	2,120	893	1,197	642	799	1,425
1926	2,188	2,108	1,051	2,843	654	749	1,651
1927	2,401	2,203	1,038	2,298	688	837	1,666

WORKING EXPENSES PER TRAIN-MILE RUN.

	d	d.	d.	d.	d.	d.	d.
1923	117.82	119.78	103.63	115.24	117.75	86.03	114.79
1924	121.40	126.08	110.00	112.55	118.97	95.71	118.99
1925	122.96	129.45	107.54	105.90	116.70	93.87	119.05
1926	122.02	130.38	120.50	248.24	123.84	90.11	136.08
1927	125.77	135.68	130.93	199.93	122.22	101.52	135.89

(a) See sub-section (ii) above.

(iv) *Distribution.* The subjoined table shows the distribution of working expenses, under four chief heads of expenditure, for the years 1923 to 1927 :—

RAILWAYS, STATE.—DISTRIBUTION OF WORKING EXPENSES, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
MAINTENANCE.							
	£	£	£	£	£	£	£
1923	1,891,933	1,761,951	1,103,893	414,395	513,790	144,973	5,830,235
1924	1,965,096	1,861,887	1,197,992	545,987	543,387	152,359	6,166,708
1925	2,176,435	1,963,960	1,280,190	501,800	527,433	144,612	6,594,490
1926	2,001,724	1,928,597	1,513,588	2,407,266	596,046	134,835	8,582,056
1927	2,154,931	2,276,601	1,576,325	2,102,057	636,466	134,291	7,865,671
LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.							
1923	5,247,980	3,482,711	2,120,267	1,579,432	1,042,751	228,308	13,701,449
1924	5,360,663	3,219,267	2,214,001	1,548,799	1,092,590	235,743	13,671,053
1925	5,772,631	3,501,911	2,459,370	1,560,923	1,124,157	223,302	14,642,294
1926	6,107,302	3,592,490	2,973,033	2,811,130	1,157,230	218,326	17,659,511
1927	6,823,914	3,746,921	2,924,903	2,653,050	1,244,941	222,477	18,616,206
TRAFFIC EXPENSES.							
1923	2,806,970	2,399,867	1,400,869	722,641	592,445	117,607	8,040,399
1924	2,939,236	3,081,776	1,487,334	738,845	599,678	122,793	8,969,682
1925	3,121,001	3,228,361	1,593,347	792,762	639,193	122,374	9,497,638
1926	3,391,092	2,701,124	1,859,375	2,868,171	685,838	117,246	9,622,906
1927	3,733,225	2,822,524	1,844,066	2,288,459	728,466	118,987	10,145,727
OTHER CHARGES.							
1923	703,791	537,397	83,233	65,079	61,362	23,462	1,480,324
1924	752,496	555,494	91,422	67,667	62,335	41,982	1,571,366
1925	869,619	734,896	92,260	30,270	64,244	41,302	1,822,591
1926	1,019,875	1,325,936	113,796	2,194,563	69,875	33,631	2,757,676
1927	1,083,783	1,347,535	150,028	2,199,185	75,820	75,437	2,951,788

(a) See sub-section (ii), page 281.

In New South Wales and Victoria the expenditure in connexion with refreshment rooms is included in "Other Charges."

9. Net Revenue.—(i) *Net Revenue and Percentage on Capital Cost.* The following table shows the net sums available to meet interest charges, also the percentage of such sums upon the capital cost of construction and equipment of lines open for traffic in each State for the years 1923 to 1927:—

RAILWAYS, STATE.—NET REVENUE AND PERCENTAGE THEREOF ON CAPITAL COST OF LINES OPEN, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
NET REVENUE.							
	£	£	£	£	£	£	£
1923	4,571,859	3,165,181	706,138	929,375	705,637	53,067	10,135,707
1924	4,699,086	3,240,241	723,287	1,028,130	929,391	35,283	10,655,418
1925	4,829,766	3,329,469	1,684,043	1,076,981	1,004,414	16,666	11,941,339
1926	4,419,039	3,122,914	977,298	2,843,412	828,243	41,153	6,545,235
1927	5,110,690	3,458,853	830,355	1,735,618	922,296	-11,840	8,574,736
PERCENTAGE OF NET REVENUE ON CAPITAL EXPENDITURE.							
	%	%	%	%	%	%	%
1923	5.21	4.90	1.58	4.59	3.80	0.94	4.19
1924	5.12	4.92	1.53	4.80	4.90	0.51	4.23
1925	4.93	4.96	3.41	4.56	5.11	0.26	4.51
1926	4.26	4.54	1.90	21.14	4.07	0.63	2.37
1927	4.59	4.92	1.52	6.17	4.42	-0.18	2.94

(a) See sub-section (ii), page 281.

These figures are also represented in the graphs which accompany this chapter.

The percentage of net revenue on capital expenditure for all States during the past five years reached its maximum during the year 1924-25, with a return of 4.51. The very low returns for 1925-26 and 1926-27 are due, in a large measure, to the unusual loading of the working expenses of those years in South Australia, which was alluded to in paragraph 8. But for this circumstance the percentages of net revenue on capital would have been 4.46 per cent. and 0.81 per cent. for South Australia and 3.81 per cent. and 3.61 per cent. respectively for the average of all States. Even these larger returns, however, would be insufficient to meet interest charges, for which particulars are included in the following sub-section.

(ii) *Net Revenue, Averages.* Tables showing the gross earnings and the working expenses per average mile worked and per train-mile run have been given previously. The net earnings, i.e., the excess of gross earnings over working expenses per average mile worked and per train-mile run are shown in the following table:—

RAILWAYS, STATE.—NET REVENUE, AVERAGES, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
NET REVENUE PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1923	880	734	121	394	199	88	462
1924	861	742	122	426	258	49	474
1925	867	749	277	429	273	25	522
1926	772	690	159	a-1,142	216	61	279
1927	889	748	133	a-688	236	-18	361
NET REVENUE PER TRAIN-MILE RUN.							
	d.	d.	d.	d.	d.	d.	d.
1923	50.57	46.33	15.52	38.50	37.59	9.71	40.05
1924	52.25	46.87	15.94	39.88	48.12	5.64	41.72
1925	49.74	45.71	33.38	38.85	49.77	2.95	43.58
1926	43.07	42.65	18.23	a-99.68	40.88	7.36	23.06
1927	46.59	46.04	16.74	a-59.85	41.97	-2.18	29.48

(a) See sub-section (ii), page 281.

The net revenue per average mile worked and per train-mile run showed increases in all States with the exception of Queensland and Tasmania. Here again, however, the results are prejudicially affected by the loading of the working expenses in South Australia (see page 281). But for this, the net revenue for 1926-27 per mile worked would have been £90 in South Australia, and £444 for all States, while per train mile it would have been, respectively, 7.81d. and 36.23d.

10. *Profit or Loss.*—The following table shows the amount of interest payable on expenditure from loans on the construction and equipment of the railways, the actual profit or loss after deducting working expenses and interest and all other charges from the gross revenue, and the percentage of such profit or loss on the total capital cost of construction and equipment for the last five years:—

RAILWAYS, STATE.—PROFIT OR LOSS, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
AMOUNT OF INTEREST ON RAILWAY LOAN EXPENDITURE.							
	£	£	£	£	£	£	£
1923	4,487,303	2,937,709	1,998,694	923,606	768,244	255,007	11,370,563
1924	4,693,417	3,001,370	2,136,187	977,376	787,221	263,157	11,858,728
1925	4,796,829	3,085,648	2,419,503	1,018,117	813,849	279,832	12,413,778
1926	5,249,710	3,077,905	2,564,181	1,195,108	860,225	233,799	13,230,928
1927	5,562,308	3,271,374	2,720,717	1,332,515	887,740	235,255	14,059,909

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

	£	£	£	£	£	£	£
1923	+ 84,056	+ 227,422	-1,292,556	+ 5,769	- 62,607	-196,940	-1,234,856
1924	+ 5,669	+ 238,371	-1,412,900	+ 50,754	+ 142,170	-227,874	-1,203,310
1925	+ 32,937	+ 243,321	- 735,460	+ 53,864	+ 190,565	-263,166	- 472,439
1926	- 830,871	+ 45,009	-1,586,883	a-4,038,520	- 31,922	-242,646	-6,685,693
1927	- 451,618	+ 187,479	-1,890,362	a-3,068,133	+ 34,556	-297,095	-5,485,173

PERCENTAGE OF PROFIT OR LOSS ON CAPITAL COST OF CONSTRUCTION AND EQUIPMENT.

	%	%	%	%	%	%	%
1923	+0.10	+0.35	-2.88	+ 0.03	-0.34	-3.18	-0.51
1924	+0.01	+0.30	-2.98	+ 0.24	+0.76	-3.57	-0.48
1925	+0.03	+0.30	-1.49	+ 0.25	+0.97	-4.10	-0.18
1926	-0.80	+0.06	-3.03	a-15.82	-0.16	-3.76	-2.42
1927	-0.41	+0.27	-3.47	a-10.91	+0.17	-4.58	-1.88

Interest charges in 1926-27, viz., £14,059,909, show an increase of £2,689,346 over the amount payable in 1922-23. The interest payable on the cost of construction and equipment, exclusive of expenditure from Consolidated Revenue (£7,301,101) for that purpose, was at the rate of 4.95 per cent. in 1926-27. If the abnormal charges to working expenses in South Australia be eliminated, the loss in that State for 1926-27 would be 3.93 per cent., and for all States, 1.21 per cent.

11. 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 States, but also on different lines in the same States, 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 sea-borne competition. On most of the lines extending into the interior traffic is light, as the density of population diminishes rapidly as the coastal regions are left behind, with a consequent diminution in the volume of traffic, while, in comparison with other more settled countries, there is but little back loading.

The following table gives particulars for the years 1923 to 1927 :—

RAILWAYS, STATE.—TRAFFIC, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
NUMBER OF PASSENGER JOURNEYS.							
1923 ..	123,714,639	155,957,240	28,358,170	24,475,170	17,830,292	2,884,210	353,219,721
1924 ..	128,101,184	167,861,864	29,535,981	25,177,933	18,133,168	2,959,837	371,770,017
1925 ..	128,532,038	166,444,142	29,657,832	25,647,487	17,196,672	2,656,018	370,134,189
1926 ..	130,725,581	168,054,308	28,384,302	25,343,319	16,457,719	2,455,824	371,421,053
1927 ..	141,615,806	169,237,648	26,812,993	23,366,760	15,737,370	2,328,970	379,099,747
PER 100 OF MEAN POPULATION.							
1923 ..	5,648	9,700	3,533	4,730	5,120	1,339	6,216
1924 ..	5,749	10,224	3,579	4,753	5,044	1,379	6,411
1925 ..	5,652	9,959	3,483	4,715	4,670	1,244	6,249
1926 ..	5,637	9,979	3,296	4,594	4,422	1,132	6,206
1927 ..	6,032	9,836	3,039	4,126	4,155	1,084	6,213
PER AVERAGE MILE OF LINE WORKED.							
1923 ..	23,805	36,151	4,833	10,375	5,020	4,350	16,090
1924 ..	23,461	38,417	4,957	10,422	5,047	4,433	16,548
1925 ..	23,071	37,424	4,879	10,461	4,687	3,947	16,170
1926 ..	22,845	37,111	4,619	10,213	4,289	3,650	15,876
1927 ..	24,642	36,579	4,284	9,262	4,029	3,538	15,982
TONNAGE OF GOODS AND LIVE STOCK CARRIED.							
1923 ..	13,801,310	7,517,216	4,208,989	3,283,594	2,624,320	568,346	32,003,775
1924 ..	15,693,127	8,309,543	4,273,926	3,565,307	3,023,299	706,961	35,572,163
1925 ..	16,208,476	8,959,556	5,083,658	3,611,313	3,284,915	690,561	37,838,479
1926 ..	15,032,811	8,728,496	5,106,386	3,562,245	3,237,496	694,194	36,361,628
1927 ..	17,224,894	9,234,923	4,315,513	3,671,686	3,438,587	730,273	38,615,876
PER 100 OF MEAN POPULATION.							
1923 ..	630	467	524	635	754	264	563
1924 ..	704	506	518	671	841	329	612
1925 ..	719	536	597	664	892	323	645
1926 ..	654	518	593	646	870	320	608
1927 ..	734	539	489	648	908	340	633
PER AVERAGE MILE OF LINE WORKED.							
1923 ..	2,656	1,743	717	1,391	739	857	1,458
1924 ..	2,874	1,902	717	1,476	842	1,059	1,583
1925 ..	2,909	2,014	836	1,473	895	1,026	1,652
1926 ..	2,627	1,928	831	1,430	844	1,032	1,554
1927 ..	2,997	1,996	689	1,455	880	1,109	1,628

(ii) *Metropolitan and Country Passenger Traffic and Revenue.* A further indication of the difference in passenger traffic conditions is obtained from a comparison of the volume of metropolitan and suburban, and country traffic in each State. This is shown below for the year 1926-27 :—

**RAILWAYS, STATE.—METROPOLITAN AND SUBURBAN, AND COUNTRY
PASSENGER TRAFFIC AND RECEIPTS, 1926-27.**

Particulars.	Passenger Journeys.			Revenue.		
	Metropolitan and Suburban.	Country.	Total.	Metropolitan and Suburban.	Country.	Total.
	No.	No.	No.	£	£	£
N.S.W. ..	a130,317,129	11,298,677	141,615,806	2,465,105	4,178,232	6,643,337
Victoria ..	b160,154,499	9,083,149	169,237,648	2,880,117	2,760,915	5,641,032
Queensland ..	21,278,358	5,534,635	26,812,993	420,770	1,594,411	2,015,181
S. Australia ..	c 21,368,189	1,998,571	23,366,760	397,690	672,293	f 1,069,983
W. Australia	13,519,094	2,218,476	15,737,570	232,950	562,334	795,284
Tasmania ..	(d)	(d)	2,328,970	(d)	(d)	168,837
Total	(e)	(e)	379,099,747	(e)	(e)	16,333,654

(a) Within 34 miles of Sydney and Newcastle, including the Richmond line. (b) Within 20 miles of Melbourne. (c) Within 25 miles of Adelaide. (d) Not available. (e) Incomplete. (f) Includes £61,359 revenue from road motors, distribution of which between metropolitan and country is not available.

Although the number of passenger journeys recorded in the metropolitan area in Victoria is considerably greater than in New South Wales, it must be borne in mind that in the latter State other transport facilities, viz., tramways, motor-omnibuses, and ferries, are more extensively used.

A more detailed analysis of the passenger traffic for the years ended 30th June, 1926 and 1927, is contained in the Transport and Communication Bulletin No. 19 issued by this Bureau.

(iii) *Electrification of Suburban and Country Railways.* Electrification of the Melbourne Suburban Railways was completed in April, 1923. The scheme comprised the electrification of 157 route-miles of steam-operated railway, including sidings, and the conversion and construction of the necessary rolling stock. Particulars of the lines concerned were given in Year Book No. 15, p. 564. Considerable progress has been made with the electrification of the Sydney Suburban System, and on 1st March, 1926, electric trains were operating on the Illawarra line, while on 20th December, 1926, the first of the underground electric lines—from Sydney Central Station to St. James—was opened for traffic. As the traffic on main country lines develops, it is intended to convert to electric traction busy sections which are within reasonable distance of a cheap power supply, and investigations are being made in order to determine which line offers prospects of financial success.

(iv) *Goods Traffic.* (a) *Classification.* The differing conditions of the traffic in each State might also, to some extent, be analysed by an examination of the tonnage of various classes of commodities carried, and of the revenue-derived therefrom. Comparative particulars regarding the quantities of some of the leading classes of commodities

carried are available for all the States, and the following table shows the number of tons of various representative commodities carried, with the percentage of each class on the total for the financial year 1926-27 :—

RAILWAYS, STATE.—CLASSIFICATION OF COMMODITIES CARRIED, 1926-27.

State.	Coal, Coke and Shale.	Other Minerals.	Grain and Flour.	Hay, Straw, and Chaff.	Wool.	Live Stock.	All other Com- modities.	Total.
TONS CARRIED.								
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	8,289,937	2,439,520	1,523,519	355,264	189,605	810,515	3,616,534	17,224,894
Victoria ..	553,753	1,989,918	1,514,601	321,290	99,575	586,435	4,169,351	9,234,023
Queensland ..	648,962	478,681	1,473,215 ^a	^b	62,660	361,669	1,290,326	4,315,513
South Australia	338,369	614,326	798,675	165,624	38,422	154,750	1,561,520	3,671,686
Western Australia	242,473	580,232	830,433	89,646	21,334	100,474	1,573,905	3,438,587
Tasmania ..	329,397	^c	86,255	38,023	3,306	23,049	249,643	730,273
All States ..	10,402,891	6,102,677	6,226,698	970,447	414,902	2,036,892	12,461,369	38,615,876

PERCENTAGE ON TOTAL TONNAGE CARRIED.

	%	%	%	%	%	%	%	%
New South Wales	48.13	14.16	8.84	2.06	1.10	4.71	21.00	100.00
Victoria ..	5.99	21.55	16.40	3.48	1.08	6.35	45.15	100.00
Queensland ..	15.04	11.09	34.14 ^a	^b	1.45	8.33	29.90	100.00
South Australia	9.22	16.73	21.75	4.51	1.05	4.21	42.53	100.00
Western Australia	7.05	16.37	24.15	2.61	0.62	2.92	45.78	100.00
Tasmania ..	45.11	^c	11.81	5.29	0.45	3.16	34.18	100.00
All States ..	26.94	15.80	16.13	2.51	1.07	5.28	32.27	100.00

(a) Agricultural produce.

(b) Included with "All other Commodities,"
coal, coke, and shale.

(c) Included with

(b) *Revenue.* The following table shows the revenue derived from goods and live stock traffic during 1926-27 according to a classification which has been adopted by all States :—

RAILWAYS, STATE.—GOODS, ETC., TRAFFIC—REVENUE, 1926-27.

Class.	New South Wales.	Victoria.	Queens- land.	South Australia.	Western Australia.	Tasmania.	Total.
	£	£	£	£	£	£	£
General merchandise	5,890,130	4,058,783	2,986,682	1,446,140	1,528,979	223,390	16,134,104
Wheat ..	^a	771,235	^a	314,210	404,029	^a	21,489,474
Wool ..	849,622	272,048	425,247	79,225	80,011	4,975	1,711,128
Live stock ..	1,563,973	649,743	753,777	194,359	140,333	20,565	3,322,750
Minerals—							
Coal, coke, and shale ..	1,584,463	174,704	242,386	204,224	127,638	b27,851	2,361,266
Others ..	602,405	417,583	221,011	424,708	132,862	c42,495	1,841,064
Total ..	10,490,593	6,344,096	4,629,103	2,662,866	2,413,852	319,276	26,859,786

(a) Included with General Merchandise.

(b) Native coal.

(c) Minerals other than native coal.

(d) Incomplete.

In Victoria electric motor coaches are used for the transfer of parcels from the central stations to suburban stations, and to convey luggage and parcels between the two main terminal stations.

12. *Passenger-Mileage and Ton-Mileage.*—(i) *Passenger-Miles.* The subjoined table gives particulars of passenger-mileage in respect of the States of New South Wales, Victoria, South Australia, and Tasmania for the years 1922-23 to 1926-27.

RAILWAYS, STATE.—SUMMARY OF "PASSENGER-MILES," 1923 TO 1927.

Year ended 30th June	Passenger-Train-Mileage.	Number of Passenger Journeys.	Total Passenger-Miles.	Amount Received from Passengers.	Average Number of Passengers carried per Train.	Average Mileage per Passenger Journey.	Average Earnings per Passenger-Mile.	Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
	Miles. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	No.	Miles.	d.	d.	No.

NEW SOUTH WALES.

1923	11,822	123,715	1,679,903	6,004,702	142	13.58	0.86	11.65	323,260
1924	12,385	128,101	1,721,161	6,076,988	139	13.44	0.85	11.39	315,216
1925	12,616	128,532	1,637,381	6,186,368	130	12.74	0.91	11.55	293,907
1926	14,038	130,726	1,675,091	6,311,690	119	12.81	0.90	11.59	292,732
1927	15,044	141,616	1,765,378	6,643,337	117	12.47	0.90	11.26	307,184

VICTORIA.

1923	10,626	155,957	1,332,694	5,094,595	125	8.54	0.92	7.84	308,892
1924	11,140	167,862	1,421,771	5,330,614	128	8.47	0.90	7.62	325,391
1925	11,602	166,444	1,426,411	5,380,887	123	8.57	0.91	7.76	320,718
1926	11,768	168,054	1,460,343	5,425,804	125	8.69	0.82	7.75	322,487
1927	11,846	169,238	1,476,307	5,641,032	125	8.72	0.92	8.00	319,064

SOUTH AUSTRALIA.

1923	2,833	24,481	282,387	1,078,155	100	11.54	0.92	10.57	119,718
1924	2,918	25,107	290,843	1,088,046	100	11.58	0.90	10.40	120,394
1925	3,460	25,647	302,185	1,114,558	97	11.78	0.89	10.43	123,255
1926	3,662	25,343	300,950	1,075,082	82	11.87	0.86	10.18	120,836
1927	4,002	23,367	280,082	1,005,624	70	11.99	0.86	10.33	111,022

TASMANIA.

1923	692	2,884	46,032	228,458	67	15.96	1.19	19.01	69,388
1924	672	2,960	46,766	218,020	70	15.50	1.11	17.68	70,036
1925	654	2,656	45,126	187,701	69	16.99	0.99	16.96	67,061
1926	596	2,456	39,342	173,488	66	16.02	1.06	15.67	58,466
1927	575	2,329	41,432	168,837	72	17.79	0.97	17.40	62,943

The differences in the number of passenger journeys given in this table and that in connexion with traffic in respect of the State of South Australia for the years 1922 to 1924 inclusive are accounted for by the fact that the latter table is compiled from the receipts from passenger traffic, while the former is based on the passenger traffic carried.

(ii) *Ton-Miles.* Particulars regarding total "ton-miles" are given in the following table for each of the years 1922-23 to 1926-27 in respect of all States with the exception of Queensland:—

RAILWAYS, STATE.—SUMMARY OF "TON-MILES," 1923 TO 1927.

Year ended the 30th June	Goods-Train-Mileage.	Total Tons Carried.	Total "Ton-miles."	Earnings.	Average Freight-paying Load Carried per "Train."	Average Haul per Ton.	Earnings per "Ton-mile."	Density of Traffic per Average Mile Worked.
	No. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	Tons.	Miles.	d.	Tons.
NEW SOUTH WALES.								
1923	9,871	13,567	1,166,238	7,868,769	160	85.96	1.60	224,417
1924	11,322	15,516	1,392,390	8,096,274	163	89.74	1.37	255,005
1925	10,689	16,027	1,647,448	9,010,929	177	102.80	1.29	295,718
1926	10,587	14,809	1,509,555	8,941,123	165	101.93	1.39	263,802
1927	11,282	16,864	1,654,815	10,335,666	165	98.13	1.50	287,994
VICTORIA.								
1923	5,768	7,517	673,904	4,953,192	145	89.65	1.76	156,198
1924	5,939	8,310	745,301	5,204,526	154	89.69	1.68	170,588
1925	5,880	8,960	847,202	5,775,522	176	94.56	1.64	190,468
1926	5,808	8,728	776,251	5,565,451	166	88.93	1.72	171,434
1927	6,184	9,235	882,918	6,344,096	173	95.61	1.72	190,819
SOUTH AUSTRALIA.								
1923	3,374	3,284	368,525	2,378,035	113	112.23	1.55	156,241
1924	3,269	3,565	384,576	2,558,706	129	107.87	1.60	159,195
1925	3,193	3,611	393,649	2,607,628	134	109.00	1.59	160,559
1926	3,184	3,563	387,317	2,579,365	134	108.70	1.60	155,518
1927	2,957	3,672	389,443	2,662,866	141	105.66	1.65	154,451
WESTERN AUSTRALIA.								
1923	2,659	2,624	210,151	1,768,211	93	80.08	2.02	59,164
1924	2,916	3,023	252,796	2,050,707	100	83.62	1.95	70,364
1925	3,053	3,285	277,190	2,198,322	104	84.38	1.90	75,553
1926	2,976	3,237	272,611	2,174,895	106	84.20	1.91	71,048
1927	3,359	3,439	317,845	2,413,852	110	92.43	1.82	81,373
TASMANIA.								
1923	743	547	27,297	275,968	37	49.29	2.42	41,147
1924	744	685	30,019	300,156	40	43.83	2.39	44,955
1925	726	668	29,697	292,004	41	44.45	2.36	44,133
1926	762	669	32,000	298,078	42	47.82	2.23	47,556
1927	742	707	31,564	296,354	43	44.63	2.25	47,955

(a) Based on 10 months actual and 2 months estimated.

(b) Includes "Assistant" and "Light" mileage.

In New South Wales the tonnage carried is exclusive of coal on which shunting and haulage charges only have been collected, and terminal charges have also been disregarded, but in the cases of South Australia and Tasmania such charges are included. Particulars for the latter State do not include live stock.

13. **Passenger Fares and Goods Rates.**—Fares and rates are changed from time to time to suit the varying necessities of the railways, and when drought conditions prevail special concessions are made in the rates for the carriage of fodder and water and for the transfer of stock to other areas.

An earlier issue of this work (No. 18, pp. 305-6) gives detailed information as at 30th June, 1924, in regard to the following rates :—(a) Ordinary Passenger Mileage rates ; (b) Highest and Lowest Class Freight rates ; (c) Rates for agricultural produce. Owing to limitations of space, however, it is not proposed to republish such information unless substantial alterations are made in these rates.

14. **Rolling Stock, 1927.**—The following table shows the rolling stock in use at the 30th June, 1927, classified according to gauge :—

RAILWAYS, STATE.—ROLLING STOCK, 1927.

State.	Gauge.					Total.				
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft. 0 in.					
LOCOMOTIVES.										
New South Wales	..	1,420	..	..	..	1,420	
Victoria ..	653	..	..	19	..	672		
Queensland ..	..	..	750	..	11	761		
South Australia	269	..	220	..	..	489		
Western Australia	..	..	395	..	..	395
Tasmania ..	..	..	89	..	6	95		
All States	922	1,420	1,454	19	17	3,832				
COACHING STOCK.										
	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	Ordinary.	Ordinary.	With Motors.
New South Wales	2,310	28	2,310	28
Victoria ..	2,262	414	55	..	2,317	414
Queensland	1,195	17	..	11	1,206	17
South Australia	482	14	209	691	14
Western Australia	477	2	477	2
Tasmania	229	12	..	6	235	12
All States ..	2,744	428	2,310	28	2,110	31	55	17	7,236	487
STOCK OTHER THAN COACHING.										
New South Wales	..	23,889	23,889	
Victoria ..	19,887	243	20,130	
Queensland	18,476	..	170	18,646	
South Australia	3,603	5,689	9,292	
Western Australia	10,527	10,527	
Tasmania	1,802	..	77	1,879	
All States ..	23,490	23,889	..	36,494	243	247	84,363	

Prior to the issue of Year Book No. 16 (1921-22) the particulars of rolling stock were classified under the headings of "Locomotives," "Passenger Vehicles," and "Vehicles other than Passenger." The present classification has now been adopted by all States.

15. **Employees.**—(i) *At 30th June.* The following table gives the number of railway employees in each year from 1923 to 1927 inclusive, classified according to (a) salaried staff, and (b) wages staff :—

RAILWAYS, STATE.—EMPLOYEES, 1923 TO 1927.

State.	At 30th June—									
	1923.		1924.		1925.		1926.		1927.	
	Salaried Staff.	Wages Staff.								
New South Wales	5,356	34,271	5,473	36,127	5,672	36,455	5,794	38,263	6,004	39,438
Victoria ..	4,030	22,577	4,083	23,400	4,153	24,857	4,323	24,465	4,245	25,072
Queensland ..	3,250	17,621	3,298	16,380	3,362	16,522	3,617	18,419	3,565	16,105
South Australia ..	1,108	8,429	1,208	9,438	1,316	11,519	1,362	9,801	1,438	8,998
Western Australia	1,180	6,259	1,224	6,510	1,282	6,334	1,318	6,697	1,362	7,471
Tasmania ..	216	1,842	190	1,406	169	1,297	185	1,219	187	1,232
All States ..	15,140	90,999	15,476	93,261	15,954	96,984	16,599	98,864	16,801	98,366

In the period under review the totals of salaried and wages staffs rose from 106,139 in 1923 to 115,167 in 1927, an increase of 9 per cent.

(ii) *Average staff employed, 1926-27.* The number of employees at one point of time does not afford the best index of employment in railway work. It is considered that the following statement of the average number employed throughout the year indicates more accurately the labour requirements of the railways.

AVERAGE STAFF EMPLOYED, 1926-27.

State.	Operating Staff.		Construction Staff.		All Employees—Staff.	
	Salaried.	Wages.	Salaried.	Wages.	Salaried.	Wages.
New South Wales ..	5,890	39,375	187	1,426	6,077	40,801
Victoria ..	4,287	25,139	..	..	4,287	25,139
Queensland ..	3,693	16,445	105	2,994	3,798	19,439
South Australia ..	1,399	9,284	53	2,739	1,452	12,023
Western Australia ..	1,340	7,487	..	..	1,340	7,487
Tasmania ..	186	1,225	..	..	186	1,225
All States ..	16,795	98,955	345	7,159	17,140	106,114

In the States of Victoria, Western Australia, and Tasmania, railway construction work is not under the control of the Railways Commissioners.

16. Accidents.—(i) *Classification.* The following classification of accidents which occurred through the movement of rolling stock was adopted by each State in 1924-25.

Particulars for 1926-27 are as under:—

RAILWAYS, STATE.—ACCIDENTS, 1927.

Particulars.	N.S.W.		Vic.		Q'land.		S. Aust.		W. Aust.		Tas.		All States.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
	Train accidents—													
Passengers ..	27	62	..	12	..	2	..	2	..	..	..	..	27	78
Employees ..	..	47	..	..	1	3	..	8	..	21	..	..	1	79
Accidents on line (other than train accidents)—														
Passengers ..	14	143	4	171	1	30	3	45	3	37	..	2	25	428
Employees ..	26	130	2	32	7	9	4	108	..	138	..	33	39	450
Others ..	17	70	1	3	..	4	..	..	..	..	..	3	18	80
Shunting accidents—														
Passengers ..	..	4	..	..	..	1	..	..	..	3	..	..	..	8
Employees ..	6	198	1	40	5	91	2	67	1	115	..	3	15	514
Other persons ..	..	6	2	5	..	1	..	..	..	..	..	..	2	12
Employees proceeding to or from their duty within railway boundaries	2	3	4	1	1	..	..	..	..	..	..	..	7	4
Persons killed or injured at crossings	11	20	11	25	2	15	7	23	7	28	..	3	38	119
Trespassers ..	20	4	28	3	9	4	6	..	4	3	..	..	67	14
Miscellaneous ..	..	..	..	..	..	7	..	5	2	20	..	..	2	32
Total	123	687	53	292	26	167	22	263	17	365	..	44	241	1,818

(ii) *Particulars for Quinquennium.* The subjoined table gives particulars of the number of persons killed and injured through train accidents and the movement of rolling stock on the Government railways in each State for each of the years 1923 to 1927 inclusive:—

RAILWAYS, STATE.—ACCIDENTS, 1923 TO 1927.

State.	In year ended 30th June—									
	1923.		1924.		1925.		1926.		1927.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales	45	498	77	526	69	597	72	594	123	637
Victoria ..	51	372	51	362	47	298	78	498	53	292
Queensland ..	17	563	(a)	(a)	45	283	25	212	26	167
South Australia ..	16	262	16	211	26	203	22	323	22	263
Western Australia	14	147	16	212	16	208	12	341	17	365
Tasmania ..	1	34	5	36	2	17	4	39	..	44
All States ..	144	1,876	(b)165	(b)1,347	205	1,606	213	2,013	241	1,818

(a) Not available. (b) Incomplete.

17. *Consumption of Oil and Fuel.*—The appended table shows the quantity and value of oil and fuel consumed by the various Government Railway Departments during the year 1926-27:—

GOVERNMENT RAILWAYS.—CONSUMPTION AND VALUE OF OIL AND FUEL, 1926-27.

Government Railways.	Oil.						Coal.		
	Lubricating.			Fuel.			Tons.	Value.	Average Cost per Ton.
	Gallons.	Value.	Average Cost per Gallon.	Gallons.	Value.	Average Cost per Gallon.			
		£	s. d.			s. d.	£	£	s. d.
New South Wales	507,151	57,886	2 3·39	972,254	47,611	0 11·75	1,743,572	1,590,170	0 18 2·88
Victoria ..	185,000	23,000	2 5·84	872,500	35,240	0 9·69	695,183	975,662	1 8 0·83
Queensland ..	266,894	26,054	1 11·43	270,749	17,058	1 3·12	474,747	448,959	0 18 10·96
South Australia	a155,525	18,538	2 4·61	b	b	b	273,044	574,944	2 2 1·36
Western Australia	55,608	6,056	2 2·14	248,692	17,932	1 5·31	292,692	285,603	0 19 6·19
Tasmania ..	27,192	3,305	2 5·17	10,408	764	1 5·62	45,329	59,810	1 6 4·67
Total States	1,197,370	134,839	2 3·03	c2,374,603	c118,605	c0 11·99	3,524,567	3,935,148	1 2 3·96
Federal ..	22,824	3,155	2 9·18	92,193	9,792	2 1·49	29,577	70,894	2 7 11·26
Grand Total, Australia ..	1,220,194	137,994	2 3·14	c2,466,796	c128,397	c1 0·49	3,554,144	4,006,042	1 2 6·52

(a) Lubricating oil used on loco. cars and wagons only.

(b) Not available.

(c) Exclusive of South Australia.

The range in the average cost per ton of coal from 18s. 2d. in New South Wales to £2 7s. 11d. per ton for coal used on the Federal Railways is attributable to the comparatively low haulage expenses incurred in the coal-producing States. The average cost of coal and oil during 1926-27 varied very little from that of 1925-26.

§ 4. Government Railways Generally.

1. Summary, Federal and State Government Railways.—In the following table a summary is given of the working of all Federal and State Government railways for the year ended 30th June, 1927 :—

RAILWAYS, FEDERAL AND STATE.—SUMMARY, 1927.

Particulars.	Federal Railways.	State Railways.	Total for Australia.
Total mileage open Miles	1,733.02	23,789.93	25,522.95
Average miles open during the year "	1,733	23,720	25,453
Total train mileage "	832,661	69,798,910	70,631,571
Total cost of construction of lines open .. £	12,302,795	291,482,593	303,785,388
Cost per mile £	7,099	12,252	11,902
Gross revenue £	498,708	48,094,128	48,592,836
Working expenses £	471,495	39,519,392	39,990,887
Percentage of working expenses on gross revenue %	94.53	82.17	82.30
Net revenue £	27,213	8,574,736	8,601,949
Interest payable £	318,702	14,059,909	14,378,611
Number of passenger journeys .. No.	221,384	379,099,747	379,321,131
Tonnage of goods and live stock carried .. Tons	224,613	38,561,876	38,786,489
Number of employees at 30th June, 1927—			
Salaried No.	195	16,801	16,996
Wages "	1,065	98,366	99,431
Number of persons killed and injured during the year through train accidents and movement of rolling stock—			
Killed "	2	241	243
Injured "	22	1,818	1,840

A graph which accompanies this chapter illustrates the total capital cost, mileage open, average cost per mile open, gross revenue, working expenses, and net revenue for each of the years 1870 to 1927.

2. Mileage Open for Traffic.—(i) *Route Mileage.* The Government railway route mileages open for traffic, classified according to gauge, as at the 30th June in each of the years 1924 to 1927 are set out in the following table, which gives also the percentages of the mileage of each gauge on the total on the mainland—the figures for Tasmania being shown separately, as in the case of the table hereinafter relating to rolling stock :—

RAILWAYS, FEDERAL AND STATE.—ROUTE MILEAGE, 1924 TO 1927.

Gauge.	At 30th June—							
	1924.		1925.		1926.		1927.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
Mainland—								
5 ft. 3 in. ..	5,503.37	23.12	5,552.31	22.97	5,743.41	23.25	5,756.89	23.15
4 ft. 8½ in. ..	6,539.68	27.46	6,672.63	27.60	6,758.70	27.36	6,766.92	27.22
3 ft. 6 in. ..	11,615.91	48.78	11,794.20	48.79	12,051.46	48.78	12,188.86	49.02
2 ft. 6 in. ..	121.77	0.51	121.77	0.51	121.77	0.49	121.77	0.49
2 ft. 0 in. ..	30.26	0.13	30.26	0.13	30.26	0.12	30.26	0.12
Total ..	23,810.99	100.00	24,171.17	100.00	24,705.60	100.00	24,864.70	100.00
Tasmania—								
3 ft. 6 in. ..	648.07	..	648.07	..	648.07	..	633.42	..
2 ft. 0 in. ..	24.83	..	24.83	..	24.83	..	24.83	..
Grand Total	24,483.89	..	24,844.07	..	25,378.50	..	25,522.95	..

In the three years from 1924 to 1927 the percentage of 5 ft. 3 in. gauge mileage has increased by 0.03, the 3 ft. 6 in. by 0.24, while the 4 ft. 8½ in. gauge has decreased by 0.24.

(ii) *Track Mileage.* The following table gives the track mileages of all Government railways and sidings, exclusive of Tasmania, for the years ended 30th June, 1924 to 1927, classified according to gauge, together with the percentages on the total:—

RAILWAYS, FEDERAL AND STATE.—TRACK MILEAGE (a) 1924 TO 1927.

Gauge.	At 30th June—							
	1924.		1925.		1926.		1927.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
5 ft. 3 in. ..	7,076.24	24.76	7,167.23	24.74	7,427.27	25.05	7,465.59	24.95
4 ft. 8½ in. ..	8,424.07	29.47	8,593.18	29.66	8,710.62	29.37	8,749.82	29.24
3 ft. 6 in. ..	12,915.09	45.19	13,042.93	45.04	13,353.87	45.03	13,543.00	45.26
2 ft. 6 in. ..	131.54	0.46	131.54	0.45	131.56	0.44	131.56	0.44
2 ft. 0 in. ..	33.00	0.12	33.00	0.11	33.00	0.11	33.00	0.11
Total ..	28,579.94	100.00	28,967.88	100.00	29,656.32	100.00	29,922.97	100.00

(a) Exclusive of Tasmania.

3. *Rolling Stock.*—The numbers of the rolling stock employed on both the Federal and State Government railways are set out hereunder, classified according to gauge, at the 30th June, 1927, together with the percentage of the numbers for each gauge on the total for the mainland. The figures for Tasmania are shown separately.

RAILWAYS, FEDERAL AND STATE.—ROLLING STOCK, 1927.

Gauge.	Locomotives.		Coaching Stock.						Vehicles other than Coaching.	
			Ordinary.		With Motors.		Total.			
	No.	%	No.	%	No.	%	No.	%	No.	%
Mainland—										
5 ft. 3 in. ..	922	24.02	2,744	38.79	428	90.11	3,172	42.02	23,490	28.02
4 ft. 8½ in. ..	1,488	38.76	2,359	33.35	28	5.89	2,387	31.62	24,623	29.37
3 ft. 6 in. ..	1,399	36.44	1,905	26.93	19	4.00	1,924	25.49	35,312	42.12
2 ft. 6 in. ..	19	0.49	55	0.78	..	..	55	0.73	243	0.29
2 ft. 0 in. ..	11	0.29	11	0.15	..	..	11	0.14	170	0.20
Total ..	3,839	100.00	7,074	100.00	475	100.00	7,549	100.00	83,838	100.00
Tasmania—										
3 ft. 6 in. ..	89	..	229	..	12	..	241	..	1,802	..
2 ft. 0 in. ..	6	..	6	..	..	..	6	..	77	..
Grand Total	3,934	..	7,300	..	487	..	7,796	..	85,717	..

§ 5. Private Railways.

1. *Total Mileage Open, 1926-27.*—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 herein include (a) lines open to the public for general passenger and goods traffic; and (b) branch lines from Government railways and other lines which are used for special purposes and which are of a permanent description. Other lines are referred to in the part of this chapter dealing with Tramways (see C. *Tramways*).

The following table gives particulars of private railways open for traffic for general and special purposes during 1926-27. A classification of these lines according to gauge has already been given in § 1.

RAILWAYS, PRIVATE.—MILEAGE OPEN, 1926-27.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
For general traffic	142.03	24.94	302.02	33.80	277.00	187.61	967.40
For special purposes	188.61	45.47	1,108.18	22.48	595.09	216.40	2,176.23
Total ..	330.64	70.41	1,410.20	56.28	872.09	404.01	3,143.63

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 1927. More detailed information regarding these lines will be found in "Transport and Communication Bulletin No. 19," published by this Bureau.

RAILWAYS, PRIVATE.—SUMMARY, 1926-27.

State.	Companies from which returns were received.	Miles Open (Route).	Capital Cost.	Gross Revenue.	Working Expenses.	Train-Miles.	Passenger Journeys.	Tonnage of Goods, etc.	No. of Employees.	Rolling Stock.			
										Locos.	Coaches.	Other Vehicles.	
	No.	Miles.	£	£	£	Miles.	No.	Tons.	No.	No.	No.	No.	
New South Wales ..	9	142.03	2,520,151	418,426	291,517	683,167	1,908,178	1,007,893	658	51	39	756	
Victoria ..	2	24.94	90,264	15,604	11,448	32,048	28,833	60,188	23	4	4	42	
Queensland	17	302.02	634,408	31,413	27,861	43,197	19,537	107,275	57	20	20	389	
South Australia ..	1	33.80	a	a	a	76,650	1,150	630,042	41	7	3	163	
Western Australia	1	277.00	2,101,485	206,467	89,168	236,444	58,401	151,596	232	21	20	427	
Tasmania	6	187.61	1,271,185	112,264	87,524	157,674	57,542	138,535	242	24	20	391	
All States(b)	36	967.40	6,617,493	784,174	507,518	1,279,180	2,073,641	2,095,529	1,253	127	106	2,168	

(a) Not available.

(b) Incomplete.

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 of these lines, although owned by private companies, are operated by the Government Railway Departments, and Government rolling stock is used thereon.

§ 6. Comparative Railway Statistics, Various Countries.

In § 1.7 *ante* a table is given showing comparative railway facilities in 1926-27 in Australia.

In the appended table comparative railway statistics of a like character are given for the principal countries of the world. The figures are based upon the latest accurate returns for both population and railway mileage.

RAILWAYS, VARIOUS COUNTRIES.—MILEAGE, POPULATION, AND AREA.

Country.	Year.	Miles of Railway.	Miles of Railway—	
			Per 1,000 of Population.	Per 1,000 Sq. Miles of Territory.
Europe—				
Great Britain and Ireland ..	1926	21,161	0.46	223.57
Belgium	1926	3,167	0.40	269.42
Denmark	1926	3,154	0.92	190.37
France	1926	25,808	0.63	121.36
Germany	1926	35,999	0.56	198.11
Greece	1926	1,940	0.29	38.87
Italy	1926	12,420	0.30	103.75
Netherlands	1926	2,255	0.29	179.07
Norway	1926	2,119	0.76	16.96
Portugal	1925	2,001	0.33	56.38
Spain	1926	10,010	0.44	51.39
Sweden	1926	9,991	1.64	57.70
Switzerland	1925	3,607	0.92	226.29
Asia—				
India	1926	39,049	0.12	21.63
Japan	1926	10,884	0.13	41.82
Africa—				
Egypt	1927	3,126	0.22	8.16
Union of South Africa	1926	12,879	1.71	22.63
America, North and Central—				
Canada	1927	42,021	4.41	11.85
Mexico	1926	13,197	0.92	17.20
United States	1926	231,562	2.23	86.41
America, South—				
Argentina	1927	22,791	2.20	19.60
Brazil	1926	19,026	0.51	5.79
Chile	1927	5,437	1.35	18.74
Australasia—				
Australia	1927	28,867	4.65	9.64
New Zealand	1926	3,281	2.45	31.76

The figures show that per 1,000 of population Australia had the greatest mileage (in 1927), 4.65 miles; the next in magnitude being Canada (1927), with 4.41 miles.

The least mileage per 1,000 of population is shown in the cases of India and Japan (1926), with 0.12 and 0.13 miles respectively.

With regard to the mileage per 1,000 square miles of territory, Belgium (1926) with 269.42 miles was easily first, followed by Switzerland (in 1925) with 226.29 miles, and Great Britain and Ireland (1926) 223.57 miles.

The least mileage open per 1,000 square miles is that of Brazil (in 1926) with 5.79 miles, and Egypt (1927) with 8.16 miles.

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 by 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, 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 paragraph.

(ii) *Total Mileage Open and Classification of Lines.* The following tables show the total mileage of tramway lines open for general passenger traffic for the year 1926-27, also in Australia as a whole for the years 1922-23 to 1926-27, classified (a) according to the nature of the authority by which the lines are controlled; (b) according to the motive power utilized, and (c) according to gauge:—

TRAMWAYS.—ROUTE MILEAGE OPEN, 1926-27.

Nature of Motive Power, and Gauge.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total, Australia.
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GOVERNMENT.

	Miles.						
Electric	185.85	111.93	36.68	..	334.46
Steam	42.65	17.75	..	60.40
Cable	33.68	33.68
Horse .. ..	..	..	..	..	2.51	..	2.51
Total	228.50	145.61	..	..	56.94	..	431.05

MUNICIPAL.

Electric .. ..	..	..	53.53	73.05	8.61	26.86	162.05
Steam .. ..	..	..	6.65	..	..	..	6.65
Total .. ..	..	..	60.18	73.05	8.61	26.86	168.70

PRIVATE.

Electric .. ..	..	27.60	..	..	14.31	..	41.91
Steam	3.50	..	..	..	..	..	3.50
Total	3.50	27.60	..	..	14.31	..	45.41

ALL CONTROLLING AUTHORITIES.

Electric	185.85	139.53	53.53	73.05	59.60	26.86	538.42
Steam	46.15	..	6.65	..	17.75	..	70.55
Cable .. ..	..	33.68	..	..	..	..	33.68
Horse .. ..	..	..	..	..	2.51	..	2.51
Total	232.00	173.21	60.18	73.05	79.86	26.86	645.16

ACCORDING TO GAUGE.

Gauge—							
5 ft. 3 in. ..	..	5.18	..	..	..	..	5.18
4 ft. 8½ in. ..	232.00	168.03	53.53	73.05	..	..	526.61
3 ft. 6 in. ..	..	..	6.65	..	67.36	26.86	100.87
2 ft. 0 in. ..	..	..	..	..	12.50	..	12.50
Total	232.00	173.21	60.18	73.05	79.86	26.86	645.16

TRAMWAYS.—ROUTE MILEAGE OPEN, AUSTRALIA, 1922-23 TO 1926-27.

Nature of Motive Power, Controlling Authority, and Gauge.	1922-23.	1923-24.	1924-25.	1925-26.	1926-27.
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ACCORDING TO MOTIVE POWER.

	Miles.	Miles.	Miles.	Miles.	Miles.
Electric	460.18	482.24	502.66	519.06	538.42
Steam	93.81	85.98	79.23	75.46	70.55
Cable	45.90	45.58	45.58	38.58	33.68
Horse	8.02	7.39	7.39	1.50	2.51
Total	607.91	621.19	634.86	634.60	645.16

ACCORDING TO CONTROLLING AUTHORITY.

Government	448.65	459.45	423.56	421.42	431.05
Municipal	113.25	115.73	165.54	167.42	168.70
Private	46.01	46.01	45.76	45.76	45.41
Total	607.91	621.19	634.86	634.60	645.16

ACCORDING TO GAUGE.

Gauge—					
5 ft. 3 in.	5.18	5.18.	5.18	5.18	5.18
4 ft. 8½ in.	490.85	499.91	512.59	517.92	526.61
3 ft. 6 in.	94.50	98.72	99.71	99.00	100.87
2 ft. 0 in.	17.38	17.38	17.38	12.50	12.50
Total	607.91	621.19	634.86	634.60	645.16

The mileage of electric tramways has steadily increased during the period dealt with above, due principally to the conversion of the Newcastle steam tramways and the Melbourne cable systems to electrical traction. The decrease in the Government-controlled tramways in 1925 was in some measure due to the transfer of the Brisbane tramways from the Brisbane Tramway Trust to the Brisbane City Council.

(iii) *Cost of Construction and Equipment.* The table hereunder shows, as far as information is available, the total cost of construction and equipment of all tramways to the 30th June, 1927, classified according to the nature of the motive power and the controlling authority.

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1926-27.

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
GOVERNMENT.							
Electric	£ 10,779,696	£ 4,976,924	£ ..	£ ..	£ 983,140	£ ..	£ 16,739,760
Steam ..	519,354	..	..	..	77,608	..	596,962
Cable ..	..	1,729,393	..	..	..	..	1,729,393
Horse ..	..	..	..	..	18,515	..	18,515
Total ..	11,299,050	6,706,322	..	..	1,079,263	..	19,084,635
MUNICIPAL.							
Electric	..	..	2,050,155	3,073,359	163,519	561,857	5,848,890
Steam ..	..	..	53,129	..	..	..	53,129
Total ..	..	..	2,103,284	3,073,359	163,519	561,857	5,902,019

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1926-27—*continued.*

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
PRIVATE.							
Electric	£	£	£	£	£	£	£
Steam ..	..	412,730	..	..	452,446	..	865,176
	(a)	..	..	..	..	..	..
Total ..	(a)	412,730	..	..	452,446	..	865,176

ALL CONTROLLING AUTHORITIES.

Electric	10,779,696	5,389,654	2,050,155	3,073,359	1,599,105	561,857	23,453,826
Steam ..	(b) 519,354	..	53,129	..	77,608	..	650,091
Cable ..	..	1,729,398	..	..	..	..	1,729,398
Horse ..	..	..	..	..	18,515	..	18,515
Total ..	11,299,050 (b)	7,119,052	2,103,284	3,073,359	1,695,228	561,857	25,851,830

(a) Not available.

(b) Incomplete.

2. New South Wales.—(i) *Government Tramways.* (a) *General.* The tramways, with some comparatively unimportant exceptions, are the property of the Government, and are under the control of the Railway Commissioners. In Sydney and suburbs the Government tramways are divided into seven distinct systems, five of which are operated by electricity and two by steam. The conversion of the Newcastle system from steam to electric traction has been undertaken, and at 30th June, 1927, 23.74 miles (route) were completed and opened for traffic.

(b) *Particulars of Working.* The subjoined statement gives particulars of the working of the electric and steam tramways under Government control in 1926-27 :—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—RETURNS FOR 1926-27.

Line.	Mileage Open for Traffic.		Total Cost of Construction and Equipment. (a)	Gross Revenue.	Working Expenses.	Net Earnings.	Interest.	Profit or Loss.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.
	Route.	Track.								
	Miles.	Miles.	£	£	£	£	£	£	%	%
Electric	185.85	330.85	10,779,696	3,733,907	3,284,594	449,313	545,702	-96,389	87.97	4.17
Steam ..	42.65	45.47	519,354	72,191	203,240	-131,049	27,751	-158,800	281.53	-25.23
Total	228.50	376.32	11,299,050	3,806,098	3,487,834	318,264	573,453	-255,189	91.64	2.82

(a) Exclusive of Stores Advance Account (£287,000).

(c) *Capital Cost.* The capital cost shown in the preceding table was made up as follows:—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—CAPITAL COST, 1927.

Permanent Way.	Rolling Stock.	Power-houses, Sub-stations, and Plant.	Machinery.	Workshops.	Furniture.	Total.
£ 5,733,942	£ 2,542,833	£ 2,509,786	£ 250,099	£ 259,998	£ 2,392	£ 11,299,050

The average cost per mile open was £25,094 for permanent way, and £24,355 for all other charges, making a total of £49,449 per route mile.

(d) *Summary, Government Tramways.*—The following table gives a summary of the operations of all Government tramways for the years 1923 to 1927:—

GOVERNMENT TRAMWAYS.—NEW SOUTH WALES.—SUMMARY, 1923 TO 1927.

Year ended 30th June—	Mileage Open for Traffic. (Route.)	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. 000	No.
1923 ..	224.90	9,975,031a	3,598,114	3,092,306	505,808	500,274	85.94	5.08	331,002	9,897
1924 ..	227.57	10,471,958a	3,633,915	3,091,531	542,384	532,137	85.07	5.18	340,803	11,264
1925 ..	228.46	10,844,454a	3,619,272	3,174,862	444,410	546,489	87.72	4.10	339,577	11,633
1926 ..	228.55	11,147,523a	3,619,496	3,319,996	299,500	563,137	91.73	2.69	339,412	11,459
1927 ..	228.50	11,299,050a	3,806,098	3,487,834	318,264	573,453	91.64	2.82	347,231	11,697

(a) £47,455 of this sum has been paid from the Consolidated Revenue, and no interest is payable thereon.

The cost of construction and equipment is exclusive of the amount of the Stores Advance Account (£287,000).

The net result in 1927, after providing for all working expenses and £573,453 for interest on the capital invested, was a loss of £255,189, as compared with a loss of £263,637 in the preceding year. During the year 1926–27, 347,231,000 passengers were carried, an increase of 7,819,000 as compared with the previous year.

(e) *Sydney Tramways.* Official Year Book No. 15, p. 589, gave a short account of the progress of the Sydney Tramway System. Owing to limitations of space this information cannot be repeated, but the subjoined table shows certain important particulars for the years 1923 to 1927 inclusive.

ELECTRIC TRAMWAYS.—SYDNEY.—SUMMARY, 1923 TO 1927.

Particulars.	Year ended 30th June—				
	1923.	1924.	1925.	1926.	1927.
Mileage open for traffic—					
Route miles	158.99	160.51	161.24	161.83	164.11
Track miles	283.28	296.10	287.52	288.85	289.19
Total cost of construction and equipment £	8,680,101	8,955,747	9,168,939	9,473,497	9,889,857b
Current used for traction purposes kilowatt hours	88,655,678	96,448,720a	118,031,086a	109,131,602a	123,197,596a
Tram-miles run No.	28,562,113	30,318,516	31,238,517	31,087,894	31,086,469
Passengers carried No.	312,030,225	320,402,789	314,563,586	313,216,842	320,903,528
Gross revenue £	3,375,923	3,391,626	3,331,701	3,316,312	3,462,806
Working expenses £	2,759,914	2,781,148	2,823,510	2,878,855	3,066,254
Net revenue £	616,009	610,478	508,191	437,457	396,552
Percentage of working expenses on gross revenue %	81.75	82.00	84.75	86.81	88.55
Cars in use	1,531	1,570a	1,562a	1,567a	1,594a
Persons employed	9,160	10,608a	10,255a	11,130a	11,512a

(a) Includes portion of Newcastle line in process of electrification.

(b) Includes Stores Advance Account.

(ii) *Private Tramways.* A private steam tramway passes through the township of Parramatta. Commencing at the park gates, it runs as far as the Duck River, a distance of 3½ miles, where it connects with the Parramatta River steamers which convey passengers and goods to and from Sydney. This line, which has a gauge of 4 ft. 8½ in., was opened for traffic in 1883. In 1927 the number of tram-miles run was 18,200, and the number of passengers conveyed 134,898.

3. *Victoria.*—(i) *General.* In Melbourne there are several tramway systems carried on under the control of various authorities, the most important being the cable and electric systems worked by the Melbourne and Metropolitan Tramways Board, to which reference will be made further on. There were also, at 30th June, 1927, two lines of electric tramways, viz. :—(a) St. Kilda to Brighton, and (b) Sandringham to Beaumaris, both of which belong to and are operated by the Railways Commissioners. In addition there are systems of electric tramways at Ballarat, Bendigo, and Geelong, constructed and run by private companies.

Numerous tramways have been constructed for special purposes in various parts of the State under the provisions of the Tramway Act 1890. These, however, are of the nature of the private railways referred to in sub-section 1 hereof.

(ii) *Melbourne and Metropolitan Tramways Board.* (a) *General.* A short account of the formation of the Melbourne Tramway and Omnibus Company, and of the Tramways Board, will be found in earlier issues of this work.

(b) *Cable and Horse Tramways.* (1) *Services.* The complete system consists of 33.68 miles of double track of 4-ft. 8½-in. gauge connecting the City of Melbourne with the nearer suburbs. The service (horse-drawn) to Royal Park was abandoned in 1923.

(2) *Particulars of Working.* A summary for the years 1923 to 1927 is given hereunder :—

CABLE TRAMWAYS.—MELBOURNE.—SUMMARY, 1923 TO 1927.

Year ended 30th June—	Mileage Open (Route).			Mileage Run during Year.			Number of Passengers Carried.		
	Cable.	Horse.	Total.	Tram.		Total.	Tram.		Total.
				Cable.	Horse.		Cable.	Horse.	
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	No.	No.	No.
1923	45.90	0.68	46.58	14,832,416	9,808	14,842,224	155,617,351	202,802	155,820,153
1924	45.58	(a)	45.58	14,713,853	3,066	14,716,919	147,750,286	50,220	147,800,506
1925	45.58	(a)	45.58	15,285,913	..	15,285,913	148,316,398	..	148,316,398
1926	38.58	(a)	38.58	12,393,911	..	12,393,911	127,882,115	..	127,882,115
1927	33.68	(a)	33.68	9,817,468	..	9,817,468	90,978,416	..	99,978,416

Year ended 30th June—	Gross Revenue.			Working Expenses.			Percentage of Working Expenses on Revenue	No. of Employees at end of Year.
	Tram.		Total.	Tram.		Total.		
	Cable.	Horse.		Cable.	Horse.			
	£	£	£	£	£	£	%	No.
1923	1,260,043	869	1,260,912	923,564	1,225	924,789	73.34	3,035
1924	1,190,594	241	1,190,835	990,196	373	990,569	83.18	3,295
1925	1,192,103	..	1,192,103	1,011,630	..	1,011,630	84.86	3,136
1926	1,048,414	..	1,048,414	847,102	..	847,102	80.79	2,520
1927	1,012,946	..	1,012,946	702,749	..	702,749	69.38	2,014

(a) Line abandoned from 16th November, 1923.

The reduction in mileage open and of the operating results as compared with the previous year is due to the progress made in the scheme of conversion to electrical traction.

(e) *Electric Tramways.* (1) *Services Operated.* The system controlled by the Melbourne and Metropolitan Tramways Board at 30th June, 1927, consisted of six services, viz., (a) The Prahran and Malvern Tramways; (b) The Hawthorn Tramways; (c) The Melbourne, Brunswick and Coburg Tramways; (d) The Fitzroy, Northcote and Preston Tramways; (e) The Footscray Tramways; and (f) the North Melbourne—Essendon Tramway, all of 4-ft. 8½-in. gauge.

(2) *Particulars of Working.* A summary of operations for the year 1926-27 is given hereunder:—

MELBOURNE TRAMWAYS BOARD.—ELECTRIC SERVICES.—OPERATIONS, 1923-24 TO 1926-27.

Year ended 30th June—	Mileage open for Traffic (Route.)	Total Cost of Construction and Equipment	Current used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	£	£
1923 ..	71.51	2,185,275	15,863,159	6,742,428	70,811,393	661,486	503,166	80,129	78,191
1924 ..	72.19	2,409,281	16,900,525	7,267,966	74,091,564	692,220	576,427	85,856	29,937
1925 ..	82.50	3,242,485	20,297,259	8,426,519	80,435,680	756,163	649,644	79,482	27,037
1926 ..	91.98	4,040,492	27,041,867	10,657,728	99,017,938	1,007,210	816,178	147,997	43,035
1927 ..	102.14	4,647,497	34,393,346	13,387,869	118,838,967	1,429,015	963,558	240,922	224,538

(iii) *Other Government Tramways.* The Victorian Railway Department owns and operates two lines of electric street railways, viz., St. Kilda to Brighton (5.18 miles of 5-ft. 3-in. gauge) and Sandringham to Beaumaris (4.61 miles of 4-ft. 8½-in. gauge), a total route mileage of 9.79 miles.

Particulars of the operations of these tramways for the years 1922-23 to 1926-27 are contained in the tables hereunder.

ELECTRIC TRAMWAY.—ST. KILDA-BRIGHTON.—1923 TO 1927.

Year ended 30th June—	Total Cost of Construction and Equipment.	Current used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit or Loss.
	£	Kilowatt-hours.	No.	No.	£	£	£	£
1923 ..	188,423	1,377,116	504,098	5,750,912	54,194	42,538	8,893	2,703
1924 ..	190,501	1,433,904	523,950	5,709,684	54,381	45,497	8,937	— 53
1925 ..	193,316	1,524,151	562,220	5,737,101	58,038	48,942	8,911	185
1926 ..	193,607	1,580,283	564,085	5,910,741	56,533	48,534	9,277	— 1,278
1927 ..	195,403	1,640,932	568,184	5,856,796	55,594	48,079	9,347	— 1,832

(—) Indicates loss.

ELECTRIC TRAMWAY.—SANDRINGHAM-BEAUMARIS (a).—1923 TO 1927.

Year ended 30th June—	Total Cost of Construction.	Current used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Interest.	Net Profit or Loss.
	£	Kilowatt-hours.	No.	No.	£	£	£	£
1923 ..	86,974	245,130	125,274	1,411,885	12,531	9,607	4,783	— 1,850
1924 ..	94,300	301,850	126,436	1,459,239	12,971	12,623	5,148	— 4,900
1925 ..	101,417	335,140	127,062	1,475,261	13,048	10,099	5,326	— 2,977
1926 ..	99,677	330,300	127,368	1,371,558	12,061	13,233	5,514	— 6,686
1927 ..	134,024	464,356	182,331	1,809,880	15,209	15,198	6,556	— 6,546

(—) Indicates loss.

(a) The extension from Black Rock to Beaumaris, 2.20 miles in length, was opened for traffic on 1st September, 1926.

(iv) *Private Tramways.* Two systems of tramways are owned and operated by private companies, viz., Ballarat and Bendigo (21.25 miles) and Geelong (6.35 miles); giving a total route mileage of 27.60 miles. Electrical traction is used on each of these lines which are constructed to the 4-ft. 8½-in. gauge.

(v) *Summary for all Electric Tramways.* The following table gives particulars of the working of all electric tramways in Victoria for each year from 1923 to 1927 inclusive:—

ELECTRIC TRAMWAYS.—VICTORIA.—SUMMARY, 1923 TO 1927.

Year ended 30th June—	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1923	106.79	2,795,547	19,114,007	8,585,756	86,027,005	816,984	624,852	310	2,190
1924	107.47	3,046,443	20,390,335	9,192,499	88,902,067	844,189	709,293	353	2,729
1925	117.69	3,913,353	24,114,494	10,472,995	95,806,588	910,601	785,175	421	3,003
1926	127.17	4,716,775	31,020,604	12,709,671	114,692,993	1,159,557	960,485	492	3,607
1927	139.53	5,389,654	38,582,105	15,504,164	135,153,262	1,583,833	1,108,664	530	4,087

4. Queensland.—(i) *General.* The electric tramways in the city and suburbs of Brisbane were controlled by a private company, with head office in London, until the 31st December, 1922, on which date they were purchased by the Queensland Government which, under the provisions of the Brisbane Tramway Trust Act, 1922, appointed a Trust to control and operate the system until 1st December, 1925, on which date the control passed to the Brisbane City Council. Under the provisions of the Brisbane City Council Act, 1925, the Council took over the liabilities of the Tramway Trust to the extent of £2,000,000 which had been incurred in London, and assumed complete control of the system. The total length of the Brisbane tramways was 53.53 route miles at 31st December, 1927. A steam tramway having a length of 6.65 route miles is in operation at Rockhampton.

(ii) *Brisbane Electric Tramways.* These tramways are run on the overhead trolley system, the voltage of the line current being 550. Cost of construction and equipment to the end of the year 1927 was £2,050,155, the gauge of line being 4-ft. 8½-in. The following table gives a summary for the calendar years 1923 to 1927:—

ELECTRIC TRAMWAYS.—BRISBANE.—SUMMARY, 1923 TO 1927.

Year ended 31st Dec.—	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1923	43.06	1,431,799	11,919,254	5,211,971	74,721,594	628,841	474,202	132	1,301
1924	47.13	1,615,282	12,656,077	5,457,800	78,367,194	663,747	503,131	201	1,731
1925	50.33	1,846,029	14,800,083	5,915,844	82,514,979	707,500	564,584	225	1,837
1926	52.25	2,053,318	15,683,288	6,301,126	81,802,945	767,708	583,262	248	1,821
1927	53.53	2,050,155	17,469,241	6,535,833	78,057,620	814,312	613,285	260	1,659

(a) To 31st December, 1921.

(b) Includes motor omnibuses.

(iii) *Rockhampton Municipal Tramway.* This tramway was opened for traffic in 1909, the motive power being steam. The length of line is 6.65 route miles, and the gauge 3 ft. 6 in. The capital cost to 31st December, 1927, was £53,129. During the year 1927, 1,786,927 passengers were carried, the revenue being £16,891 and working expenses £17,923. The number of the staff at the end of the year was 44.

(iv) *Sugar-Mill Tramways.* In various parts of Queensland there are tramways used in connexion with the sugar-milling industry, chiefly for the purpose of hauling cane. Some of these lines are of a permanent nature, running through sugar-cane plantations, while others are portable lines running to various farms. The total length of these lines is included in the table relating to private railways given on a preceding page.

5. South Australia.—(i) *Electric Tramways.* The tramways in Adelaide and suburbs are controlled by a Municipal Tramways Trust created in 1907. Prior to this year, the system was run with horse-traction by several private companies. Electric traction was inaugurated in 1909, and at the 31st July, 1927, the Tramways Trust operated a total route mileage of 73.05 miles of 4-ft. 8½-in. gauge. A summary for the years 1923 to 1927 is given in the subjoined table:—

ELECTRIC TRAMWAYS.—ADELAIDE.—SUMMARY, 1923 TO 1927.

Year ended 31st July—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1923	71.71	2,512,048	13,700,385	6,155,033	59,648,862	612,839	430,474	218	1,422
1924	73.83	2,742,985	15,795,191	6,568,985	61,737,695	638,277	463,481	231	1,683
1925	72.20	2,874,037	18,456,674	7,222,292	63,152,810	640,335	467,761	249	1,563
1926	73.05	2,997,976	19,303,228	7,393,122	66,207,356	661,053	472,412	255	1,558
1927	73.05	3,073,359	19,956,323	7,356,620	67,569,749	674,884	483,939	259	1,690

(ii) *Horse Tramways.* There are also 19.86 miles of Government horse-tramways in country districts, worked in connexion with the railway system, of which 17.36 miles are used for passenger service, and 2.50 miles for special purposes.

6. Western Australia.—(i) *Government Tramways.* (a) *General.* Apart from the electric tramways, there are several Government tramways, with a total length of 20.26 miles. The lines are under the control of the Department of the North-West, and the longest is that between Roebourne and Cossack, constructed on a 2-ft. gauge, with a length of 12.50 miles, and worked by steam. This line was, however, not in operation at 30th June, 1927. The remaining 7.88 miles are made up of several short lengths worked by steam or horses in connexion with the jetties at certain ports, and providing communication between the jetties and the goods sheds or warehouses.

(b) *Steam and Horse Tramways.* The capital cost of the Government steam or horse tramways up to the 30th June, 1927, was £96,123, the gross revenue for 1926–27 being £3,475, and the working expenses £2,331. These amounts are in some instances inclusive of revenue from jetty charges and of working expenses in connexion with such services.

(c) *Perth Electric Tramways.* These tramways were opened for traffic by a private company on the 24th September, 1899, and the system was subsequently extended to many of the suburbs. Control was taken over by the Government on the 1st July, 1913, and the tramways are now worked in conjunction with the Government railways. The gauge of line is 3 ft. 6 in. The following table shows particulars of working for the years ended 30th June, 1923 to 1927:—

ELECTRIC TRAMWAYS.—PERTH.—1922-23 TO 1926-27.

Year ended 30th June—	Mileage open for Traffic.	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
		£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1923	30.38	850,965	7,285,200	2,770,518	25,993,983	262,680	213,928	103	551
1924	34.24	879,277	8,061,920	2,989,089	27,893,315	274,583	231,895	103	529
1925	34.28	899,741	8,296,746	3,040,505	28,894,525	281,612	236,008	113	566
1926	34.34	949,929	8,246,630	3,010,253	29,599,785	286,707	240,953	113	536
1927	36.68	983,140	8,371,890	2,993,769	30,541,079	284,663	241,280	113	725

(ii) *Private Tramways.* Electric tramways with a route mileage at 31st August, 1927, of 8.61 miles, and controlled by the municipal authorities, are in operation in Fremantle. In Kalgoorlie and Boulder a private company controls the electric tramways, of which at the end of 1927 the length of line was 14.31 miles (route). All the foregoing lines are of 3-ft. 6-in. gauge.

(iii) *Summary, all Electric Tramways.* The subjoined table gives a summary for all electric tramway systems in the State for the years 1923 to 1927 :—

ELECTRIC TRAMWAYS.—WESTERN AUSTRALIA.—SUMMARY, 1923 TO 1927.

Year.	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1923	53.81	1,442,004	9,926,007	3,637,126	33,838,351	350,412	281,566	166	722
1924	57.07	1,477,033	10,117,198	3,939,689	36,484,855	360,883	301,920	160	702
1925	57.55	1,504,845	10,389,250	3,975,899	37,297,791	365,156	306,378	173	751
1926	57.61	1,559,483	10,311,919	3,940,741	37,841,434	368,290	311,772	173	709
1927	59.60	1,539,103	10,237,513	3,939,061	38,924,077	376,578	310,967	173	891

7. *Tasmania.*—(i) *Electric Tramways.* In Hobart there is a system of electric tramways consisting of 16.61 route miles of 3-ft. 6-in. gauge controlled by the Hobart Municipal Council. The Launceston City Council operates tramways in Launceston having a length of 10.25 miles of 3-ft. 6-in. gauge.

The following table gives a summary of the working of the two systems for the years 1923 to 1927 :—

ELECTRIC TRAMWAYS.—TASMANIA.—SUMMARY, 1923 TO 1927.

Year	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current Used for Traction Purposes.	Tram-Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Cars in Use.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	No.	No.
1923	26.28	517,983	3,447,310	1,747,974	16,499,999	177,057	132,011	74	438
1924	26.64	541,941	3,439,420	1,890,882	17,683,824	192,772	144,841	82	430
1925	26.75	566,717	3,510,994	1,888,281	17,725,007	180,345	137,002	90	399
1926	26.86	542,309	3,310,393	1,776,052	16,972,174	178,191	142,141	89	385
1927	26.86	561,857	3,332,102	1,791,276	17,009,211	181,445	140,386	89	367

(ii) *Other Tramways.* There are several lines of privately-owned steam tramways. These are dealt with in § 5, Private Railways, as they do not come within the category of street tramways for the conveyance of passengers.

8. *Electric Tramways, Australia.*—(i) *Summary for 1927.* The subjoined table gives details regarding all electric tramways in Australia. The returns for tramways in Ballarat and Bendigo, in Brisbane, in Kalgoorlie, and in Hobart are for the calendar year 1927 ; for other tramways they refer generally to the financial year 1926-27.

ELECTRIC TRAMWAYS.—AUSTRALIA.—SUMMARY, 1926-27.

State.	Mileage open for Traffic (Route).	Total Cost of Construction and Equipment.	Current used for Traction purposes.	Tram Miles Run.	Passengers Carried.	Gross Revenue.	Working Expenses.	Percentage of Working Expenses on Gross Revenue.	Cars, Motors and Trailers.	Persons Employed.
	Miles.	£	Kilowatt-hours.	No.	No.	£	£	%	No.	No.
N.S.W. . .	185.85	10,779,696	123,197,596	33,569,803	341,003,046	3,733,907	3,284,594	87.97	1,564	11,512
Victoria . .	139.53	5,389,654	38,582,105	15,504,164	135,153,262	1,583,838	1,108,664	70.00	530	4,087
Q'land . . .	53.53	2,050,155	17,409,241	6,535,833	78,057,620	814,312	613,285	75.31	260	1,650
S. Aust. . .	73.05	3,073,359	19,956,323	7,886,620	67,569,749	674,884	483,939	71.71	259	1,690
W. Aust. . .	59.60	1,509,105	10,237,513	3,939,061	38,924,077	376,578	310,967	82.56	173	891
Tasmania . .	26.86	561,857	3,332,102	1,791,276	17,009,211	181,445	140,386	77.37	89	367
All States	538.42	23,458,826	212,714,880	68,726,257	677,716,965	7,364,964	5,941,835	80.68	2,905	20,206

The percentage of working expenses on gross revenue for all electric tramways in Australia was 80.68, ranging from 70.00 in the case of Victoria to 87.97 in the case of New South Wales.

(ii) *Summary for Years 1923 to 1927.* The following table gives particulars of the operations of electric tramways in Australia for the years 1923 to 1927—

ELECTRIC TRAMWAYS.—AUSTRALIA.—1923 TO 1927.

Particulars.	1923.(a)	1924.	1925.	1926.	1927.
Mileage open for Traffic (Route) Miles	460.18	482.24	502.00	519.00	538.42
Total Cost of Construction and Equipment	£ 17,587,960	19,208,509	21,007,915	22,444,560	23,453,826
Current used for Traction Purposes Kil. hrs.	146,387,431	158,756,941	189,302,481	188,761,134	212,714,880
Tram-miles run No.	53,790,529	57,725,334	61,941,856	65,302,995	68,728,257
Passengers carried "	580,472,975	606,673,314	621,691,985	647,351,333	677,716,965
Gross Revenue £	5,908,303	6,123,275	6,248,686	6,633,563	7,364,064
Working Expenses £	4,675,239	4,920,302	5,170,814	5,510,118	5,941,835
Percentage of Working Expenses on Gross Revenue %	79.13	80.51	82.75	83.06	80.68
Cars, Motors and Trailers No.	2,487	2,598	2,720	2,824	2,905
Persons Employed "	15,101	17,783	17,805	19,208	20,206

(a) Includes Queensland for the year ended 31st December, 1922.

During the five years included in the above table the percentage of working expenses on the gross revenue of all electric tramways in Australia reached a maximum of 83.06 in 1926, after a steady increase from a minimum of 79.13 in 1923, but in 1927 a decided drop to 80.68 was recorded. The average over the whole period was 81.26 per cent.

D. AIRCRAFT.

1. *Historical.*—A short review of the progress of civil aviation in Australia up to the date of foundation of the Department of Civil Aviation was given in Official Year Book No. 16, pp. 334-5, but limitations of space preclude its repetition in the present volume.

2. *Foundation of Civil Aviation Department.*—(i) *Creation of.* A brief account of the foundation and the objects of this Department will be found in Official Year Book No. 19, page 299.

(ii) *Accidents Investigation Committee.* Under powers conferred by the *Air Navigation Act 1920*, a committee consisting of engineering and aircraft experts was appointed early in 1927 to inquire into and report upon accidents which occur to service and civil aircraft, and on 13th October, 1927, the *Air Navigation (Investigation of Accidents) Regulations* were promulgated.

3. *Activities of Civil Aviation Department.*—(i) *Aerodromes and Landing Grounds.* Amongst the various activities have been the acquisition and preparation of civil aviation landing grounds, which have now been established over the following approved routes:—(a) Perth to Derby (1,467 miles); (b) Adelaide to Sydney (790 miles); (c) Sydney to Brisbane (550 miles); (d) Brisbane to Toowoomba (75 miles); (e) Charleville to Camooweal (825 miles); (f) Cloncurry to Normanton (215 miles); (g) Melbourne to Hay (233 miles); (h) Mildura to Broken Hill (189 miles); and (i) Melbourne to Charleville via Cootamundra (900 miles).

Preliminary surveys of the following routes also have been made, but no expenditure has yet been incurred in the preparation of landing grounds in connexion therewith:—(a) Adelaide to Perth (1,500 miles); (b) Adelaide to Port Lincoln, via Yorke Peninsula (for seaplanes), (200 miles); (c) Melbourne to Launceston via (1) Flinders Island and North-East coast of Tasmania (293 nautical miles), and (2) via King Island and North-West Coast (299 nautical miles); (d) Charleville to Toowoomba (376 miles); (e) Camooweal to Daly Waters (475 miles); and (f) Derby to Wyndham (550 miles). Of these proposed routes it is anticipated that (a), (d) and (e) will be fully provided with aerodromes and emergency landing grounds before the end of 1928.

The Royal Australian Air Force has surveyed and prepared for use a service route from Camooweal to Port Darwin, via Anthony's Lagoon, Newcastle Waters, and Katherine.

Up to the present 140 landing grounds have been acquired or leased, and prepared for civil aviation purposes. There are 12 private licensed aerodromes also in use.

(ii) *Aerial Services.* (a) *General.* In addition to providing a regular and speedy transport service over fixed routes, it was considered that the granting of contracts for subsidized aerial services would give an impetus to the development of civil aviation in Australia, while the trained flying and ground personnel would provide a technical reserve for air defence in case of war.

At 31st March, 1928, three subsidized contractors were operating under contracts which provided that up to 100 lb. of mail is to be carried free on each trip, the letters for transmission being surcharged 3d. per $\frac{1}{2}$ ounce.

The various regular air services over prepared routes have completed 1,850,000 passenger-miles, and carried 12,000 paying passengers over various stages. Over 1,300,000 letters have also been carried.

All pilots and mechanics employed on these services must join the Air Force Reserve when the Reserve is constituted.

(b) *Aerial Mail Services at 31st March, 1928.* The following aerial mail services were in operation at 31st March, 1928.

(i) *Perth to Derby—Western Australia.*

This service, covering a distance of 1,467 miles, is carried out by the West Australian Airways Limited, machines leaving Perth on Saturdays and returning on Thursdays. Landing places for mails are—Perth, Geraldton, Carnarvon, Onslow, Roebourne, Whim Creek, Port Headland, Broome, and Derby.

This service has been in operation for more than six years and is of inestimable value to residents of the north-west coast who freely avail themselves of the facilities for transport and communication which it provides.

The number of letters carried during the first month's operations was 577, but it has increased to about 20,000 per month.

(ii) *Charleville to Camooweal and Cloncurry to Normanton—Queensland.*

These services are operated by the Queensland and Northern Territory Aerial Services Limited. The former route covers 825 miles, and links up the western terminals of three main railway lines in Western Queensland, viz., Charleville, Longreach, and Cloncurry. The latter route (220 miles in length) links up with the main Charleville-Camooweal service at Cloncurry. The landing places for mails are—Charleville, Tambo, Blackall, Longreach, Winton, McKinlay, Cloncurry, Mt. Isa, and Camooweal.

The original contract which provided for a weekly (return) service between Charleville and Cloncurry commenced on 2nd November, 1922, and the service was extended to Camooweal on 7th February, 1925.

The service has been maintained successfully, and is greatly appreciated by residents of Western Queensland and the Northern Territory. Passenger bookings have shown a steady increase since the service was instituted.

(iii) *Adelaide-Cootamundra, Hay-Melbourne and Mildura-Broken Hill Services.*

Services have been regularly maintained over these routes since July, 1925, by the Larkin Aircraft Supply Co. Ltd., which previously operated a service between Adelaide and Sydney (790 miles) for a period of twelve months. The current contract with the company provides for (a) a weekly service in each direction between Adelaide and Cootamundra (578 miles) via Mildura, Hay and Narrandera; (b) a service twice a week in each direction between Hay and Melbourne (233 miles) via Deniliquin and Echuca; and (c) a service twice a week in each direction between Mildura and Broken Hill (183 miles).

(c) *Future Services.* The Commonwealth Government has approved of a special appropriation of £200,000 for the further development of civil aviation in Australia and, as a result, it will probably be possible to subsidize the regular operation of commercial aircraft over four or more of the following new routes, viz.:—Perth-Adelaide (1,500 miles), Camooweal-Daly Waters (475 miles), Derby-Wyndham (550 miles), Melbourne-Hobart (425 miles), Charleville-Brisbane (450 miles) and Sydney-Brisbane (550 miles). Tenders have been called for the operation of the Perth-Adelaide service which will necessitate the introduction of regular night flying in the Commonwealth. By co-ordinating the existing railway and steamship services overseas correspondents in Sydney and Melbourne will thus be enabled to gain one week in the conveyance of their English mails.

The route mileage of existing services is 3,292 miles, but when the new lines are in operation this figure will be increased to over 7,000 miles, practically encircling Australia.

4. **Aircraft Construction.**—(i) *Experimental Work.* An important stage in aircraft development in Australia was reached with the successful completion of the official tests of a flying boat designed by Squadron Leader E. J. Wackett, D.F.C., A.F.C., R.A.A.F. This machine, known as the "Widgeon," was ordered by the Civil Aviation Department. It embodies a number of features specially designed for local conditions, and, with the exception of the engine, was wholly built at the R.A.A.F. workshops. The maximum speed attained was 103 m.p.h. with an initial climbing rate of 510 feet per minute, while the total gross weight of machine with passengers (680 lb.) and fuel (380 lb.) was 3,960 lb. A retractable land under-carriage has been fitted to this machine, which has also passed its official tests as an "amphibian." During June, 1927, it was flown non-stop from Sydney to Melbourne (520 air miles) in 5 hours 45 minutes, proving absolutely airworthy in every respect.

(ii) *Constructional activities.* Aircraft manufacture, though yet in its infancy, is making some substantial progress. Two of the subsidized aerial mail contracting companies in addition to effecting major repairs have, under permit from the De Haviland Aircraft Coy., constructed some DeH. 50A machines for use on their respective routes, the engines and certain metal parts being the only accessories imported. Another company has completed contracts for the supply to the R.A.A.F. of a number of airscrews, wings, &c.

5. **Training of Air Pilots.**—(i) *The Australian Aero Club.* The Australian Aero Club provides facilities for flying instruction and practice at a considerably lower cost than was possible prior to the advent of the light aeroplane. Since the end of 1926 the New South Wales and Victorian Sections have carried on active training, and in December, 1927, the South Australian Section began operations.

Assistance to the following extent is being provided each section by the Commonwealth Government :—(a) The loan of three De Haviland "Moth" aeroplanes with spare engines and parts; (b) Bonus of £20 per pupil trained (*ab initio*) to a standard that will enable the pupil to obtain a "Private Pilot's" licence; and (c) Free hangar accommodation and free use of aerodrome for clubs' activities. The State Sections of the Aero Club conduct their activities in the capital cities and the progress shown by the Sydney organization is particularly notable. The steadily increasing number of pupils has necessitated the employment of an assistant instructor, and the club has also acquired two additional "Moth" machines from its own funds. At 30th March, 1928, over 50 pupils, including several lady members, had graduated and been issued with Class "A" (Private) Pilots' licences. Furthermore, many graduates had completed courses of advanced training, and others again had attained to that stage of advanced flying which rendered them eligible for the issue of Class "B" (Commercial) licences.

(ii) *Commercial Companies.* Similar developments have also taken place in Perth, Longreach and Brisbane, where the aerial mail contractors conduct flying schools. A Bonus of £40 per pupil trained is paid to these companies, which provide the necessary aircraft, instructors, and hangars. The extension of this scheme to other centres is under consideration.

At the end of March, 1928, there were 185 pilots holding licences under the Air Navigation Regulations. This number included 76 "B," or commercial pilots, and 109 "A," or private pilots.

(iii) *Refresher Courses.* Qualified pilots who are employed or about to be employed in commercial aviation enterprises are accepted on the recommendation of the Controller of Civil Aviation for short refresher courses of flying instruction at the Flying Training School, Point Cook. No charge is made for this refresher instruction, the cost of which is also borne by Royal Australian Air Force Funds.

6. **Notable Flights.**—Since the end of the European war several notable flights from England to Australia have been carried out by Australian pilots.

The first was at the end of 1919 when Sir Ross and Sir Keith Smith, together with Sergeants J. M. Bennett and W. H. Shiers, completed the journey by air in 29 days, thereby winning the Commonwealth Government grant of £10,000 offered to the first pilot or pilots who should make the flight within a period of 30 days. The brothers

Smith received knighthoods, and Sergeants Bennett and Shiers were each awarded the Air Force Cross and honorary commissions in the Royal Australian Air Force in recognition of their performance.

Lieuts. R. J. Pater and J. C. McIntosh also completed the journey by air shortly afterwards, but not within the specified time, and Captain G. C. Matthews, A.F.C., and Sergeant T. D. Kay flew as far as Bali, where a serious mishap to the machine caused them to abandon the flight.

The fastest flight of all, however, was that of Mr. B. Hinkler who, in an Avro "Avian" machine, made the journey alone in 16 days. He left the Croydon Aerodrome at 4 a.m. on 7th February, 1928, and, after 15 successive flying days, arrived at Darwin at 5 p.m. on the 22nd February. As a mark of appreciation for his excellent performance the Commonwealth Government granted him a sum of £2,000, while His Majesty the King awarded him the Air Force Cross.

A further successful venture was that of Captain W. R. Lancaster and Mrs. K. Miller, who also made their flight in an Avro "Avian" machine, leaving England on 14th October, 1927, and arriving at Darwin on 20th March, 1928, after a journey beset with numerous hardships.

In 1926 Mr. Alan Cobham, an English pilot, reached Darwin 40 days after leaving England, and returned to England by aeroplane in 34 days.

Captain Kingsford Smith, accompanied by Mr. C. P. Ulm as relief pilot, Lieut. H. Lyon (America) as navigator, and Mr. J. Warner (America) as wireless officer, left San Francisco on 31st May, 1928, in a Fokker monoplane fitted with a 660 h.p. Wright "Whirlwind" engine on a flight across the Pacific Ocean to Brisbane. He arrived at Honolulu (2,100 miles) on 1st June, left Honolulu on 3rd June, and arrived at Suva (Fiji), a distance of 3,128 miles, on 5th June. He left Suva on 8th June and arrived at Brisbane on 9th June. The total distance covered in the flight was about 6,848 miles, and the flying time approximately 83 hours. The Commonwealth Government presented the aviators with a gift of £5,000, while the New South Wales Government provided £7,000, in recognition of this remarkable achievement.

7. **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 in each State for the year ended 30th June, 1927, together with comparative figures for Australia for the year 1925-26 :—

AIRCRAFT.—SUMMARY, 1925-26 AND 1926-27.

Particulars.	State in which Aircraft Owners are Located.					Total.	
	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	1926-27.	1925-26.
Companies or persons owning aircraft .. No.	10	12	6	1	1	30	22
Aeroplanes .. No.	12	34	16	2	13	77	55
Staff employed(a)—							
Certificated pilots .. No.	5	18	6	1	5	33	29
Others .. No.	6	35	20	..	25	86	57
Flights carried out .. No.	5,913	5,938	3,603	138	1,692	17,284	5,838
Hours flown .. h. m.	1,726 43	3,749 51	2,138 20	273 20	2,559 10	10,447 24	6,426 35
Approx. mileage .. miles	120,740	269,836	163,725	22,505	195,837	772,643	487,603
Passengers carried—							
Paying .. No.	4,408	4,918	2,100	..	2,498	13,984	4,174
Non-paying .. No.	890	2,013	161	(b)	158	3,222	2,830
Total .. No.	5,358	6,931	2,261	(b)	2,656	17,206	7,004
Goods, weight carried lbs.	550	37,449	34,633	..	53,292	125,924	62,873
Mails, letters carried No.	..	11,455	26,765	..	252,526	290,746	272,707
Accidents—							
Persons killed .. No.	..	1	4	..	..	5	..
" Injured .. No.	1	1	1	..	..	3	1

(a) Monthly average.

(b) Not available.

The particulars shown above for Victoria include flying carried out over three States on the Adelaide-Cootamundra; Melbourne-Hay; and Mildura-Broken Hill routes by the subsidized company whose head-quarters are in Melbourne.

E. 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. 275) a short history of the evolution of the motor car is given, but consideration of space precludes its repetition in the current issue.

(ii) *Motor Industry.* The demand for mechanical transport occasioned by the recent European conflict was in no small measure responsible for the extensive development of the internal combustion engine, and the keen competition among motor car manufacturers for the overseas markets has improved the quality and efficiency of their products.

Although, as yet, motor cars are not entirely manufactured in Australia, the money invested in assembling and body building plants has assumed considerable proportions during recent years, and some idea of the value of Australia as a market for the motor trade is instanced by the fact that during the year 1926–27 the value of 12,843 motor bodies imported was £1,413,203, and of the 118,954 chassis, £12,292,749. The value of 88,876 bodies built in Australia to equip the chassis for which bodies were not imported was approximately £4,830,000. During the period July, 1923, to June, 1926, the import value of chassis and bodies had practically doubled itself, notwithstanding the fact that several price reductions have taken place. The value of the tyre equipment, both locally produced and imported, for which figures are not, however, available, must also be taken into consideration, particularly as the prevailing practice is for distributors to retail cars on a five-tyre basis. Fuels imported during the year for use in motor vehicles were—Crude petroleum, 78 million gallons, valued at £911,787, and petroleum, etc., 146 million gallons, valued at £6,648,567. Spares, batteries, accessories, etc., also are additional factors contributing to the potentialities of Australia as a market.

At the 30th June, 1927, the number of motor cars per 1,000 of population was over 80, which, however, is not as high as that recorded in New Zealand, viz., 122, so that it would appear that the saturation point has yet to be reached, and until that time, provided economic conditions maintain their stability, the marketing prospects remain at least as good as during the past decade.

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, but limits of space preclude the repetition of this information in the present volume.

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.**—Motor omnibus traffic, both in urban and provincial centres, has assumed considerable proportions during recent years, and prior to the constitution of Boards empowered to allocate routes over which omnibuses may operate, had a very marked effect on Railway and Tramway services. By regulating the licensing of motor omnibuses the economic waste arising from duplication of routes and services parallel with or contiguous to existing railway and tramway systems is avoided. The general principle governing the allocation of routes is that omnibus services should act as feeders to existing transport utilities. Revenue from licence fees is devoted principally to the maintenance or construction of roadways to enable them to withstand the wear and tear caused by the heavy traffic. Complete statistics regarding motor omnibus operations are, however, not at present available, but some indication of the effect of unrestricted motor omnibus services would have on the railways and tramways may be obtained from the operations of some services conducted by Railway and Tramway systems as adjuncts to their main services during the year 1926–27. Such services are conducted in Victoria by the Victorian Railways Commissioners and by the Melbourne and Metropolitan Tramways Board, and in South Australia by the South Australian Railways Commissioners.

and by the Municipal Tramway Trust, Adelaide, the number of passengers carried by these services during the year 1926-27 being 198,362, 5,374,484, 2,618,180 and 5,343,711 respectively.

The services operated by the Melbourne and Metropolitan Tramways Board were necessary to provide transport facilities during the conversion of certain cable tram lines to electrical traction, but it is not the intention of the Board to institute omnibus services in a general way. In other instances the omnibus service has been provided to meet the competition of private enterprise and to endeavour to protect the existing transport utilities provided by public bodies.

5. Motor Vehicles Registered, etc.—(i) Year 1926-27. Particulars of the registration of motor vehicles, etc., for the year 1926-27 are contained in the subjoined table :—

MOTOR VEHICLES.—SUMMARY, 1926-27.

States and Territories.	Motor Vehicles Registered.				Drivers' and Riders' Licences Issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.		Vehicle Registrations and Motor Tax.	Drivers' and Riders' Licences.	Total.
	No.	No.	No.	No.		£	£	£
New South Wales ..	119,164	27,092	30,016	176,272	244,937	1,103,538	114,053	1,217,591
Victoria ..	110,950	23,011	174	134,135	164,380	782,398	41,095	823,493
Queensland ..	58,385	7,941	62,492	68,818	52,066	253,806	17,873	271,679
South Australia ..	48,054	12,962	9,795	70,811	88,695	268,642	20,156	288,798
Western Australia ..	18,711	5,533	6,930	31,224	41,864	162,086	10,460	172,552
Tasmania ..	8,356	3,516	1,230	13,102	15,306	61,484	4,628	66,112
Northern Territory ..	133	27	80	240	295	125	69	194
Federal Capital Territory	631	110	197	938	1,042	4,427	517	4,944
Australia ..	364,384	80,242	450,914	495,540	608,585	2,636,506	208,857	2,845,363

(a) Motor buses. Trucks, vans, etc., included with motor cars.

(b) Solid tyred vehicles.

(c) Pneumatic tyred vehicles.

(d) Incomplete.

The number of all motor vehicles per 1,000 of population shows that Federal Capital Territory with 124.09 had the greatest density, followed in order of importance by South Australia (124.03), Western Australia (81.09), Victoria (77.69), Queensland (76.94), New South Wales (74.36), Tasmania (62.94), and Northern Territory least with 56.34; the figure for the Commonwealth being 80.35.

(ii) *Quinquennium 1923-1927.* The following table shows the number of vehicles registered, licences issued, and revenue received therefrom during each of the years 1922-23 to 1926-27 :—

MOTOR VEHICLES.—REGISTRATIONS, ETC., 1922-23 TO 1926-27.

Year.	Motor Vehicles Registered.				Drivers' and Riders' Licences Issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.		Registration and Motor Tax.	and Riders' Licences.	Total.
			(a)			£	£	£
1922-23	116,658	42,649	13,438	172,745	208,376	575,198	44,249	619,447
1923-24	168,568	52,717	18,056	239,341	296,177	801,701	62,001	863,702
1924-25	221,441	58,079	26,116	305,636	310,150	1,326,672	88,508	1,415,180
1925-26	282,199	70,209	37,892	390,300	496,311	2,098,112	137,639	2,235,751
1926-27	364,384	80,242	50,914	495,540	608,585	2,636,506	208,857	2,845,363

(a) Incomplete, partly included with Motor Cars.

During the period dealt with the number of motor vehicles showed an average annual increase of almost 28 %; the greatest increase (38 %) being recorded during 1923-24. The number of vehicles per 1,000 of population increased from 30.37 to 80.35.

6. Comparative Motor Vehicle Statistics, 1928.—The result of the 1928 World Motor Census, conducted by the "American Automobile" magazine, from which the following particulars have been extracted, shows that there were approximately 29,600,000 motor cars, trucks, and buses registered in the various countries of the world at 1st January, 1928.

COMPARATIVE MOTOR VEHICLE STATISTICS, 1st JANUARY, 1928.

Country.	Motor Cars, Trucks, and Buses.	Motor Cycles.
Australia	464,225	85,000
Argentina	241,356	2,210
Belgium	100,000	32,000
Brazil	140,102	(a)
Canada	939,479	7,596
Cuba	45,000	300
Denmark	83,094	22,000
France	960,000	153,000
Germany	422,300	384,600
Great Britain	1,219,477	660,928
India	117,000	24,000
Irish Free State	44,304	10,920
Italy	165,000	(a)
Japan	49,556	10,000
Mexico	50,000	(a)
Netherlands	74,000	29,700
Netherlands East Indies	44,394	7,734
New Zealand	134,215	35,111
Union of South Africa	100,750	32,000
Spain	110,000	(a)
Sweden	110,500	32,500
Switzerland	53,000	30,000
United States of America	23,253,882	119,668

(a) Not available.

The foregoing figures are in some cases approximately stated, being based on estimates furnished by Trade Commissioners or representative motor trade organizations in the several countries. The figures for Australia are estimated at 31st December, 1927, and differ from those stated in para. 5, which are actual registrations at 30th June, 1927.

In respect of motor cars Australia now ranks fifth in importance numerically among the countries of the world, having displaced Germany from that position during 1925.

F. POSTS, TELEGRAPHS AND TELEPHONES.

§ 1. Posts.

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, and a Secretary having chief control of the Department under the Postmaster-General, whilst a principal officer in each State was provided for under the style of Deputy Postmaster-General.

2. Postal Matter Dealt With.—(i) *Australia*. The following table gives a summary of the postal matter dealt with in Australia during the five years 1923 to 1927. Although mail matter posted in Australia for delivery therein is necessarily handled at least twice, only the numbers dispatched are included in the table following, which consequently gives the number of distinct articles handled.

POSTAL MATTER DEALT WITH.—AUSTRALIA, 1922-23 TO 1926-27.

Year ended 30th June—	Letters and Post-cards.		Newspapers.		Packeta.		Parcels.		Registered Articles.	
	Number (000 omitted).	Per 1,000 of Population.	Number (000 omitted).	Per 1,000 of Population.	Number (000 omitted).	Per 1,000 of Population.	Number (000 omitted).	Per 1,000 of Population.	Number (000 omitted).	Per 1,000 of Population.

POSTED WITHIN AUSTRALIA FOR DELIVERY THEREIN.

1923 ..	535,598	94,161	136,137	23,934	73,267	12,881	9,158	1,610	5,766	1,014
1924 ..	579,679	90,883	143,429	24,714	93,575	16,124	9,387	1,617	5,959	1,027
1925 ..	616,804	114,027	151,484	25,543	106,089	17,892	10,615	1,790	6,147	1,037
1926 ..	649,697	108,426	154,169	25,729	118,106	19,710	11,413	1,906	6,302	1,052
1927 ..	695,802	113,836	161,140	26,371	121,536	19,890	12,166	1,991	7,315	1,197

OVERSEA RECEIVED.

1923 ..	32,961	5,795	10,274	1,806	2,891	508	437	77	453	79
1924 ..	34,708	5,980	13,662	2,354	4,273	736	447	77	475	82
1925 ..	40,911	6,900	14,824	2,500	5,262	887	446	75	475	86
1926 ..	42,708	7,127	16,135	2,693	6,333	1,057	454	76	518	86
1927 ..	49,958	8,176	17,731	2,902	7,586	1,241	508	83	566	93

OVERSEA DISPATCHED.

1923 ..	25,722	4,522	4,734	832	1,671	294	183	32	303	53
1924 ..	29,016	5,000	5,681	979	2,283	393	190	33	341	59
1925 ..	34,328	5,790	6,839	1,153	2,617	441	169	28	388	65
1926 ..	42,440	7,083	8,290	1,383	2,964	495	212	35	415	69
1927 ..	50,285	8,229	9,844	1,611	3,607	590	229	37	466	76

TOTAL POSTAL MATTER DEALT WITH BY THE COMMONWEALTH POSTAL DEPARTMENT.

1923 ..	594,279	104,478	151,145	26,572	77,829	13,683	9,778	1,719	6,522	1,146
1924 ..	643,403	110,363	162,772	28,047	100,131	17,253	10,024	1,727	6,775	1,168
1925 ..	692,043	126,717	173,147	29,201	113,968	19,220	11,230	1,893	7,010	1,182
1926 ..	734,845	122,636	178,594	29,805	127,403	21,262	12,079	2,016	7,235	1,207
1927 ..	796,145	130,291	188,715	30,884	132,729	21,721	12,903	2,111	8,347	1,366

(ii) *States*. The next table shows separately for each State the postal matter dealt with in 1926-27 under the classification adopted in the preceding paragraph, with the exception of registered articles, which are dealt with separately hereinafter. The returns given for South Australia in this and all succeeding tables include those for the Northern Territory, while the returns for the Federal Capital Territory are included in those for New South Wales.

POSTAL MATTER DEALT WITH.—STATES, 1926-27.

State.	Letters and Post-cards.		Newspapers.		Packets.		Parcels.	
	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.

POSTED FOR DELIVERY WITHIN AUSTRALIA.

New South Wales	297,755	126,559	70,147	29,815	54,378	23,113	5,608	2,384
Victoria ..	197,550	115,403	38,914	22,733	17,678	10,327	2,416	1,411
Queensland ..	75,236	85,233	28,533	32,343	20,814	23,594	2,300	2,607
South Australia	54,400	95,390	9,100	15,957	16,133	28,289	983	1,724
Western Australia	37,459	98,903	7,498	19,796	7,404	19,548	680	1,794
Tasmania ..	33,502	156,003	6,948	32,352	5,129	23,882	179	836
Australia ..	695,902	113,886	161,140	26,371	121,536	19,890	12,166	1,991

OVERSEA RECEIVED.

New South Wales	20,039	8,517	6,155	2,616	3,298	1,402	203	86
Victoria ..	19,755	11,540	4,871	2,845	1,141	667	161	94
Queensland ..	3,032	3,437	3,232	3,664	1,011	1,146	47	53
South Australia	3,278	5,749	936	1,641	576	1,009	42	73
Western Australia	3,013	7,955	1,911	5,045	1,051	2,774	44	117
Tasmania ..	841	3,915	626	2,917	509	2,369	11	54
Australia ..	49,958	8,176	17,731	2,902	7,586	1,241	508	83

OVERSEA DISPATCHED.

New South Wales	31,193	13,258	5,094	2,165	2,535	1,077	143	61
Victoria ..	9,681	5,655	3,044	1,778	489	286	51	30
Queensland ..	2,627	2,978	714	809	171	194	13	15
South Australia	2,515	4,411	318	558	138	243	10	17
Western Australia	2,482	6,552	390	1,031	67	178	10	27
Tasmania ..	1,787	8,320	284	1,322	207	963	2	8
Australia ..	50,285	8,229	9,844	1,611	3,607	590	229	37

3. Postal Facilities.—(i) *Relation to Area and Population.* The subjoined statement shows the number of post and receiving offices, the area in square miles and the number of inhabitants to each post office (including receiving offices) in each State and in Australia at the end of the year 1926-27. 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.

POSTAL FACILITIES.—RELATION TO AREA AND POPULATION,
at 30th JUNE, 1927.

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Aus- tralia.
Number of post and receiving offices	2,682	2,729	1,285	807	715	521	8,739
Number of square miles of territory to each office in State ..	116	32	522	1,120	1,365	50	340
Number of inhabitants to each office	887	633	696	713	539	400	706
Number of inhabitants per 100 square miles	766	1,964	133	64	39	794	207

The foregoing table does not include "telephone" offices at which telegraph and telephone business only is transacted.

(ii) *Number of Offices.* The following table shows the number of post and receiving offices in each year from 1922-23 to 1926-27 inclusive :—

POST AND RECEIVING OFFICES AT 30th JUNE, 1923 TO 1927.

State.	At 30th June—									
	1923.		1924.		1925.		1926.		1927.	
	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.	Post Offices.	Receiving Offices.
New South Wales ..	2,040	559	2,059	584	2,063	601	2,086	593	2,091	591
Victoria ..	1,736	859	1,774	898	1,785	923	1,792	922	1,821	908
Queensland ..	678	567	694	565	743	544	756	528	766	519
South Australia ..	637	137	669	136	675	132	676	132	671	136
Western Australia ..	426	306	445	401	465	255	472	260	466	249
Tasmania ..	413	106	428	114	411	103	414	109	421	100
Australia ..	5,960	2,534	6,069	2,698	6,142	2,558	6,196	2,544	6,236	2,503

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

POSTAL EMPLOYEES AND MAIL CONTRACTORS, 1923 TO 1927.

State.	At 30th June—									
	1923.		1924.		1925.		1926.		1927.	
	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.
Central Office ..	95	..	100	..	110	..	130	..	149	..
New South Wales ..	13,255	1,732	13,947	1,791	14,413	1,915	14,244	1,924	14,214	1,933
Victoria ..	9,148	1,124	10,279	1,133	11,140	1,139	11,226	1,156	11,607	1,145
Queensland ..	4,978	810	6,220	819	6,322	839	6,181	850	5,953	860
South Australia ..	3,227	422	4,014	354	3,926	430	4,275	424	4,388	402
Western Australia ..	2,450	339	2,450	382	3,271	319	2,986	379	3,061	357
Tasmania ..	1,321	202	1,582	206	1,551	243	1,615	247	1,555	247
Australia ..	34,474	4,629	38,592	4,685	40,733	4,885	40,657	4,980	40,927	4,944

4. Registered Letters, Packets, etc.—Particulars regarding registered articles for the year 1926-27 are given in the table hereunder :—

REGISTERED ARTICLES POSTED AND RECEIVED, 1926-27.

State.	Posted in each State for Delivery within Australia.		Posted in each State for Delivery Overseas.		Total Posted.		Received in each State from Overseas.	
	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.
New South Wales ..	2,614	1,111	196	83	2,810	1,194	242	103
Victoria ..	2,362	1,380	119	69	2,481	1,449	176	103
Queensland ..	973	1,003	53	59	1,026	1,162	48	55
South Australia ..	573	1,005	34	60	607	1,065	34	60
Western Australia ..	515	1,360	59	155	574	1,515	55	145
Tasmania ..	278	1,293	5	25	283	1,318	11	51
Australia ..	7,315	1,197	466	76	7,781	1,273	566	93

5. Value-Payable Parcel and Letter 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 post in each State for the years 1923 to 1927 :—

VALUE-PAYABLE PARCELS POST.—SUMMARY, 1923 TO 1927.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
NUMBER OF PARCELS POSTED.							
	No.	No.	No.	No.	No.	No.	No.
1923	134,703	5,329	207,162	1,604	56,572	113	405,483
1924	165,360	6,421	225,040	2,456	63,393	292	462,962
1925	209,265	8,397	199,752	3,559	69,065	387	490,425
1926	236,900	11,503	204,819	5,033	69,970	316	528,546
1927	252,306	11,801	216,418	8,132	71,473	446	560,570
VALUE COLLECTED.							
	£	£	£	£	£	£	£
1923	237,209	10,826	279,508	2,485	87,508	439	617,976
1924	277,087	11,310	364,965	3,406	101,515	715	758,998
1925	347,902	15,440	331,280	5,728	108,193	1,055	809,598
1926	397,283	22,035	328,954	6,327	109,671	811	865,081
1927	402,186	21,617	334,619	10,939	112,276	1,075	882,712

VALUE-PAYABLE PARCELS POST.—SUMMARY, 1923 TO 1927—*continued.*

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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REVENUE, INCLUDING POSTAGE, COMMISSION ON VALUE, REGISTRATION AND MONEY ORDER COMMISSION.

	£	£	£	£	£	£	£
1923	18,586	667	29,602	248	7,365	52	56,520
1924	23,026	855	30,318	263	8,277	42	62,781
1925	31,324	1,138	25,908	469	8,951	53	67,843
1926	32,232	1,564	26,539	634	8,872	44	69,885
1927	32,450	1,569	28,108	864	8,720	58	71,769

The number and value of parcels forwarded in New South Wales and Queensland are greatly in excess of the transactions of any of the other States, although the system has also found favour for several years 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, too, has a large area the population of that State is, comparatively, not widely spread. The amount of business transacted in Victoria, South Australia, and Tasmania is comparatively light, but generally increased business has been done in recent years.

6. Sea-borne Mail Services.—(i) *Summary.* In earlier issues of this work statements regarding the development of the principal sea-borne mail services were included, but owing to the restrictions of space this information cannot be repeated. The following tabular summary, however, contains information in respect of sea-borne mail services as at 1st April, 1928 :—

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES, 1928.

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
1. To and from Ports in New South Wales—			
(i) N.S. WALES—Q'LAND	Weekly	Sydney and Brisbane ..	Poundage rates
(ii) NORTHERN PORTS— (a) North Coast S.N. Co.	Once weekly	Sydney and Clarence River, Byron Bay, and Richmond River	" "
(b) " "	Fortnightly	Sydney and South Solitary Island	" "
(iii) SOUTH COAST PORTS— Illawarra and S. Coast S.N. Co.	Fortnightly	Sydney, Montague Island	" "
2. To and from Northern Ports of Queensland—			
(a) Hayles Magnetic Island Limited	Weekly	From Cairns to Cooktown via Port Douglas	Subsidized from 1st January, 1928, for three years. Amount of subsidy, £2,200 per annum.
(b) Other steamers	Irregularly	Various	Poundage rates

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES—*continued.*

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
3. To and from Ports in South Australia—			
(a) Coast Steamship Co. Ltd.	Weekly	Port Adelaide and Kingscote	Subsidized to 31st December, 1928. Amount of subsidy, £1,000
(b) Adelaide Steamship Co. . .	Twice weekly	Port Adelaide and Port Lincoln	Subsidized for three years from 1st January, 1928. Amount of subsidy, £3,000
(c) " " " "	Weekly	Port Adelaide and Port Lincoln	Poundage rates
(d) " " " "	..	Port Adelaide and Arno Bay	" "
(e) " " " "	..	Walleroo and Cowell ..	" "
(f) Coast Steamships Ltd. . .	Fortnightly	Port Adelaide to Streaky Bay	" "
(g) " " " "	Weekly (Thursdays)	Port Adelaide to Kingscote	" "
(h) McIlwraith, McEacharn Line	Monthly	Port Adelaide to Albany	" "
4. Western Australia—			
TO AND FROM PORTS ON N.W. COAST—			
(a) State Shipping Service	Monthly	Fremantle and Derby..	Subsidized by agreement dated 28th February, 1913, for three years. Later extended to a date three months after expiration of war. Subsequently extended for indefinite period. Amount of subsidy, £5,500
(b) " " "	Once each sixty days	Fremantle and Darwin	
(c) West Australian S.N. Co.	About fortnightly	Fremantle and Singapore, via N.W. Ports	
(d) State Shipping Service	Irregularly, during the cattle season	Fremantle, Derby, Wyndham, Java and Singapore	
5. Tasmania—			
(a) Tasmanian Steamers Pty Ltd.	Three times a week summer; twice a week winter	Melbourne and Launceston	Subsidy, £30,000 per annum from 1st May, 1921, under contract for twelve months, and thereafter terminable on twelve months' notice by either party to the agreement
(b) " " "	Twice a week	Melbourne and Burnie	
(c) Union S.S. Co. and Huddart Parker Ltd.	Weekly	Sydney and Hobart ..	Poundage rates
(d) Union Steamship Co. . .	..	Sydney, Launceston, and Devonport	" "
(e) Holyman and Sons Pty. Ltd.	..	Melbourne—Launceston	" "
(f) " " " "	..	Melbourne, Launceston* Melbourne, Burnie, etc.	" "
(g) " " " "	..	Hobart and Kelly's Point, via Pearson's Point	Subsidized by agreement dated 1st January, 1928, for three years. Amount of subsidy, £63 per annum
(h) Huon Channel and Peninsula Co.	Thrice a week	Hobart and Kelly's Point, via Pearson's Point	
(i) " " " "	Four times a week	Hobart and Alonnah ..	Subsidized by agreement dated 1st January, 1928, for three years. Amount of subsidy, £75 per annum
(j) The Commissioner, Tasmanian Government Railways	Every two weeks	Launceston and Furneaux Group of Islands	Subsidized by agreement dated 1st January, 1928, for three years. Amount of subsidy, £375 per annum
(k) " " " "	Fortnightly	Launceston and Currie, King Island	Subsidized by agreement dated 1st January, 1928, for three years. Amount of subsidy, £400 per annum
(l) Holyman and Sons Pty. Ltd.	Weekly	Burnie and Melbourne, via Fraser River, King Island	Poundage rates

* Not operative during winter months, as under that time-table the contract vessel leaves on the same day during this period.

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES—*continued.*

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
6. To and from Northern Territory—			
(a) Burns, Philp and Co. ..	Monthly	To and from Melbourne and Sydney, via Queensland ports	Poundage rates
(b) State Steamship Service of Western Australia	Once each sixty days	Fremantle and Darwin..	See Item 4 (b)
7. To and from New Zealand—			
(a) Conjointly by Union S.S. Co. and Huddart, Parker Ltd.	Weekly	Sydney and Wellington; Sydney and Auckland	Poundage rates
(b) Other steamers ..	Irregularly, when convenient	Sydney, Wellington, Auckland, Lyttelton, and other Ports	" "
(c) Canadian - Australasian and Union Line	Fortnightly	Sydney, Auckland, and Wellington	" "
(d) Other steamers ..	About every three weeks	Melbourne and Wellington, or Bluff	" "
8. Pacific Islands—			
(a) Burns, Philp and Co. ..	Every five weeks	Sydney to Lord Howe and Norfolk Islands and New Hebrides	Subsidized by Commonwealth Government
(b) " " ..	Irregularly	Sydney to Nauru and Ocean Islands, Gilbert and Ellice Groups	" "
(c) " " ..	Monthly	Sydney to Papua, via Brisbane	" "
(d) " " ..	Every three weeks	Sydney to Rabaul, via Brisbane	" "
(e) " " ..	Every five weeks	Sydney to Solomon Islands, via Brisbane	" "
(f) " " ..	"	Sydney and Santa Cruz, via Brisbane and Tulagi	" "
9. New Caledonia and New Hebrides—			
(a) Messageries Maritimes ..	Monthly	Sydney and Noumea and to Vila (New Hebrides)	Postal Union rates
(b) Other steamers ..	About twice a month	Sydney and Noumea ..	Poundage rates
10. Fiji, Friendly Islands, and Samoa—			
(a) Union S.S. Co. ..	Every four weeks	Sydney and Suva ..	" "
(b) " " ..	"	Sydney, Suva, Tonga, and Samoa	" "
(c) A.U.S.N. Co. ..	"	Sydney and Suva ..	" "
(d) Oceanic S.S. Co. ..	Every three weeks	Sydney, Suva, and Samoa	" "
11. To Eastern Ports—			
(a) Burns, Philp and Co. ..	Monthly	Melbourne and Sydney to Java and Singapore, via Queensland Ports and Darwin	Subsidized by Commonwealth Govt. Mails, at poundage rates
(b) Aust.-Oriental Line ..	About once a month	Melbourne and Sydney to Hong Kong, Manila, China, via Queensland Ports.	Poundage rates
(c) Eastern and Aus'n. Line	Monthly	Sydney to Manila, China, Japan, via Brisbane	" "
(d) Nippon Yusen Kaisha ..	Every four weeks	Melbourne and Sydney to Manila, China, and Japan, via Queensland Ports	Postal Union rates
(e) Osaka Shosen Kaisha ..	Monthly	Melbourne and Sydney to Japan, via Brisbane	Poundage rates
(f) Japan-Australia Line ..	"	Melbourne and Sydney to Japan via Brisbane	" "
(g) Royal Dutch Packet S.N. Co.	"	Melbourne to Java and Singapore, via Sydney and Queensland Ports	" "
(h) Various other steamers	About monthly	Sydney or Newcastle and ports in Borneo, Java, Sumatra, Japan, and Malay Peninsula	" "
(i) Western Australian S.N. Co.	About fortnightly	W.A. Ports, Java, and Singapore	" "
(j) Austral East Indies Line of steamers	Monthly	Sydney, Melbourne, Adelaide, Fremantle, Java, and Singapore	" "

SUMMARY OF AUSTRALIAN SEA-BORNE MAIL SERVICES—*continued.*

Description of Service.	Frequency of Service.	Ports between which Service is maintained.	Particulars regarding Subsidies.
12. <i>South Africa</i> — Blue Funnel, White Star, P. and O. Branch Service, and other Companies	Irregularly	Sydney, Melbourne, Adelaide, and Fremantle to Durban and Capetown	Poundage rates
13. <i>To and from Europe, via Suez</i> — (a) Orient Steam Navigation Co.	Every four weeks	Brisbane, Sydney, Melbourne, Adelaide, Fremantle, and London, via Suez	Subsidy, £130,000. Commenced 20th September, 1921. Terminable on twelve months' notice by either party
(b) Peninsular and Oriental S.N. Co. Ltd.	Fortnightly	Sydney, Melbourne, Adelaide, Fremantle, and London, via Suez	Postal Union rates
(c) Commonwealth Government Line of Steamers	About every four weeks	" " "	Poundage rates
14. <i>To and from Europe, via Vancouver</i> — (a) Canadian-Aust. Line	Irregularly	Sydney and Vancouver, B.C., via Auckland, Fiji, Honolulu	" "
15. <i>To and from Europe, via San Francisco</i> — (a) Union Steamship Company	"	Sydney, Wellington, Raratonga, Tahiti, and San Francisco	Subsidized by New Zealand Govt. Mails from Aust. at Postal Union rates
(b) Oceanic Steamship Co...	"	Sydney, Suva, Pago Pago (Samoa), Honolulu, and San Francisco	Poundage rates
16. <i>North America</i> — (a) Union S.S. Co.	Every four weeks	Sydney, Wellington, Tahiti, and San Francisco	" "
(b) Canadian-Aust. Line	"	Sydney, Auckland, Fiji, Honolulu, and Vancouver	" "
(c) Oceanic S.S. Co.	Every three weeks	Sydney, Suva, Pago Pago (Samoa), Honolulu, and San Francisco	" "
17. <i>South America</i> — (a) Oceanic S.S. Co. } { Union S.S. Co. }	Thrice a month	Sydney, via San Francisco to ports in Chile, Brazil, Peru, Uruguay, and Argentine	" "
(b) Various other steamers	Irregularly	Via Newcastle and Sydney to various ports	" "

(ii) *Average and Fastest Time of Mails to and from London. (a) Via Suez Canal.*

The subjoined table shows the average and the fastest times occupied in the conveyance of mails from London to Fremantle and vice versa during the year 1927-28 :—

AVERAGE AND FASTEST TIME.—MAILS VIA SUEZ CANAL, LONDON TO FREMANTLE, AND VICE VERSA DURING 1927-28.

Period.	London to Fremantle.		Fremantle to London.	
	Average Time.	Fastest Time.	Average Time.	Fastest Time.
	Days. Hours.	Days. Hours.	Days. Hours.	Days. Hours.
3.3.27 to 5.3.28	25 12½	24 18½	26 5½	25 12½

(b) *Via America.* The average and fastest times occupied in the conveyance of mails between London and Sydney via America during 1927 were:—

AVERAGE AND FASTEST TIME.—MAILS VIA AMERICA, DURING 1927.

Service.	Average Time.		Fastest Time.		
	Days.	Hours.	Days.	Hours.	
London to Sydney	via Vancouver	(a)	(a)		
	via San Francisco	33	—	33	—
Sydney to London	via Vancouver	35	20	34	—
	via San Francisco	33	12	31	—

(a) No mails received from London in 1927 via Vancouver.

(iii) *Amount of Mail 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, 1927:—

MAIL SUBSIDIES.—OCEAN AND COASTAL SERVICES, 1926-27.

Service.	Orient S.N. Co.	Queens- land Ports.	South Australian Ports.	Western Australian Ports.	Tas- manian Ports.
	£	£	£	£	£
Annual subsidy	129,195	3,203	4,120	7,458	29,863

During the year 1926-27 the amount paid for conveyance of mails at poundage rates by non-contract vessels was £38,415; by road services, £679,076; and by railways services, £484,397. The total expenditure during the financial year 1926-27 on the carriage of mails, as disclosed by the Profit and Loss Account, amounted to £1,363,259.

7. *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 1926-27, and the methods adopted in the disposal thereof:—

DEAD LETTER OFFICES.—SUMMARY, 1926-27.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
LETTERS, POSTCARDS, AND LETTERCARDS.							
Returned direct to writers or delivered	992,030	375,937	300,697	139,873	136,790	75,718	2,021,045
Destroyed in accordance with Act. . .	91,625	77,098	50,939	30,860	12,105	8,496	271,123
Returned to other States or Countries as unclaimed	63,996	34,470	21,425	11,009	17,277	1,652	149,829
Total	1,147,651	487,505	373,061	181,742	166,172	85,866	2,441,997

PACKETS AND CIRCULARS.

Returned direct to writers or delivered	902,303	155,610	248,025	79,151	92,626	29,898	1,507,618
Destroyed in accordance with Act. . .	182,199	106,637	53,982	130,049	1,557	558	475,032
Returned to other States or Countries as unclaimed	3,423	26,378	10,084	4,274	696	3,804	48,059
Total	1,087,930	288,675	312,091	213,474	94,879	34,260	2,031,309
Grand Total (letters, packets, etc.)	2,235,581	776,180	685,152	395,216	261,051	120,126	4,473,306

During the year 1926-27 money and valuables to the amount of £163,566 were found in undeliverable postal articles, while 38,178 postal articles were posted without address, including 379 which contained money and valuables to the extent of £3,766.

8. 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) *Summary for States, 1926-27.* Particulars regarding the business transacted in each State for the year 1926-27 are given hereunder:—

MONEY ORDERS AND POSTAL NOTES.—SUMMARY, 1926-27.

State.	Value of Money Orders Issued.	Value of Money Orders Paid.	Net Money Order Commission Received.	Value of Postal Notes Sold.	Poundage Received on Postal Notes.
	£	£	£	£	£
New South Wales ..	7,532,605	7,418,068	49,492	2,269,252	50,776
Victoria ..	3,291,763	3,406,552	22,661	1,665,216	37,669
Queensland ..	2,602,834	2,316,236	17,612	548,733	12,256
South Australia ..	1,107,717	988,528	7,737	376,659	8,683
Western Australia ..	1,390,295	1,239,301	9,448	300,234	6,365
Tasmania ..	574,663	556,701	3,896	140,271	3,295
Australia ..	16,499,877	15,925,386	110,846	5,300,365	119,044

The figures in the foregoing table show a substantial increase over the corresponding particulars for the previous year.

(iii) *Summary, Australia, 1923 to 1927.* The next table shows the total number and value of money orders and postal notes issued and paid in Australia from 1922-23 to 1926-27:—

MONEY ORDERS AND POSTAL NOTES.—SUMMARY, AUSTRALIA, 1922-23 TO 1926-27.

Year ended 30th June—	Money Orders.				Postal Notes.			
	Issued.		Paid.		Issued.		Paid.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
	No. (,000).	£ (,000).	No. (,000).	£ (,000).	No. (,000).	£ (,000).	No. (,000).	£ (,000).
1923 ..	2,873	14,121	2,724	13,706	12,512	4,160	12,455	4,148
1924 ..	2,832	14,377	2,686	13,913	13,382	4,350	13,240	4,311
1925 ..	2,976	15,155	2,835	14,728	13,437	4,634	13,370	4,616
1926 ..	3,081	15,845	2,911	15,366	14,237	4,946	14,044	4,862
1927 ..	3,225	16,500	3,043	15,925	14,502	5,300	14,360	5,270

(iv) *Classification of Money Orders Issued and Paid.* (a) *Orders Issued.* The next table shows the number and value of money orders issued in each State during the year 1926-27, classified according to the country where payable:—

MONEY ORDERS ISSUED.—COUNTRY WHERE PAYABLE, 1926-27.

State in which Issued.	Where Payable.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
NUMBER.					
New South Wales ..	1,348,785	14,123	96,103	21,716	1,480,727
Victoria ..	565,983	7,221	59,050	16,458	648,712
Queensland ..	445,058	2,071	28,467	11,734	487,330
South Australia ..	191,463	1,223	20,651	8,424	221,761
Western Australia ..	230,708	984	22,015	5,280	258,987
Tasmania ..	118,752	1,354	5,568	1,396	127,070
Australia ..	2,900,749	26,976	231,854	65,008	3,224,537

VALUE.					
	£	£	£	£	£
New South Wales ..	7,094,265	56,693	286,775	94,872	7,532,605
Victoria ..	3,010,044	30,380	171,248	80,091	3,291,763
Queensland ..	2,447,540	8,914	87,298	59,082	2,602,834
South Australia ..	997,201	4,937	60,047	45,532	1,107,717
Western Australia ..	1,292,697	4,748	70,082	22,768	1,390,295
Tasmania ..	554,137	5,584	11,940	3,002	574,663
Australia ..	15,395,884	111,256	687,390	305,347	16,499,877

(b) *Orders Paid.* The number and value of money orders paid in each State during the year 1926-27, classified according to the country where issued, are given hereunder:—

MONEY ORDERS PAID.—COUNTRY OF ISSUE, 1926-27.

State in which Paid.	Where Issued.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
NUMBER.					
New South Wales ..	1,354,751	37,309	18,418	13,567	1,424,045
Victoria ..	620,116	18,657	11,051	5,525	655,349
Queensland ..	411,295	2,469	5,603	3,358	422,725
South Australia ..	188,963	1,199	3,118	1,167	194,447
Western Australia ..	220,118	1,565	5,279	1,466	228,428
Tasmania ..	111,561	2,933	1,357	2,085	117,936
Australia ..	2,906,804	64,132	44,826	27,168	3,042,930

VALUE.					
	£	£	£	£	£
New South Wales ..	7,143,621	135,917	85,034	53,496	7,418,068
Victoria ..	3,275,636	58,332	50,066	22,518	3,406,552
Queensland ..	2,271,160	9,596	23,774	11,706	2,316,236
South Australia ..	964,051	4,669	13,912	5,896	988,528
Western Australia ..	1,202,477	5,177	25,727	5,920	1,239,301
Tasmania ..	539,002	8,433	4,610	4,656	556,701
Australia ..	15,395,947	222,124	203,123	104,192	15,925,386

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 at London are included in those payable or issued in Great Britain and Ireland.

(v) *Classification of Postal Notes Paid.* The subjoined table shows the number and value of postal notes paid during the year 1926-27, classified according to the State in which they were issued.

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, 1926-27.

Particulars.	Postal Notes Paid in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
NUMBER.							
Issued in same State	4,111,734	2,004,339	1,205,730	674,766	658,560	314,238	9,869,417
Issued in other States	503,432	393,681	1,007,230	65,396	29,669	2,491,563	4,490,971
Total ..	4,615,166	3,298,020	2,212,960	740,162	688,229	2,805,851	14,860,388
VALUE.							
Issued in same State	£ 1,617,272	£ 1,089,324	£ 439,921	£ 231,361	£ 249,278	£ 104,679	£ 3,731,835
Issued in other States	193,301	156,366	288,918	27,847	12,216	859,060	1,537,708
Total ..	1,810,573	1,245,690	728,839	259,208	261,494	963,739	5,269,543

The number and value of postal notes paid in Australia during the year showed an increase of 2 and 8 per cent. respectively over the corresponding figures for the year 1925-26.

9. Profit or Loss, Postmaster-General's Department.—(i) *Revenue (a) Analysis, States, 1926-27.* The following table shows the gross revenue classified according to Branches in each State for the year 1926-27. The figures are supplied by the Treasury, and represent the actual collections for the year.

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT., ANALYSIS, 1926-27.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
Postage	£ 1,946,665	£ 1,883,227	£ 680,685	£ 403,424	£ 286,509	£ 146,807	£ 4,847,317
Money order commission .. .	100,147	59,646	29,955	16,464	16,024	7,217	229,453
Poundage on postal notes .. .	20,051	12,376	12,333	7,942	4,208	2,274	59,184
Private boxes and bags .. .	125,353	96,383	60,355	33,419	43,744	10,777	370,031
Miscellaneous .. .							
Total Postal ..	2,192,216	1,551,632	783,328	461,249	350,485	167,075	5,505,985
Telegraphs (ordinary)	509,844	326,833	249,807	222,911	132,429	46,332	1,488,166
Telegraphs (radio)	9,073	19,063	3,806	3,049	596	228	35,815
Total Telegraphs	518,917	345,896	253,613	225,960	133,025	46,560	1,523,971
Telephones ..	1,753,635	1,310,880	622,129	513,031	256,708	120,480	4,576,863
Grand Total ..	4,464,768	3,208,408	1,659,070	1,200,240	740,218	334,115	11,606,819

Increased telephone revenue (£532,449) largely contributed to the total increase of £835,063 over the revenue for 1925-26.

(b) *Branches, 1923 to 1927.* The gross revenue collected in respect of each Branch of the Department during each of the past five years was as stated in the table hereunder:—

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT., 1923 TO 1927.

Year ended 30th June—				Postal Branch.	Telegraph Branch.	Telephone Branch.	Total.
				£	£	£	£
1923	..	..	..	5,395,829	(b)1,413,375	2,983,069	9,792,273
1924	..	..	..	5,024,816	(c)1,430,554	3,301,651	9,757,021
1925	..	..	..	4,944,546	(d)1,500,070	3,599,864	10,044,486
1926	..	..	..	5,215,684	(e)1,511,658	4,044,414	10,771,756
1927	..	..	..	5,505,985	(a)1,523,971	4,576,863	11,606,819

Includes radio receipts (a) £35,815, (b) £7,711, (c) £4,012, (d) £18,292, and (e) £21,178.

As compared with the corresponding figures for the previous year, an increase of 7.75 per cent. is shown. The figures for each Branch increased by 5.57, 0.81, and 13.17 per cent. respectively.

(ii) *Working Expenses (a) Analysis, States, 1926-27.* Particulars of the working expenses of each Branch of the Department by States during 1926-27 are shown in the following table. As in the case of Gross Revenue, the figures have been furnished by the Treasury and represent actual payments during the financial year.

WORKING EXPENSES, POSTMASTER-GENERAL'S DEPARTMENT, 1926-27.

Branch.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Postal ..	1,948,226	1,320,273	667,237	406,028	341,446	185,719	4,868,929
Telegraph ..	579,285	353,360	289,582	199,666	187,450	69,029	1,678,372
Telephone ..	1,437,290	1,012,961	590,284	444,825	239,528	139,319	3,864,207
All Branches	3,964,801	2,686,594	1,547,103	1,050,519	768,424	394,067	10,411,508

The working expenses of the Postal Branch represented 47 per cent. of the total, Telegraph Branch, 16 per cent., and the Telephone Branch, 37 per cent.

(b) *Branches, 1923 to 1927.* The appended table shows the working expenses of each Branch for the period 1922-23 to 1926-27.

WORKING EXPENSES, POSTMASTER-GENERAL'S DEPARTMENT, 1923 TO 1927.

Year ended 30th June—				Postal Branch.	Telegraph Branch.	Telephone Branch.	Total.
				£	£	£	£
1923	..	..	..	3,979,020	1,389,302	2,283,542	7,651,864
1924	..	..	..	4,278,917	1,546,021	2,623,839	8,448,777
1925	..	..	..	4,488,021	1,613,695	3,128,914	9,230,630
1926	..	..	..	4,637,126	1,704,705	3,487,234	9,829,065
1927	..	..	..	4,868,929	1,678,372	3,864,207	10,411,508

The working expenses for the Department as a whole have increased by £2,759,644 (36 per cent.) during the four years, the percentage increase in regard to each Branch being, Postal, 22 per cent.; Telegraph, 21 per cent.; and Telephone, 69 per cent.

(iii) *Interest Charges.*—(a) *States and Branches, 1926-27.* The interest payable on capital expenditure for the three Branches in each State during 1926-27 was as follows:—

INTEREST CHARGES, POSTMASTER-GENERAL'S DEPARTMENT, 1926-27.

Branch.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Postal ..	52,683	37,980	15,619	12,971	13,933	3,397	136,583
Telegraph ..	51,041	30,037	31,743	22,541	23,064	4,032	162,458
Telephone ..	404,634	303,606	175,254	180,352	69,531	28,400	1,111,777
All Branches	508,358	371,623	222,616	165,864	106,528	35,829	1,410,818

Owing to the great expansion of the Telephone service during recent years, and the more expensive nature of equipment generally, the interest charges allocated to the Telephone Branch represented almost 79 per cent. of the total.

(b) *Branches, 1923 to 1927.* For the five years, 1923 to 1927, each Branch was debited with the following amounts in respect of interest on capital expenditure:—

Year ended 30th June.	Postal Branch.	Telegraph Branch.	Telephone Branch.	All Branches.
	£	£	£	£
1923	105,198	134,627	540,410	780,235
1924	116,534	157,029	638,109	911,672
1925	122,442	173,288	790,816	1,086,546
1926	129,084	187,714	942,391	1,259,189
1927	136,583	162,458	1,111,777	1,410,818

The interest payable is calculated at 3½ per cent. on the value of the assets, particulars of which are contained in para. 11.

(iv) *Profit or Loss.*—(a) *States, 1926-27.* The operations of each Branch of the Department in the several States after providing for Working Expenses, Depreciation, and Interest Charges during the year 1926-27, showed the following results:—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT, 1926-27.

Branch.	—	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
		£	£	£	£	£	£	£
Postal ..	{ Profit	195,390	178,867	91,134	31,029	..	..	445,929
	{ Loss	..	..	..	..	26,458	24,033	..
Telegraph ..	{ Profit	..	..	..	..	..	..	..
	{ Loss	89,886	39,260	60,999	5,521	62,484	20,570	278,720
Telephone ..	{ Profit	..	3,438	..	..	..	..	..
	{ Loss	70,313	..	125,656	53,310	46,380	47,049	339,270
All Branches	{ Profit	35,191	143,045	..	..	..	..	..
	{ Loss	..	..	95,521	27,802	135,322	91,652	172,061

After providing for depreciation, pensions and retiring allowances and interest on capital, the year 1926-27 closed with a loss of £172,061, which represents an improvement of £113,276 on the result for the year 1925-26, when the deficit was £285,337. The postal branch, which showed an increased profit of £125,950, was the main factor in the reduction of the total deficit, the increased revenue in that branch being accounted for chiefly by additional business transacted during the year and by increased poundage rates on postal

notes. Although the telegraph branch showed a decrease in traffic receipts of £38,306, £17,500 of which was accounted for by reduced cable rates, the net result showed an improvement of £29,912, the reason being that annual charges totalling £81,347, representing a proportion of the maintenance and interest on lines used in a dual capacity, i.e., for both telegraph service and as telephone trunk lines, which in previous years were equally distributed between the telegraph branch and the telephone branch, were, during 1926–27, charged wholly against the telephone branch. This re-arrangement also accounts for the increase of £42,586 in the deficit shown by the telephone branch.

(b) *Branches, 1923 to 1927.* The following statement gives particulars of the operating results of each Branch for the period 1923 to 1927 :—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT, 1923-27.

Year Ended 30th June.	Branch—							
	Postal.		Telegraph.		Telephone.		All Branches.	
	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.
	£	£	£	£	£	£	£	£
1923 ..	1,365,064	..	..	78,460	179,455	..	1,466,059	..
1924 ..	502,667	..	..	183,982	50,667	..	364,352	..
1925 ..	243,472	..	..	227,175	..	258,619	..	242,322
1926 ..	319,979	..	..	308,632	..	296,684	..	285,337
1927 ..	445,929	..	..	278,720	..	339,270	..	172,061

10. *Expenditure, Postmaster-General's Department.*—(i) *Distribution.* The following table shows, as far as possible, the distribution of expenditure on various items in each State during the year ended 30th June, 1927. 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, 1926-27.

Particulars.	Central Office.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£	£
Salaries and contingencies—								
Salaries ..	50,829	2,079,765	1,444,929	793,057	553,283	420,757	182,307	5,524,927
Conveyance of mails ..	..	494,369	267,345	238,125	98,133	105,692	42,400	1,246,064
Contingencies ..	5,114	811,415	549,805	310,135	276,413	159,810	87,549	2,200,241
Ocean mails ..	129,195	..	..	..	..	..	..	129,195
Miscellaneous ..	10,561	26,477	20,057	8,806	6,240	3,837	2,667	78,645
Pensions and retiring allowances ..	..	45,449	52,108	165	..	12,707	..	110,429
Rent, repairs, maintenance ..	151	51,086	32,845	18,677	20,091	11,552	2,694	137,096
Supervision of works ..	..	..	..	..	..	24	228	252
Proportion of Audit Office expenses ..	..	3,988	2,902	1,496	967	642	364	10,359
New works—								
Telegraph and telephone ..	1,670	1,210,291	1,088,911	441,339	594,908	194,793	96,163	3,628,081
New buildings, etc. ..	..	148,778	58,349	34,847	53,478	8,015	14,239	317,706
Interest on transferred properties ..	..	79,872	42,779	31,943	26,287	16,120	6,977	203,978
Other ..	1,694,713	..	..	..	..	..	..	1,694,713
	(a)							
Total ..	1,392,239	4,951,490	3,560,030	1,878,590	1,629,800	933,949	435,588	15,281,686

(a) Particulars of apportionment to each State not available.

The decrease of £1,442,277 in the expenditure on new telegraph and telephone works was the principal factor governing the decline of £988,431 in the total expenditure, as compared with the year 1925-26.

(ii) *Total, 1923 to 1927.* 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 years ended 30th June, 1923 to 1927 inclusive.

EXPENDITURE, POSTMASTER-GENERAL'S DEPT., 1923 TO 1927.

Expenditure.	Year ended 30th June—				
	1923.	1924.	1925.	1926.	1927.
	£	£	£	£	£
Total	10,752,373	13,487,891	14,887,929	16,270,117	15,281,686

The total expenditure for 1926-27 increased by 42 per cent. on the amount for 1922-23.

11. **Capital Account.**—The appended statement shows particulars of the fixed assets of the Postmaster-General's Department at 30th June, 1927.

DETAILS OF FIXED ASSETS, 30th JUNE, 1927.

Particulars.	Net Value, 1st July, 1926. (b)	Capital Expenditure, 1926-27.	Gross Value, 1st July, 1927.	Less Deprecia- tion, &c. 1926-27. (a)	Net Value, 30th June, 1927.
	£	£	£	£	£
Telephone Lines and equipment	21,713,321	3,431,217	25,144,538	601,719	24,542,819
Telegraph Lines and Trunk Line equipment	7,829,664	931,440	8,761,104	125,283	8,635,821
Telegraph equipment	335,863	82,321	418,184	7,366	410,818
Postal equipment	170,798	8,222	179,020	1,195	177,825
Sites, Buildings, Furniture, and Office equipment	8,219,155	355,228	8,574,383	19,633	8,554,750
Miscellaneous	514,020	86,058	600,078	33,863	566,215
Total	38,782,821	4,894,486	43,677,307	789,059	42,888,248

(a) Includes Dismantled Assets, Depreciation written off, and Assets transferred.

(b) The variations between the figures shown in this column and those shown on page 337 of *Year-book* No. 20 are due to a re-arrangement of the Asset Accounts from 1st July, 1926. The total is not affected.

During the past quinquennium the value of the fixed assets has more than doubled, the net value at 30th June, 1922, having been £21,143,004.

§ 2. Telegraphs.

1. **General.**—A review of the development of the Electric Telegraph Services in Australia was given in a previous issue of this work (see *Year Book* No. 15), but limitations of space preclude the repetition of this information in the present issue. The most important recent development in connexion with the Telegraph system is the application of the "Carrier-wave" system (see also § 5, Telephones). This system, with a maximum capacity of 10 duplex channels (initial equipment, 5 duplex channels), was put into operation in February, 1927, on the Melbourne-Sydney and Melbourne-Adelaide trunk line routes with one channel linked at Melbourne to provide a through carrier from Sydney to Adelaide upon which a "Creed" high speed printing telegraph is operated. A total of 5,400 channel miles (duplex) of "carrier" telegraph system is now in operation.

2. **Telegraph Offices, Length of Lines and Wire.**—(i) *Summary for Australia.* The following table shows the number of telegraph offices and the length of telegraph lines and of telegraph wire available for use in Australia in each year from 1923 to 1927:—

TELEGRAPHS.—AUSTRALIA, SUMMARY, 30th JUNE, 1923 TO 1927.

Particulars.	1923.	1924.	1925.	1926.	1927.
Number of offices	6,987	7,709	8,576	8,904	9,111
Length of wire (miles)—					
Telegraph purposes only	62,619	63,528	66,702	65,471	70,563
Telegraph and telephone purposes ..	91,461	105,351	126,086	149,989	158,470
Length of line (miles)—					
Conductors in Morse cable	2,139	2,201	2,399	3,123	3,280
Conductors in submarine cable	2,193	2,415	2,919	3,598	4,251
Pole routes (miles)	66,648	71,828	80,399	85,547	93,237

(ii) *Particulars for each State.* The following table gives corresponding particulars for each State for the year 1926-27 :—

TELEGRAPHS.—STATES, SUMMARY, 30th JUNE, 1927.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Aus- tralia.
Number of offices ..	2,985	2,333	1,455	760	1,021	557	9,111
Length of wire (miles)—							
Telegraph purposes only	21,262	8,322	13,913	12,763	13,474	829	70,563
Telegraph and telephone purposes ..	50,958	31,639	40,186	15,089	13,833	6,765	158,470
Length of line (miles)—							
Conductors in Morse cable	1,389	1,374	406	..	97	14	3,280
Conductors in submarine cable (statute miles) ..	2,923	468	286	197	..	377	4,251
Pole routes (miles) ..	32,832	16,705	15,125	13,477	11,858	3,240	93,237

A total length of 229,033 miles of wire is available for telegraph purposes, of which 158,470 miles are also used for telephone purposes, and the figures show increases of 26,337 (11 per cent.) and of 20,715 miles (15 per cent.) respectively over the corresponding mileages for the previous year.

3. Number of Telegrams Dispatched.—(i) *Total for Australia.* The number of telegrams dispatched to destinations within Australia in each of the last five years is given hereunder :—

TELEGRAMS DISPATCHED.—AUSTRALIA, 1923 TO 1927.

Telegrams.	Year ended 30th June—				
	1923.	1924.	1925.	1926.	1927.
Number(a) ..	15,828,629	16,699,199	17,132,145	17,637,716	17,274,199

(a) Including interstate cablegrams.

(ii) *Totals for each State.* The appended table shows the total number of telegrams dispatched in each State in 1926-27 according to the class of message transmitted :—

TELEGRAMS DISPATCHED.—STATES, 1926-27.

Class of Message Transmitted within the Commonwealth.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
Paid and Collect—							
Ordinary ..	4,556,764	3,433,524	2,340,033	1,274,209	1,452,527	337,504	13,394,561
Urgent ..	762,736	272,402	225,417	106,263	79,591	17,832	1,464,241
Press ..	232,863	136,519	120,452	73,003	38,413	64,763	666,013
Lettergram ..	80,179	63,505	85,738	40,046	51,064	29,790	350,322
Total ..	5,632,542	3,905,950	2,771,640	1,493,521	1,621,595	449,889	15,875,137
Unpaid—							
Service ..	224,927	112,379	90,961	81,172	90,207	22,540	622,186
Shipping ..	64,863	124,557	19,339	6,673	24,710	9,570	249,712
Meteorological ..	168,445	76,680	75,110	68,439	114,643	23,847	527,164
Total ..	458,235	313,616	185,410	156,284	229,560	55,957	1,399,062
Grand Total ..	6,090,777	4,219,566	2,957,050	1,649,805	1,851,155	505,846	17,274,199

The figures in the foregoing table show a decrease in the total volume of telegraph business of 363,517 messages as compared with the previous year.

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 expenditure of the telegraph systems for the years 1922–23 to 1926–27 were given in earlier pages.

§ 3. Submarine Cables.

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. *The Tasmania-Victoria Cables.*—These cables were opened to the public on the 1st May, 1909. Their aggregate length is approximately 350 nautical miles of main cable, and 20 nautical miles each of intermediate and shore-end cable, making a total of 390 nautical miles.

3. *The Eastern Extension Company's Cables.*—In addition to the first Tasmania-Victoria cable and the original cable from Darwin (see Year Book No. 6, p. 770), the Eastern Extension Company has constructed several other cables connecting with various places in Australia, viz., Darwin to Banjoewanjie (two lines); Fremantle to Durban; Fremantle to Adelaide; Java to Cocos Island, which provides another route between Australia and South Africa. A cable partly owned by this Company connects the Darwin-Singapore cable with London via Hong Kong, Shanghai, Possiet Bay (Pacific Russia), Libau (Latvia), and Newbiggin (London).

4. *The Pacific Cable.*—(i) *Cable Lines.* The Pacific Cable lines are controlled by the Pacific Cable Board, which consists of two representatives each from the Imperial, Canadian and Australian Governments and one from New Zealand. The main cable route known as the "All Red" runs from Southport in Queensland to Bamfield (Vancouver Is.), thence overland to Montreal. From this point messages are transmitted across the Atlantic over the cables of the Anglo-American and Commercial Companies, or, if so desired, the Marconi Wireless System between Canada and the United Kingdom may be used for either homeward or outward messages. Cable stations are established at Norfolk Island, Fiji, and Fanning Island. A branch cable approximately 600 miles long runs from Norfolk Island to Doubtless Bay, North Island of New Zealand.

The assent of each of the Governments interested was obtained for the duplication of the system south of Fiji, and a contract for the submarine cables was placed with the Telegraph Construction and Maintenance Company of Greenwich. The laying of the Sydney-Southport cable was completed on 11th July, 1923, and the Auckland-Suva cable on 12th August, 1923. The duplication of the Suva (Fiji)-Bamfield (Vancouver Island) cable was completed in November, 1926. The total cost of duplication, including the cables laid south of Fiji in 1923, approximated £2,750,000.

(ii) *Financial Summary.* The receipts for the year 1926–27 amounted to £478,302 and exceeded the ordinary working expenses by £178,284. After payment of the annuity of £77,545 in respect of interest and repayment of the capital of £2,000,000, there remained a surplus of £100,739, which was transferred to the Reserve and Renewal Fund in compliance with the Pacific Cable Act 1927.

5. *New Zealand Cables.*—A submarine cable, 1,191 miles in length, from New Zealand to Australia, was laid in 1876. The Australian shore-end of the cable is at Botany Bay, while the New Zealand terminus is at Wakapuaka near Nelson in the Middle Island, whence another cable, 109 miles in length, is laid to Wanganui in the North Island. A second cable between New Zealand and Australia (Auckland to Sydney) was opened for traffic on the 31st December, 1912.

6. **The New Caledonia Cable.**—This cable was opened for use in October, 1893, the Australian shore-end being at Burnett Heads, near Bundaberg. The guarantees of the Governments of New South Wales and Queensland have since been transferred to the Commonwealth Government, but the agreement expired on 17th October, 1923, thus bringing to an end the payment by the Commonwealth Government of subsidies for cable services. On 13th September, 1923, there was an interruption in the cable, and, pending restoration, the traffic is being dealt with by wireless.

7. **Length of Cable Routes.**—The following statement shows the length of the several cable routes providing communication between Australia and Great Britain:—

LENGTH OF CABLE ROUTES.

VIA SOUTH AFRICA.			VIA VANCOUVER.		
	miles.			miles.	
Sydney to Adelaide (land line)	960		Sydney to Southport (Q'ld.)	510	
Adelaide to Perth	1,546		Southport (Q'ld.) to Norfolk Is.	837	
Perth to Mauritius	4,274		Norfolk Is. to Suva	982	
Mauritius to Durban	1,731		Suva to Fanning Is.	2,043	
Durban to Cape Town	1,114		Fanning Is. to Bamfield ..	3,458	
Cape Town to Madeira	5,590		Across Canada (land line)	3,400	
Madeira to Port Curnow ..	1,344		Canada to Great Britain ..	3,477	
Port Curnow to London (land line)	320				
Total	16,879		Total	14,707	

VIA DARWIN.

	miles.	
Adelaide to Darwin (land line)	2,134	
Darwin to Banjoewanjie	1,444	
Banjoewanjie to London	9,947	
	13,525	

8. **Cable Business.**—(i) *Australia.* The subjoined table shows the number of cablegrams received and dispatched in Australia from 1924-25 to 1926-27:—

CABLEGRAMS.—AUSTRALIA, 1924-25 TO 1926-27.

Cablegrams.	Cablegrams Received.			Cablegrams Dispatched.			Total Cablegrams Received and Dispatched.		
	1924-25.	1925-26.	1926-27.	1924-25.	1925-26.	1926-27.	1924-25.	1925-26.	1926-27.
Number ..	617,394	671,047	690,825	641,408	696,208	720,496	1,258,802	1,367,255	1,411,121

(ii) *States.* The number of cablegrams received and dispatched in each State during the year 1926-27 is given hereunder:—

CABLEGRAMS.—STATES, 1926-27.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.(a)	Australia.
Number received ..	360,572	226,383	23,253	36,860	30,749	7,808	690,625
Number dispatched	357,860	240,786	33,339	42,354	36,743	9,414	720,496
Total ..	718,432	467,169	61,592	79,214	67,492	17,222	1,411,121

(a) Exclusive of interstate cablegrams, which are included with interstate telegrams.

9. Cable and Radio (Beam) Rates.—(i) *Ordinary Messages.* From 1st February, 1927, the cable rates (per word) between Australia and Great Britain were reduced as follows:—Ordinary, 2s. 6d. to 2s.; deferred ordinary, 1s. 3d. to 1s.; and Government, 1s. 4d. to 1s. 0½d., and substantial reductions were also made on the Canadian service (via Pacific) as from the same date. The following are the rates at present operating on traffic to the principal countries:—

CABLEGRAM AND RADIOGRAM RATES, JUNE, 1928.

To—	Rate per Word and Route.		
	Via Pacific.	Via Eastern.	Via Beam.
European Countries ..	2s. 6d. to 3s. 0d.	2s. 6d. to 2s. 7d.	1s. 11½d. to 2s. 5½d.
Asiatic Countries ..	6s. to 6s. 4d.	2s. 6d. to 4s. 6d.	..
Africa ..	..	2s. 2d. to 5s. 4d.	2s. 2½d. to 2s. 10d.
North America ..	1s. 7d. to 3s. 5d.	2s. 4d. to 4s. 4d.	1s. 5½d. to 3s. 1d.
Central America ..	3s. 10d. to 5s. 11d.	5s. to 7s. 2d.	2s. 11½d.
West Indies ..	3s. to 5s. 11d.	4s. to 6s. 2d.	..
South America ..	3s. 10d. to 8s. 6d.	4s. 1d. to 8s. 4d.	4s. 3d. to 6s. 9d.

On 1st March, 1927, the extra charge on cablegrams between Tasmania and oversea countries was removed, so that charges are now uniform throughout the States.

(ii) *Deferred Cable or Radio (Beam) Messages.* Under this system a reduction of 50 per cent. in the ordinary cable or radio (Beam) charges is made under certain conditions. Any such messages which have not reached their destination within 24 hours may be transmitted in turn with full-rate messages. This service, together with "Daily Letter" and "Week-end" cable services has affected the ordinary cable business to a considerable extent. "Deferred Press" cablegrams subject to a delay of 18 hours may be exchanged between Australia and (a) Great Britain at the rate of 4½d. per word by cable and 3d. per word via Beam wireless; (b) Canada, at 2½d. per word by cable and 2½d. per word via Beam wireless; and (c) United States of America, at 3d. to 4d. per word by cable and 4d. per word via Beam wireless.

(iii) *Daily Letter Services.* The "Daily Letter" service was inaugurated in September, 1923, between Australia and Great Britain and Canada, and has since been extended to most countries in the British Empire and to the United States of America. "Daily Letter" messages are accepted subject to a maximum transit delay of 48 hours (including allowance for variations of times). The rates on messages (20 word minimum) to Great Britain are 9d. per word via "Pacific" or "Eastern," and 6d. per word via "Beam," while for United States of America the rate varies from 7d. to 9d. per word.

(iv) *Week-end Messages.* Week-end messages may be exchanged with certain specified countries at the rates indicated hereunder. Messages—which may be lodged at any post office—are forwarded to reach the transmitting station by post or telegraph by midnight on Saturdays and are deliverable to the addressees on Tuesday mornings. The rates per word for messages (20 word minimum) to the following countries are:—Great Britain, by cable 7½d., by wireless 5d.; Holland, 9d.; Canada, 5½d.; Newfoundland, 7½d.; Fanning Island, 6d.; and Italy, 9d.

(v) *Press Messages.* The rate per word on press messages exchanged with Great Britain is 6d. via cable and 4d. via Radio (Beam) service.

(vi) *Night Letter Service.*—A night letter service for traffic between Australia and New Zealand was introduced on 1st May, 1924. The rate is fixed at 3s. per message of 20 words, and 2d. per word in excess of 20. On 1st December, 1924, the service was extended to take in traffic to and from Fiji at the rate of 5s. 10d. per message of 20 words, and excess words at the rate of 3½d. per word. Night letter telegrams are accepted at any time and are delivered by first post on the morning following receipt.

§ 4. Telephones.

1. Telephone Services.—(i) *Mileage, etc., Australia.* The following table shows the mileage of lines, etc., for telephone purposes, giving trunk lines separately, on 30th June, 1925 to 1927 :—

TELEPHONE LINES—AUSTRALIA, 30th JUNE, 1925 TO 1927.

Particulars.	1925.	1926.	1927.
Ordinary Lines—			
Conduits duct miles	3,748	4,519	4,903
“ route miles	2,039	2,420	2,631
Conductors in aerial cables loop mileage	12,895	11,351	7,441
Conductors in underground cables	409,754	517,868	576,298
Conductors in cables for junction circuits	73,091	80,325	88,188
Open conductors single wire mileage	247,937	296,024	344,370
Trunk Lines—			
Telephone trunk lines only miles	85,201	104,480	120,282
Telegraph and telephone purposes	126,086	149,989	158,470

(ii) *Comparison with Other Countries.* Australia is steadily improving its position in the list of countries showing the most rapid advance in the use of the telephone, and it now occupies sixth place, with 717 telephones per 1,000 of population. This position may be considered highly satisfactory in view of the area and distribution of population in Australia and the average length of wire required to provide a subscriber's service. The average length of wire per telephone in Australia is 4.2 miles, as compared with 3.6 miles in the United States of America, 3.3 miles in New Zealand, and 2.6 miles in Canada.

(iii) *Government Policy.* A vigorous policy is pursued by the Government in providing telephone facilities, with the result that the system has developed rapidly during recent years. Many of the concessions have been of such a character as to render the services unremunerative, but it is considered that they are justified from the standpoint of national development. The adoption of the present policy has been the means of making telephone services available to a very large number of people, and particularly to those living in isolated localities. In providing facilities to meet present and future growth, full advantage is being taken of the best modern practices as adopted in other parts of the world.

(iv) *Trunk Line System.* The trunk line system of the Commonwealth aims to make the telephone service in Australia a nation-wide service and to improve long distance communication so that each subscriber may communicate with every other subscriber to the system. Notwithstanding the great distances separating the capital cities of the various States, commercial speech is now provided between all of the cities in the Eastern States, and satisfactory conversations have already taken place between Cairns (Queensland) and Adelaide (South Australia), a circuit distance of 2,770 miles. It is hoped within the next year or two to provide a service between Adelaide and Perth (Western Australia) in order to complete the chain. To ensure satisfactory transmission, advantage has been taken of the recently developed high frequency carrier current systems.

(v) *Automatic Exchanges.* At 30th June, 1927, there were 38 automatic or semi-automatic exchanges in operation providing facilities for 92,369 subscribers, 89,819 of whom were in the metropolitan areas. On the same date 13 automatic exchanges, with a total capacity of over 40,400 subscribers, were in course of construction. It is proposed eventually to convert the whole of the exchanges in the metropolitan networks to machine switching. Trials are being made with a specially constructed automatic unit for use at country exchanges, and the results at present are promising. The purpose of this equipment is to provide an economic day and night service at country exchanges, and it is hoped that the introduction of small automatic units will enable the benefits of continuous service to be more widely extended.

(vi) *Summary for States.* Particulars relating to the telephone service in each State for the years ended 30th June, 1925 to 1927, will be found in the following table:—

TELEPHONE SERVICES.—SUMMARY, 1925 TO 1927.

Particulars.	Year (30th June.)	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
No. of Exchanges	1925	1,498	1,292	618	415	442	307	4,572
	1926	1,621	1,426	743	462	519	324	5,095
	1927	1,740	1,518	821	495	574	334	5,482
No. of Telephone Offices (Including Exchanges)	1925	2,623	2,139	1,314	681	854	511	8,122
	1926	2,756	2,226	1,380	729	934	520	8,545
	1927	2,870	2,264	1,413	739	955	523	8,764
No. of lines connected	1925	107,497	83,640	34,560	28,968	14,667	8,784	273,116
	1926	117,249	93,215	39,382	33,547	16,398	9,415	309,206
	1927	127,734	101,891	42,911	37,132	18,232	10,051	338,001
No. of instruments connected	1925	139,557	114,169	43,073	37,057	18,633	10,753	363,242
	1926	152,969	127,000	48,729	42,580	20,819	11,519	403,616
	1927	167,301	138,609	53,505	47,300	23,277	12,370	442,362
(a) No. of subscribers' instruments	1925	135,527	111,786	41,371	36,118	17,992	10,124	352,918
	1926	148,681	124,682	46,928	41,558	19,906	10,816	392,571
	1927	163,104	135,867	51,468	46,200	22,366	11,934	430,639
(b) No. of public tele- phones	1925	2,165	1,900	1,212	629	586	493	6,985
	1926	2,379	1,914	1,302	666	841	522	7,624
	1927	2,555	2,112	1,458	697	868	565	8,255
(c) No. of other local instruments	1925	1,865	483	490	310	55	136	3,339
	1926	1,909	404	499	356	72	181	3,421
	1927	1,642	630	579	403	43	171	3,468
Instruments per 100 of population	1925	6.13	6.83	5.04	6.77	5.06	5.08	6.13
	1926	6.58	7.40	5.54	7.57	5.55	5.50	6.68
	1927	7.03	8.03	5.98	8.22	6.05	5.94	7.17
Earnings	1925	£ 1,411,341	£ 1,055,390	£ 494,103	£ 396,975	£ 202,066	£ 101,235	£ 3,661,110
	1926	1,584,153	1,179,788	568,936	459,084	230,019	110,961	4,132,941
	1927	1,771,611	1,320,005	639,882	521,867	262,679	120,670	4,636,714
Working expenses	1925	£ 1,218,284	£ 856,164	£ 443,820	£ 322,263	£ 168,945	£ 121,437	£ 3,128,913
	1926	1,298,084	969,963	498,543	384,075	203,720	132,849	3,487,234
	1927	1,437,290	1,012,961	590,284	444,825	239,628	139,319	3,864,207
Percentage of working ex- penses to earnings	1925	% 86.18	% 81.12	% 89.82	% 81.18	% 83.61	% 119.96	% 85.46
	1926	81.94	82.22	87.63	83.66	88.57	110.73	84.38
	1927	81.13	76.74	92.25	85.24	91.19	115.45	83.34

The number of instruments per 100 of population has increased from 6.13 in 1924-25 to 7.17 in 1926-27. The actual number of instruments has increased from 363,242 to 442,362, an increase of 22 per cent. Of the 442,362 instruments connected as at 30th June, 1927, 193,367, or 43.7 per cent. were served by exchanges situated beyond the limits of the telephone networks of the six State capital cities. As a general rule, the metropolitan networks are limited to a radius of 10 miles from the General Post Office.

(vii) *Systems in Use.* The following table shows the percentage of Automatic, Common Battery, and Magneto Telephone lines at 30th June, 1925 to 1927:—

PERCENTAGE OF AUTOMATIC, COMMON BATTERY, AND MAGNETO LINES, 1925 TO 1927.

System.	30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Automatic	1925	26.8	23.3	..	18.7	35.7	..	21.1
	1926	34.5	23.5	7.8	18.2	33.4	..	24.8
	1927	37.2	24.4	16.5	18.3	32.8	..	27.2
Common Battery	1925	8.4	28.1	24.4	29.2	7.9	50.9	19.8
	1926	6.5	25.9	15.8	25.0	7.4	48.7	16.5
	1927	6.2	24.3	15.3	23.3	7.1	47.4	16.0
Magneto	1925	64.8	48.6	75.6	52.1	56.4	40.1	59.1
	1926	59.0	50.6	76.4	56.8	59.2	51.3	58.7
	1927	56.6	51.3	68.2	58.4	60.1	52.6	56.8

(viii) *Subscribers' Lines and Calling Rates.* The next table gives the number of subscribers' lines and the daily calling rate at central, suburban, and country telephone exchanges in the several States for the year 1926-27 :—

TELEPHONES.—SUBSCRIBERS' LINES AND DAILY CALLING RATE, 1926-27.

State.	Central Exchanges.		Suburban Exchanges.		Country 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.
New South Wales	13,656	10.47	56,075	3.79	51,231	2.00	120,962	3.70
Victoria ..	9,928	9.69	46,790	3.67	40,252	1.48	96,970	3.47
Queensland ..	6,464	8.53	9,721	3.16	26,247	2.35	42,432	3.48
South Australia	8,597	7.70	11,604	4.90	15,439	1.40	35,640	4.06
Western Australia	5,409	6.47	3,133	4.10	7,654	1.73	16,196	3.77
Tasmania ..	2,542	4.39	864	2.36	6,138	1.84	9,544	2.57
Australia ..	46,596	8.73	128,187	3.87	146,961	1.84	321,744	3.64

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 exchanges, South Australia at suburban exchanges, and Queensland at country 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 slightly more than double the number shown for country exchanges.

(ix) *Trunk Line Calls and Revenue.* In the following 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 1924-25 to 1926-27 :—

TELEPHONES—TRUNK LINE CALLS AND REVENUE FOR THE YEARS 1924-25 TO 1926-27.

Particulars.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
Total Calls for Year—	No.	No.	No.	No.	No.	No.	No.
1924-25 ..	7,843,286	5,639,117	3,545,610	2,448,981	1,103,644	1,094,802	21,675,450
1925-26 ..	9,278,995	6,894,247	4,273,321	3,009,375	1,365,845	1,263,448	26,085,231
1926-27 ..	10,333,612	7,555,055	4,763,831	3,395,557	1,644,292	1,329,783	29,022,180
Total Revenue for Year—	£	£	£	£	£	£	£
1924-25 ..	261,940	184,809	153,354	97,359	48,887	30,691	777,040
1925-26 ..	323,492	225,243	191,880	116,462	62,894	35,641	955,602
1926-27 ..	382,469	258,635	221,337	131,932	77,512	39,197	1,111,102
Average Revenue per Call—	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
1924-25 ..	8.01	7.88	10.38	9.54	10.63	6.73	8.60
1925-26 ..	8.37	7.84	10.77	9.29	11.95	6.77	8.39
1926-27 ..	8.88	8.22	11.15	9.32	11.31	7.07	9.19

The number of trunk line calls recorded during 1926-27 increased by nearly 3 millions over the figures for the previous year, and the average revenue per call increased by 0.80 per call.

The rapid growth in connexion with subscribers' services is bringing about increased trunk line traffic, and extensive works are in progress to meet the growing demand and to improve the trunk line system generally.

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

§ 5. Radio Telegraphy and Telephony.

1. Radio Telegraphy and Telephony.—(i) *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, but consideration of space precludes its repetition in the present issue.

With the exception of the war period, licences for experimental and amateur stations have been issued since 1911, with restrictions on the use of transmitting equipment.

The regulations were amended in 1920 with a view to encouraging the erection of "land" stations by pastoralists and others in remote districts, but very few satisfactory applications were received. The Department, however, at the end of 1925 opened stations at Wave Hill and at Camooweal to collect and distribute messages from private stations that might subsequently be erected in the Northern Territory or Western Queensland. One such station has been erected at Brunette Downs.

The Department took over a private station at Maria Island, Tasmania, on 1st June, 1927, and now operates it in conjunction with the Post Office at that point. During 1927, stations were erected by Amalgamated Wireless (Australasia) Ltd. at Salamoa and Bulolo, on the New Guinea gold-fields, and, in 1928, at Marienberg, New Guinea, while the station at Morobe was closed.

Regulations under the Navigation Act require that all ships registered in Australia of 1,600 tons or more registered tonnage, or carrying more than 12 passengers, shall be fitted with an efficient radio telegraphy installation. At the end of June, 1928, there were 115 vessels so equipped.

Two Class "A" broadcasting stations are in operation in New South Wales and in Victoria and 1 each in the other States. Class "B" stations are in operation as follows, viz.:—New South Wales, 7; Victoria and South Australia, 2 each; and Queensland 1.

On 28th January, 1927, a Royal Commission was appointed to report upon—

- (1) Wireless broadcasting within the Commonwealth in all its aspects, with power to recommend any alterations deemed necessary in the policy and practices at present in force, and
- (2) the development and utilization of wireless services for public requirements within the Commonwealth.

The Commission presented its report to the Governor-General on 14th July, 1927. Up to the present the main results have been (a) an amendment to the agreement between the Commonwealth and Amalgamated Wireless (Australasia) Ltd. and (b) a reduction in listeners' licence-fees. The amending agreement provides, *inter alia*, that Amalgamated Wireless (Australasia) Ltd. shall make its patents available free of charge for a period of five years to broadcasters, traders and listeners, in return for which the Government undertakes to pay to the Company the sum of 3s. per annum on each listener's licence. The total amount received by the Company in this way is considerably less than was previously due to it, the intention of the agreement being that the listeners and the traders should benefit by the reduced royalty payments. The Postmaster-General's proportion of the licence-fee was also reduced.

(ii) *Broadcasting.* (a) *Licences, etc.* The regulations issued in 1924 as amended to date prescribe the licence-fees to be paid by owners of receiving sets and by experimenters. As a result of the amended agreement above-mentioned, the broadcast listeners' annual

licence-fee was reduced from 27s. 6d. to 24s. in Zone 1, and from 22s. 6d. to 17s. 6d. in Zone 2, the fee for Zone 3 being unaltered. In addition a uniform receiving licence was introduced, and dealers' licences, special licences and temporary licences were abolished. The amended rates and conditions became operative from 1st January, 1928. The annual fees and the distances from the capital city of the respective zones are as follows:—

Class of Licence.	Zone 1.		Zone 2.		Zone 3.	
	Up to 250 Miles.		250 to 400 Miles.		Beyond 400 Miles.	
	£	s. d.	£	s. d.	£	s. d.
Broadcast listeners' licences	1	4 0	0	17 6	0	17 6
Experimental licences	1	0 0	0	17 6	0	15 0

In addition to the licences referred to above, the regulations provide for the issue of the following licences, for which the respective fees per annum, payable in advance, are £1, viz. :—(a) Coast Station, (b) Ship Station, (c) Land Station, (d) Portable Station, and (e) Aircraft Station.

Of the revenue obtained from the licence fees, the Postal Department retains 4s. for each broadcast listener's licence and 13s. for each experimental licence. Of these amounts, 3s. is paid to Amalgamated Wireless (Australasia) Ltd., and the remainder of the revenue is available for distribution to the broadcasting company or companies in the State in which the revenue is collected. The companies must supply a satisfactory programme, use the authorized power, and provide effective transmission.

Two classes of broadcasting stations may operate, viz. :—Class "A"—in respect of which the receiving licence fees are payable, and Class "B"—in respect of which no receiving licence revenue is payable. In New South Wales and Victoria two Class "A" stations only may be licensed. In New South Wales the licensees of these stations receive 60 per cent. and 40 per cent. and in Victoria 70 per cent. and 30 per cent. respectively of the licence fees available for distribution. In the other States one Class "A" station only may be licensed, and the whole of the "available revenue" for the particular State will be payable in respect of the station. The fees payable to the Department for Class "A" licences are £15, and for Class "B" £5, the licence being valid for a period of 5 years.

The following tables show the number of each class of licence issued in each State, etc., during the years 1926-27 and 1927-28:—

WIRELESS LICENCES, 1926-27.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.	Papua.	Grand Total.
Coast	1	1	5	1	5	3	1	17	2	19
Ship	32	59	7	17	3	..	..	118	..	118
Land	4	3	1	..	..	1	..	9	2	11
Broadcasting—										
"A"	2	2	1	1	1	1	..	8	..	8
"B"	7	2	1	2	..	..	..	12	..	12
Broadcast listeners—										
Ordinary	56,908	113,612	22,226	15,904	3,616	1,142	..	213,408	..	213,408
Special	46	94	13	404	4	2	..	563	..	563
Temporary	41	40	51	25	1	7	..	165	..	165
Experimental—										
Transmitting and receiving	134	134	52	49	31	23	..	423	2	425
Receiving only	149	176	26	25	20	8	..	344	6	350
Dealers' listening	880	943	295	324	47	52	..	2,521	..	2,521
Portable	5	..	..	..	..	..	..	5	..	5
Aircraft .. ..	..	..	..	..	..	..	..	..	..	..
Total Licences issued	58,189	115,606	22,678	16,752	3,728	1,239	1	217,508	12	217,605

WIRELESS LICENCES, 1927-28.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.	Papua.	Grand Total.
Coast	1	1	5	1	5	3	1	17	8	25
Ship	24	56	12	18	5	..	..	115	..	115
Land	4	3	2	..	..	..	..	9	3	12
Broadcasting—										
“A”	2	2	1	1	1	1	..	8	..	8
“B”	7	2	1	2	..	..	..	12	..	12
Broadcast listeners	79,931	137,503	25,172	20,247	3,727	3,141	..	269,721	39	269,760
Experimental—										
Transmitting and										
receiving ..	140	154	58	58	30	25	..	465	2	467
Receiving only ..	126	101	14	14	17	6	..	278	2	280
Portable	6	2	6	1	..	..	..	15	..	15
Aircraft .. ..	..	..	..	..	..	..	..	..	..	..
Special	16	7	..	..	..	..	..	23	..	23
Total Licences issued	80,257	137,831	25,271	20,342	3,785	3,176	1	270,663	54	270,717

Licences previously issued by the Minister for the Navy under the Naval Defence Act 1910-1918, or by the Postmaster-General under the Act, and which were in force on 1st December, 1922, are not prejudiced by these Regulations.

Licences for the Territory of New Guinea are issued by the Administrator at Rabaul.

(b) *Simultaneous Delivery.* A development of some importance was the linking-up of several radio broadcasting stations for simultaneous broadcasting, which was successfully accomplished for the first time on 20th August, 1925, to enable an address to be delivered on the War Conversion Loan then being floated.

The speech was delivered at the Central Telephone Exchange, Melbourne, and by means of the telephone trunk lines and amplifying apparatus, was distributed to the studios of broadcasting stations in Brisbane (1,243 miles), Sydney (592 miles), Melbourne, and Adelaide (485 miles). The audience was estimated at 250,000 persons, and the area covered about two million square miles.

On the occasion of the opening of Federal Parliament at Canberra on 9th May, 1927, by H.R.H. the Duke of York, the speeches and ceremonies were again similarly broadcast. Receiving sets and loud speakers were set up in schools, halls, and other public places, and voice projectors were used in some of the principal streets of capital cities. A speech by Mr. L. S. Amery, the British Secretary of State for Dominions, was also similarly broadcast from Canberra in November, 1927.

(iii) *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 Canada, United States and Mexico was opened on 16th June, 1928. Satisfactory communication is maintained daily over a period of hours, and the new services are being well patronized by the public. Preliminary tests have been made between Canada and Australia, and the early opening of this service is anticipated. A comparison of the rates charged for “Beam” and Cable messages is given in § 3, Submarine Cables. Particulars of international traffic via “Beam” are given in para. (v) (a) hereunder.

(iv) *Radio Stations (Pacific Ocean.)* Radio-telegraphic stations have been erected at Suva, Ocean Island, Tulagi, and Vila under the control of the High Commissioner of the Pacific, while the New Zealand Government has erected high-power stations at Awanui (Auckland), Awarua (Bluff), and Apia (Samoa), and low-power stations at Auckland, Chatham Islands, Raratonga (Cook Islands) and Wellington.

(v) *Radiotelegraphic Traffic. (a) International.* The following statement shows particulars of international traffic "via Beam" to and from United Kingdom and other places during the period 8th April to 30th June, 1927 :—

RADIO TRAFFIC.—INTERNATIONAL, 8th APRIL to 30th JUNE, 1927.

Class of Traffic.	Number of Words Transmitted.			Number of Words Received.		
	United Kingdom.	Other Places.	Total.	United Kingdom.	Other Places.	Total.
Ordinary	108,305	12,825	121,130	79,442	3,699	83,141
Deferred	61,809	19,776	81,585	48,528	3,355	51,883
Government	5,843	..	5,843	6,834	..	6,834
Press (including Deferred press)	34,437	..	34,437	136,575	..	136,575
Daily letter and week-end telegrams	516,996	431	517,427	292,555	..	292,555
Total	727,390	33,032	760,422	563,934	7,054	570,988

(b) *Coast Stations.* Particulars of the traffic handled by the several coast stations during the year 1926-27 are as follows :

RADIO TRAFFIC.—COAST STATIONS, 1926-27.

State or Territory.	Particulars.				
	Total Paying Words.	Messages.			
		Paying.	Service.	Weather.	Total.
	No.	No.	No.	No.	No.
New South Wales	420,794	33,696	427	3,162	37,285
Victoria	145,970	11,060	15	1,623	12,698
Queensland	1,061,622	54,642	1,894	14,495	71,031
South Australia	83,542	6,680	299	1,575	8,554
Western Australia	237,698	17,617	460	4,066	22,143
Tasmania	154,619	9,674	459	488	10,621
Northern Territory	17,924	1,100	5	1,523	2,628
Australia	2,122,169	134,469	3,559	26,932	164,960
Papua	348,379	17,820	824	1,220	19,864
Grand Total	2,470,548	152,289	4,383	28,152	184,824

(c) *Island Stations.* Particulars of the island radio traffic dealt with during the year 1926-27 are given hereunder :—

RADIO TRAFFIC.—ISLAND STATIONS, 1926-27.

Particulars.	To Australia.	From Australia.	Inter-Island.	Ship.	Service.	Total.
Messages	15,272	10,575	7,086	1,484	..	34,417
Words	274,896	190,352	127,547	26,717	..	619,512

(vi) *Proficiency Certificates.* Proficiency certificates for commercial wireless operators are issued by the Minister to individuals who pass the specified tests. Amateur operators' certificates and watchers' certificates are, in addition, issued to successful candidates at the prescribed examinations.

Every ship-station and coast-station, in respect of which a licence is issued, must be operated by a person holding a certificate of proficiency.

At 30th June, 1928, 953 first-class and 48 second-class commercial and 416 amateur proficiency certificates, in addition to 69 watchers' certificates, had been issued.

§ 6. Research Section.

The Postmaster-General's Department, in pursuance of its policy of improving and extending the system of electrical communication in Australia, has created a Research Section, whose functions are indicated hereunder :—

- (i) Investigation of technical problems that arise in telephone, telegraph, and radio systems of the Department or under its control.
- (ii) Supervision of the transmission design of the trunk line network of the Commonwealth, wire and radio, in order to produce a co-ordinated system wherein a subscriber at any place in the Commonwealth will be able to converse easily and clearly with a subscriber in any other place. The possible future requirements of international and inter-Empire telephony are also included in these studies.
- (iii) Co-operative work with other bodies in research into the propagation of radio waves and factors influencing radio communication generally.
- (iv) Supervision of the initial installations of new forms of communication apparatus, such as carrier systems, radio links in the trunk line system, special forms of telephone repeaters and the larger simultaneous broadcasting events.

The nucleus of the staff was established in 1924, and the strength at 30th June, 1927, was 11, with laboratory equipment valued at £12,209.