

## 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 1921–22 to 1930–31 :—

#### TOTAL OVERSEA SHIPPING, ENTERED.—AUSTRALIA.

Year.	Steam.		Sailing.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
1921–22 .. ..	1,429	4,466,655	138	93,726	1,567	4,560,381
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
1927–28 .. ..	1,544	5,373,485	33	45,560	1,577	5,419,045
1928–29 .. ..	1,564	5,521,725	18	29,858	1,582	5,551,583
1929–30 .. ..	1,499	5,413,192	23	31,254	1,522	5,444,446
1930–31 .. ..	1,517	5,562,230	17	19,287	1,534	5,581,517

The average tonnage of vessels entered has risen from 2,910 tons per vessel in 1921–22 to 3,639 tons in 1930–31.

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

## OVERSEA SHIPPING, AUSTRALIA—DIRECTION.

Countries.	Cargo and Ballast.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
<b>TONNAGE ENTERED.</b>						
United Kingdom and European Countries	Cargo	1,834,752	1,939,468	1,759,576	2,043,137	1,632,252
	Ballast	31,267	3,950	35,563	19,840	248,998
New Zealand .. ..	Cargo	474,639	453,955	476,987	457,812	400,623
	Ballast	212,953	170,086	147,819	166,948	157,029
Asiatic Countries and Islands in the Pacific .. ..	Cargo	1,217,572	1,187,969	1,372,717	1,329,505	1,196,313
	Ballast	288,287	190,883	353,350	121,907	765,805
Africa .. ..	Cargo	16,540	34,325	57,453	42,304	34,543
	Ballast	91,582	55,595	75,807	52,103	261,442
North and Central America	Cargo	1,353,526	1,366,499	1,254,911	1,194,358	861,415
	Ballast	27,228	5,566	11,480	8,305	12,987
South America .. ..	Cargo	1,840	10,739	5,920	8,227	2,821
	Ballast	8,684	..	..	..	7,289
	Cargo	4,898,869	4,992,965	4,927,564	5,075,343	4,127,967
	Ballast	660,001	426,080	624,019	369,103	1,453,550
<b>Total .. ..</b>	<b>..</b>	<b>5,558,870</b>	<b>5,419,045</b>	<b>5,551,583</b>	<b>5,444,446</b>	<b>5,581,517</b>

<b>TONNAGE CLEARED.</b>						
United Kingdom and European Countries	Cargo	2,543,362	2,416,656	2,313,817	2,247,735	2,457,125
	Ballast	15,224	..	..	5,537	..
New Zealand .. ..	Cargo	627,538	601,802	514,588	544,643	469,806
	Ballast	41,020	23,518	29,189	43,584	19,121
Asiatic Countries and Islands in the Pacific .. ..	Cargo	1,181,485	1,104,361	1,390,401	1,061,434	1,651,536
	Ballast	298,862	453,271	444,169	594,732	311,894
Africa .. ..	Cargo	155,300	159,238	122,065	45,114	(a)169,060
	Ballast	16,425	2,722	672	4,205	..
North and Central America	Cargo	445,835	474,279	536,134	633,692	450,702
	Ballast	199,209	238,166	164,290	306,629	120,786
South America .. ..	Cargo	74,531	28,643	29,356	12,356	18,643
	Ballast	6,309	3,597	..	..	..
	Cargo	5,028,051	4,784,979	4,907,261	4,544,974	5,216,872
	Ballast	577,049	721,274	638,320	954,707	451,801
<b>Total .. ..</b>	<b>..</b>	<b>5,605,100</b>	<b>5,506,253</b>	<b>5,545,581</b>	<b>5,499,681</b>	<b>5,668,673</b>

(a) Includes 23 vessels of 71,801 tons cleared to Las Palmas and 13 vessels of 40,966 tons cleared to Port Said for orders, all of which were subsequently diverted to ports in the United Kingdom and Europe.

3. Nationality of Oversea Shipping.—The greater part of the shipping visiting Australia is of British nationality, though in 1930-31 the proportion of British tonnage, 66.94 per cent., was the lowest yet recorded.

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.

Nationality.	Tonnage.				
	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
<b>BRITISH—</b>					
Australian .. ..	405,968	395,680	206,188	211,890	227,550
United Kingdom .. ..	3,097,888	3,011,435	3,286,445	3,244,561	3,086,586
Canadian .. ..	86,701	72,079	77,907	57,282	38,683
New Zealand .. ..	458,716	403,176	415,517	399,209	320,822
Other British .. ..	102,201	94,863	120,580	84,928	62,398
Cargo .. ..	3,704,196	3,637,889	3,703,435	3,726,326	2,924,814
Ballast .. ..	447,278	339,344	403,202	271,544	811,225
Total British .. ..	4,151,474	3,977,233	4,106,637	3,997,870	3,736,039
Per cent. on total .. ..	74.68	73.39	73.97	73.43	66.94
<b>FOREIGN—</b>					
Danish .. ..	61,376	61,311	34,016	72,431	44,693
Dutch .. ..	115,363	130,500	147,843	154,036	147,425
French .. ..	99,832	97,596	118,842	106,939	102,641
German .. ..	140,810	157,381	137,766	105,435	114,922
Italian .. ..	61,583	76,921	54,716	63,840	68,220
Japanese .. ..	210,486	168,323	286,607	207,910	671,742
Norwegian .. ..	302,958	284,036	255,270	307,943	339,695
Swedish .. ..	111,920	106,159	92,397	86,540	114,244
United States .. ..	231,468	341,263	289,228	267,827	186,800
Other Foreign .. ..	71,600	18,322	28,261	73,675	55,096
Cargo .. ..	1,194,673	1,355,076	1,224,129	1,349,017	1,203,153
Ballast .. ..	212,723	86,736	220,817	97,559	642,325
Total Foreign .. ..	1,407,396	1,441,812	1,444,946	1,446,576	1,845,478
Per cent. on total .. ..	25.32	26.61	26.03	26.57	33.06
Cargo .. ..	4,898,869	4,992,965	4,927,564	5,075,343	4,127,967
Per cent. on total .. ..	88.13	92.14	89.76	93.22	73.96
Ballast .. ..	660,001	426,080	624,019	369,103	1,453,550
Per cent. on total .. ..	11.87	7.86	11.24	6.78	26.04
Grand Total .. ..	5,558,870	5,419,045	5,551,583	5,444,446	5,581,517

The Australian tonnage which entered Australia from overseas during the year 1930-31 represented 4.08 per cent. of the total tonnage entered. This figure was less

than the average for the quinquennium, which was 5.25 per cent., the decrease being due mainly to the disposal of Australian-owned vessels to foreign owners or to other Australian owners and transferred to the interstate trade, and the sale effected in April, 1928, of the five Bay liners and the freighters *Fordsdale* and *Ferndale* to the White Star Line.

### § 3. Shipping of Ports.

The total shipping tonnage—oversea, interstate, and coastwise—which entered the more important ports of Australia during the year 1930-31, together with similar information in regard to some of the ports of New Zealand for the year 1930 and of Great Britain for the year 1930, will be found in the next table:—

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

Port.	Tonnage Entered.	Port.	Tonnage Entered.
<b>AUSTRALIA—</b>		<b>ENGLAND AND WALES—</b>	
Sydney .. ..	8,468,282	London .. ..	29,232,914
Melbourne .. ..	6,310,549	Liverpool (including	
Adelaide .. ..	3,983,519	Birkenhead) .. ..	16,931,869
Brisbane .. ..	3,570,102	Southampton .. ..	12,921,062
Fremantle .. ..	3,464,655	Tyne Ports .. ..	10,813,360
Newcastle .. ..	3,383,198	Cardiff .. ..	8,626,324
Townsville .. ..	1,040,193	Plymouth .. ..	7,982,490
Hobart .. ..	767,592	Hull .. ..	6,226,642
Geelong .. ..	755,462	Manchester (including	
Pirie .. ..	669,127	Runcorn) .. ..	4,115,218
Cairns .. ..	584,244	Swansea .. ..	3,909,468
Kembla .. ..	536,650	Bristol .. ..	3,546,881
Albany .. ..	416,251	Newport .. ..	3,454,069
Launceston .. ..	383,442	Sunderland .. ..	3,170,768
Burnie .. ..	361,265	Middlesbrough .. ..	3,152,426
Mackay .. ..	333,209	Grimsby (including	
Thursday Island .. ..	309,611	Immingham) .. ..	2,579,884
Devonport .. ..	303,822	Dover .. ..	2,487,286
Rockhampton .. ..	293,587	Blyth .. ..	2,422,909
Bunbury .. ..	250,936	Falmouth .. ..	2,146,677
Whyalla .. ..	246,121	Beaumaris (including	
Bowen .. ..	213,884	Holyhead) .. ..	2,054,726
<b>NEW ZEALAND—</b>		<b>SCOTLAND—</b>	
Wellington .. ..	3,756,293	Glasgow .. ..	6,252,824
Auckland .. ..	2,476,051	Greenock .. ..	3,010,720
Lyttelton .. ..	2,041,897	Leith .. ..	2,120,933
Dunedin .. ..	1,074,514	<b>NORTHERN IRELAND—</b>	
		Belfast .. ..	6,869,267

### § 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 1927 to 1931, 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.

NUMBER.

Year.	Steamers built of—					Oil Motor Vessels.	Sailing.	Pontoons, Dredges, etc.	Total.
	Wood.	Iron.	Steel.	Com- posite.	Total.				
1927 ..	..	..	I	..	I	5	I	..	7
1928 ..	2	..	..	..	2	13	5	..	20
1929 ..	..	..	..	..	..	12	2	..	14
1930 ..	..	..	..	..	..	11	I	..	12
1931 ..	..	..	..	..	..	3	..	..	3

TONNAGE.

Year.	Steamers.		Oil Motor Vessels.		Sailing.		Pontoons, Dredges, etc.		Total.	
	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.
1927 ..	6	5	86	56	3	3	..	..	95	64
1928 ..	46	36	191	156	61	59	..	..	298	251
1929 ..	..	..	328	241	17	14	..	..	345	255
1930 ..	..	..	310	219	9	9	..	..	319	228
1931 ..	..	..	36	27	..	..	..	..	36	27

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, 1931 :—

VESSELS ON THE STATE REGISTERS, 31st DECEMBER, 1931.

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.				
New South Wales ..	48	1,239	393	80,159	258	3,427	224	9,432	51	14,156	974	108,413
Victoria ..	40	4,171	134	142,517	51	2,547	45	795	65	28,588	335	178,618
Queensland ..	19	2,920	39	4,847	57	917	95	1,383	31	4,432	241	14,499
South Australia ..	12	341	65	15,100	55	2,781	55	3,142	21	4,874	208	26,238
Western Australia ..	9	173	27	6,120	23	457	301	4,558	21	4,370	381	15,678
Tasmania ..	5	534	49	5,293	66	1,587	65	2,544	2	563	187	10,521
Northern Territory ..	..	..	..	..	3	44	17	163	..	..	20	207
<b>Total ..</b>	<b>133</b>	<b>9,378</b>	<b>707</b>	<b>254,036</b>	<b>513</b>	<b>11,760</b>	<b>802</b>	<b>22,017</b>	<b>191</b>	<b>56,983</b>	<b>2,346</b>	<b>354,174</b>

§ 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.) No complexity enters into the record of those in category (a), but with regard to the method of recording the movements of the overseas vessels (b) some explanation is necessary. Each State desires that its

shipping statistics (which are prepared in the Commonwealth Bureau of Census and Statistics) shall show in full its shipping communication with overseas countries, but at the same time it is necessary to avoid any duplication in the statistics for Australia as a whole. In order to meet these dual requirements, a vessel arriving in any State from an overseas country—say United Kingdom—*via* another State, is recorded in the second State as from United Kingdom, *via States*, thus distinguishing the movement from a *direct* overseas entry. Continuing the voyage, the vessel is in the third State again recorded for the statistics of the State concerned as from United Kingdom *via* other States. As, however, this inward voyage will terminate at an Australian port it follows that the *clearance* from the second State to the third State is a *clearance* interstate, and is included with interstate tonnage in conformity with the pre-federation practice of the States, and to preserve the continuity of State statistics. Thus, movements of ships which are, from the standpoint of Australia as a whole, purely coastal movements, must for the individual States be recorded as “Oversea *via* other States” or “Interstate” according to the direction of the movement. The significance of the record of these movements will be more clearly seen from the following tabular presentation of the inward and outward voyages to and from Australia of a mail steamer which, it is presumed, reaches Fremantle (Western Australia) and then proceeds to the terminal port of the voyage—Sydney (New South Wales)—*via* the States of South Australia and Victoria. From the terminal port the vessel will commence the outward voyage, and retrace its inward track.

## ITINERARY OF AN OVERSEAS VESSEL ON AUSTRALIAN COAST.

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

From the method outlined above, the requirements for Australia and for the individual States are ascertained as follows:—(a) The aggregate of all ships recorded for each State as “Oversea *direct*” gives the overseas shipping for Australia as a whole. (b) The aggregate for all ships recorded in any State as “Oversea *direct*” plus those recorded as “Oversea *via States*” gives the total *oversea shipping* for that State. (c) From the example given in the table it may be noticed that for every entry “Oversea *via States*” there is a corresponding clearance “Interstate,” so that according to the purpose for which the figures are required, the movements of “oversea ships *via States*” can be added to the recorded interstate shipping, and thus furnish figures showing the total interstate *movement* of shipping, or a similar deduction may be made from the recorded interstate shipping to give the total movement of shipping engaged solely in interstate trade.

2. **Vessels and Tonnage Entered.**—(*Interstate direct.*) The following table gives the number and tonnage of vessels recorded as having entered each State from any other State during each of the years 1926-27 to 1930-31. The shipping of the Murray River, between the States of New South Wales, Victoria, and South Australia is not included :—

**INTERSTATE SHIPPING.—NUMBER AND TONNAGE OF VESSELS ENTERED.**

States and Territory.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
<b>NUMBER.</b>					
New South Wales ..	2,022	1,856	1,723	1,588	1,564
Victoria ..	1,870	1,815	1,704	1,739	1,534
Queensland ..	487	463	455	490	469
South Australia ..	949	852	730	753	606
Western Australia ..	366	382	339	387	305
Tasmania ..	1,014	1,052	950	1,022	941
Northern Territory ..	24	29	33	26	21
<b>Total ..</b>	<b>6,732</b>	<b>6,449</b>	<b>5,934</b>	<b>6,005</b>	<b>5,440</b>

<b>TONNAGE.</b>					
New South Wales ..	4,626,263	4,204,347	4,103,542	4,079,399	3,996,976
Victoria ..	3,787,217	3,511,614	3,416,924	3,552,904	3,274,609
Queensland ..	1,056,045	1,074,291	1,106,905	1,164,183	1,061,560
South Australia ..	2,725,309	2,462,588	2,238,706	2,504,065	2,143,692
Western Australia ..	1,778,919	1,879,446	1,603,818	1,915,695	1,653,953
Tasmania ..	1,171,857	1,242,260	853,982	1,207,640	1,134,113
Northern Territory ..	62,663	61,746	59,048	64,075	62,570
<b>Total ..</b>	<b>15,208,273</b>	<b>14,436,292</b>	<b>13,442,925</b>	<b>14,487,961</b>	<b>13,327,473</b>

3. **Oversea Vessels Moving Interstate.**—(*Oversea via States.*) To ascertain the aggregate movement of shipping between the States during the year 1930-31, 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, 1930-31.**

States and Territory.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ..	471	2,325,559	440	2,244,517	911	4,570,076
Victoria ..	422	2,131,629	385	2,021,967	807	4,153,596
Queensland ..	228	1,401,838	221	1,369,459	449	2,771,297
South Australia ..	273	1,504,199	237	1,377,369	510	2,881,568
Western Australia ..	49	169,423	14	56,101	63	225,524
Tasmania ..	31	123,690	89	497,020	120	620,710
Northern Territory ..	2	3,655	..	..	2	3,655
<b>Total ..</b>	<b>1,476</b>	<b>7,659,993</b>	<b>1,386</b>	<b>7,566,433</b>	<b>2,862</b>	<b>15,226,426</b>

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 1926-27 to 1930-31 were as follow :—

**VESSELS ENGAGED SOLELY IN INTERSTATE TRADE. NUMBER AND TONNAGE ENTERED AND CLEARED.—AUSTRALIA.**

Year.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
1926-27 .. .. .	5,129	7,303,603	5,146	7,422,571
1927-28 .. .. .	4,824	6,316,106	4,865	6,447,495
1928-29 .. .. .	4,373	5,512,897	4,383	5,611,354
1929-30 .. .. .	4,396	6,218,634	4,373	6,091,994
1930-31 .. .. .	4,054	5,761,040	4,074	5,838,626

5. **Total Interstate Movement of Shipping.**—(i) *Australia.* The appended table shows the total interstate movement of shipping including oversea vessels moving interstate for each of the years 1926-27 to 1930-31 :—

**TOTAL INTERSTATE MOVEMENT OF SHIPPING.—AUSTRALIA.**

Year.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
1926-27 .. .. .	8,599	24,081,520	8,616	24,200,488
1927-28 .. .. .	8,324	23,395,355	8,365	23,526,744
1928-29 .. .. .	7,823	22,648,956	7,833	22,747,413
1929-30 .. .. .	7,851	23,616,739	7,828	23,490,099
1930-31 .. .. .	6,916	20,987,466	6,936	21,065,052

(ii) *States.* The following table shows the number and tonnage of vessels which entered and cleared each State from and for other States during 1930-31, including the coastal movements of oversea vessels :—

**INTERSTATE SHIPPING OF EACH STATE, 1930-31.**

States and Territory.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales .. .. .	2,035	6,322,535	2,040	6,323,686
Victoria .. .. .	1,956	5,406,238	2,010	5,626,650
Queensland .. .. .	697	2,463,398	698	2,468,556
South Australia .. .. .	879	3,647,891	884	3,652,994
Western Australia .. .. .	354	1,823,376	299	1,640,753
Tasmania .. .. .	972	1,257,803	984	1,294,692
Northern Territory .. .. .	23	66,225	21	57,721
<b>Total, Australia .. .. .</b>	<b>6,916</b>	<b>20,987,466</b>	<b>6,936</b>	<b>21,065,052</b>

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 1927 to 1931 :—

INTERSTATE AND COASTAL STEAMSHIP SERVICES.—AUSTRALIA.

Particulars.	1927.	1928.	1929.	1930.	1931.
Number of companies making returns .. .. .	40	38	29	22	23
Number of steamships .. .. .	212	201	181	173	162
Tonnage { Gross .. .. .	398,894	371,142	360,459	349,163	319,756
{ Net .. .. .	214,703	208,083	202,749	196,342	178,549
Horse-power (Nominal) .. .. .	39,545	37,980	37,911	36,230	34,357
Number of 1st class passengers for which licensed .. .. .	7,909	7,686	7,983	7,686	7,278
{ 2nd class and steerage .. .. .	3,438	3,240	1,755	1,784	1,775
Complement of Crew { Masters and officers .. .. .	698	638	588	563	524
{ Engineers .. .. .	662	630	598	576	538
{ Crew .. .. .	5,176	4,922	4,710	4,630	4,232

§ 6. Tonnage of Cargo.

1. Oversea and Interstate 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 1926-27 to 1930-31. Cargo which was stated in cubic feet has been converted to tons measurement on the basis of 40 cubic feet to the ton.

AUSTRALIAN SHIPPING.—CARGO MOVEMENT.

Year.	Oversea Cargo.				Interstate Cargo.	
	Discharged.		Shipped.		Shipped.	
	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.
1926-27 .. .. .	3,097,467	2,857,745	4,313,286	932,855	5,764,631	1,031,525
1927-28 .. .. .	3,346,604	2,542,523	3,739,525	946,781	5,090,116	1,134,972
1928-29 .. .. .	3,596,936	2,470,493	4,529,232	759,813	4,381,692	1,168,601
1929-30 .. .. .	4,348,396	2,298,101	3,954,893	643,373	3,460,428	1,111,355
1930-31 .. .. .	2,375,412	1,037,889	5,802,593	639,032	3,295,051	805,314

2. Nationality.—The following table shows the total oversea cargo discharged and shipped according to the nationality of the vessels carrying during the years 1926-27 to 1930-31.

OVERSEA CARGO DISCHARGED AND SHIPPED.—TONS.(a)

Vessels Registered at Ports in—	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
British—					
Australia .. .. .	660,255	679,122	255,296	237,792	219,168
United Kingdom .. .. .	6,240,640	6,036,024	6,988,043	6,861,323	5,528,848
Canada .. .. .	183,020	151,582	190,273	135,154	86,775
New Zealand .. .. .	605,344	512,929	456,560	441,593	357,258
Other British .. .. .	196,486	142,629	222,787	163,949	98,492
<b>Total British .. .. .</b>	<b>7,885,745</b>	<b>7,522,286</b>	<b>8,112,959</b>	<b>7,839,811</b>	<b>6,290,541</b>
<b>Per cent. on Total .. .. .</b>	<b>70.40</b>	<b>71.13</b>	<b>71.44</b>	<b>69.72</b>	<b>63.83</b>

OVERSEA CARGO DISCHARGED AND SHIPPED.—TONS (a)—*continued.*

Vessels Registered at Ports in—	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
<b>Foreign—</b>					
Denmark .. .. .	257,924	176,568	117,499	227,779	133,777
France .. .. .	129,138	151,162	133,670	119,533	92,460
Germany .. .. .	364,224	377,599	385,692	269,783	241,868
Italy .. .. .	149,996	125,403	92,476	108,605	90,412
Japan .. .. .	389,859	303,353	532,174	436,747	1,146,557
Netherlands .. .. .	239,277	256,493	280,675	290,949	234,897
Norway .. .. .	866,729	722,677	687,509	876,701	868,346
Sweden .. .. .	424,649	354,084	330,290	355,621	360,373
United States of America .. .. .	352,561	534,477	585,587	512,923	282,383
Other Foreign .. .. .	141,251	51,331	77,943	206,311	113,312
<b>Total Foreign .. .. .</b>	<b>3,315,608</b>	<b>3,953,147</b>	<b>3,243,515</b>	<b>3,404,952</b>	<b>3,564,385</b>
Per cent. on Total .. .. .	29.60	28.87	28.56	30.28	36.17
<b>Grand Total .. .. .</b>	<b>11,201,353</b>	<b>10,575,433</b>	<b>11,356,474</b>	<b>11,244,763</b>	<b>9,854,926</b>

(a) Tons weight and tons measurement combined.

The subject of cargo tonnage is considered further in connexion with the volume of trade in Chapter VI. § 12 in the Appendix to this issue.

## § 7. 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, 1931.

Nationality.	Steam and Motor.		Sailing.		Total.		Percentage on Total.	
	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.	No.	Gross Tonnage.
Great Britain and Nth. Ireland	7,781	20,193,677	376	109,228	8,157	20,302,905	25.80	30.22
Australia and New Zealand	593	677,463	9	3,746	602	681,209	1.90	1.01
Canada (a) ..	645	959,671	164	83,095	809	1,042,766	2.56	1.55
Other British ..	771	911,802	193	46,711	964	958,513	3.05	1.43
<b>Total, British Empire ..</b>	<b>9,790</b>	<b>22,742,613</b>	<b>742</b>	<b>242,780</b>	<b>10,532</b>	<b>22,985,393</b>	<b>33.31</b>	<b>34.21</b>
Belgium ..	234	542,432	4	5,038	238	547,470	0.75	0.82
Denmark ..	677	1,133,201	40	12,056	717	1,145,257	2.27	1.70
France ..	1,521	3,513,179	132	53,048	1,653	3,566,227	5.23	5.31
Germany ..	2,151	4,226,050	20	28,551	2,171	4,254,601	6.87	6.33
Greece ..	539	1,397,782	..	..	539	1,397,782	1.70	2.08
Holland ..	1,410	3,111,357	19	6,813	1,429	3,118,170	4.52	4.64
Italy ..	1,101	3,273,525	246	62,148	1,347	3,335,673	4.26	4.96
Japan ..	1,969	4,276,341	..	..	1,969	4,276,341	6.23	6.36
Norway ..	1,981	4,061,629	9	3,877	1,990	4,065,506	6.29	6.05
Spain ..	771	1,211,817	71	15,553	842	1,227,370	2.66	1.83
Sweden ..	1,339	1,678,776	89	25,893	1,428	1,704,669	4.52	2.54
United States of America (a) (b)	2,847	10,454,013	586	642,829	3,433	11,096,842	10.86	16.52
Other Foreign Countries ..	2,933	4,277,144	395	192,648	3,328	4,469,792	10.53	6.65
<b>Total, Foreign Countries ..</b>	<b>19,473</b>	<b>43,157,246</b>	<b>1,611</b>	<b>1,048,454</b>	<b>21,084</b>	<b>44,205,700</b>	<b>66.69</b>	<b>65.79</b>
<b>Grand Total ..</b>	<b>29,263</b>	<b>65,899,859</b>	<b>2,353</b>	<b>1,291,234</b>	<b>31,616</b>	<b>67,191,093</b>	<b>100.00</b>	<b>100.00</b>

(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.

§ 8. Ferries.

1. **New South Wales.**—The ferry services in Port Jackson are under the control of three companies, which during the year 1931 had 57 vessels in commission, 55 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 owned one steamer which was engaged in the transport of passengers between Port Melbourne and Williamstown until 27th December, 1930, from which date the service was discontinued. 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 1931 were operated by a private company, and consisted of 8 petrol-driven vessels. At South Perth the Western Australian Government employed 3 vessels, 1 of which was a steamer.

5. **Tasmania.**—In and around Hobart there were in 1931, 4 ferry services, 2 being controlled by private companies which had 2 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 1931, 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, 1931.

Particulars.	New South Wales.	Victoria. (d)	Western Australia.	Tasmania.	Total.
<b>Boats in Service—</b>					
Steam .. No.	55	1	1	3	60
Other .. No.	2	..	10	2	14
Total .. No.	57	1	11	5	74
<b>Number of passengers which boats are licensed to carry .. No.</b>	44,066	342	1,622	1,629	47,659
<b>Revenue .. £</b>	697,388	393	13,609	22,413	733,803
<b>Working Expenses .. £</b>	556,701	1,488	15,082	24,521	597,792
<b>Passengers carried (b) No.</b>	46,215,111	16,644	1,216,455	1,136,880	48,585,090
<b>Mileage of Boats miles</b>	(a)	2,808	77,701	(b)96,500	(c)177,009
<b>Accidents—</b>					
Killed .. No.	1	..	..	..	1
Injured .. No.	72	..	..	12	84
<b>Employees—</b>					
Salaried Staff No.	78	..	2	8	88
Wages Staff No.	926	6	30	29	991

(a) Not available. (b) Approximate. (c) Incomplete. (d) Service discontinued as from 27th December, 1930.

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.

§ 9. 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 were available.

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

3. **Shipping Freight Rates.**—The Quarterly Summary of Australian Statistics gives a list of the ruling freight rates for general merchandise both in respect of oversea and interstate shipments. The latest figures available, which give the rates current at 30th June, 1932, 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, 1931, has been included in the Transport and Communication Bulletin No. 22, 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 1929-30 are shown in the Transport and Communication Bulletin No. 22. 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).

(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 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, was submitted to the Commonwealth Government by Sir George Buchanan, and published as two Parliamentary Papers (No. 86 printed 14th March, 1927, and No. 108 printed 9th May, 1927).

## B. RAILWAYS.

### § 1. General.

1. **Introduction.**—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.

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 Railway Commissioners, has been made during recent years.

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

4. **Grafton-South Brisbane (Uniform Gauge) Line.**—The line from Grafton (New South Wales) to Brisbane (Queensland) which was opened for traffic on 27th September, 1930, was constructed to overcome the break of gauge between Sydney and Brisbane, and is the first step towards uniform gauge railway communication between the capitals of the mainland States. It was constructed under agreement between the Commonwealth and the States of New South Wales and Queensland and is of 4ft. 8½in. gauge. The work consisted of regrading and relaying the existing New South Wales line between Grafton and Kyogle and the construction of a new line 94.82 miles in length from Kyogle (New South Wales) to South Brisbane (Queensland). Under the agreement, the Commonwealth in the first instance provided the cost of the work, of which one-fifth was deemed to have been on behalf of the Commonwealth, and four-fifths on behalf of the five mainland States of the Commonwealth collectively on a population basis. The agreement also provides that if in any financial year the earnings from the line exceed the working expenses, the excess shall be applied in paying to the Commonwealth the interest on the money provided by it on behalf of the States and the Commonwealth. The order in which such excess shall be applied is laid down in the agreement, and provides that the interest on the quotas of Victoria, South Australia, and Western Australia shall be paid first, then the interest on the quotas of Queensland and New South Wales, and lastly the interest on the quota of the Commonwealth. Any balance remaining after payment of interest will be returned to Queensland and New South Wales. The States of Victoria, South Australia and Western Australia did not enter into the agreement, and the quotas of these States were assumed by the Commonwealth. To 30th June, 1931, the total expenditure by the Commonwealth was £4,371,000, the interest charge for the year 1930-31 being £215,971. During the period 27th September, 1930, to 30th June, 1931, the working of the line, which is the responsibility of the New South Wales and Queensland Railways Commissioners, resulted in losses being shown on both sections as follows:—New South Wales £39,533, and Queensland £21,008. In addition, the following amounts were paid as interest:—New South Wales £70,269, and Queensland £26,311, the remainder, £119,391, being borne by the Commonwealth. Figures relating to the operation, etc., of the line are incorporated as far as possible with New South Wales and Queensland in the tables in Section 3, State Railways.

5. **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.

The subjoined table shows the route mileage of Federal, State, and private lines open for general traffic (exclusive of sidings and cross-overs) in each State for each of the years 1926-27 to 1930-31. The railway mileage given for each State includes both Federal, State, and private railways in that State:—

## RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE OPEN.

State or Territory.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales .. ..	5,892.07	6,008.99	6,082.25	6,089.93	6,159.70
Victoria .. ..	4,659.16	4,721.69	4,723.95	4,737.65	4,741.69
Queensland .. ..	6,603.59	6,619.14	6,720.91	6,726.03	6,794.54
South Australia .. ..	3,637.01	3,636.42	3,821.29	3,938.68	3,932.33
Western Australia .. ..	4,649.04	4,707.62	4,809.47	4,841.89	4,911.37
Tasmania .. ..	845.86	841.06	827.26	821.01	806.45
Federal Capital Territory .. ..	4.94	4.94	4.94	4.94	4.94
Northern Territory .. ..	198.68	198.68	264.84	316.50	316.50
Australia .. ..	26,490.35	26,738.54	27,254.91	27,476.63	27,667.52

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 and (b) the length of private lines available for general use by the public. The mileages specified in the case of Government and private lines are to the 30th June, 1931 :—

## RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE CLASSIFIED, 1930-31.

State or Territory.	Government Lines—		Private Lines available for General Traffic.	Total Open for General Traffic.
	State.	Federal.		
	Miles.	Miles.	Miles.	Miles.
New South Wales .. ..	6,044.00	..	115.70	6,159.70
Victoria .. ..	4,716.75	..	24.94	4,741.69
Queensland .. ..	6,528.78	..	265.76	6,794.54
South Australia .. ..	2,529.26	1,369.27	33.80	3,932.33
Western Australia .. ..	4,180.38	453.99	277.00	4,911.37
Tasmania .. ..	664.89	..	141.56	806.45
Federal Capital Territory .. ..	..	4.94	..	4.94
Northern Territory .. ..	..	316.50	..	316.50
Australia .. ..	24,664.06	2,144.70	858.76	27,667.52

6. *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 at the 30th June, 1931 :—

## RAILWAYS.—GOVERNMENT AND PRIVATE.—COMPARISON OF FACILITIES, 1931.

Particulars.	N.S.W.	Vic.	Q'ld.	S.A.	W.A.	Tas.	Fed. Cap. Ter.	Nor. Ter.	Aust.
Mileage of Railway— Per 1,000 of population .. ..	2.46	2.64	7.08	6.74	11.68	3.68	0.58	68.01	4.26
Per 1,000 sq. miles of Territory .. ..	19.91	53.95	10.13	10.35	5.03	30.76	5.26	0.60	9.30

7. Classification of Lines according to Gauge, 1930-31.—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; and (iii) Private railways open to the public for general traffic. Particulars of Government railways are up to the 30th June, 1931, and of private railways open for general traffic to the 31st December, 1931, as nearly as possible.

## RAILWAYS.—GOVERNMENT AND PRIVATE.—GAUGES, 1930-31.

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. 0 in.	

## FEDERAL RAILWAYS.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
South Australia .. ..	..	597.86	771.41	..	..	..	1,369.27
Western Australia .. ..	..	453.99	..	..	..	..	453.99
Federal Capital Territory .. ..	..	4.94	..	..	..	..	4.94
Northern Territory .. ..	..	..	316.50	..	..	..	316.50
<b>Total .. ..</b>	..	<b>1,056.79</b>	<b>1,087.91</b>	..	..	..	<b>2,144.70</b>

## STATE RAILWAYS.

New South Wales .. ..	..	6,004.49	39.51	..	..	..	6,044.00
Victoria .. ..	4,594.98	..	..	..	121.77	..	4,716.75
Queensland .. ..	..	68.82	6,429.70	..	..	30.26	6,528.78
South Australia .. ..	1,451.24	..	1,078.02	..	..	..	2,529.26
Western Australia .. ..	..	..	4,180.38	..	..	..	4,180.38
Tasmania .. ..	..	..	653.56	..	..	11.33	664.89
<b>Total .. ..</b>	<b>6,046.22</b>	<b>6,073.31</b>	<b>12,381.17</b>	..	<b>121.77</b>	<b>41.59</b>	<b>24,664.06</b>

## PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.

New South Wales .. ..	..	78.97	36.73	..	..	..	115.70
Victoria .. ..	..	..	..	11.00	..	..	24.94
Queensland .. ..	13.94	..	101.55	..	7.00	157.21	265.76
South Australia .. ..	..	..	33.80	..	..	..	33.80
Western Australia .. ..	..	..	277.00	..	..	..	277.00
Tasmania .. ..	..	..	125.07	..	..	16.49	141.56
<b>Total .. ..</b>	<b>13.94</b>	<b>78.97</b>	<b>574.15</b>	<b>11.00</b>	<b>7.00</b>	<b>173.70</b>	<b>858.76</b>

## ALL RAILWAYS OPEN FOR GENERAL TRAFFIC.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales .. ..	..	6,083.46	76.24	..	..	..	6,159.70
Victoria .. ..	4,608.92	..	..	11.00	121.77	..	4,741.69
Queensland .. ..	..	68.82	6,531.25	..	7.00	187.47	6,794.54
South Australia .. ..	1,451.24	597.86	1,883.23	..	..	..	3,932.33
Western Australia .. ..	..	453.99	4,457.38	..	..	..	4,911.37
Tasmania .. ..	..	..	778.63	..	..	27.82	806.45
Federal Capital Territory .. ..	..	4.94	..	..	..	..	4.94
Northern Territory .. ..	..	..	316.50	..	..	..	316.50
<b>GRAND TOTAL .. ..</b>	<b>6,060.16</b>	<b>7,209.07</b>	<b>14,043.23</b>	<b>11.00</b>	<b>128.77</b>	<b>215.29</b>	<b>27,667.52</b>

8. **Summary of Operations, 1930-31.**—In the following table a summary is given of the working of all railways open for general traffic in Australia during the year ended 30th June, 1931 :—

**RAILWAYS.—FEDERAL, STATE, AND PRIVATE.—SUMMARY 1930-31.**

Particulars.	Federal Railways.	State Railways.	Private Railways.	Total for Australia.
Mileage open (route) 30th June, 1931 .. .. Miles	2,144.70	24,664.06	858.76	27,667.52
Capital cost .. .. £	15,436,199	326,108,493	(a) 5,250,651	(a) 346,795,343
Cost per mile .. .. £	7,197	13,222	(a) 7,423	(a) 12,603
Gross revenue .. .. £	309,134	38,676,299	(b) 558,526	39,543,959
Gross revenue per train mile .. .. d.	113.92	144.80	150.06	144.56
Working Expenses .. .. £	458,621	31,269,354	(b) 374,169	32,102,144
Working Expenses per train mile .. .. d.	169.01	117.07	103.35	117.41
Net Revenue .. .. £	-149,487	7,406,945	(b) 184,357	7,441,815
Net Revenue per train mile .. .. d.	-55.09	27.73	46.61	27.15
Train miles run .. .. Miles	651,252	64,102,256	962,090	65,716,498
Passengers carried .. .. No.	84,948	312,469,012	920,924	313,474,884
Tons of goods, etc., carried .. .. Tons	64,564	26,482,572	1,578,746	28,125,882
Average number of employees .. .. No.	1,177	95,116	(c) 920	97,213
Average wage .. .. £	272	249	268	250

(a) Exclusive of the capital cost of 151.58 miles of private lines for which information is not available.  
 (b) Incomplete. (c) Employees at 30th June, 1931.

9. **Track Mileage—Government Railways.**—The following table gives the track mileages of all Government railways and sidings, exclusive of Tasmania, for the years ended 30th June, 1928 to 1931, classified according to gauge, together with the percentages on the total :—

**RAILWAYS, FEDERAL AND STATE.—TRACK MILEAGE(a), 1928 TO 1931.**

Gauge.	At 30th June—							
	1928.		1929.		1930.		1931.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
5 ft. 3 in. ..	7,812.26	25.77	7,847.13	25.41	7,867.32	25.17	7,872.09	25.05
4 ft. 8½ in. ..	8,896.10	29.34	8,998.12	29.14	9,040.86	28.93	9,113.21	29.01
3 ft. 6 in. ..	13,445.80	44.35	13,865.95	44.91	14,176.91	45.37	14,268.41	45.41
2 ft. 6 in. ..	131.87	0.43	131.87	0.43	131.87	0.42	131.87	0.42
2 ft. 0 in. ..	33.00	0.11	33.00	0.11	33.00	0.11	33.00	0.11
Total ..	30,319.03	100.00	30,876.07	100.00	31,249.96	100.00	31,418.58	100.00

(a) Exclusive of Tasmania.

**§ 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. **North Australia Railway.**—(i) *Darwin to Birdum.* 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. Tenders were then called for the construction of the line from Katherine River to Daly Waters, but, as no satisfactory tender was received, it was decided to do the work by day labour. Under this system, construction proceeded rapidly until December, 1927, when, owing to a reduction in the amount of money to be made available for construction during the year 1927-28, a drastic curtailment of operations was made. The work then proceeded at a limited rate, and, on 1st July, 1928, a further section, to Mataranka (264 miles 67 chains from Darwin) was opened for public traffic. Owing to the need for the curtailment of loan expenditure, the Government then decided not to proceed with construction work beyond Birdum (316 miles 40 chains from Darwin), and on 4th September, 1929, this section was opened for traffic and further construction work ceased.

3. **Central Australia Railway.**—(i) *General.* This line was taken over 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 first section 21½ miles from Oodnadatta was completed on the 29th August, 1927. The contract for the construction of the balance of 270¾ miles to Alice Springs was signed on the 11th August, 1927. The contract provided for the completion of the railway to Alice Springs by the 30th June, 1929, but it was not until 2nd August, 1929, that the completed line was taken over for public traffic.

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. 662 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 1,051.85 miles, a saving of 11.54 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, 1931, together with the lines which have been or are being surveyed :—

## RAILWAYS, FEDERAL, 30th JUNE, 1931.

Terminals.	Miles.
OPEN FOR TRAFFIC.	
Trans-Australian—Port Augusta (South Australia) to Kalgoorlie (Western Australia)	1,051.85
Central Australia Railway—Port Augusta (South Australia) to Alice Springs (Central Australia)	771.41
Queanbeyan to Canberra (Federal Capital Territory)	4.94
North Australia Railway—Darwin to Birdum	316.50
Total opened for traffic	2,144.70
SURVEYED OR BEING SURVEYED.	
Birdum to Daly Waters (Northern Territory)	43.50
Kingoonya to Boorthanna (South Australia)	176.44
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 Alice Springs (South Australia)	559.50
Port Augusta to Crystal Brook (South Australia)	69.25
Port Augusta—Red Hill—Adelaide	188.98
Total surveyed or being surveyed	1,189.56

In addition, the following trial surveys were undertaken on behalf of the North Australia Commission, viz. :—

(1) From the proposed deep water port at Rocky Island (Gulf of Carpentaria) to Borroloola; (2) From Borroloola to near Anthony's Lagoon; (3) From Daly Waters to a point on the Queensland Border about 44 miles south of Camooweal; and (3) From a point on the Daly Waters—Queensland Border survey 45 miles south of Daly Waters, and near Newcastle Waters to the border of Western Australia.

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 1927 to 1931 :—

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES.  
MILES OPEN FOR TRAFFIC.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
	Miles.	Miles.	Miles.	Miles.	Miles.
1927 .. ..	1,051	478	5	199	1,733
1928 .. ..	1,051	478	5	199	1,733
1929 .. ..	1,052	648	5	265	1,970
1930 .. ..	1,052	771	5	317	2,145
1931 .. ..	1,052	771	5	317	2,145

RAILWAYS, FEDERAL.—MILEAGE OPEN, WORKED, AND TRAIN MILES  
—continued.

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

## AVERAGE MILES WORKED.

	Miles.	Miles.	Miles.	Miles.	Miles.
1927 .. ..	1,051	478	5	199	1,733
1928 .. ..	1,051	478	5	199	1,733
1929 .. ..	1,052	566	5	265	1,888
1930 .. ..	1,052	760	5	307	2,124
1931 .. ..	1,052	771	5	317	2,145

## TRAIN MILES RUN.(a)

1927 .. ..	487,160	263,227	12,402	69,872	832,661
1928 .. ..	485,848	359,160	15,632	105,042	965,682
1929 .. ..	500,402	408,970	12,915	82,861	1,005,148
1930 .. ..	453,151	239,303	9,865	43,594	745,913
1931 .. ..	403,615	200,051	6,900	40,686	651,252

(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 of the undermentioned railways for each of the years 1927 to 1931 :—

## RAILWAYS, FEDERAL.—CAPITAL COST.

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

## TOTAL COST OF CONSTRUCTION AND EQUIPMENT OF LINES OPEN.

	£	£	£	£	£
1927 .. ..	7,614,277	2,854,801	82,945	1,750,772	12,302,795
1928 .. ..	7,682,126	2,908,644	87,369	1,760,756	12,438,895
1929 .. ..	7,736,355	3,882,006	83,888	2,431,964	14,134,213
1930 .. ..	7,805,945	4,730,364	84,253	2,749,807	15,370,369
1931 .. ..	7,840,504	4,760,548	84,429	2,750,718	15,436,199

## COST PER MILE OPEN.

1927 .. ..	7,242	5,973	13,964	8,812	7,099
1928 .. ..	7,306	6,086	17,686	8,863	7,178
1929 .. ..	7,355	5,991	16,981	9,183	7,176
1930 .. ..	7,421	6,132	17,064	8,688	7,167
1931 .. ..	7,454	6,171	17,091	8,691	7,197

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

The sum of £1,528,821, of which £112,006 was for surveys, etc., has been provided from revenue for capital purposes to 30th June, 1930, 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 1927 to 1931 inclusive :—

**RAILWAYS, FEDERAL.—GROSS REVENUE, TOTAL, ETC.**

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
<b>TOTAL GROSS REVENUE.</b>					
	£	£	£	£	£
1927 .. ..	303,212	125,039	14,739	55,718	498,708
1928 .. ..	333,608	188,143	9,044	69,054	599,849
1929 .. ..	332,199	184,046	6,824	46,156	569,225
1930 .. ..	265,562	99,626	6,473	32,475	404,136
1931 .. ..	187,681	88,479	3,964	29,010	309,134

**GROSS REVENUE PER AVERAGE MILE WORKED.**

1927 .. ..	288	262	2,984	280	288
1928 .. ..	317	394	1,831	348	346
1929 .. ..	316	325	1,381	174	302
1930 .. ..	252	131	1,311	106	190
1931 .. ..	179	115	802	92	144

**GROSS REVENUE PER TRAIN-MILE RUN.**

1927 .. ..	d.	d.	d.	d.	d.
1927 .. ..	149.36	114.00	285.22	191.38	143.73
1928 .. ..	164.80	125.72	138.85	157.77	149.08
1929 .. ..	159.32	108.00	126.81	133.69	135.92
1930 .. ..	140.65	99.92	157.48	178.79	130.03
1931 .. ..	111.60	106.15	137.88	171.13	113.92

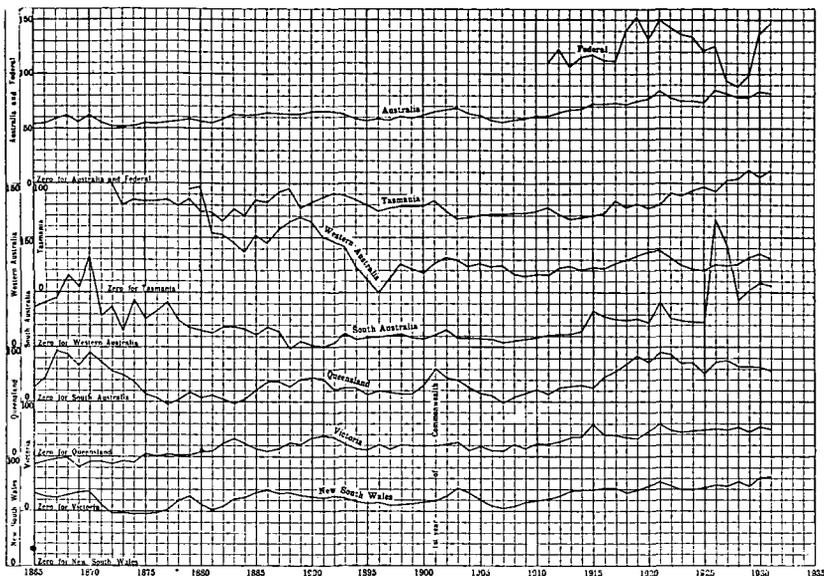
(ii) *Classification and Percentages.* During the year 1930-31 receipts from coaching traffic and goods and live stock represented 60 per cent. and 16 per cent. of the total gross revenue of the Trans-Australian line, similar percentages for the remaining lines being :—Central Australia line 16 per cent. and 78 per cent., Federal Capital Territory line 57 per cent. and 42 per cent., and North Australia line 14 per cent. and 31 per cent. coaching and goods and live stock revenue respectively.

The miscellaneous receipts for the year 1930-31 include an amount of £17,461, revenue from dining cars and refreshment services on the Trans-Australian and Central Australia Railways. A sum of £28,193 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 1927 to 1931 :—

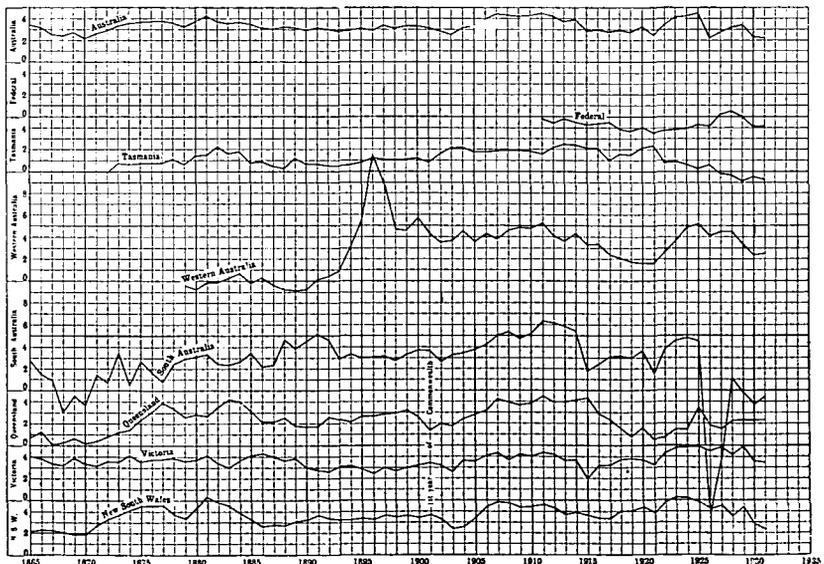
Details of the annual expenditure on (a) maintenance of ways, works and buildings, (b) locomotives, carriages and wagons repairs and renewals, (c) traffic expenses, and (d) compensation, general and miscellaneous charges, are given in (iii) following.

PERCENTAGES OF WORKING EXPENSES ON GROSS REVENUE OF GOVERNMENT RAILWAYS, 1865 TO 1931.



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.

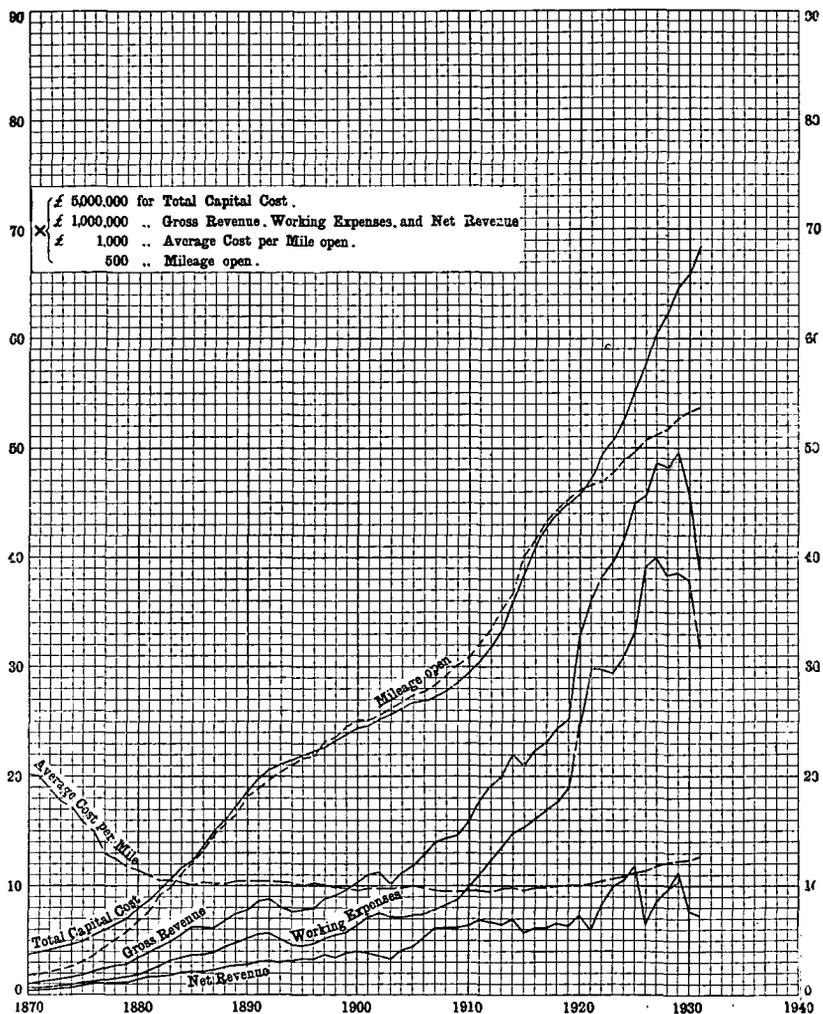
PERCENTAGES OF NET REVENUE ON CAPITAL COST OF GOVERNMENT RAILWAYS, 1865 TO 1931.



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.

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 1931.



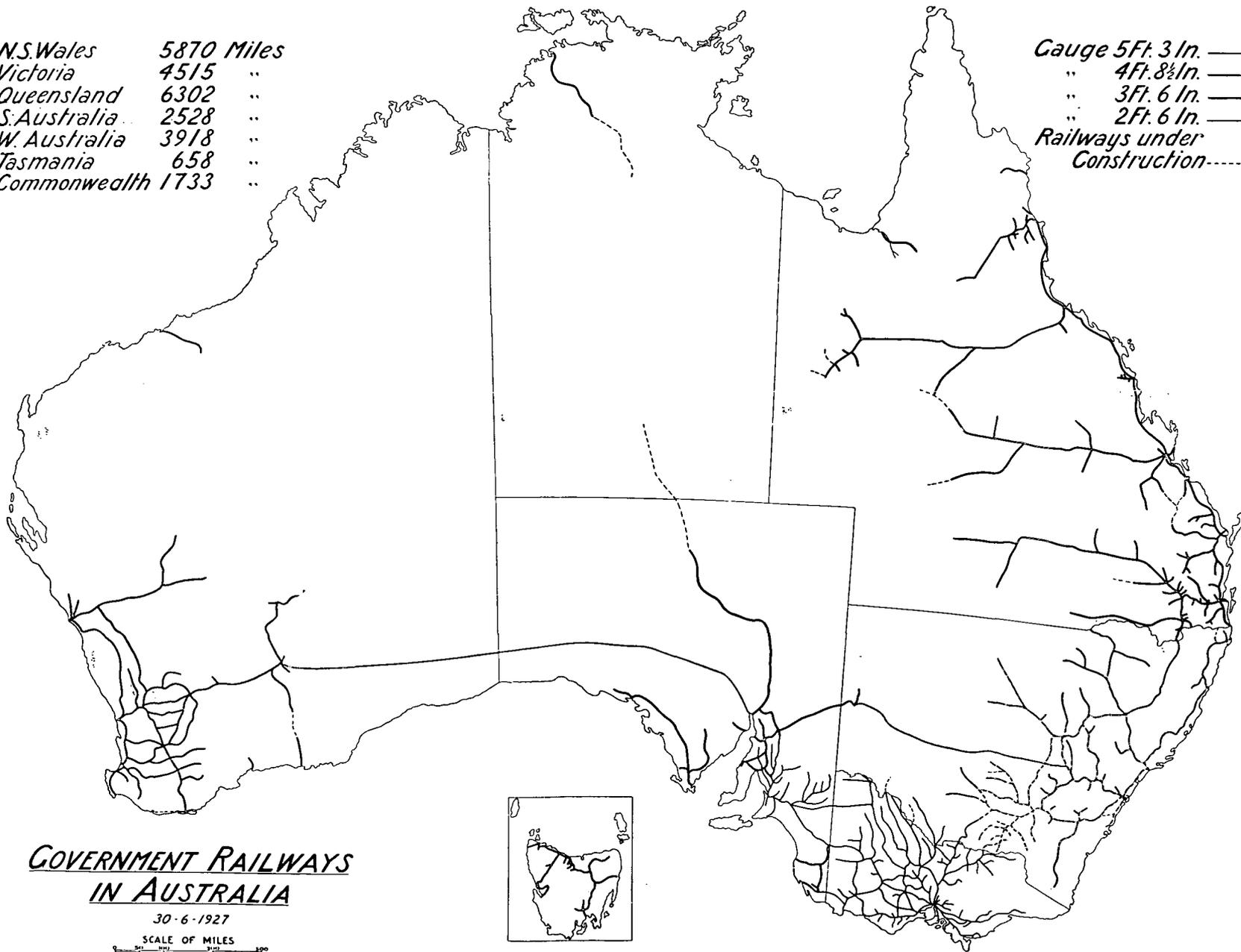
EXPLANATION.—The base of each small square represents throughout one year. The significance of the vertical height of each square varies according to the nature of the several curves.

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.

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

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



## RAILWAYS, FEDERAL.—WORKING EXPENSES, TOTAL, ETC.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
<b>TOTAL WORKING EXPENSES.</b>					
	£	£	£	£	£
1927 .. ..	271,886	131,613	10,036	57,960	471,495
1928 .. ..	287,942	170,285	11,234	67,991	537,45
1929 .. ..	300,270	196,329	10,331	56,862	563,792
1930 .. ..	296,403	194,918	8,031	55,229	554,581
1931 .. ..	241,490	155,438	6,363	55,330	458,621
<b>PERCENTAGE OF WORKING EXPENSES ON REVENUE.</b>					
	%	%	%	%	%
1927 .. ..	89.67	105.25	68.09	104.02	94.53
1928 .. ..	86.30	90.50	124.21	98.46	89.59
1929 .. ..	90.39	106.67	151.39	123.20	99.05
1930 .. ..	111.61	195.65	124.07	170.07	137.23
1931 .. ..	128.67	175.68	160.52	190.73	148.36

Compared with results for the previous year, the percentage of working expenses on revenue shows increases for each railway except the Central Australia line. There was a decrease in earnings on each of the railways, due mainly to (a) trade depression generally; (b) aerial and other competition on the Trans-Australian railway; and (c) serious washaways involving suspension of traffic on each of the Trans-Australian, Central Australia and North Australia railways.

(ii) *Averages.* The next table gives the working expenses per average mile worked, and per train-mile run for each railway for the years 1927 to 1931 :—

## RAILWAYS, FEDERAL.—WORKING EXPENSES, AVERAGES.

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
<b>WORKING EXPENSES PER AVERAGE MILE WORKED.</b>					
	£	£	£	£	£
1927 .. ..	254	275	2,032	292	272
1928 .. ..	274	356	2,274	342	310
1929 .. ..	286	347	2,091	215	299
1930 .. ..	282	256	1,627	180	261
1931 .. ..	230	202	1,288	175	214
<b>WORKING EXPENSES PER TRAIN-MILE RUN.</b>					
	d.	d.	d.	d.	d.
1927 .. ..	133.95	120.00	194.21	199.08	135.90
1928 .. ..	142.24	113.79	172.47	155.34	133.57
1929 .. ..	144.01	115.21	191.98	164.70	134.62
1930 .. ..	156.98	195.49	195.38	304.05	178.44
1931 .. ..	143.60	186.48	221.32	326.38	169.01

(iii) *Classification and Percentages.* Of the total working expenses of the Federal Railways during the year 1930-31, maintenance expenses represented 40 per cent., locomotive, carriage and wagon charges 38 per cent., and traffic expenses 13 per cent. Details for each line were as follow:—Trans-Australian line 30 per cent., 45 per cent. and 13 per cent.; Central Australia line 53 per cent., 31 per cent., and 11 per cent.; Federal Capital Territory line 16 per cent., 38 per cent. and 40 per cent.; and North Australia line 50 per cent., 24 per cent. and 20 per cent. respectively.

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 1927 to 1931:—

## RAILWAYS, FEDERAL.—TRAFFIC.

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

## PASSENGER JOURNEYS.

	No.	No.	No.	No.	No.
1927 .. ..	34,779	55,284	125,605	5,716	221,384
1928 .. ..	36,212	60,410	53,255	5,899	155,776
1929 .. ..	36,030	57,993	47,470	5,135	146,628
1930 .. ..	29,163	45,235	45,457	3,238	123,093
1931 .. ..	19,209	31,107	31,248	3,384	84,948

## TONNAGE OF GOODS AND LIVE STOCK CARRIED.

	tons.	tons.	tons.	tons.	tons.
1927 .. ..	43,503	81,048	84,450	15,612	224,613
1928 .. ..	45,087	96,799	41,848	22,628	206,362
1929 .. ..	40,750	90,734	23,196	14,919	169,599
1930 .. ..	20,906	44,047	20,966	7,024	92,943
1931 .. ..	12,360	38,831	10,077	3,296	64,564

(ii) *Passenger-Mileage Summary.* The appended table gives particulars of "Passenger-Mileage" on each of the Federal railways for the year 1930-31:—

## RAILWAYS, FEDERAL.—PASSENGER-MILES SUMMARY, 1930-31.

Railway.	Passenger Train Mileage.	Number of Passenger Journeys.	Total "Passenger-Miles."	Amount Received from Passengers.	Average Number of Passengers carried per Train Mile.	Average Mileage per Passenger Journey.	Average Earnings per "Passenger-Mile."		Average Fare per Passenger Journey.	Density of Traffic per Average Mile Worked.
							£	£ s. d.		
Trans-Australian ..	311,615	19,209	,000 omitted. 16,811	74,221	54	875	1.06	3 17 3	15,982	
Central Australia ..	27,556	31,107	1,697	9,965	62	55	1.41	0 6 5	2,199	
Federal Capital Territory ..	6,024	31,248	155	1,326	26	5	2.05	0 0 10½	31,463	
North Australia ..	12,453	3,384	415	3,381	33	123	1.96	1 0 0	1,311	

(iii) *Ton-Mileage Summary.* Particulars of ton-mileage are shown hereunder in respect of each of the Federal railways for the year 1930-31 :—

## RAILWAYS, FEDERAL.—“TON-MILEAGE” SUMMARY, 1930-31.

Railway.	Goods Train Mileage.	Total Tons Carried.	Total “Ton-Miles.”	Goods Earnings.	Average Freight-paying Load per Train.	Average Haul per ton.	Earnings per “Ton-Mile.”	Density of Traffic per Average Mile Worked.
					Tons.	Miles.	d.	
Trans-Australian ..	92,000	12,360	4,263	30,826	(a) 46	335	1.74	4,053
Central Australia ..	172,495	38,831	9,033	68,624	(a) 52	233	1.82	11,709
Federal Capital Territory ..	876	10,077	50	1,678	52	5	7.64	10,193
North Australia ..	28,233	3,296	419	9,085	(a) 15	127	5.20	1,324

(a) Approximate.

12. *Rolling Stock, 1931.*—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, 1931.

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	54	..	54	728	..	728
Central Australia	..	24	24	..	20	20	..	313	313
North Australia	..	13	13	..	12	12	..	312	312
Total ..	68	37	105	54	32	86	728	625	1,353

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

13. *Employees.*—(i) *General.* The following table shows the number of employees on the Federal railways at 30th June in each year from 1927 to 1931 inclusive, classified according to salaried and wages staffs :—

## RAILWAYS, FEDERAL.—EMPLOYEES, 1927 TO 1931.

Railway.	30th June—									
	1927.		1928.		1929.		1930.		1931.	
	Salaried Staff.	Wages Staff.								
	No.	No.								
Trans-Australian	132	811	126	756	128	776	117	733	106	554
Central Australia	66	523	69	492	68	539	59	383	87	331
North Australia ..	29	648	24	320	22	178	15	93	13	100
Federal Capital Territory (a) ..	..	..	..	..	5	8	5	7	4	5
Total ..	227	1,982	219	1,568	223	1,501	196	1,216	180	990

(a) Worked by New South Wales Government Railways until 1st July, 1928.

(b) Includes 4 engaged on construction work.

(ii) *Average Employed throughout Year.* The average number of employees throughout the year 1930-31 was 188 salaried staff and 1,040 wages staff (51 of whom were on construction work).

14. **Accidents.**—(i) *Classification.* The table hereunder furnishes a classification of accidents on the Federal railways during the year 1930-31 :—

**RAILWAYS, FEDERAL.—ACCIDENTS, 1930-31.**

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

(ii) *Particulars for Quinquennium 1927-31.* The following table shows the number of accidents in each of the years 1927 to 1931 :—

**RAILWAYS, FEDERAL.—ACCIDENTS, 1927 TO 1931.**

Railway.	Number of Persons.									
	Killed.					Injured.				
	1927.	1928.	1929.	1930.	1931.	1927.	1928.	1929.	1930.	1931.
Trans-Australian ..	..	3	..	..	..	12	3	3	..	2
Central Australia ..	1	2	..	..	..	5	7	7	..	2
Federal Capital Territory ..	1	..	..	..	..	..	1	..	..	..
North Australia ..	..	2	..	..	..	5	9	4	..	..
<b>Total .. ..</b>	2	7	..	1	..	22	20	14	..	4

### § 3. State Railways.

**I. 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, 1927 to 1931.**—(i) *General.* The following table shows the length of State railways open for traffic on the 30th June in the years 1927 to 1931 :—

**RAILWAYS, STATE.—MILEAGE OPEN FOR TRAFFIC.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1927 .. .. .	5,750	4,634	6,302	2,528	3,918	658	23,790
1928 .. .. .	5,867	4,697	6,345	2,527	3,977	658	24,071
1929 .. .. .	5,940	4,699	6,447	2,542	4,079	653	24,360
1930 .. .. .	5,974	4,713	6,447	2,536	4,111	679	24,460
1931 .. .. .	6,044	4,717	6,529	2,529	4,180	665	24,664

A graph indicating the mileage open in Australia at the end of each of the years 1870 to 1931 accompanies this chapter.

The appended statement shows the actual mileage opened for traffic in the year 1931, also the annual average increase in mileage opened since 1921 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 1930-31 .. .. .	69.77	4.04	81.60	-6.35	69.48	-14.55	203.99
Average annual mileage increase for 10 years to 30th June, 1931 ..	92.79	39.99	72.95	17.20	64.22	2.81	289.96

(ii) *New South Wales.* During the year ended 30th June, 1931, the following new lines were opened for traffic, viz. :—Booyong to Ballina 12.83 miles, Kyogle to Queensland Border 26.00 miles, Casino to North Junction 0.90 miles and Hillston to Roto 29.99 miles. Minor adjustments increased the length of existing lines by 0.05 miles, the total increase for the year being therefore 69.77 miles.

(iii) *Victoria.* During the year ended 30th June, 1931, the following new line was opened for traffic, viz. :—Meringur to Morkalla 9.53 miles, while the line from Triholm to Strzelecki 5.49 miles was closed. The total increase for the year was 4.04 miles.

(iv) *Queensland.* The following new mileage was opened during the year :—Inglewood to Texas 34.03 miles, Kalpowar to Mungungo 17.81 miles and South Brisbane to Border Tunnel (4ft. 8½ in. gauge), 68.82 miles, a total of 120.66 miles. The Ravenswood Branch 23.98 miles and the Broadmount Branch 15.08 miles were closed, the total increase for the year being therefore 81.60 miles.

(v) *South Australia.* No new lines were opened during the year. The lines Moonta Bay to East Moonta 4.03 miles, Moonta to Hamley Flat 1.12 miles and Gawler Station to Gawler Town 1.20 miles, a total of 6.35 miles, were closed during the year.

(vi) *Western Australia.* The following new mileage was opened for traffic during the year :—Kulja to Bonnie Rock 68.08 miles and the Rocky Bay line 1.40 miles, the total increase for the year being 69.48 miles.

(vii) *Tasmania.* No new extensions were opened during the year. The line from Griffith Junction to Williamsford 13.50 miles was closed and adjustments to other lines further reduced the mileage by 1.05 miles, the total decrease for the year being 14.55 miles.

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, 1930, is given in the Transport and Communication Bulletin No. 22 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 1927 to 1931 inclusive:—

**RAILWAYS, STATE.—MILEAGE WORKED AND TRAIN-MILES RUN.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
AVERAGE MILEAGE WORKED.							
1927 ..	5,747	4,627	6,259	2,523	3,906	658	23,720
1928 ..	5,826	4,661	6,340	2,528	3,971	658	23,984
1929 ..	5,903	4,698	6,387	2,545	3,993	654	24,180
1930 ..	5,959	4,708	6,447	2,538	4,110	660	24,422
1931 ..	6,013	4,710	6,509	2,535	4,123	665	24,555

**TRAIN-MILES RUN. (a)**

1927 ..	26,325,847	18,030,749	11,905,663	6,959,734	5,273,894	1,303,023	69,798,910
1928 ..	26,896,580	17,694,928	11,655,122	6,503,474	5,729,735	1,416,741	69,896,580
1929 ..	27,382,124	17,979,219	11,893,147	5,765,366	5,829,465	1,405,929	70,255,250
1930 ..	26,713,951	17,670,565	11,858,713	5,551,082	5,729,796	1,504,487	69,028,594
1931 ..	25,628,405	15,945,315	10,883,045	4,991,695	5,402,694	1,251,102	64,102,256

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

5. **Lines under Construction, and Lines Authorized, 1931.**—(i) *General.* The following statement gives particulars up to the 30th June, 1931, 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, 1931.**

Particulars.	N.S.W.	Vic. (a)	Q'land.	S.A.	W.A.	Tas.	All States.
Mileage under construction .. ..	251.97	111.25	(b) 14.00	..	197.42	..	574.64
Mileage authorized but not commenced .. ..	366.24	39.50	1,130.00	26.25	319.85	..	1,881.84

(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 251.97 miles, consisting of the following lines:—Moss Vale to Port Kembla (38.75 miles); Grafton to South Grafton (1.62 miles); Camurra to Boggabilla (74.11 miles); Tempe to East Hills (10.49 miles); Guyra to Dorrigo (89 miles); and Casino to Bonalbo (38 miles).

(b) *Victoria.* In this State 44 miles of 5 ft. 3 in. gauge lines are being constructed, viz.:—Wodonga to Tallangatta (deviation) (8.50 miles); and Nowingi to Millewa South (35.50 miles). Under the provisions of the Border Railways Act 1922 (Vic. 3194) the following lines are under construction in New South Wales territory, viz.:—Euston to Letta (30.25 miles); and Yarrawonga to Oaklands (37 miles). On completion, these lines, which are of 5 ft. 3 in. gauge, will be taken over and operated by the Victorian Railways Commissioners.

(c) *Queensland.* In previous issues of the Year Book details were given of the scheme of railway construction under the provisions of the North Coast Railway Act 1910 (see Year Book No. 15, p. 551). On the 30th June, 1931, the following line was under construction:—Southern Division—3 ft. 6 in. gauge—Meandarra towards Surat (14 miles). The following lines are partially constructed, but work thereon is temporarily suspended:—Goondoon to Kalliwa Creek (18 miles); Yarakka to Powell's Creek (27 miles); Dajarra to Moonah Creek (41 miles); Rannes to Monto (63 miles); and Winton to 37-Mile (37 miles); a total of 186 miles.

(d) *South Australia.* At 30th June, 1931, no railway construction work was in progress.

(e) *Western Australia.* The following lines were in course of construction by the Railways Department on the 30th June, 1931:—Meekatharra to Wiluna (111.33 miles); Pemberton to Westcliffe (27.90 miles); and Lake Grace to Karlgarin (58.19 miles); a total of 197.42 miles.

(f) *Tasmania.* At 30th June, 1931, no railway construction work was in progress.

(iii) *Lines Authorized for Construction.* (a) *New South Wales.* At the 30th June, 1931, the following lines had been authorized for construction but not commenced:—Gilgandra to Collic (21.54 miles); Jerilderie towards Deniliquin (25.00 miles); Rand to Bull Plain (27.55 miles); Canowindra to Gregra (33.87 miles); St. Leonards to Eastwood (9.07 miles); Sandy Hollow via Gulgong to Maryvale (146.48 miles); Inverell to Ashford (32 miles); Bungendore to Captain's Flat (21.18 miles); Gwabegar to Burren Junction (36.25 miles); Eastern Suburbs to Bondi (7.75 miles); and Western Suburbs to Western Road (5.55 miles); a total distance of 366.24 miles.

(b) *Victoria.* The following lines were authorized, but construction had not been commenced up to the end of June, 1931:—5 ft. 3 in. gauge: La La Siding to Big Pat's Creek (2.50 miles); Casterton to Nangeela (9 miles); and Orbost to Brodribb (6 miles). Under the Border Railways Act 1922, the following line has been authorized for construction in New South Wales Territory:—Mildura to Gol Gol (22 miles); an aggregate distance of 39.50 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 Fromanga (120 miles); Section B, from Powell's Creek (224 miles); Section C, from 37-Mile to Springvale (324 miles); and Section D.

from Moonah Creek (216 miles). The following lines were also authorized for construction :—Texas to Silverspur (9 miles); Mount Edwards to Maryvale (28 miles); Lanefield to Rosevale (17 miles); Gatton to Mount Sylvia (11 miles); 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 1,130 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, 1931 :—Yarramony eastwards (85 miles); Brookton to Dale River (28 miles); Boyup Brook to Cranbrook (95.23 miles); Manjimup to Mount Barker (107 miles); Leighton to Robb's Jetty (4.62 miles); a total distance of 319.85 miles.

(f) *Tasmania.* There were no new railways authorized on which work had not been commenced at 30th June, 1931.

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, 1931, amounted to £326,108,493, representing an average cost of £50.27 per head of population. If the cost of railways owned by the Commonwealth Government is included, the total capital cost (£341,544,692) is equivalent to an amount of £52.54 per head of the population of the Commonwealth, while the total mileage open (26,808.76 miles) per 1,000 of population is 4.12. 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, 1931.

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, 1931.
	Miles.	£	£	£	Miles.
New South Wales(a) ..	b 6,044.00	d 130,802,362	(d) 21,735	d 52.17	(c) 2.41
Victoria ..	4,716.75	74,302,935	15,753	41.34	2.62
Queensland ..	b 6,528.78	d 59,497,495	(d) 9,210	d 62.00	(c) 6.80
South Australia (a) ..	2,529.26	27,255,643	10,776	46.70	4.33
Western Australia (a) ..	4,180.38	23,329,093	5,581	55.46	9.94
Tasmania ..	664.90	6,549,965	9,851	29.89	3.03
All States ..	24,644.07	c 326,108,493	(c) 13,222	(c) 50.27	(c) 3.80

(a) Exclusive of Federal railways. (b) Includes portion of Grafton-South Brisbane uniform gauge line—New South Wales 26 miles, Queensland 68.82 miles (see para. 4, page 201). (c) Includes Grafton-South Brisbane line. (d) Exclusive of Grafton-South Brisbane line.

The lowest average cost (£5,581) per mile open is in Western Australia, and the highest (£21,735) in New South Wales, as compared with an average of £13,222 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 gold field contracts.

In the table above, the figures relating to cost of construction and equipment do not include stores advance accounts and the discounts and flotation charges on loans allocated to the railways. This will explain the differences between the amounts shown therein for the various States and those shown in the several Railway Reports.

(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 1927 to 1931 is shown in the following table :—

## RAILWAYS, STATE.—CAPITAL COST OF LINES OPEN.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
TOTAL COST OF LINES OPEN.							
	£	£	£	£	£	£	£
1927 ..	111,226,149	70,298,673	54,496,012	28,120,046	20,855,604	6,486,100	291,482,593
1928 ..	116,221,374	72,282,201	56,281,445	26,021,454	21,403,256	6,483,281	298,693,011
1929 ..	122,566,422	73,061,522	58,251,561	26,835,717	22,427,112	6,494,003	309,636,337
1930 ..	124,555,236	74,193,518	58,727,528	27,272,316	22,846,871	6,534,186	314,129,655
1931 ..	130,802,362a	74,302,935	59,497,495a	27,255,643	23,329,093	6,549,965	b326,108,493

## COST PER MILE OPEN.

1927 ..	19,344	15,169	8,648	11,124	5,322	9,854	12,252
1928 ..	19,809	15,390	8,871	10,297	5,382	9,849	12,409
1929 ..	20,633	15,548	9,035	10,558	5,498	9,945	12,711
1930 ..	20,849	15,743	9,109	10,756	5,558	9,617	12,843
1931 ..	a 21,735	15,753	a 9,210	10,776	5,581	9,851	b 13,222

(a) Exclusive of Grafton-South Brisbane line.

(b) Includes Grafton-South Brisbane line.

(b) *From Consolidated Revenue.* The following table shows the amounts provided from Consolidated Revenue for construction and equipment to 30th June, 1931 :—

## RAILWAYS, STATE.—EXPENDITURE FROM CONSOLIDATED REVENUE FOR CONSTRUCTION AND EQUIPMENT TO 30th JUNE, 1931.

To 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1931 ..	659,930	4,320,604	..	..	640,908	16,935	5,638,377

(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 1927 to 1931 :—

## RAILWAYS, STATE.—LOAN EXPENDITURE.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	All States.
	£	£	£	£	£	£	£
1927 ..	6,229,347	1,821,005	2,470,083	2,460,555	642,225	29,824	13,653,039
1928 ..	8,172,114	1,651,884	1,646,982	555,798	806,895	37,196	12,870,869
1929 ..	6,356,971	1,249,409	1,212,131	706,144	835,051	Cr. 11,684	10,348,022
1930 ..	5,034,505	953,432	739,548	405,153	849,662	Cr. 69,940	7,912,360
1931 ..	2,312,557	455,293	434,350	Cr. 55,407	454,395	44,725	3,645,853

(a) Including tramways.

The following statement shows the total loan expenditure on railways to the 30th June, 1931 :—

**RAILWAYS, STATE.—TOTAL LOAN EXPENDITURE TO 30th JUNE, 1931.**

State.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.(a)	All States.
Expenditure	£ 137,359,159	£ 73,765,858	£ 61,630,689	£ 32,169,667	£ 23,723,485	£ 7,044,239	£ 335,693,097

(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 1927 to 1931 inclusive were as follow :—

**RAILWAYS, STATE.—GROSS REVENUE.**

Year ended 30th June—	N.S.W.	Victoria. (b)	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
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**TOTAL GROSS REVENUE.**

	£	£	£	£	£	£	£
1927 .. ..	18,906,543	13,652,434	7,325,677	4,062,133	3,607,989	539,352	48,094,128
1928 .. ..	19,029,512	12,821,059	7,381,532	3,941,276	3,858,051	554,743	47,586,173
1929 .. ..	220,415,616	13,162,973	7,568,647	3,593,646	3,799,764	503,855	49,044,501
1930 .. ..	218,626,692	12,001,806	7,302,281	3,276,945	3,659,203	507,374	45,374,301
1931 .. ..	216,005,741	10,008,358	6,476,979	2,586,132	3,198,913	400,176	38,676,299

**GROSS REVENUE PER AVERAGE MILE WORKED.**

	£	£	£	£	£	£	£
1927 .. ..	3,290	2,951	1,170	1,610	924	819	2,028
1928 .. ..	3,266	2,751	1,164	1,559	972	843	1,984
1929 .. ..	3,458	2,802	1,185	1,412	951	771	2,028
1930 .. ..	3,126	2,549	1,133	1,291	890	769	1,858
1931 .. ..	2,662	2,124	995	1,020	776	602	1,575

**GROSS REVENUE PER TRAIN-MILE RUN.**

	d.	d.	d.	d.	d.	d.	d.
1927 .. ..	172. 36	181. 72	147. 67	140. 08	164. 19	99. 34	165. 37
1928 .. ..	169. 80	173. 89	152. 00	145. 44	161. 60	93. 98	163. 39
1929 .. ..	178. 04	175. 71	152. 73	149. 60	156. 43	86. 01	167. 54
1930 .. ..	167. 34	163. 01	147. 79	141. 68	153. 27	80. 94	157. 76
1931 .. ..	149. 89	150. 64	142. 83	124. 34	142. 10	76. 77	144. 80

(a) Includes £800,000, contributions from consolidated revenue towards losses on working of country developmental lines. (b) Includes contributions from consolidated revenue in respect of losses on non-paying lines, 1930-31, £158,508.

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 1927 to 1931, 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.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
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## COACHING TRAFFIC RECEIPTS.

	£	£	£	£	£	£	£
1927 ..	7,473,545	6,304,382	2,516,476	1,221,106	980,762	201,048	18,697,319
1928 ..	7,851,512	6,015,383	2,410,293	1,120,094	1,028,656	199,865	18,625,803
1929 ..	8,124,716	5,871,037	2,444,697	1,013,296	979,999	180,295	18,614,040
1930 ..	7,440,016	5,428,350	2,377,798	807,090	928,435	177,799	17,159,488
1931 ..	5,870,676	4,378,162	2,021,666	635,490	724,989	144,526	13,775,509

## GOODS AND LIVE STOCK TRAFFIC RECEIPTS.

1927 ..	10,490,593	6,344,096	4,629,103	2,662,866	2,413,852	319,276	26,859,786
1928 ..	10,228,586	5,763,701	4,824,885	2,616,503	2,619,816	335,431	26,388,922
1929 ..	10,379,192	6,251,682	4,949,614	2,358,579	2,610,193	305,287	26,854,547
1930 ..	9,353,867	5,599,182	4,780,114	2,249,895	2,523,302	311,609	24,818,029
1931 ..	7,841,406	4,817,808	4,191,161	1,787,747	2,289,638	241,458	21,169,218

## MISCELLANEOUS RECEIPTS.

		<i>b</i>					
1927 ..	942,405	1,003,956	180,098	178,161	213,375	19,028	2,537,023
1928 ..	949,414	1,041,975	146,354	204,679	209,579	19,447	2,571,448
1929 ..	21,911,708	1,040,254	174,336	221,771	209,572	18,273	3,575,914
1930 ..	21,832,809	974,274	144,369	219,960	207,466	17,906	3,396,784
1931 ..	22,293,659	812,388	264,152	162,895	184,286	14,192	3,731,572

(a) Includes £800,000, contributions from consolidated revenue towards losses on working of country developmental lines. (b) Includes contributions from consolidated revenue in respect of losses on non-paying lines, 1930-31, £158,508.

(b) *Percentages.* The following table shows for the two years 1929-30 and 1930-31 the percentage which each class of receipts bears to the total gross revenue :—

## RAILWAYS, STATE.—PERCENTAGES OF RECEIPTS.

State.	1930.			1931.		
	Coaching.	Goods and Live Stock.	Miscellaneous.	Coaching.	Goods and Live Stock.	Miscellaneous.
	%	%	%	%	%	%
New South Wales ..	39.94	50.22	9.84	36.68	48.99	14.33
Victoria ..	45.23	46.65	8.12	43.74	48.14	8.12
Queensland ..	32.56	65.46	1.98	31.21	64.71	4.08
South Australia ..	24.63	68.66	6.71	24.57	69.13	6.30
Western Australia ..	25.37	68.96	5.67	22.66	71.58	5.76
Tasmania ..	35.04	61.43	3.53	36.12	60.34	3.54
All States ..	37.82	54.70	7.48	35.62	54.73	9.65

(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, 1931. Further particulars of passenger-mileage will be found in sub-paragraph 14 hereinafter.

**RAILWAYS, STATE.—COACHING TRAFFIC RECEIPTS, AVERAGES, 1931.**

State.	Number of Passenger-Train-Miles.	Coaching Traffic Receipts.		
		Gross.	Per Average Mile Worked.	Per Passenger-Train-Mile.
	No.	£	£	d.
New South Wales .. ..	16,496,249	5,172,359	860	75.25
Victoria .. ..	11,065,966	3,890,604	826	84.38
Queensland (b) .. ..	4,410,624	1,510,412	234	82.19
South Australia .. ..	3,192,522	499,745	197	37.57
Western Australia .. ..	(a) 2,062,321	551,347	134	64.16
Tasmania .. ..	(a) 590,208	117,339	176	47.71
All States (b) .. ..	37,817,890	11,741,806	479	74.52

(a) Includes "Assistant" and "Light" mileage. (b) Exclusive of Queensland section of Grafton-South Brisbane line.

(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, 1931, are given below. Particulars of ton-mileage will be found in sub-paragraph 14 (ii) hereinafter.

**RAILWAYS, STATE.—GOODS AND LIVE-STOCK TRAFFIC RECEIPTS, AVERAGES, 1931.**

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 .. ..	8,997,391	10,615,900	7,841,406	1,304	209.16	177.28
Victoria .. ..	4,879,349	6,099,310	4,817,808	1,023	236.97	189.57
Queensland (b) .. ..	6,406,188	3,838,420	4,148,845	643	155.43	259.41
South Australia .. ..	1,799,173	2,162,709	1,787,747	705	238.48	198.39
Western Australia .. ..	(a) 3,486,769	3,153,525	2,289,638	555	157.60	174.25
Tasmania .. ..	(a) 666,854	466,153	241,458	303	86.90	124.32
All States (b) .. ..	26,235,724	26,336,017	21,126,902	862	193.27	192.53

(a) Includes "Assistant" and "Light" mileage. (b) Exclusive of Queensland section of Grafton-South Brisbane line.

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 systems. When 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 1927 to 1931 :—

## RAILWAYS, STATE.—WORKING EXPENSES.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
<b>TOTAL WORKING EXPENSES.</b>							
	£	£	£	£	£	£	£
1927 .. ..	13,795,853	10,193,581	6,495,322	5,797,751	2,685,693	551,192	39,519,392
1928 .. ..	14,756,327	9,812,749	6,106,140	3,660,740	2,910,811	573,885	37,820,652
1929 .. ..	14,978,050	9,532,798	6,202,801	3,622,567	3,055,446	563,652	37,955,314
1930 .. ..	14,962,423	9,311,548	5,946,163	3,573,121	3,112,895	535,414	37,441,564
1931 .. ..	12,899,646	7,499,934	5,075,478	2,734,619	2,610,839	448,838	31,269,354

(a) See (ii) below.

## PERCENTAGE OF WORKING EXPENSES ON GROSS REVENUE.

	%	%	%	%	%	%	%
1927 .. ..	72.97	74.66	88.67	142.73	74.44	102.20	82.17
1928 .. ..	77.54	76.54	82.72	93.20	75.45	103.45	79.48
1929 .. ..	73.37	72.42	81.95	100.80	80.41	111.86	77.39
1930 .. ..	80.33	77.58	81.43	109.04	85.07	105.53	82.52
1931 .. ..	80.59	74.94	78.36	105.74	81.62	112.16	80.85

The variation in the percentage of working expenses on the gross revenue in each State for the years 1865 to 1931 is illustrated in the graph which accompanies this chapter.

(ii) *Special Expenditure.* The large increase in the working expenses in South Australia during the year 1926-27 is due to an amount of £1,962,079 on account of accumulated and deferred charges being debited against the revenue for that year. This expenditure has been shown in this way in deference to the wishes of the South Australian railway authorities. Eliminating this amount, the percentage of working expenses on gross revenue for South Australia during 1926-27 would have been 94.43 per cent., and for all States 78.09 per cent.

(iii) *Averages.* The next table shows the working expenses per average mile worked and per train-mile run in each State for the years 1927 to 1931 :—

## RAILWAYS, STATE.—WORKING EXPENSES, AVERAGES.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
<b>WORKING EXPENSES PER AVERAGE MILE WORKED.</b>							
	£	£	£	£	£	£	£
1927 .. ..	2,401	2,203	1,038	2,208	688	837	1,666
1928 .. ..	2,533	2,105	963	1,448	733	872	1,577
1929 .. ..	2,537	2,029	971	1,423	765	862	1,570
1930 .. ..	2,511	1,978	922	1,408	758	811	1,533
1931 .. ..	2,145	1,592	780	1,079	633	675	1,273

## WORKING EXPENSES PER TRAIN-MILE RUN.

	d.						
1927 .. ..	125.77	135.68	130.93	199.93	122.22	101.52	135.89
1928 .. ..	131.67	133.09	125.74	135.09	121.92	97.22	129.86
1929 .. ..	131.28	127.25	125.17	150.80	125.79	96.22	129.66
1930 .. ..	134.42	126.47	120.34	154.48	130.39	85.41	130.18
1931 .. ..	120.80	112.88	111.93	131.48	115.98	86.10	117.07

(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 1927 to 1931 :—

**RAILWAYS, STATE.—DISTRIBUTION OF WORKING EXPENSES.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
<b>MAINTENANCE.</b>							
	£	£	£	£	£	£	£
1927 .. ..	2,154,931	2,276,601	1,576,325	2,027,057	636,466	134,291	7,805,671
1928 .. ..	2,596,755	2,109,404	1,589,177	584,350	731,860	140,989	7,752,535
1929 .. ..	2,538,581	1,926,157	1,608,978	658,941	748,123	158,302	7,639,482
1930 .. ..	2,583,896	1,749,068	1,529,521	678,976	800,784	133,459	7,475,704
1931 .. ..	2,199,347	1,394,185	1,401,338	438,462	576,723	117,319	6,127,374
<b>LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.</b>							
1927 .. ..	6,823,914	3,746,921	2,924,903	23,653,050	1,244,941	222,477	18,616,206
1928 .. ..	7,158,605	3,659,881	2,657,596	2,002,377	1,306,504	233,670	17,018,633
1929 .. ..	7,003,464	3,579,620	2,719,211	1,899,717	1,381,160	235,641	16,818,813
1930 .. ..	6,926,296	3,587,086	2,630,642	1,796,616	1,368,160	236,855	16,545,655
1931 .. ..	5,642,719	2,840,181	2,068,942	1,382,409	1,218,580	192,911	13,345,742
<b>TRAFFIC EXPENSES.</b>							
1927 .. ..	3,733,225	2,822,524	1,844,066	2,898,459	728,466	118,987	10,145,727
1928 .. ..	3,877,254	2,673,518	1,709,518	823,189	773,806	124,845	9,982,130
1929 .. ..	3,848,525	2,605,790	1,721,355	764,203	803,016	130,068	9,872,957
1930 .. ..	3,703,106	2,536,635	1,629,238	735,022	819,671	132,233	9,555,905
1931 .. ..	3,212,276	2,026,918	1,321,254	564,025	698,463	110,037	7,932,973
<b>OTHER CHARGES.</b>							
1927 .. ..	1,083,783	1,347,535	150,028	2,219,185	75,820	75,437	2,951,788
1928 .. ..	1,123,713	1,369,946	149,849	250,824	98,641	74,381	3,067,354
1929 .. ..	1,587,080	1,421,231	153,257	299,706	123,147	39,641	3,624,062
1930 .. ..	1,749,125	1,438,759	156,762	362,507	124,280	32,867	3,864,300
1931 .. ..	1,845,304	1,238,650	283,944	349,723	117,073	28,571	3,863,265

(a) See sub-section (ii) 8.

9. **Salaries and Wages.**—The following table shows the total amount paid in salaries and wages, also the amount per average mile worked and per train-mile run in each State during the years 1927 to 1931 :—

**RAILWAYS, STATE.—SALARIES AND WAGES PAID AND AVERAGES.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
<b>TOTAL SALARIES AND WAGES PAID.</b>							
	£	£	£	£	£	£	£
1927 .. ..	12,509,021	7,792,554	5,062,347	3,596,092	2,279,878	336,287	31,576,179
1928 .. ..	12,693,706	7,725,188	4,751,885	2,915,912	2,442,997	345,803	30,875,491
1929 .. ..	12,422,298	7,436,531	4,805,836	2,499,872	2,551,056	374,107	30,089,700
1930 .. ..	11,656,142	7,097,012	4,649,032	2,437,783	2,587,456	364,636	28,792,061
1931 .. ..	10,167,293	5,587,539	3,851,295	1,743,574	2,099,947	314,590	23,764,238
<b>SALARIES AND WAGES PER AVERAGE MILE WORKED.</b>							
	£	£	£	£	£	£	£
1927 .. ..	2,177	1,684	809	1,425	584	511	1,331
1928 .. ..	2,179	1,657	750	1,154	615	525	1,287
1929 .. ..	2,104	1,583	752	982	639	572	1,244
1930 .. ..	1,956	1,507	721	960	630	553	1,179
1931 .. ..	1,691	1,186	592	688	509	473	968
<b>SALARIES AND WAGES PER TRAIN-MILE RUN.</b>							
	d.	d.	d.	d.	d.	d.	d.
1927 .. ..	114.03	103.72	102.04	124.00	103.75	61.93	108.57
1928 .. ..	113.26	104.77	97.84	107.60	102.32	58.58	106.01
1929 .. ..	108.88	99.27	96.98	104.06	105.03	63.86	102.79
1930 .. ..	104.72	96.39	94.09	105.40	108.38	58.17	100.10
1931 .. ..	95.21	84.10	84.93	83.83	93.28	60.35	88.97

10. 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 1927 to 1931 :—

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

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
NET REVENUE.							
	£	£	£	£	£	£	£
1927 .. ..	5,110,690	3,458,853	830,355	a-1,735,618	922,296	-11,840	8,574,736
1928 .. ..	4,273,185	3,008,310	1,275,392	280,536	947,240	-19,142	9,765,521
1929 .. ..	5,437,566	3,630,175	1,365,846	— 28,921	744,318	-59,797	11,089,187
1930 .. ..	3,664,269	2,690,258	1,356,118	-296,176	546,308	-28,040	7,932,737
1931 .. ..	3,106,095	2,508,424	1,401,501	-148,487	588,074	-48,662	7,406,945

**PERCENTAGE OF NET REVENUE ON CAPITAL EXPENDITURE.**

	%	%	%	%	%	%	%
1927 .. ..	4.59	4.92	1.52	a- 6.17	4.42	-0.18	2.94
1928 .. ..	3.68	4.16	2.27	— 1.08	4.43	-0.29	3.27
1929 .. ..	4.44	4.97	2.34	— 0.11	3.32	-0.92	3.58
1930 .. ..	2.94	3.63	2.31	— 1.09	2.39	-0.43	2.53
1931 .. ..	(b) 2.40	3.38	(b) 2.38	— 0.54	2.52	-0.74	(c) 2.27

(a) See sub-paragraph 8 (ii) *ante*. (b) Exclusive of Grafton-South Brisbane line. (c) Includes Grafton-South Brisbane line.

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

(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.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
NET REVENUE PER AVERAGE MILE WORKED.							
	£	£	£	£	£	£	£
1927 .. ..	889	748	133	a-688	236	-18	361
1928 .. ..	733	645	201	111	239	-29	407
1929 .. ..	921	773	214	— 11	186	-91	458
1930 .. ..	615	571	211	-117	132	-42	325
1931 .. ..	517	532	215	— 59	143	-73	302

**NET REVENUE PER TRAIN-MILE RUN.**

	d.	d.	d.	d.	d.	d.	d.
1927 .. ..	46.59	46.04	16.74	a-59.85	41.97	- 2.18	29.48
1928 .. ..	38.13	40.80	26.26	10.35	39.68	- 3.24	33.53
1929 .. ..	46.76	48.46	27.56	— 1.20	30.64	-10.21	37.88
1930 .. ..	32.92	36.54	27.45	-12.80	22.88	- 4.47	27.58
1931 .. ..	29.09	37.76	30.90	— 7.14	26.12	- 9.33	27.73

(a) See sub-paragraph 8 (ii) *ante*.

11. **Interest.** The amount of interest payable on expenditure from loans on the construction and equipment of the railways, the amount of interest per average mile worked and per train-mile run in each State during the years ended 30th June, 1927 to 1931, were as follows :—

**RAILWAYS, STATE.—INTEREST ON RAILWAY LOAN EXPENDITURE.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
<b>AMOUNT OF INTEREST PAYABLE.</b>							
	£	£	£	£	£	£	£
1927 .. ..	5,562,308	3,271,374	2,720,717	1,332,515	887,740	285,255	14,059,909
1928 .. ..	5,882,452	3,321,727	2,827,223	1,271,686	920,560	284,076	14,507,733
1929 .. ..	6,150,000	3,473,575	2,902,710	1,366,807	923,017	283,554	15,099,663
1930 .. ..	6,420,643	3,508,657	2,953,211	1,399,053	950,707	284,379	15,516,740
1931 .. ..	6,790,082	3,596,758	3,018,355	1,426,741	968,066	285,881	16,205,274
<b>INTEREST PER AVERAGE MILE WORKED.</b>							
	£	£	£	£	£	£	£
1927 .. ..	968	707	435	528	227	433	593
1928 .. ..	1,010	713	446	503	232	432	605
1929 .. ..	1,042	739	454	537	231	434	624
1930 .. ..	1,078	745	458	551	231	431	635
1931 .. ..	1,129	764	464	563	235	430	660
<b>INTEREST PER TRAIN-MILE RUN.</b>							
	d.	d.	d.	d.	d.	d.	d.
1927 .. ..	50.70	43.54	54.84	45.95	40.39	52.53	48.34
1928 .. ..	52.48	45.05	58.21	46.92	38.55	48.12	49.81
1929 .. ..	53.86	46.37	58.58	56.90	38.00	48.40	51.58
1930 .. ..	57.68	47.65	59.77	60.49	39.83	45.37	53.95
1931 .. ..	63.59	54.14	66.56	68.60	43.00	54.84	60.67

(a) Interest charges on the Grafton—South Brisbane line for the year 1930–31 amounted to £215,971, of which New South Wales contributed £70,269 and Queensland £26,311, the remainder, £119,391, being borne by the Commonwealth. See B. § 1, *ante*.

Exchange on interest payments in London during the year 1930–31, New South Wales £737,633, and Victoria £183,863, are not included in the amounts shown above for those States. The interest payable on the cost of construction and equipment, exclusive of expenditure from consolidated revenue (£5,638,377) for that purpose, was at the rate of 5.06 per cent., in 1930–31.

12. **Profit or Loss.**—The following table shows 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.**

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
<b>PROFIT OR LOSS AFTER PAYMENT OF WORKING EXPENSES, INTEREST, AND OTHER CHARGES.</b>							
	£	£	£	£	£	£	£
1927 .. ..	- 451,618	+ 187,479	- 1,890,362	a- 3,068,133	+ 34,556	- 297,095	- 5,485,173
1928 .. ..	- 1,609,267	+ 315,960	- 1,551,831	- 991,150	+ 26,671	- 303,218	- 4,744,755
1929 .. ..	- 712,434	+ 156,600	- 1,536,864	- 1,395,728	- 178,699	- 343,351	- 4,010,476
1930 .. ..	- 2,756,374	+ 818,399	- 1,597,093	- 1,695,229	- 404,489	- 312,419	- 7,584,003
1931 .. ..	b- 3,683,987	+ 1,088,334	- 1,616,854	- 1,575,228	- 379,992	- 334,543	b- 8,798,329
<b>PERCENTAGE OF PROFIT OR LOSS ON CAPITAL COST OF CONSTRUCTION AND EQUIPMENT.</b>							
	%	%	%	%	%	%	%
1927 .. ..	-0.41	+0.27	-3.47	a-10.91	+0.17	-4.58	-1.88
1928 .. ..	-1.38	-0.44	-2.76	-3.81	+0.12	-4.68	-1.59
1929 .. ..	-0.58	+0.21	-2.64	-5.20	-0.80	-5.29	-1.30
1930 .. ..	-2.21	-1.10	-2.72	-6.22	-1.77	-4.78	-2.41
1931 .. ..	c-2.73	-1.46	c-2.64	-5.78	-1.63	-5.11	d-2.70

(a) See sub-section (ii), 8. Grafton—South Brisbane line.

(b) See Note (a) paragraph 11 above. (d) Includes Grafton—South Brisbane line.

(c) Exclusive of

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.

13. **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 seaborne 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 1927 to 1931 :—

### RAILWAYS, STATE.—TRAFFIC.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
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#### NUMBER OF PASSENGER JOURNEYS.

1927 ..	141,615,806	160,237,648	26,812,993	23,366,760	15,737,570	2,328,970	379,099,747
1928 ..	148,046,881	164,574,870	24,800,934	19,539,347	16,032,536	2,322,410	375,316,978
1929 ..	151,116,086	161,002,267	24,738,327	17,829,946	14,904,917	2,212,817	371,804,360
1930 ..	147,892,548	157,119,071	24,440,946	17,829,098	14,175,175	2,243,265	363,700,103
1931 ..	126,811,993	134,655,220	22,009,473	15,437,440	11,702,741	1,852,145	312,469,012

#### PER 100 OF MEAN POPULATION.

1927 ..	6.036	9.887	3.032	4.131	4.149	1.107	6.217
1928 ..	6.171	9.453	2.754	3.399	4.088	1.102	6.035
1929 ..	6.178	9.146	2.697	3.081	3.674	1.041	5.882
1930 ..	5.972	8.839	2.621	3.075	3.408	1.043	5.685
1931 ..	5.075	7.518	2.319	2.652	2.786	849	4.837

#### PER AVERAGE MILE OF LINE WORKED.

1927 ..	24,642	36,579	4,284	9,262	4,029	3,538	15,982
1928 ..	25,412	35,307	3,912	7,730	4,037	3,528	15,649
1929 ..	25,598	34,272	3,873	7,007	3,732	3,384	15,377
1930 ..	24,821	33,370	3,791	7,024	3,449	3,399	14,892
1931 ..	21,089	28,588	3,382	6,091	2,838	2,786	12,725

#### TONNAGE OF GOODS AND LIVE STOCK CARRIED.

1927 ..	17,224,894	9,234,923	4,315,513	3,671,686	3,438,587	730,273	38,615,876
1928 ..	15,433,083	8,117,961	4,670,447	3,401,901	3,697,648	715,387	36,036,427
1929 ..	14,516,643	8,187,088	4,558,099	2,748,423	3,670,147	660,523	34,340,923
1930 ..	12,150,964	7,513,606	4,528,201	2,652,753	3,530,188	632,052	31,007,764
1931 ..	10,743,109	6,099,310	3,857,766	2,162,709	3,153,525	466,153	26,182,572

#### PER 100 OF MEAN POPULATION.

1927 ..	734	540	488	649	907	347	633
1928 ..	643	466	519	592	943	339	570
1929 ..	593	465	497	475	995	311	543
1930 ..	491	423	486	457	849	294	485
1931 ..	430	341	406	372	751	214	410

RAILWAYS, STATE.—TRAFFIC—*continued.*

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
PER AVERAGE MILE OF LINE WORKED.							
1927 ..	2,997	1,996	689	1,455	880	1,109	1,628
1928 ..	2,649	1,741	737	1,346	931	1,087	1,500
1929 ..	2,459	1,743	714	1,080	919	1,010	1,423
1930 ..	2,039	1,596	702	1,045	859	958	1,270
1931 ..	1,787	1,295	593	853	765	701	1,079

(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 1930-31 :—

## RAILWAYS, STATE.—METROPOLITAN AND SUBURBAN, AND COUNTRY PASSENGER TRAFFIC AND RECEIPTS, 1930-31.

Particulars.	Passenger Journeys.			Revenue.		
	Metropolitan and Suburban.	Country.	Total.	Metropolitan and Suburban.	Country.	Total.
	No.	No.	No.	£	£	£
N.S.W. ..	<i>a</i> 119,015,878	7,796,115	126,811,993	2,439,627	2,732,732	5,172,359
Victoria ..	<i>b</i> 128,748,927	5,906,293	134,655,220	2,310,814	1,579,790	3,890,604
Queensland ..	17,118,222	4,891,251	22,009,473	296,948	1,237,482	1,534,430
S. Australia ..	<i>c</i> 14,333,179	1,104,261	15,437,440	208,019	291,726	499,745
W. Australia ..	10,254,626	1,448,115	11,702,741	154,530	396,817	551,347
Tasmania ..	( <i>d</i> )	( <i>d</i> )	1,852,145	( <i>d</i> )	( <i>d</i> )	117,339
Total ..	( <i>e</i> )	( <i>e</i> )	312,469,012	( <i>e</i> )	( <i>e</i> )	11,765,824

(*a*) Within 34 miles of Sydney and Newcastle, including the Richmond line. of Melbourne.

(*c*) Within 25 miles of Adelaide.

(*d*) Not available.

(*b*) Within 20 miles of Melbourne.

(*e*) Incomplete.

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.

(iii) *Electrification of Suburban and Country Railways.* Reference to the electrification of the Melbourne and Sydney suburban railways will be found in Year Book No. 22, p. 285.

(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 1930-31 :-

## RAILWAYS, STATE.—CLASSIFICATION OF COMMODITIES CARRIED.

State.	Coal, Coke, and Shale.	Other Minerals.	Grain and Flour.	Hay, Straw, and Chaff.	Wool.	Live Stock.	All other Commodities.	Total.
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## TONS CARRIED.

	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	4,564,964	1,180,854	2,128,431	179,867	162,031	639,043	1,887,919	10,743,109
Victoria ..	280,533	418,763	1,450,147	205,682	79,119	542,134	3,122,932	6,099,310
Queensland ..	539,595	292,850	1,673,384 <sup>a</sup>	(b)	86,989	382,657	882,291	3,857,766
South Australia	131,937	511,102	723,380	24,421	24,299	92,488	655,082	2,162,709
Western Australia	204,395	264,450	1,474,094	51,955	23,615	88,690	1,046,326	3,153,525
Tasmania ..	197,694	(c)	59,902	20,081	3,554	22,245	162,677	466,153
All States ..	5,919,118	2,668,019	7,509,338	482,006	379,607	1,767,257	7,757,227	26,482,572

## PERCENTAGE OF TOTAL TONNAGE CARRIED.

	%	%	%	%	%	%	%	%
New South Wales	42.49	10.99	19.81	1.68	1.51	5.95	17.57	100.00
Victoria ..	4.60	6.86	23.78	3.37	1.30	8.89	51.20	100.00
Queensland ..	13.99	7.59	243.38	(b)	2.25	9.92	22.87	100.00
South Australia	6.10	23.63	33.45	1.13	1.12	4.28	30.29	100.00
Western Australia	6.48	8.39	46.74	1.65	0.75	2.81	33.18	100.00
Tasmania ..	42.41	(c)	12.85	4.31	0.76	4.77	34.90	100.00
All States ..	22.35	10.08	28.36	1.82	1.43	6.67	29.29	100.00

(a) Agricultural produce. (b) Included with "All other commodities." (c) Included with coal, coke, and shale.

(b) Revenue. The following table shows the revenue derived from goods and live stock traffic during 1930-31 according to a classification which has been adopted by all States :-

## RAILWAYS, STATE.—GOODS, ETC., TRAFFIC—REVENUE, 1930-31.

Class.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
	£	£	£	£	£	£	£
General merchandise	4,546,155	3,007,472	2,570,371	823,996	1,059,792	164,183	12,171,969
Wheat ..	(a)	826,289	(a)	369,363	852,702	(a)	d 2,048,354
Wool ..	739,586	210,107	570,292	46,868	79,476	4,723	1,651,052
Live stock	1,200,983	572,658	683,746	155,930	122,100	19,095	2,754,512
Minerals—							
Coal, coke, and shale	1,037,877	90,185	208,070	63,263	111,225	(b) 38,659	1,549,279
Others ..	316,805	111,097	158,682	328,327	64,343	(c) 14,798	994,052
Total ..	7,841,406	4,817,808	4,191,161	1,787,747	2,289,638	241,458	21,169,218

(a) Included with General Merchandise. (b) Native coal. (c) Minerals other than native coal. (d) Incomplete.

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

14. **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 1926-27 to 1930-31.

**RAILWAYS, STATE.—SUMMARY OF "PASSENGER-MILES."**

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-Mile.		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.	
<b>NEW SOUTH WALES.</b>										
1927	15,044	141,616	1,765,378	6,643,337	117	12.47	0.90	11.26	307,184	
1928	16,036	148,047	1,809,307	6,998,147	113	12.22	0.93	11.34	310,569	
1929	16,738	151,116	1,820,701	7,238,329	108	12.05	0.95	11.50	308,409	
1930	16,952	147,893	1,731,073	6,610,951	102	11.70	0.92	10.73	290,519	
1931	16,496	126,812	1,414,061	5,172,359	85	11.15	0.88	9.79	235,161	
<b>VICTORIA.</b>										
1927	11,846	169,238	1,476,307	5,641,032	125	8.72	0.92	8.00	319,064	
1928	11,915	164,575	1,416,970	5,358,775	119	8.61	0.91	7.81	303,985	
1929	12,104	161,002	1,420,570	5,222,244	117	8.82	0.88	7.78	302,392	
1930	12,188	157,119	1,352,954	4,829,898	111	8.61	0.86	7.38	287,349	
1931	11,066	134,655	1,134,376	3,890,604	103	8.42	0.82	6.93	240,830	
<b>SOUTH AUSTRALIA.</b>										
1927	4,002	23,367	280,082	1,005,624	70	11.99	0.86	10.33	111,022	
1928	3,729	19,539	242,308	927,520	65	12.40	0.92	11.39	95,861	
1929	3,563	17,830	219,857	815,323	62	12.33	0.89	10.98	86,403	
1930	3,342	17,829	208,634	628,474	62	11.70	0.72	8.46	82,193	
1931	3,193	15,437	167,738	499,745	53	10.87	0.72	7.77	66,179	
<b>TASMANIA.</b>										
1927	575	2,329	41,432	168,837	72	17.79	0.97	17.40	62,943	
1928	615	2,322	37,971	167,234	62	16.35	1.05	17.28	57,685	
1929	627	2,213	35,751	149,792	57	16.15	1.05	16.25	54,674	
1930	670	2,243	35,257	147,487	53	15.71	1.00	15.77	53,428	
1931	590	1,852	28,646	117,339	49	15.46	0.98	15.20	43,083	

(ii) *Ton-Miles.* Particulars regarding total "ton-miles" are given in the following table for each of the years 1926-27 to 1930-31 :—

## RAILWAYS, STATE.—SUMMARY OF "TON-MILES."

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.
<b>NEW SOUTH WALES.</b>								
1927	11,282	16,864	1,654,815	10,490,593	165	98.13	1.50	287,994
1928	10,861	15,223	1,550,375	10,228,586	158	101.84	1.56	266,408
1929	10,645	14,307	1,690,560	10,379,192	183	118.16	1.45	286,376
1930	9,762	11,861	1,498,723	9,353,867	177	126.35	1.48	251,778
1931	8,997	10,616	1,425,184	7,841,406	184	134.25	1.30	237,260
<b>VICTORIA.</b>								
1927	6,184	9,235	882,918	6,344,096	173	95.61	1.72	190,819
1928	5,780	8,118	737,856	5,763,701	164	90.89	1.87	158,304
1929	5,876	8,187	834,605	6,251,682	173	101.94	1.80	177,651
1930	5,483	7,514	737,623	5,599,182	166	98.17	1.82	156,674
1931	4,879	6,099	713,022	4,817,808	174	116.90	1.62	151,385
<b>QUEENSLAND.(b)</b>								
1928	7,734	4,670	552,442	4,824,885	d71	120.67	2.09	89,872
1929	7,751	4,558	553,816	4,949,614	d71	124.03	2.14	88,572
1930	7,546	4,528	554,171	4,780,114	d73	125.20	2.06	88,628
1931(c)	6,406	3,838	495,912	4,148,845	d77	133.20	2.00	79,149
<b>SOUTH AUSTRALIA.</b>								
1927	2,957	3,672	389,443	2,662,866	141	105.66	1.65	154,451
1928	2,774	3,402	395,919	2,616,593	147	116.38	1.57	156,731
1929	2,202	2,748	337,639	2,358,579	156	122.91	1.66	132,694
1930	2,209	2,653	350,325	2,249,895	164	131.29	1.55	138,044
1931	1,799	2,163	285,639	1,787,747	165	132.07	1.50	112,711
<b>WESTERN AUSTRALIA.</b>								
1927	3,359	3,439	317,845	2,413,852	110	92.43	1.82	81,373
1928	3,723	3,698	357,966	2,619,816	111	96.81	1.76	90,145
1929	3,773	3,670	367,932	2,610,193	113	100.00	1.71	91,919
1930	3,654	3,530	361,935	2,523,302	115	102.53	1.67	88,083
1931	3,487	3,154	373,405	2,289,638	121	118.41	1.47	90,566
<b>TASMANIA.</b>								
1927	a742	707	31,564	296,354	d43	44.63	2.25	47,955
1928	a814	690	34,180	310,348	d42	49.54	2.17	51,926
1929	a787	636	31,140	281,577	d40	48.99	2.17	47,623
1930	a857	607	33,715	288,373	d39	55.58	2.05	51,091
1931	a667	444	27,253	220,545	d41	61.39	1.94	40,988

(a) Includes "Assistant" and "Light" mileage. (b) Particulars for years prior to 1927-28 are not available. (c) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) line. (d) Approximate.

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.

15. **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.

16. **Rolling Stock, 1931.**—The following table shows the rolling stock in use at the 30th June, 1931, classified according to gauge :—

**RAILWAYS, STATE.—ROLLING STOCK, 1931.**

State.	Gauge.					Total.				
	5 ft. 3 in.	4 ft. 8½ in.	3 ft. 6 in.	2 ft. 6 in.	2 ft. 0 in.					
<b>LOCOMOTIVES.</b>										
New South Wales	..	1,432	..	..	..	1,432				
Victoria ..	640	..	..	17	..	657				
Queensland ..	..	..	775	..	10	785				
South Australia	252	..	188	..	..	440				
Western Australia	..	..	420	..	..	420				
Tasmania ..	..	..	88	..	6	94				
All States ..	892	1,432	1,471	17	16	3,828				
<b>COACHING STOCK.</b>										
	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	With Motors.	Ordinary.	Ordinary.	Ordinary.	With Motors.
New South Wales	..	..	2,720	37	..	..	..	..	2,720	37
Victoria ..	2,184	451	..	..	..	..	55	..	2,239	451
Queensland ..	..	..	..	..	1,257	47	..	11	1,268	47
South Australia	434	43	..	..	192	5	..	..	626	48
Western Australia	..	..	..	..	490	3	..	..	490	3
Tasmania ..	..	..	..	..	207	11	..	6	213	11
All States ..	2,618	494	2,720	37	2,146	66	55	17	7,556	597
<b>STOCK OTHER THAN COACHING.</b>										
New South Wales	..	..	23,996	..	..	..	..	..	23,996	..
Victoria ..	20,754	..	..	..	..	243	..	..	20,997	..
Queensland ..	..	..	..	..	19,045	..	168	..	19,213	..
South Australia	3,653	..	..	..	5,682	..	..	..	9,335	..
Western Australia	..	..	..	..	11,244	..	..	..	11,244	..
Tasmania ..	..	..	..	..	1,940	..	77	..	2,017	..
All States ..	24,407	..	23,996	..	37,911	243	245	..	86,802	..

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.

17. **Employees.**—(i) *At 30th June.* The following table gives the number of railway employees in each year from 1927 to 1931 inclusive, classified according to (a) salaried staff, and (b) wages staff :—

## RAILWAYS, STATE.—EMPLOYEES. (a)

State.	At 30th June—									
	1927.		1928.		1929.		1930.		1931.	
	Salaried Staff.	Wages Staff.								
New South Wales	6,004	39,488	6,052	38,053	5,995	37,535	5,754	34,243	5,947	34,517
Victoria	4,245	25,072	4,363	23,618	4,295	23,025	4,249	20,361	4,051	17,985
Queensland	3,565	16,105	3,478	16,146	3,403	15,467	3,219	14,542	3,030	12,970
South Australia	1,438	8,998	1,295	7,353	1,312	7,401	1,293	6,794	1,158	5,586
Western Australia	1,362	7,471	1,412	7,565	1,418	7,770	1,424	7,587	1,287	5,900
Tasmania	187	1,232	212	1,369	219	1,376	217	1,352	191	1,234
All States	16,801	98,366	16,812	94,104	16,642	92,574	16,156	84,879	15,664	78,192

(a) Exclusive of construction staff.

In the period under review the totals of salaried and wages staffs decreased from 115,167 in 1927 to 93,856 in 1931, a decline of 18.5 per cent.

(ii) *Average staff employed, 1930-31.* 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, 1930-31.

State.	Operating Staff.		Construction Staff.		All Employees—Staff.	
	Salaried.	Wages.	Salaried.	Wages.	Salaried.	Wages.
New South Wales	5,954	34,666	118	2,614	6,072	37,280
Victoria	4,142	18,813	..	..	4,142	18,813
Queensland	3,044	11,652	34	330	3,078	11,982
South Australia	1,206	5,996	1	40	1,207	6,036
Western Australia	1,339	6,753	16	322	1,355	7,075
Tasmania	191	1,234	..	..	191	1,234
All States	15,876	79,114	169	3,306	16,045	82,420

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

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

Particulars for 1930-31 are as under :—

**RAILWAYS, STATE.—ACCIDENTS, 1931.**

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.	
<b>Train accidents—</b>															
Passengers .. ..	..	38	..	..	..	5	..	..	..	..	..	..	1	..	44
Employees .. ..	..	7	..	..	..	2	..	..	..	8	..	..	4	..	21
<b>Accidents on line (other than train accidents)—</b>															
Passengers .. ..	2	134	11	78	1	8	1	29	..	11	..	..	15	260	
Employees .. ..	10	75	2	33	1	21	..	27	1	93	..	..	28	14	277
Other persons .. ..	5	44	1	..	2	1	..	..	..	..	..	..	..	8	45
<b>Shunting accidents—</b>															
Passengers .. ..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	2
Employees .. ..	1	79	4	8	2	67	..	20	..	55	1	..	5	8	234
Other persons .. ..	..	1	1	6	..	1	..	2	..	..	..	..	..	1	10
<b>Employees proceeding to or from their duty within railway boundaries</b>	1	..	2	..	..	..	..	..	..	..	..	..	..	3	..
<b>Persons killed or injured at crossings</b>	7	21	12	18	2	19	10	17	8	13	..	..	4	39	92
Trespassers .. ..	18	9	24	7	7	13	2	3	4	5	1	..	..	56	37
Miscellaneous .. ..	..	..	..	..	..	..	..	..	..	10	..	..	..	..	10
<b>Total .. ..</b>	<b>44</b>	<b>409</b>	<b>57</b>	<b>150</b>	<b>15</b>	<b>138</b>	<b>13</b>	<b>98</b>	<b>13</b>	<b>195</b>	<b>2</b>	<b>42</b>	<b>144</b>	<b>1,032</b>	

(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 1927 to 1931 inclusive :—

**RAILWAYS, STATE.—ACCIDENTS.**

State.	In year ended 30th June—									
	1927.		1928.		1929.		1930.		1931.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales	123	687	77	629	61	565	64	571	44	409
Victoria .. ..	53	292	60	238	46	281	57	197	57	150
Queensland .. ..	26	167	20	163	19	125	26	133	15	138
South Australia	22	263	23	255	20	156	9	196	13	98
Western Australia	17	365	16	351	15	354	18	330	13	195
Tasmania .. ..	..	44	1	18	2	71	6	84	2	42
<b>All States .. ..</b>	<b>241</b>	<b>1,818</b>	<b>197</b>	<b>1,654</b>	<b>163</b>	<b>1,552</b>	<b>180</b>	<b>1,511</b>	<b>144</b>	<b>1,032</b>

19. 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 1930-31 :—

GOVERNMENT RAILWAYS.—CONSUMPTION AND VALUE OF OIL AND FUEL,  
1930-31.

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.		£	d.	£	£	s.	d.		
New South Wales <sup>d</sup>	423,675	46,303	2	2.23	1,077,395	47,545	10.59	1,336,981	1,130,660	0	16	10.96
Victoria ..	167,000	17,700	2	1.44	1,122,098	49,868	10.66	584,780	627,330	1	1	5.46
Queensland ..	166,457	18,332	2	2.43	130,570	8,769	16.12	361,459	328,434	0	18	2.07
South Australia <sup>a</sup>	80,560	9,059	2	2.99	(b)	(b)	(b)	143,756	239,786	1	13	4.32
Western Australia	53,916	5,781	2	1.73	299,813	15,439	12.36	291,914	275,542	0	18	10.54
Tasmania ..	29,642	3,346	2	3.09	14,019	740	12.67	46,573	55,133	1	3	8.11
Total States ..	921,250	100,521	2	2.19	2,643,895	122,361	11.11	2,765,463	2,656,885	0	19	2.58
Federal ..	16,914	1,688	1	11.95	60,136	5,144	20.53	19,448	37,887	1	18	11.54
Total, Australia..	938,164	102,209	2	2.15	2,704,031	127,505	11.32	2,784,911	2,694,772	0	19	4.23

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

(d) Railways and Tramways.

(b) Not available.

(c) Exclusive of

The range in the average cost per ton of coal from 16s. 11d. in New South Wales to £1 19s. 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 during 1930-31 showed a considerable decrease on that of 1929-30.

#### § 4. Private Railways.

1. Total Mileage Open, 1930-31.—The bulk of the private railways in Australia have been laid down for the purpose of hauling timber, firewood, sugar-cane, coal, or other minerals, and they are not generally used for the conveyance of passengers or for public traffic. In many cases the lines are practically unballasted and easily removable.

The railways referred to in this section include only lines open to the public for general passenger and goods traffic. Complete particulars of lines used for special purposes only for the year 1930-31 are not available.

2. **Lines Open for General Traffic.**—The following statement gives a summary of the operations of private railways open for general traffic for the year 1930-31 :—

**RAILWAYS, PRIVATE.—SUMMARY, 1930-31.**

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.		
										No.	Miles.	£
New South Wales	8	115.70	1,482,065	267,040	193,395	450,647	825,430	680,074	418	46	9	735
Victoria	3	24.94	92,904	8,928	5,279	18,556	13,155	21,050	13	5	4	36
Queensland	15	265.76	534,040	32,049	26,106	73,351	12,467	161,849	63	19	18	357
South Australia	1	33.80	(a)	(a)	(a)	40,898	519	517,309	17	8	1	196
Western Australia	1	277.00	2,229,974	176,728	91,357	266,039	34,549	139,688	236	23	23	490
Tasmania	4	141.56	911,668	72,881	58,032	113,499	34,804	58,776	173	22	21	299
All States (b)	31	858.76	5,250,651	558,526	374,169	962,990	920,924	1,578,746	920	123	76	2,113

(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.

**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 1930-31, also in Australia as a whole for the years 1926-27 to 1930-31, 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, 1930-31.**

Nature of Motive Power, and Gauge.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total. Australia.
<b>GOVERNMENT.</b>							
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Electric .. ..	186.63	135.31	..	..	41.10	..	363.04
Steam .. ..	12.96	..	..	..	6.26	..	19.22
Cable .. ..	..	24.29	..	..	..	..	24.29
Horse .. ..	..	..	..	..	1.50	..	1.50
Total .. ..	199.59	159.60	..	..	48.86	..	408.05

TRAMWAYS.—ROUTE MILEAGE OPEN, 1930-31—*continued.*

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

Electric .. ..	..	..	56.69	82.84	8.61	30.53	178.67
Steam .. ..	..	..	6.65	..	..	..	6.65
<b>Total .. ..</b>	<b>..</b>	<b>..</b>	<b>63.34</b>	<b>82.84</b>	<b>8.61</b>	<b>30.53</b>	<b>185.32</b>

## PRIVATE.

Electric .. ..	..	21.25	..	..	11.56	..	32.81
Steam .. ..	3.50	..	..	..	..	..	3.50
<b>Total .. ..</b>	<b>3.50</b>	<b>21.25</b>	<b>..</b>	<b>..</b>	<b>11.56</b>	<b>..</b>	<b>36.31</b>

## ALL CONTROLLING AUTHORITIES.

Electric .. ..	186.63	156.56	56.69	82.84	61.27	30.53	574.52
Steam .. ..	16.46	..	6.65	..	6.26	..	29.37
Cable .. ..	..	24.29	..	..	..	..	24.29
Horse .. ..	..	..	..	..	1.50	..	1.50
<b>Total .. ..</b>	<b>203.09</b>	<b>180.85</b>	<b>63.34</b>	<b>82.84</b>	<b>69.03</b>	<b>30.53</b>	<b>629.68</b>

## ACCORDING TO GAUGE.

Gauge—							
5 ft. 3 in. ..	..	5.18	..	..	..	..	5.18
4 ft. 8½ in. ..	203.09	175.67	56.69	82.84	..	..	518.29
3 ft. 6 in. ..	..	..	6.65	..	69.03	30.53	106.21
<b>Total .. ..</b>	<b>203.09</b>	<b>180.85</b>	<b>63.34</b>	<b>82.84</b>	<b>69.03</b>	<b>30.53</b>	<b>629.68</b>

## TRAMWAYS.—ROUTE MILEAGE OPEN, AUSTRALIA.

Nature of Motive Power, Controlling Authority, and Gauge.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
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## ACCORDING TO MOTIVE POWER.

Electric .. ..	Miles. 538.42	Miles. 555.33	Miles. 557.99	Miles. 571.85	Miles. 574.52
Steam .. ..	70.55	39.18	40.19	41.62	29.37
Cable .. ..	33.68	30.60	30.60	26.44	24.29
Horse .. ..	2.51	2.51	1.50	1.50	1.50
<b>Total .. ..</b>	<b>645.16</b>	<b>627.08</b>	<b>630.28</b>	<b>641.41</b>	<b>629.68</b>

TRAMWAYS.—ROUTE MILEAGE OPEN, AUSTRALIA—*continued.*

Nature of Motive Power, Controlling Authority, and Gauge.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
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## ACCORDING TO CONTROLLING AUTHORITY.

Government .. ..	431.05	405.21	407.16	409.43	408.05
Municipal .. ..	168.70	173.60	177.01	185.20	185.32
Private .. ..	45.41	48.27	46.11	46.78	36.31
<b>Total .. ..</b>	<b>645.16</b>	<b>627.08</b>	<b>630.28</b>	<b>641.41</b>	<b>629.68</b>

## ACCORDING TO GAUGE.

Gauge—					
5 ft. 3 in. .. ..	5.18	5.18	5.18	5.18	5.18
4 ft. 8½ in. .. ..	526.61	516.80	520.46	530.03	518.29
3 ft. 6 in. .. ..	100.87	105.10	104.64	106.20	106.21
2 ft. 9 in. .. ..	12.50	..	..	..	..
<b>Total .. ..</b>	<b>645.16</b>	<b>627.08</b>	<b>630.28</b>	<b>641.41</b>	<b>629.68</b>

The mileage of electric tramways has steadily increased during the period dealt with above, due principally to the gradual conversion of the Newcastle steam tramways and of the Melbourne cable systems to electrical traction.

(iii) *Cost of Construction and Equipment.* The table hereunder shows the total cost of construction and equipment of all tramways to the 30th June, 1931, classified according to the nature of the motive power and the controlling authority.

## TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1930-31.

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
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## GOVERNMENT.

	£	£	£	£	£	£	£
Electric .. ..	a8,049,850	7,147,828	..	..	1,103,707	..	16,301,385
Steam .. ..	a 100,742	..	..	..	60,634	..	161,376
Cable .. ..	..	1,319,266	..	..	..	..	1,319,266
Horse .. ..	..	..	..	..	10,104	..	10,104
<b>Total .. ..</b>	<b>8,150,592</b>	<b>8,467,094</b>	<b>..</b>	<b>..</b>	<b>1,174,445</b>	<b>..</b>	<b>17,792,131</b>

## MUNICIPAL.

Electric .. ..	..	..	2,219,874	3,870,769	165,557	612,632	6,868,832
Steam .. ..	..	..	53,235	..	..	..	53,235
<b>Total .. ..</b>	<b>..</b>	<b>..</b>	<b>2,273,109</b>	<b>3,870,769</b>	<b>165,557</b>	<b>612,632</b>	<b>6,922,067</b>

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1930-31—continued.

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
PRIVATE.							
Electric	£ ..	£ 223,061	£ ..	£ ..	£ 453,339	£ ..	£ 676,400
Steam ..	(b) 20,000	..	..	..	..	..	20,000
<b>Total ..</b>	<b>(b) 20,000</b>	<b>223,061</b>	<b>..</b>	<b>..</b>	<b>453,339</b>	<b>..</b>	<b>696,400</b>
ALL CONTROLLING AUTHORITIES.							
Electric	8,049,850	7,370,889	2,219,874	3,870,769	1,722,603	612,632	23,846,617
Steam ..	120,742	..	53,235	..	60,634	..	234,611
Cable ..	..	1,319,266	..	..	..	..	1,319,266
Horse ..	..	..	..	..	10,104	..	10,104
<b>Total ..</b>	<b>8,170,592</b>	<b>8,690,155</b>	<b>2,273,109</b>	<b>3,870,769</b>	<b>1,793,341</b>	<b>612,632</b>	<b>25,410,598</b>

(a) Exclusive of Stores Advance Account and cost of power stations now charged to Railways Department.  
 (b) Estimated.

2. New South Wales.—(i) *General.* With the exception of a steam tramway 3½ miles in length from Parramatta to Duck River, which is operated by Sydney Ferries Ltd., the tramways of New South Wales are the property of the Government, and are under the control of the Metropolitan Transport Trust. 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, 1931, 23.74 miles (route) were completed and opened for traffic.

(ii) *Particulars of Working.* (a) *Electric Tramways.* The subjoined statement gives particulars of the working of the electric tramways in New South Wales for the years 1927 to 1931 :—

ELECTRIC TRAMWAYS.—NEW SOUTH WALES.—SUMMARY.

Year ended 30th June—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment. (a)	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Per-centage of Work-ing Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. ,000	No.
1927 ..	185.85	10,779,696	3,733,907	3,284,594	449,313	545,702	87.97	4.17	341,003	11,512
1928 ..	185.80	10,894,890	4,495,093	3,840,549	654,544	554,887	85.44	6.01	341,365	10,911
1929 ..	186.65	11,029,890	4,402,045	3,751,930	650,115	592,807	85.23	5.89	328,820	10,968
1930 ..	186.63	11,046,461	3,856,892	3,543,645	311,247	622,538	91.93	2.82	303,864	10,024
1931 ..	186.63	8,049,850	3,024,704	3,058,953	-34,249	470,046	101.13	-0.43	263,699	8,183

(a) Includes £47,455 paid from the Consolidated Revenue on which no interest is payable.  
 (b) Exclusive of the cost of power houses now charged to the Railways Department.

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

(b) *Electric and Steam Tramways.* The following table gives a summary of the operations of all tramways for the years 1927 to 1931 :—

**ELECTRIC AND STEAM TRAMWAYS.—NEW SOUTH WALES.—SUMMARY.**

Year ended 30th June—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment. (a)	Gross Revenue.	Working Expenses.	Net Earnings.	In-ter-est.	Per-centage of Working Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. ,000	No.
1927 ..	232.00	11,319,050	3,808,260	3,491,615	316,645	573,453	91.69	2.80	347,366	11,707
1928 ..	214.08	11,342,078	4,558,546	3,940,913	617,633	576,702	86.45	5.45	346,128	11,039
1929 ..	213.93	11,476,189	4,460,063	3,837,213	622,850	615,997	86.03	5.43	333,615	11,090
1930 ..	213.91	11,497,978	3,905,205	3,628,554	276,651	646,892	92.92	2.41	307,874	10,147
1931 ..	203.09	8,170,592	3,059,897	3,124,366	-64,469	475,571	102.11	-0.79	266,393	8,191

(a) Includes £47,455 paid from the Consolidated Revenue on which no interest is payable.

(b) Exclusive of the cost of power houses now charged to the Railway Department.

As pointed out in connexion with the preceding table the cost of construction and equipment is exclusive also of the amount of the Stores Advance Account.

3. *Victoria.*—(i) *General.* In Melbourne, electric and cable tramway systems with route mileages of 114.54 miles and 24.29 miles respectively are worked by the Melbourne and Metropolitan Tramways Board, while two electric tramways, (a) St. Kilda to Brighton 5.18 miles and (b) Sandringham to Beaumaris 4.61 miles, belong to and are operated by the Railways Commissioners. The State Electricity Commission operates 10.47 miles of electric tramways at Geelong, and there are also systems of electric tramways 21.25 miles in length at Ballarat and Bendigo constructed and worked by a private company.

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 (see Year Books No. 7 page 652, No. 9 page 679 and No. 15 page 593).

With the exception of the St. Kilda-Brighton line which is of 5 ft. 3 in. gauge, all the tramways of the State are of 4 ft. 8½ in. gauge.

(ii) *Particulars of Working.*—(a) *Electric Tramways.* The following table gives particulars of the working of all electric tramways in Victoria for each year from 1927 to 1931 inclusive :—

**ELECTRIC TRAMWAYS.—VICTORIA.—SUMMARY.**

Year ended 30th June—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-ter-est.	Per-centage of Working Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. ,000	No.
1927 ..	139.53	5,389,654	1,583,838	1,108,664	475,174	267,757	70.00	8.82	135,153	4,087
1928 ..	149.26	6,016,926	1,762,079	1,209,175	552,904	306,528	68.62	9.19	149,372	4,018
1929 ..	149.59	6,382,594	1,793,541	1,249,582	543,959	313,455	69.67	8.52	150,378	3,942
1930 ..	154.02	7,223,329	1,865,955	1,282,447	583,508	314,134	68.73	8.08	155,739	3,795
1931 ..	151.38	7,370,889	1,737,410	1,124,867	612,543	347,147	64.74	8.31	144,466	3,617

(b) *Electric and Cable Tramways.* The following table gives particulars for all tramways in Victoria during each of the years 1927 to 1931 inclusive :—

## ELECTRIC AND CABLE TRAMWAYS.—VICTORIA.—SUMMARY.

Year ended 30th June—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Per-centage of Work-ing Expen-ses on Gross Re-venue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. ,000	No.
1927 ..	173.21	7,119,052	2,596,784	1,811,413	785,371	268,156	69.76	11.03	235,132	6,101
1928 ..	179.32	7,585,691	2,605,379	1,817,236	788,643	306,927	69.74	10.40	232,377	5,890
1929 ..	180.19	7,943,382	2,586,663	1,846,454	740,209	313,854	71.38	9.32	228,308	5,713
1930 ..	180.46	8,623,910	2,470,482	1,775,726	694,756	314,433	71.88	8.06	214,431	5,162
1931 ..	175.67	8,690,155	2,191,009	1,524,033	666,976	347,546	69.56	7.68	188,452	4,785

4. *Queensland.*—(i) *Electric Tramways.* 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 56.69 route miles at 31st December, 1931. 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 1931 was £2,219,874, the gauge of line being 4 ft. 8½ in. The following table gives a summary for the calendar years 1927 to 1931 :—

## ELECTRIC TRAMWAYS.—BRISBANE.—SUMMARY.

Year ended 31st December—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Per-centage of Work-ing Expen-ses on Gross Re-venue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. ,000	No.
1927 ..	53.53	2,050,155	814,312	613,285	201,027	105,000	75.31	9.81	78,058	1,659
1928 ..	55.41	2,195,340	810,954	607,711	203,243	111,883	74.94	9.26	77,703	1,611
1929 ..	55.73	2,214,637	794,470	584,390	210,080	112,872	73.56	9.49	76,117	1,552
1930 ..	56.58	2,241,385	766,271	552,661	213,610	110,421	72.12	9.53	73,617	1,479
1931 ..	56.69	2,219,874	703,558	504,463	199,095	106,735	71.70	8.97	69,413	1,364

(ii) *Electric and Steam Tramways.* In addition to the electric tramways for which particulars are given above, a steam tramway operated by the City Council is in operation at Rockhampton. The length of line is 6.65 route miles and the gauge 3 ft. 6 in.

The capital cost to 31st December, 1931, was £53,235. The following table gives particulars of the working of electric and steam tramways in Queensland for each year from 1927 to 1931 :—

## ELECTRIC AND STEAM TRAMWAYS.—QUEENSLAND.—SUMMARY.

Year ended 31st December—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. '000	No.
1927 ..	60.18	2,103,284	831,203	631,208	199,995	108,318	75.94	9.51	79,845	1,703
1928 ..	62.06	2,248,469	827,357	623,869	203,488	114,494	75.41	9.05	79,456	1,653
1929 ..	62.38	2,267,872	810,148	600,567	209,581	115,483	74.13	9.24	77,791	1,594
1930 ..	63.23	2,294,620	780,844	568,241	212,603	113,032	72.77	9.27	75,128	1,520
1931 ..	63.34	2,273,109	716,605	519,738	196,867	109,346	72.53	8.66	70,761	1,404

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, 1931, the Tramways Trust operated a total route mileage of 82.84 miles of 4-ft. 8½-in. gauge. A summary for the years 1927 to 1931 is given in the subjoined table :—

## ELECTRIC TRAMWAYS.—ADELAIDE.—SUMMARY.

Year ended 31st July—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. '000	No.
1927..	73.05	3,073,359	674,884	483,939	190,945	131,791	71.71	6.21	67,570	1,690
1928..	74.17	3,176,738	695,649	496,194	199,455	210,676	71.33	6.28	68,546	1,781
1929..	75.79	3,527,710	677,513	501,362	176,151	231,737	74.00	4.99	66,578	1,982
1930..	82.83	3,834,302	756,560	521,839	234,721	258,697	68.98	6.12	59,853	1,736
1931..	82.84	a 4,036,396	a 722,104	a 445,260	a 276,844	a 287,534	a 61.66	a 6.86	a 52,756	a 1,840

(a) Includes motor omnibuses. Separate particulars are not available.

(ii) *Horse Tramways.* There are also 13.51 miles of Government horse-tramways in country districts, worked in connexion with the railway system, of which 11.01 miles are used for passenger service, and 2.50 miles for special purposes.

6. *Western Australia.*—(i) *Electric Tramways.* The Perth electric 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 length of line open at 30th June, 1931, was 41.10 route miles. Electric tramways with a route mileage at 31st August, 1931, 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 1931, the length of line was 11.56 route miles. All the electric tramways of the State are of 3-ft. 6-in. gauge. The subjoined table gives a summary for all the electric tramway systems for the years 1927 to 1931 :—

## ELECTRIC TRAMWAYS.—WESTERN AUSTRALIA.—SUMMARY.

Year.	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest. (a)	Per-centage of Work-ing Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. '000	No.
1927 ..	59.60	1,599,105	376,578	310,967	65,611	51,127	82.58	4.10	38,924	891
1928 ..	61.93	1,669,242	493,845	330,705	73,140	53,668	81.89	4.38	41,041	897
1929 ..	60.00	1,680,151	423,368	333,224	70,144	54,651	83.43	4.17	43,199	816
1930 ..	61.26	1,710,370	426,646	363,648	62,998	54,418	85.23	3.68	43,359	877
1931 ..	61.27	1,722,603	376,252	324,628	51,624	56,088	86.28	3.00	38,285	782

(a) Exclusive of Kalgoorlie and Boulder tramways operated by a private company.

(ii) *All Tramways.* In addition to the electric tramways, there are several Government tramways, with a total length of 7.76 miles of 3-ft. 6-in. gauge. The lines are under the control of the Department of Works and Labour, and the total mileage of 7.76 miles is 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. The capital cost of the tramways to 30th June, 1931, was £70,738, the gross revenue for 1930-31 being £2,988 and the working expenses £2,162. These items are in some instances inclusive of revenue from jetty charges and of working expenses in connexion with such services. The following table gives a summary for all tramways in the State for the years 1927 to 1931 :—

## ELECTRIC, STEAM AND HORSE TRAMWAYS.—WESTERN AUSTRALIA.—SUMMARY.

Year.	Mileage Open for Traffic (Route)	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	In-terest. (b)	Per-centage of Work-ing Expenses on Gross Revenue.	Per-centage of Net Earnings on Capital Cost.	Passen-gers carried.	Persons em-ployed.
	Miles.	£	£	£	£	£	%	%	No. '000	No.
1927 ..	79.86	1,695,228	380,053	313,298	66,755	51,127	82.44	3.94	38,933	897
1928 ..	69.69	1,739,579	423,474	341,569	81,905	53,668	80.66	4.71	41,048	912
1929 ..	67.76	1,753,499	427,224	364,960	72,264	54,651	83.09	4.12	43,206	822
1930 ..	69.02	1,783,798	429,067	365,087	63,980	55,857	83.09	3.59	43,358	882
1931 ..	69.03	1,793,341	379,240	326,790	52,450	57,432	86.17	2.92	38,292	794

(a) Electric tramways only operated by a private company.

(b) Exclusive of Kalgoorlie and Boulder electric tramways

7. *Tasmania.*—(i) *Electric Tramways.* In Hobart there is a system of electric tramways consisting of 18.80 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 11.73 miles of 3-ft. 6-in. gauge.

The following table gives a summary of the working of the two systems for the years 1927 to 1931 :—

## ELECTRIC TRAMWAYS.—TASMANIA.—SUMMARY.

Year.	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.
1927 ..	26.86	561,857	181,445	140,386	41,059	35,781	77.37	7.31	17,009	367
1928 ..	28.76	558,323	182,769	132,813	49,956	36,872	72.67	8.95	17,206	377
1929 ..	30.23	567,841	171,664	138,808	32,856	32,549	80.86	5.79	17,334	387
1930 ..	30.53	581,395	172,187	141,801	30,386	35,614	82.35	5.23	17,356	392
1931 ..	30.53	612,632	159,136	127,854	31,282	37,308	80.34	5.11	16,360	388

(ii) *Other Tramways.* There are several lines of privately-owned steam tramways, which have been included with private railways, as they do not come within the category of street tramways for the conveyance of passengers.

8. *Australia.*—(i) *Electric Tramways-Summary 1927 to 1931.* 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 years; for other tramways they refer generally to the financial years.

## ELECTRIC TRAMWAYS.—AUSTRALIA.—SUMMARY.

Particulars.	1927.	1928.	1929.	1930.	1931.
Mileage open for traffic .. .. Miles	538.42	555.33	557.99	571.85	574.52
Cost of Construction and Equipment .. £	23,453,826	24,511,459	25,402,823	26,637,242	23,846,617 <sup>a</sup>
Cost per mile .. .. £	43,560	44,139	45,526	46,581	(a) 41,507
Gross revenue .. .. £	7,364,964	8,350,389	8,262,601	7,844,511	6,723,164
Working expenses .. .. £	5,941,835	6,603,562	6,579,296	6,408,041	5,586,025
Net earnings .. .. £	1,423,129	1,746,827	1,683,305	1,436,470	1,137,139
Interest .. .. £	1,137,158	1,274,514	1,338,071	1,395,822	1,304,858
Percentage of Working Expenses on Gross Revenue .. .. %	80.68	79.08	79.63	81.69	83.09
Percentage of Net Earnings on Capital Cost .. .. %	6.07	7.13	6.63	5.39	4.77
Tram miles run .. .. ,000 miles	68,726	71,449	71,763	71,817	71,043
Gross revenue per tram mile .. .. d.	25.72	28.05	27.63	26.22	22.71
Working expenses per tram mile .. .. d.	20.75	22.18	22.00	21.42	18.87
Net earnings per tram mile .. .. d.	4.97	5.87	5.63	4.80	3.84
Passengers carried .. .. ,000	677,717	695,234	682,425	653,778	584,979
Passengers carried per tram mile .. No.	9.86	9.73	9.51	9.10	8.23
Average revenue per passenger's journey .. d.	2.61	2.88	2.91	2.88	2.76
Persons employed at end of year .. No.	20,206	19,595	19,647	18,303	16,174

(a) Exclusive of cost of power houses for New South Wales tramways which are now charged to Railways.

(ii) *All Tramways—Summary 1927 to 1931.* The following table gives a summary of the working of all tramway systems in Australia for the years 1927 to 1931 :—

## ALL TRAMWAYS—AUSTRALIA—SUMMARY.

Particulars.	1927.	1928.	1929.	1930.	1931.
Mileage open for traffic .. Miles	645.16	628.08	630.28	639.98	624.50
Cost of Construction and Equip- ment .. .. £	25,871,830	26,650,878	27,536,493	28,616,003	a25,576,225
Cost per mile .. .. £	40,101	42,432	43,689	44,714	a 40,955
Gross Revenue .. .. £	8,472,629	9,293,674	9,133,275	8,514,345	7,227,991
Working Expenses .. .. £	6,871,859	7,352,594	7,279,364	7,001,248	6,068,041
Net Earnings .. .. £	1,600,770	1,941,080	1,853,911	1,513,097	1,159,950
Interest .. .. £	1,168,626	1,299,339	1,364,271	1,424,525	1,314,737
Percentage of Working Expenses on Gross Revenue .. .. %	81.11	79.11	79.70	82.23	83.95
Percentage of Net Earnings on Capital Cost .. .. %	6.19	7.28	6.73	5.29	4.54
Tram-miles run .. .. ,000 miles	79,371	80,506	80,566	79,010	77,308
Gross revenue per tram mile .. d.	25.62	27.71	27.21	25.86	22.44
Working expenses per tram mile .. d.	20.78	21.92	21.69	21.27	18.84
Net earnings per tram mile .. d.	4.84	5.79	5.52	4.59	3.60
Passengers carried .. .. ,000	785,855	784,761	766,832	718,000	633,014
Passengers carried per tram mile No.	9.90	9.75	9.52	9.09	8.19
Average revenue per passenger journey .. .. d.	2.59	2.84	2.86	2.85	2.74
Persons employed at end of year No.	22,465	21,652	21,588	19,839	17,402

(a) Exclusive of cost of power houses for New South Wales electric tramways which are now charged to Railways.

## 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.

2. *Foundation of Civil Aviation Department.*—(i) *Creation.* A brief account of the foundation and the objects of this Department will be found in Official Year Book No. 19, p. 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) Derby to Wyndham (600 miles); (c) Perth to Adelaide (1,453 miles); (d) Adelaide to Sydney (790 miles); (e) Sydney to Brisbane (550 miles); (f) Brisbane to Charleville (444 miles); (g) Charleville to Camooweal (825 miles); (h) Camooweal to Daly Waters (475 miles); (i) Daly Waters to Birdum Creek (50 miles); (j) Cloncurry to Normanton (215 miles); (k) Melbourne to Hay (233 miles); (l) Mildura to Broken Hill (189 miles); (m) Melbourne to Charleville via Cootamundra (900 miles); and (n) Melbourne to Hobart via Wilson's Promontory and Launceston (380 miles).

Preliminary surveys of various additional routes also have been made, but no expenditure has yet been incurred in the preparation of landing grounds in connexion therewith.

Up to 30th June, 1932, 184 landing grounds had been acquired or leased by the Government and prepared for civil aviation purposes. There were also 98 public aerodrome licences in force.

(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 30th June, 1932, three subsidized contractors were operating under contracts which provided that such space as is required on each trip must be reserved for mails, the letters for transmission being surcharged 3d. per  $\frac{1}{2}$  ounce. The total route mileage of these services is 5,479 miles.

The various regular air services over prepared routes have completed 7,969,231 passenger-miles, and carried 41,019 paying passengers over various stages. Over 132,130 lb. of 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 30th June, 1932.* The following aerial mail services were in operation at 30th June, 1932 :—

(1) *Subsidized Services.* West Australian Airways Ltd.—Perth to Derby (W.A.), 1,467 miles; Derby to Wyndham (W.A.), 600 miles, and Perth (W.A.) to Adelaide (S.A.), 1,453 miles. Queensland and Northern Territory Aerial Services Ltd.—Brisbane to Camooweal (Q.), 1,269 miles, Cloncurry to Normanton (Q.), 215 miles, and Daly Waters to Birdum (N.A.), 50 miles. Larkin Aircraft Supply Co. Ltd.—Camooweal (Q.) to Daly Waters (N.A.), 475 miles. All these services are operated once weekly in each direction over the routes mentioned. The Derby to Wyndham service is not operated in the “wet” season, which is usually December to March. The Daly Waters to Birdum service is operated during the “wet” season only, when surface transport between these two centres is impracticable except per medium of pack-horses.

(2) *Unsubsidized Services.* The following services were in operation at 30th June, 1932, without the assistance of Government subsidies :—Brisbane (Q.) to Sydney (N.S.W.), 500 miles, operated by New England Airways; and Launceston (T.) to Flinders Island, 120 miles operated by L. McK. Johnson. Surcharged air mail is carried by these two services under arrangements with the Postmaster-General's Department.

(c) *Aerial Ambulance Service.* Following an agreement made between the Queensland and Northern Territory Aerial Services Ltd. and the Australian Inland Mission, an aerial ambulance service to provide medical service where required in Western and Northern Queensland and operating from a base at Cloncurry was inaugurated on the 17th May, 1928. The aircraft company agreed to provide the aircraft and pilot and the mission authorities the doctor. The scheme has proved most successful and many instances are recorded of lives being saved by the services thus made available.

(d) *Reliability.* During 1931 over 556,966 miles were flown by the three subsidized companies operating regular air services without a fatal accident. The total mileage flown by all civil aircraft during the same period was over 3,354,000 miles, and twelve fatal accidents occurred, an average of one fatal accident for every 279,500 miles flown.

4. *Aircraft Construction.*—With the increase in the number of aircraft used in Australia attention is being given to the question of local production. Aircraft have been manufactured in Australia for a number of years, and locally built aircraft are in use on certain subsidized routes, but development has not yet reached a completely organized stage.

During 1930, however, a notable advance beyond the experimental stage was made by "The General Aircraft Co. Ltd.," of Sydney, which proceeded to the production stage with a land plane of local design. The "Genairco" is a three-seater biplane of orthodox type, with accommodation for two passengers and a pilot, and is of standard all wood construction with fabric-covered lifting and control surfaces, and folding wings. There are now nine (9) aircraft of this type on the Commonwealth Register, the machines being used for instructional purposes and for general taxi and private hire work.

Reference was made in Official Year Book No. 22 (1929) to the aircraft construction activities of the Larkin Aircraft Supply Co. Ltd. This company has since successfully completed its contract for the manufacture of 32 "Moth" Aircraft for the Commonwealth Government, and has also produced two larger passenger aircraft of local design. One of these (the "Lascoter") is a single-engined, four passenger aircraft, and the other (the "Lasconder") is a three-engined six passenger machine.

The Aircraft Branch of the Cockatoo Island Dockyard, Sydney, is now investigating the practicability of undertaking the production of locally designed aircraft.

5. **Training of Air Pilots.**—(i) *The Associated Aero Clubs.* The Associated Australian Aero Clubs provide facilities in the capital cities of all States for flying instruction and practice. Training operations commenced in Tasmania, on 24th November, 1930, at Launceston, and later at Hobart. At the end of June, 1932, 854 pupils had passed through the various flying training organizations and had qualified for private "A" pilots' licences, whilst many graduates had completed advanced courses of training, gained their commercial "B" licences and now own aircraft.

The Commonwealth Government renders these six clubs assistance by providing D.H. 60 "Moth" aeroplanes and spare engines, hangar accommodation, the free use of aerodromes, suitable club houses which are leased to the clubs, and bonuses for practice flying carried out and for each pupil trained to a standard that will enable him to obtain a private ("A") pilot's licence. In lieu of the bonus for practice flying the Sydney and Melbourne Clubs are paid a subsidy in respect of each member who qualifies for the renewal of his pilot's licence.

Aviation pageants are held from time to time by the various sections of the Australian Aero Club and are increasing in popularity.

(ii) *Other Aero Clubs.* During 1931 several D.H. 60 "Moth" aeroplanes were made available for loan to the following clubs operating in country districts:—Bendigo and Ballarat (V.); Central Queensland Aero Club, Rockhampton (Q.); and Lismore (N.S.W.). No assistance other than the loan of a machine is given to these organizations.

(iii) *Other Organizations.* Flying training is also carried out more or less intermittently by companies, clubs, or private owners at various centres throughout the Commonwealth. These do not receive any form of Government subsidy.

6. **Notable Flights.**—Since the end of the European war many notable long distance flights have been carried out by Australian pilots. Shorts accounts of those prior to the year under review are contained in previous issues of the Year Book. During the period, 1st April, 1931, to 30th June, 1932, there were three solo flights from Australia to England, viz.—C. W. A. Scott (10 days 23 hours), J. A. Mollison (8 days 21 hours), and Sir C. E. Kingsford-Smith (14 days). Scott's flight created a record which was broken two months later by Mollison. Flights from England to Australia during the same period were accomplished by C. A. Butler (9 days 2 hours) and C. W. A. Scott (8 days 20 hours 44 minutes) who each in turn broke the record. Other flights of interest were those of Fraulein E. Beinhorn who flew solo from Berlin to Darwin; a party of three French airmen who flew from Paris via Darwin and Brisbane to Noumea (New Caledonia); three R.A.F. "Southampton" flying boats from Singapore to Darwin; and the flights from England to Australia of J. H. Jeffery, accompanied by E. H. Jenkins, and R. T. Richards, accompanied to India by Lady Chaytor, whence Richards flew solo to Australia.

7. **Experimental Air Mail Flights.**—The period under review was remarkable for the number of experimental air mail flights undertaken between England and Australia. Two were conducted by Imperial Airways from London to Darwin and return, leaving London on 4th and 25th April, 1931, and returning from Darwin on 27th April, and 20th May, respectively. The first All Australian Overseas Airmail departed from Darwin on 23rd November, 1931, carrying 1,340 lbs. of mail for London. The return flight from London with 664 lbs. of mail was commenced on 7th January, 1932, and completed in under 12 days.

8. **Statistical Summary.**—The collection and compilation of aircraft statistics were undertaken by the Commonwealth Bureau of Census and Statistics on the 1st July, 1922. The subjoined table gives a summary of operations for the years ended 30th June, 1927 to 1931 :—

**CIVIL AIRCRAFT.—AUSTRALIA.—SUMMARY.**

Particulars.	Year ended 30th June—				
	1927.	1928.	1929.	1930.	1931.
Registered Aircraft Owners					
(a) .. No.	29	37	72	122	129
Registered Aircraft (a) No.	85	90	175	220	225
Licensed Pilots—(a)					
Private .. No.	48	127	209	344	407
Commercial .. No.	47	76	122	181	209
Licensed Ground Engineers					
(a) .. No.	148	163	198	257	293
Aerodromes—(a)					
Government .. No.	45	46	56	58	57
Public .. No.	11	13	19	39	66
Government Emergency					
Grounds .. No.	91	94	108	114	121
Flights carried out .. No.	17,284	56,216	92,000	128,916	113,340
	h. m.	h. m.	h. m.	h. m.	h. m.
Hours flown .. ..	10,447 24	15,783 30	27,268 20	42,963 7	44,506 49
Approx. Mileage .. Miles	772,643	1,153,572	1,992,070	3,234,307	3,596,930
Passengers carried—					
Paying .. No.	13,984	36,397	56,363	91,415	80,651
Non-paying .. No.	3,222	5,629	10,037	12,801	13,699
<b>Total .. No.</b>	<b>17,206</b>	<b>42,026</b>	<b>66,400</b>	<b>104,216</b>	<b>94,350</b>
Goods, weight carried .. lb.	125,924	116,373	160,424	196,795	204,445
Mails, letters carried .. No.	290,746	301,677	316,338	383,942	(b) 48,503
Accidents—					
Persons killed .. No.	4	2	7	18	29
Persons injured .. No.	3	5	10	20	20

(a) At 30th June.

(b) Weight in lb. all contractors.

In earlier issues of the Year Book, particulars of flying carried out in the various States have been shown, but, owing to the extension of interstate flying both by the subsidized companies and private pilots, it has been found impracticable to obtain complete details for the several States separately. The figures shown in the above table are therefore for the Commonwealth as a whole.

9. **New Guinea Activities.**—The discovery of gold in New Guinea resulted in considerable aviation activity in the vicinity of the gold-fields, which, by ground route, are situated about 70 miles inland from Salamaua, on the north-east coast of the mainland of New Guinea. The value of aircraft as a means of transporting food and stores to the field and of bringing the gold to the seaboard is shown by the fact that, whereas aircraft cover the distance in approximately one hour, the nature of the intervening country is such that a journey by other means occupies more than a week. Several air transport companies are operating successfully without any direct assistance in the form of Government subsidies. The principal company (Guinea Airways Ltd.) is now operating three specially constructed freight machines for the transportation of several thousand tons of hydro-electric power plant and dredging machinery to the Bulolo fields. This work is being successfully accomplished, and constitutes one of the most notable feats of transport in the history of aviation. The subjoined table gives a summary of operations for the years ended 30th June, 1928 to 1931.

**CIVIL AIRCRAFT.—TERRITORY OF NEW GUINEA.—SUMMARY.**

Particulars.	Year ended 30th June—			
	1928.	1929.	1930.	1931.
Registered Aircraft Owners (a) No.	5	7	7	5
Registered Aircraft (a) .. No.	12	15	13	15
Licensed Pilots—(a)				
Private .. .. No.	..	..	1	4
Commercial .. .. No.	9	10	11	13
Licensed Ground Engineers (a) No.	8	10	11	18
Aerodromes—(a)				
Government .. .. No.	2	2	2	2
Emergency Landing Grounds No.	4	4	4	3
Flights carried out .. .. No.	821	1,532	2,882	2,672
	h. m.	h. m.	h. m.	h. m.
Hours flown .. ..	1,533 53	2,626 12	3,618 50	3,969 5
Approximate mileage .. .. Miles	107,208	187,705	272,976	325,807
Passengers carried—				
Paying .. .. No.	814	1,293	2,490	2,992
Non-paying .. .. No.	94	65	649	87
<b>Total .. .. No.</b>	<b>908</b>	<b>1,358</b>	<b>3,139</b>	<b>3,079</b>
Goods, weight carried .. .. lb.	518,831	1,385,510	3,062,430	3,107,616
Mails, weight carried .. .. lb.	6,171	13,876	23,257	24,604
Accidents—				
Persons killed .. .. No.	..	..	..	1
Persons injured .. .. No.	..	..	..	1

(a) At 30th June.

**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. 319) a short history of the evolution of the motor car is given.

(ii) *Motor Industry.* Although motor cars are not entirely manufactured in Australia, the capital invested in assembling and body building plants is considerable. The importance of the industry is shown by the figures relating to local manufacture of motor bodies and imports of motor cars and fuel which are given in the following table for the years 1926-27 to 1930-31 :—

**MOTOR BODIES BUILT, AND BODIES, CHASSIS AND FUELS IMPORTED—  
AUSTRALIA.**

Particulars.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
Motor bodies built in Australia .. No.	88,876	58,955	72,193	46,409	10,417
Value £	4,830,000	3,436,674	4,357,841	3,118,987	864,209
Motor bodies imported .. No.	12,843	9,583	14,546	6,556	137
Value £	1,413,203	1,115,303	1,471,878	697,862	14,007
Chassis imported .. No.	118,954	67,875	99,500	61,981	9,367
Value £	12,292,749	6,758,255	8,830,362	5,807,024	721,893
Fuels imported—					
Crude petroleum .. Million gallons	78	74	105	122	93
Value £	911,787	791,766	858,678	1,118,332	823,575
Petroleum spirit, etc. .. Million gallons	146	178	200	240	171
Value £	6,648,567	6,087,217	6,816,287	7,429,485	4,054,265

The value of the tyres 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. Spares, batteries, accessories, etc., are additional items for which there is a wide market in Australia.

At the 30th June, 1931, the number of motor cars per 1,000 of population was 81.09.

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.

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 available, but some indication of the effect 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 1930-31. 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, the number of passengers carried by these services during the year 1930-31 being 646,251, 1,224,949 and 15,206 respectively. The Municipal Tramways Trust, Adelaide, also employs omnibuses extensively in conjunction with the tramway system, but separate particulars for the year 1930-31 are not available.

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 1930–31. Particulars of the registration of motor vehicles, etc., for the year 1930–31 are contained in the subjoined table :—

MOTOR VEHICLES.—SUMMARY, 1930–31.

States and Territories.	Motor Vehicles Registered.					Drivers' and Riders' Licences Issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.	Per 1,000 of population.		Vehicle Registrations and Motor Tax.	Drivers' and Riders' Licences.	Total.
	No.	No.	No.	No.	No.		£	£	£
New South Wales	154,096	25,453	43,454	223,003	88.95	329,676	1,439,387	166,113	1,605,500
Victoria ..	116,568	23,635	28,028	168,231	93.59	228,051	1,048,995	57,016	1,106,011
Queensland ..	680,185	8,544	(a)2,102	90,831	94.66	63,227	476,946	25,537	502,483
South Australia ..	37,541	8,152	10,532	56,225	96.34	106,053	419,488	49,797	469,285
Western Australia	27,393	6,777	11,228	45,398	107.93	55,752	270,046	16,094	286,140
Tasmania ..	12,020	4,289	2,169	18,478	84.32	20,465	85,670	9,090	94,760
Central Australia	68	1	47	116	116.89	140	115	70	185
North Australia ..	239	31	158	428	116.89	586	412	279	691
Federal Capital Territory	1,096	84	215	1,395	164.91	1,676	6,667	911	7,578
Australia ..	429,206	76,966	97,933	604,105	92.93	805,626	3,747,726	324,907	4,072,633

(a) Solid tyred vehicles. (b) Pneumatic tyred vehicles. (c) Gross Revenue.

(ii) *Quinquennium* 1927–1931. The following table shows the number of vehicles registered, licences issued, and revenue received therefrom during each of the years 1926–27 to 1930–31 :—

MOTOR VEHICLES.—REGISTRATIONS, ETC., AUSTRALIA.

Year.	Motor Vehicles Registered.					Drivers' and Riders' Licences Issued.	Revenue derived from—		
	Motor Cars.	Motor Cycles.	Commercial Vehicles.	Total.	Per 1,000 of Population.		Vehicle Registration and Motor Tax.	Drivers' and Riders' Licences.	Total.
							£	£	£
1926–27	364,384	80,242	(a)50,914	495,540	80.3	608,585	2,636,506	208,857	2,845,363
1927–28	419,131	84,017	(a)62,006	565,154	89.9	681,237	3,364,861	249,964	3,614,825
1928–29	474,359	88,049	(a)71,851	634,259	99.5	767,328	3,877,734	289,300	4,167,034
1929–30	466,930	84,897	104,487	656,314	101.9	823,452	4,194,910	329,988	4,524,898
1930–31	429,206	76,966	97,933	604,105	92.9	805,626	3,747,726	324,907	4,072,633

(a) Incomplete, partly included with Motor Cars.

(iii) *Relation to Population.* The table hereunder gives the number of vehicles (exclusive of motor cycles) registered per 1,000 of population in each State for each of the years 1921 and 1927 to 1931 :—

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

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	North and Central Australia.	Federal Capital Territory.	Australia.
31st Dec., 1921	15	16	8	24	12	13	(a)	(a)	15
30th June, 1927	63	64	68	101	67	46	50	110	67
" 1928	74	72	74	110	81	54	86	143	77
" 1929	84	81	82	119	90	62	94	149	86
" 1930	87	87	88	100	101	68	106	154	89
" 1931	79	80	86	82	92	65	110	155	81.

(a) Not available.

(iv) *Revenue per Motor Vehicle.* The following table gives the approximate average revenue per vehicle (exclusive of motor cycles) received in respect of registration and motor tax in the several States for each year from 1926-27 to 1930-31. In some States the revenue from motor tax on cycles is not separately recorded. In these cases the flat rate provided for cycles in the registration acts has been applied, and the average amounts shown must therefore be regarded as approximate only.

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

State, etc.	1926-27.	1927-28.	1928-29.	1929-30.	1930-31.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
New South Wales .. .. .	7 3 8	7 3 5	7 4 5	7 5 8	7 2 6
Victoria .. .. .	6 14 11	6 16 6	6 19 2	7 0 10	7 0 2
Queensland .. .. .	4 1 9	5 7 2	5 14 5	5 13 8	5 12 3
South Australia .. .. .	4 7 3	7 10 5	7 6 10	9 7 11	8 5 9
Western Australia .. .. .	5 19 5	6 1 9	6 10 0	6 16 1	6 15 8
Tasmania .. .. .	5 0 4	5 1 11	5 0 11	5 1 6	5 11 1
North and Central Australia .. .. .	0 7 9	0 5 7	0 7 5	0 3 6	1 0 0
Federal Capital Territory .. .. .	5 3 6	6 7 1	6 0 11	6 2 2	4 19 9
<b>Australia .. .. .</b>	<b>6 1 9</b>	<b>6 14 10</b>	<b>6 17 0</b>	<b>7 2 0</b>	<b>6 17 8</b>

6. *Comparative Motor Vehicle Statistics, 1932.*—The result of the 1932 World Motor Census, conducted by the "American Automobile" magazine, from which the following particulars have been extracted, shows that there were over 35,400,000 motor cars, trucks, and buses registered in various countries of the world at 1st January, 1932.

**COMPARATIVE MOTOR VEHICLE STATISTICS, 1st JANUARY, 1932.**

Country.	Motor Cars, Trucks, and Buses.	Motor Cycles.
Australia .. .. .	525,846	78,210
Argentine .. .. .	345,856	3,500
Belgium .. .. .	150,980	44,325
Brazil .. .. .	163,200	1,800
Canada .. .. .	1,188,237	9,604
Cuba .. .. .	39,000	..
Denmark .. .. .	120,338	27,850
France .. .. .	1,695,000	400,000
Germany .. .. .	688,136	792,075
Great Britain .. .. .	1,557,130	626,649
India .. .. .	180,191	24,964
Irish Free State .. .. .	50,162	6,399
Italy .. .. .	285,042	93,098
Japanese Empire .. .. .	103,900	25,000
Mexico .. .. .	72,000	..
Netherlands .. .. .	136,000	33,400
Netherlands East Indies .. .. .	84,081	10,595
New Zealand .. .. .	192,576	35,331
Union of South Africa .. .. .	159,000	40,000
Spain .. .. .	177,900	15,300
Sweden .. .. .	152,000	57,500
Switzerland .. .. .	86,300	49,550
United States of America .. .. .	26,132,116	110,915

The foregoing figures are in some cases approximations 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, 1931, and differ from those stated in para. 5, which are actual registrations at 30th June, 1931.

As regards numbers of motor cars, Australia ranks sixth among the countries of the world, having been displaced by Germany from fifth position during 1928.

## POSTS, TELEGRAPHS AND TELEPHONES.

## § 1. General.

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

Under the provisions of the Commonwealth Post and Telegraph Act, 1901, the Commonwealth Postal Department was placed under the control of a Postmaster-General, being a responsible Minister with Cabinet rank, 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 Facilities.**—(i) *Relation to Area and Population.* The subjoined statement shows the number of post offices, the area in square miles and the number of inhabitants to each post office (including non-official offices) in each State and in Australia at the 30th June, 1931. In order to judge clearly the relative postal facilities provided in each State, the area of country to each office, as well as the number of inhabitants per office, should be taken into account. The returns given for South Australia in this and all succeeding tables include those for the Northern Territory, while the returns for the Federal Capital Territory are included in those for New South Wales.

POSTAL FACILITIES.—RELATION TO AREA AND POPULATION,  
AT 30th JUNE, 1931.

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.
Number of post offices (a) ..	2,542	2,559	1,199	766	556	515	8,137
Number of square miles of territory to each office in State ..	122	34	559	1,180	1,755	51	366
Number of inhabitants to each office	990	702	800	768	766	426	799
Number of inhabitants per 100 square miles .. ..	810	2,045	143	65	43	836	219

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

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 offices in each State from 1901 to 1930—31 :—

## POST OFFICES—NUMBER.

State.	At 31st December—				At 30th June—					
	1901.		1911.		1921.		1930.		1931.	
	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)	Official and Semi-Official Post Offices.	Non-Official Post Offices. (a)
New South Wales	438	1,770	491	1,999	462	2,147	445	2,231	439	2,103
Victoria ..	181	2,076	292	2,252	269	2,307	282	2,450	279	2,280
Queensland ..	137	1,165	206	1,156	205	1,057	207	1,046	199	1,000
South Australia ..	180	523	164	582	138	659	147	658	146	620
Western Australia	181	34	155	324	128	499	126	497	124	432
Tasmania ..	57	315	56	377	47	451	43	475	43	472
Australia ..	1,174	5,883	1,364	6,690	1,249	7,120	1,250	7,357	1,230	6,907

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

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

POSTAL EMPLOYEES AND MAIL CONTRACTORS.

State.	At 31st December—				At 30th June—					
	1901.		1911.		1921.		1930.		1931.	
	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.
Central Office ..	(a)	..	(a)	..	139	..	205	..	174	..
New South Wales ..	5,636	984	9,255	1,589	11,669	2,046	14,383	1,952	12,336	1,884
Victoria ..	3,962	890	7,503	1,030	8,117	1,091	10,709	1,175	9,574	1,129
Queensland ..	2,616	(b)	3,708	747	4,728	750	5,179	814	4,865	908
South Australia ..	1,945	(b)	1,939	359	2,826	439	3,954	414	3,340	359
Western Australia ..	1,303	140	2,367	254	2,111	302	2,902	398	2,548	323
Tasmania ..	865	(b)	981	197	1,220	223	1,517	270	1,354	257
<b>Australia ..</b>	<b>16,327</b>	<b>2,014</b>	<b>25,753</b>	<b>4,176</b>	<b>30,810</b>	<b>4,851</b>	<b>38,849</b>	<b>5,023</b>	<b>34,191</b>	<b>4,860</b>

(a) Included in Victorian Staff. (b) Included in "employees." Separate particulars are not available.

3. *Gross Revenue, Postmaster-General's Department.*—(i) *States, 1930-31.* The following table shows the gross revenue classified according to source in each State for the year 1930-31. The figures are supplied by the Treasury, and represent the actual collections for the year.

GROSS REVENUE, POSTMASTER-GENERAL'S DEPT.—DETAILS, 1930-31.

Particulars.	N.S.W.	Victoria. (a)	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	£	£	£	£	£	£	£
Postage .. ..	2,104,533	1,482,526	787,092	401,254	342,934	158,324	5,276,663
Money order commission ..	92,032	54,774	32,489	13,931	16,443	6,976	216,645
Poundage on postal notes .. ..							
Private boxes and bags .. ..	23,066	12,783	14,157	7,556	4,871	2,526	64,959
Miscellaneous ..	135,705	92,834	41,967	17,924	30,372	9,089	327,891
<b>Total, Postal ..</b>	<b>2,355,336</b>	<b>1,642,917</b>	<b>875,705</b>	<b>440,665</b>	<b>394,620</b>	<b>176,915</b>	<b>5,886,158</b>
Telegraphs (ordinary)	404,479	261,355	195,767	141,202	111,118	38,997	1,152,918
Telegraphs (radio)	54,691	63,690	12,789	16,821	4,006	3,675	155,672
<b>Total, Telegraphs</b>	<b>459,170</b>	<b>325,045</b>	<b>208,556</b>	<b>158,023</b>	<b>115,124</b>	<b>42,672</b>	<b>1,308,590</b>
<b>Telephones ..</b>	<b>2,199,466</b>	<b>1,598,415</b>	<b>814,794</b>	<b>565,982</b>	<b>326,252</b>	<b>139,447</b>	<b>5,644,356</b>
<b>Grand Total ..</b>	<b>5,013,972</b>	<b>3,566,377</b>	<b>1,899,055</b>	<b>1,164,670</b>	<b>835,996</b>	<b>359,034</b>	<b>12,839,104</b>
<b>Revenue per head of mean population</b>	<b>2.00</b>	<b>1.99</b>	<b>2.00</b>	<b>1.99</b>	<b>1.99</b>	<b>1.65</b>	<b>1.98</b>

(a) Includes "Central Office" collections.

(ii) *Branches, 1927 to 1931.* The gross revenue collected in respect of each branch of the Department during each of the past five years is shown in the table hereunder:—

**GROSS REVENUE, POSTMASTER-GENERAL'S DEPARTMENT.—BRANCHES.**

Branch and Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
<b>Postal Branch—</b>	£	£	£	£	£	£	£
1926-7 .. ..	2,192,216	1,551,632	783,328	461,249	350,485	167,075	5,505,985
1927-8 .. ..	2,340,390	1,628,140	814,355	468,877	380,661	170,459	5,802,882
1928-9 .. ..	2,380,622	1,656,326	827,737	461,723	387,675	170,321	5,884,404
1929-30 .. ..	2,392,882	1,642,658	849,828	454,131	419,644	172,399	6,131,542
1930-31 .. ..	2,355,336	1,642,917	875,705	440,665	394,620	176,915	5,886,158
<b>Telegraph Branch (a)—</b>							
1926-7 .. ..	518,017	345,896	253,613	225,960	133,025	46,560	1,523,971
1927-8 .. ..	527,405	344,525	231,203	185,318	130,217	48,541	1,467,209
1928-9 .. ..	532,292	334,168	237,042	182,017	137,360	46,554	1,469,433
1929-30 .. ..	556,561	396,383	240,612	177,115	138,964	47,224	1,556,859
1930-31 .. ..	459,170	325,045	208,556	158,023	115,124	42,672	1,308,590
<b>Telephone Branch—</b>							
1926-7 .. ..	1,753,635	1,310,880	622,129	513,031	256,708	120,480	4,576,863
1927-8 .. ..	1,932,584	1,412,763	707,484	561,279	288,153	131,788	5,034,051
1928-9 .. ..	2,106,433	1,529,634	762,098	599,035	320,603	140,856	5,459,559
1929-30 .. ..	2,305,453	1,633,790	818,170	607,130	350,385	147,758	5,862,686
1930-31 .. ..	2,199,466	1,598,415	814,794	565,982	326,252	139,447	5,644,356
<b>All Branches—</b>							
1926-7 .. ..	4,464,768	3,208,408	1,659,070	1,200,240	740,218	334,115	11,606,819
1927-8 .. ..	4,800,379	3,385,428	1,753,042	1,215,474	799,031	350,788	12,304,142
1928-9 .. ..	5,019,347	3,520,128	1,827,777	1,242,775	845,638	357,731	12,813,396
1929-30 .. ..	5,254,896	3,872,831	1,908,610	1,238,376	908,993	367,381	13,551,087
1930-31 .. ..	5,013,972	3,566,377	1,899,055	1,164,670	835,996	359,034	12,839,104
<b>Total Revenue per head of mean population—</b>							
1926-7 .. ..	1.90	1.87	1.88	2.11	1.95	1.59	1.90
1927-8 .. ..	1.99	1.94	1.95	2.10	2.04	1.66	1.97
1928-9 .. ..	2.05	2.00	1.99	2.13	2.08	1.68	2.02
1929-30 .. ..	2.11	2.18	2.05	2.12	2.19	1.71	2.11
1930-31 .. ..	2.00	1.99	2.00	1.99	1.99	1.65	1.98

(a) Includes radio receipts.

As compared with the corresponding figures for the previous year, a decrease of 5.3 per cent. is shown, the decreases in the several branches being as follows:—Postal 4.0 per cent., Telegraph 15.9 per cent., and Telephone 3.7 per cent.

4. **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, 1931. 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, 1930-31.**

Particulars.	Central Office.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
<b>Salaries and contingencies—</b>	£	£	£	£	£	£	£	£
Salaries .. ..	89,104	2,408,771	1,717,591	854,827	642,686	441,144	216,822	6,370,945
Conveyance of mails .. ..	..	501,962	272,074	236,505	91,703	101,678	41,172	1,245,094
Contingencies .. ..	4,741	630,766	490,623	225,376	173,493	120,360	83,959	1,729,318
Ocean mails .. ..	130,000	..	..	..	..	..	..	130,000
Miscellaneous .. ..	1,340	35,950	26,070	9,337	7,572	8,240	3,254	91,763
Pensions and retiring allowances .. ..	..	41,750	46,995	..	..	21,735	..	110,480
Rent, repairs, maintenance .. ..	887	31,259	14,740	9,904	5,584	4,594	2,021	68,989
Supervision of works .. ..	..	..	..	..	..	..	329	329
Proportion of Adult Office expenses .. ..	..	5,010	3,576	1,893	1,171	840	440	12,930
<b>New works—</b>								
Telegraph and telephone .. ..	3,683	577,031	274,818	157,993	111,414	90,164	34,821	1,249,924
New buildings, etc. .. ..	..	19,660	5,571	5,439	5,059	2,298	163	38,190
Interest on transferred properties .. ..	..	114,328	61,362	45,575	37,523	21,869	9,924	290,581
Other .. ..	2,944,441	..	..	..	..	..	..	2,944,441
(a)								
<b>Total</b> .. ..	3,174,196	4,366,487	2,913,420	1,546,849	1,076,205	812,922	392,905	14,282,984
(b)								

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

(b) Including expenditure not apportioned to States.

(ii) *Total, 1927 to 1931.* 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, 1927 to 1931 inclusive.

**EXPENDITURE, POSTMASTER-GENERAL'S DEPARTMENT, 1927 TO 1931.**

Expenditure.	Year ended 30th June—				
	1927.	1928.	1929.	1930.	1931.
Total .. ..	£ 15,281,686	£ 16,098,777	£ 15,693,070	£ 15,797,072	£ 14,282,984

The total expenditure for 1930-31 decreased by 6.6 per cent. compared with the amount for 1926-27.

5. *Profit or Loss, Postmaster-General's Department.*—(i) *States 1930-31.* The foregoing statements of gross revenue and expenditure which represent actual collections and payments, made and include capital and interest payments, cannot be taken to represent the actual results of the working of the Department for the year. The net results for each branch in the several States after providing for working expenses, depreciation, and interest charges during the year, were as follow :—

**PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT, 1930-31.**

Branch.	Profit or Loss.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
Postal ..	£	£ 241,529	£ 271,094	£ 156,507	£ 39,645	£ 29,667	£ ..	£ 721,282
	Loss	..	..	..	..	..	£ 17,160	..
Telegraph (a)	£	£ 126,836	£ 27,023	£ 69,770	£ 50,586	£ 61,095	£ 20,056	£ 355,366
	Loss	..	..	..	..	..	..	..
Telephone ..	£	£ 59,770	£ 82,312	£ 7,111	£ 145,808	£ 58,571	£ 79,348	£ 432,920
	Loss	..	..	..	..	..	..	..
All Branches	£	£ 54,923	£ 161,759	£ 79,626	£ 156,749	£ 89,999	£ 116,564	£ 67,004
	Loss	..	..	..	..	..	..	..

(a) Including Wireless Branch.

After providing for depreciation, pensions and retiring allowances and interest on capital, the year 1930-31 closed with a deficit of £67,004. For the preceding year a profit of £197,883 was shown.

(ii) *Branches, 1927 to 1931.* The following statement gives particulars of the operating results of each branch for the period 1927 to 1931 :—

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

Year Ended 30th June—	Branch.							
	Postal.		Telegraph.		Telephone.		All Branches.	
	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.
1927 ..	£ 445,929	£ ..	£ ..	£ 278,720	£ ..	£ 339,270	£ ..	£ 172,061
1928 ..	£ 403,850	£ ..	£ ..	£ 312,075	£ ..	£ 322,438	£ ..	£ 230,663
1929 ..	£ 531,870	£ ..	£ ..	£ 228,134	£ ..	£ 247,212	£ 56,524	£ ..
1930 ..	£ 557,105	£ ..	£ ..	£ 232,188	£ ..	£ 127,034	£ 197,883	£ ..
1931 ..	£ 721,282	£ ..	£ ..	£ 355,366	£ ..	£ 432,920	£ ..	£ 67,004

6. *Capital Account.*—The appended statement shows particulars of the fixed assets of the Postmaster-General's Department at 30th June, 1931.

**FIXED ASSETS, POSTMASTER-GENERAL'S DEPARTMENT, 30th JUNE, 1931.**

Particulars.	Net Value, 1st July, 1930. (b)	Capital Expenditure, 1930-31.	Gross Value, 30th June, 1931.	Less Deprecia- tion, &c. 1930-31. (a)	Net Value, 30th June, 1931.
	£	£	£	£	£
Telephone Lines and equipment	30,374,225	922,668	31,796,893	557,476	31,239,417
Telegraph Lines and Trunk Line equipment .. .. .	9,984,893	241,860	10,226,753	90,796	10,135,957
Telegraph equipment .. .. .	563,640	40,557	604,197	11,151	593,046
Postal equipment .. .. .	377,955	15,255	393,210	618	392,592
Sites, Buildings, Furniture, and Office equipment .. .. .	9,245,711	31,362	9,277,073	15,546	9,261,527
Miscellaneous .. .. .	621,973	22,177	644,150	44,351	599,799
Wireless equipment and Buildings	80,463	48,087	128,550	..	128,550
<b>Total .. .. .</b>	<b>51,748,860</b>	<b>1,321,966</b>	<b>53,070,826</b>	<b>719,938</b>	<b>52,350,888</b>

(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 226 of Year-Book No. 24 are due to a re-arrangement of the asset accounts from 1st July, 1930.

During the past quinquennium the value of the fixed assets has increased by 35 per cent., the net value at 30th June, 1926, being £38,782,821.

**§ 2. Posts.**

1. Postal Matter Dealt With.—(i) *Australia.* The following table gives a summary of the postal matter dealt with in Australia during the five years 1927 to 1931. Although mail matter posted in Australia for delivery therein is necessarily handled at least twice, only the numbers dispatched are included in the following table, which consequently gives the number of distinct articles handled :—

**POSTAL MATTER DEALT WITH—AUSTRALIA.**

Year ended 30th June—	Letters, Postcards and Packets.		Newspapers.		Parcels.		Registered Articles.	
	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.	Number (,000 omitted).	Per 1,000 of Popula- tion.

**POSTED WITHIN AUSTRALIA FOR DELIVERY THEREIN.**

1927 .. .. .	817,438	133,828	161,150	26,383	12,166	1,992	7,315	1,197
1928 .. .. .	821,324	131,819	152,666	24,502	14,028	2,252	7,024	1,127
1929 .. .. .	797,743	125,959	151,698	23,952	14,873	2,348	7,376	1,164
1930 .. .. .	791,241	123,433	150,812	23,527	13,889	2,166	7,267	1,134
1931 .. .. .	701,694	108,409	127,959	19,769	9,769	1,509	6,447	996

**OVERSEA DISPATCHED.**

1927 .. .. .	53,892	8,823	9,844	1,611	228	37	466	76
1928 .. .. .	58,185	9,339	11,257	1,807	209	33	473	76
1929 .. .. .	53,174	8,396	11,898	1,879	224	35	480	76
1930 .. .. .	39,024	6,088	8,695	1,356	231	36	439	68
1931 .. .. .	32,195	4,974	8,225	1,271	168	26	346	53

POSTAL MATTER DEALT WITH—AUSTRALIA—*continued.*

Year ended 30th June--	Letters, Postcards and Packets.		Newspapers.		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.

## OVERSEA RECEIVED.

1927 .. .. .	57,544	9,421	17,731	2,903	509	83	566	93
1928 .. .. .	41,640	6,683	19,591	3,144	467	75	577	93
1929 .. .. .	39,882	5,824	17,016	2,687	474	75	557	88
1930 .. .. .	35,147	5,483	18,511	2,888	466	73	562	88
1931 .. .. .	27,619	4,267	16,142	2,494	272	42	451	70

## TOTAL POSTAL MATTER DEALT WITH.

1927 .. .. .	928,874	152,072	188,725	30,897	12,903	2,112	8,347	1,366
1928 .. .. .	921,149	147,841	183,514	29,453	14,704	2,360	8,074	1,296
1929 .. .. .	887,799	140,179	180,612	28,518	15,571	2,458	8,413	1,328
1930 .. .. .	865,412	135,004	178,018	27,771	14,586	2,275	8,268	1,290
1931 .. .. .	761,508	117,650	152,326	23,534	10,209	1,577	7,244	1,119

(ii) *States.* The next table shows separately for each State the postal matter dealt with in 1930-31.

## POSTAL MATTER DEALT WITH—STATES, 1930-31. (a)

State.	Letters, Postcards and Packets.		Newspapers.		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.

## POSTED FOR DELIVERY WITHIN AUSTRALIA.

New South Wales	274,840	109,607	58,405	23,292	4,220	1,683	2,485	991
Victoria .. ..	211,610	118,151	29,161	16,282	1,787	998	1,772	989
Queensland ..	92,315	97,247	22,040	23,217	2,090	2,202	948	998
South Australia	48,715	83,031	7,624	12,995	808	1,377	502	856
Western Australia	47,387	112,823	5,568	13,257	690	1,644	494	1,176
Tasmania .. ..	26,827	122,964	5,161	23,654	174	796	246	1,130
Australia .. ..	701,694	108,409	127,959	19,769	9,769	1,509	6,447	996

(a) See explanation in paragraph (i).

## POSTAL MATTER DEALT WITH—STATES, 1930-31(a)—continued.

State.	Letters, Postcards and Packets.		Newspapers.		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.
<b>OVERSEA DISPATCHED.</b>								
New South Wales	14,655	5,845	2,413	962	89	35	158	63
Victoria ..	8,795	4,911	4,303	2,402	46	26	79	44
Queensland ..	2,454	2,585	701	739	14	15	34	36
South Australia	2,066	3,521	238	405	8	13	35	60
Western Australia	2,531	6,026	379	903	9	21	38	90
Tasmania ..	1,694	7,766	191	877	2	9	2	9
<b>Australia ..</b>	<b>32,195</b>	<b>4,974</b>	<b>8,225</b>	<b>1,271</b>	<b>168</b>	<b>26</b>	<b>346</b>	<b>54</b>

## OVERSEA RECEIVED.

New South Wales	10,422	4,156	5,031	2,007	113	45	207	83
Victoria ..	7,807	4,359	5,391	3,010	81	45	139	77
Queensland ..	2,961	3,119	2,311	2,434	28	29	39	41
South Australia	1,888	3,218	1,195	2,036	17	29	25	42
Western Australia	3,517	8,372	1,829	4,353	27	64	38	91
Tasmania ..	1,024	4,693	385	1,767	6	28	3	13
<b>Australia ..</b>	<b>27,619</b>	<b>4,267</b>	<b>16,142</b>	<b>2,494</b>	<b>272</b>	<b>42</b>	<b>451</b>	<b>70</b>

(a) See explanation in par. 1.

2. 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 1927 to 1931 :—

## VALUE-PAYABLE PARCELS POST.—SUMMARY.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
<b>NUMBER OF PARCELS POSTED.</b>							
	No.	No.	No.	No.	No.	No.	No.
1927 .. ..	252,300	11,801	216,418	8,132	71,473	446	560,570
1928 .. ..	296,391	20,005	236,040	11,789	79,761	505	644,491
1929 .. ..	313,654	24,426	248,210	14,564	79,699	430	680,983
1930 .. ..	299,930	26,145	232,968	16,653	82,148	420	658,264
1931 .. ..	248,316	27,786	179,564	18,413	75,977	568	550,624

VALUE-PAYABLE PARCELS POST.—SUMMARY—*continued.*

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
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## VALUE COLLECTED.

	£	£	£	£	£	£	£
1927 .. ..	402,186	21,617	334,619	10,939	112,276	1,075	882,712
1928 .. ..	462,794	35,699	350,712	17,095	114,035	1,040	981,375
1929 .. ..	462,964	41,878	364,156	19,964	103,683	859	993,504
1930 .. ..	436,025	42,457	334,491	24,755	101,716	716	940,160
1931 .. ..	342,786	38,596	242,756	21,108	86,103	764	732,113

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

	£	£	£	£	£	£	£
1927 .. ..	32,450	1,569	28,108	864	8,720	58	71,769
1928 .. ..	36,318	2,547	30,700	1,264	8,939	62	79,830
1929 .. ..	38,968	3,116	33,048	1,669	8,914	53	85,768
1930 .. ..	38,518	3,465	30,449	2,044	9,354	52	83,882
1931 .. ..	32,791	3,684	23,430	2,294	8,944	68	71,211

The number and value of parcels forwarded in New South Wales and Queensland are much higher than in any of the other States, although the system has 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 also has a large area, the population of that State is, comparatively, not widely spread.

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

(ii) *Amount of Subsidies Paid.* The following table shows the amounts of subsidies paid by the Commonwealth Postal Department for ocean and coastal mail services during the year ended 30th June, 1931 :—

## MAIL SUBSIDIES.—OCEAN AND COASTAL SERVICES, 1930-31.

Service.	Orient S.N. Co.	Queens- land Ports.	South Australian Ports.	Western Australian Ports.	Tas- manian Ports.
	£	£	£	£	£
Annual subsidy .. ..	130,000	1,701	5,000	5,634	37,000

4. *Total Cost of Carriage of Mails.*—During the year 1930-31 the amount paid for conveyance of mails at poundage rates by non-contract vessels was £32,424 ; by road services, £671,202 ; and by railway services, £492,462. The total expenditure during the financial year 1930-31 on the carriage of mails, as disclosed by the Profit and Loss Account, amounted to £1,361,816.

5. **Transactions of the Dead Letter Offices.**—The table hereunder shows the number of letters, postcards and letter-cards, and packets and circulars, including Inland, Interstate, and International, dealt with by the Dead Letter Offices in 1930-31, and the methods adopted in the disposal thereof:—

**DEAD LETTER OFFICES.—SUMMARY, 1930-31.**

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
<b>LETTERS, POSTCARDS, AND LETTER-CARDS.</b>							
Returned direct to writers or delivered .. .. .	960,516	271,890	165,856	100,987	123,457	76,110	1,698,816
Destroyed in accordance with Act .. .. .	68,105	36,702	33,778	12,365	7,588	2,004	160,542
Returned to other States or Countries as unclaimed .. .. .	45,254	26,754	14,081	5,830	12,932	1,044	105,895
<b>Total .. .. .</b>	<b>1,073,875</b>	<b>335,346</b>	<b>213,715</b>	<b>119,182</b>	<b>143,977</b>	<b>79,158</b>	<b>1,965,253</b>
<b>PACKETS AND CIRCULARS.</b>							
Returned direct to writers or delivered .. .. .	683,434	135,479	152,377	13,226	80,384	40,182	1,105,082
Destroyed in accordance with Act .. .. .	104,831	55,578	54,205	73,907	1,754	174	290,449
Returned to other States or Countries as unclaimed .. .. .	1,396	24,126	5,700	4,525	837	2,616	39,200
<b>Total .. .. .</b>	<b>789,661</b>	<b>215,183</b>	<b>212,282</b>	<b>91,658</b>	<b>82,975</b>	<b>42,972</b>	<b>1,434,731</b>
<b>Grand Total (letters, packets, etc.) .. .. .</b>	<b>1,863,536</b>	<b>550,529</b>	<b>425,997</b>	<b>210,840</b>	<b>226,952</b>	<b>122,130</b>	<b>3,399,984</b>

During the year 1930-31 money and valuables to the amount of £76,358 were found in undelivered postal articles, while 36,559 postal articles were posted without address, including 581 which contained money and valuables to the extent of £1,975.

6. **Money Orders and Postal Notes.**—(i) *General.* The issue of money orders and postal notes is regulated by sections 74 to 79 of the Post and Telegraph Act, 1901. A money order may be issued for payment of sums up to £20 within Australia, and not exceeding £40 (in some cases £20, and in Mauritius £10) in places abroad. A postal note which is payable only within Australia and in Papua, cannot be issued for a larger sum than twenty shillings.

(ii) *States, 1930-31.* Particulars regarding the business transacted in each State for the year 1930-31 are given hereunder:—

**MONEY ORDERS AND POSTAL NOTES.—SUMMARY, 1930-31.**

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 ..	7,493,307	7,472,225	41,101	2,277,180	51,104
Victoria ..	3,105,571	3,195,032	20,973	1,600,160	36,498
Queensland ..	2,515,514	2,260,877	18,034	629,795	13,922
South Australia ..	887,291	857,134	5,815	353,482	8,165
Western Australia ..	1,302,896	1,172,032	9,117	331,161	7,172
Tasmania ..	485,283	423,400	3,487	151,108	3,452
<b>Australia ..</b>	<b>15,789,862</b>	<b>15,380,700</b>	<b>98,527</b>	<b>5,342,886</b>	<b>120,313</b>

The figures in the foregoing table show a substantial decrease compared with the corresponding particulars for the previous year.

(iii) *Australia, 1927 to 1931.* The next table shows the total number and value of money orders and postal notes issued and paid in Australia from 1926-27 to 1930-31 :—

**MONEY ORDERS AND POSTAL NOTES.—SUMMARY, AUSTRALIA.**

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).
1927 ..	3,225	16,500	3,043	15,925	14,502	5,300	14,360	5,270
1928 ..	3,349	17,011	3,188	16,411	15,402	5,579	15,357	5,568
1929 ..	3,416	17,094	3,233	16,503	15,626	5,741	15,591	5,737
1930 ..	3,415	17,447	3,224	16,811	15,879	5,843	15,924	5,968
1931 ..	3,055	15,790	2,989	15,381	14,691	5,343	14,731	5,348

In both cases the figures for 1931 for money orders and postal notes show a heavy decline as compared with the returns for 1930.

(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 1930-31, classified according to the country where payable :—

**MONEY ORDERS ISSUED.—COUNTRY WHERE PAYABLE, 1930-31.**

State in which issued.	Where Payable.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
<b>NUMBER.</b>					
New South Wales ..	1,288,238	9,699	63,345	21,334	1,382,616
Victoria ..	559,306	4,988	42,321	15,621	622,236
Queensland ..	468,307	1,663	19,168	11,216	500,354
South Australia ..	168,217	893	11,390	6,732	187,232
Western Australia ..	225,245	928	17,837	6,655	250,665
Tasmania ..	105,817	962	3,427	1,206	111,412
<b>Australia ..</b>	<b>2,815,130</b>	<b>19,133</b>	<b>157,488</b>	<b>62,764</b>	<b>3,054,515</b>
<b>VALUE.</b>					
	£	£	£	£	£
New South Wales ..	7,098,621	45,964	235,108	113,614	7,493,307
Victoria ..	2,843,503	19,782	163,409	78,817	3,105,571
Queensland ..	2,389,730	6,120	61,437	58,227	2,515,514
South Australia ..	811,356	3,665	40,339	31,931	887,291
Western Australia ..	1,188,646	4,188	67,577	42,485	1,302,896
Tasmania ..	468,136	4,974	9,219	2,954	485,283
<b>Australia ..</b>	<b>14,800,052</b>	<b>84,693</b>	<b>577,089</b>	<b>328,028</b>	<b>15,789,862</b>

(b) *Orders Paid.* The number and value of money orders paid in each State during the year 1930-31, classified according to the country where issued, are given hereunder :—

## MONEY ORDERS PAID.—COUNTRY OF ISSUE, 1930-31.

State in which Paid.	Where Issued.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
NUMBER.					
New South Wales ..	1,311,702	37,819	25,793	15,588	1,390,902
Victoria ..	608,295	16,460	14,739	5,341	644,835
Queensland ..	433,395	4,637	5,653	4,622	448,307
South Australia ..	171,093	1,338	4,307	1,254	177,992
Western Australia ..	218,735	1,353	7,557	1,310	228,955
Tasmania ..	92,134	2,374	1,529	1,964	98,001
<b>Australia ..</b>	<b>2,835,354</b>	<b>63,981</b>	<b>59,578</b>	<b>30,079</b>	<b>2,988,992</b>
VALUE.					
New South Wales ..	£ 7,184,392	£ 115,152	£ 111,676	£ 61,005	£ 7,472,225
Victoria ..	3,069,616	45,022	62,782	17,612	3,195,032
Queensland ..	2,213,962	9,253	26,024	11,638	2,260,877
South Australia ..	830,361	4,830	17,451	4,402	850,134
Western Australia ..	1,126,834	5,087	34,188	5,923	1,172,032
Tasmania ..	409,751	5,924	4,415	3,310	423,400
<b>Australia ..</b>	<b>14,834,916</b>	<b>185,268</b>	<b>256,536</b>	<b>103,980</b>	<b>15,380,700</b>

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 1930-31, 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, 1930-31.

Particulars.	Postal Notes Paid in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
NUMBER.							
Issued in same State	4,389,826	3,053,663	1,403,909	661,315	764,402	335,285	10,608,400
Issued in other States	505,260	403,930	1,143,691	73,599	28,101	1,968,161	4,122,742
<b>Total ..</b>	<b>4,895,086</b>	<b>3,457,593</b>	<b>2,547,600</b>	<b>734,914</b>	<b>792,503</b>	<b>2,303,446</b>	<b>14,731,142</b>
VALUE.							
Issue in same State	£ 1,710,193	£ 1,121,683	£ 512,527	£ 232,972	£ 284,856	£ 113,912	£ 3,976,143
Issued in other States	182,298	156,852	328,439	30,937	11,273	662,465	1,372,264
<b>Total ..</b>	<b>1,892,491</b>	<b>1,278,535</b>	<b>840,966</b>	<b>263,909</b>	<b>296,129</b>	<b>776,377</b>	<b>5,348,407</b>

The number and value of postal notes paid in Australia during the year showed a decrease of 7.5 per cent. and 10.4 per cent. respectively compared with the corresponding figures for the year 1929-30.

### § 3. Telegraphs.

**I. General.**—(i) *Development of System.* A review of the development of the Telegraph Services in Australia was given in a previous issue of this work (see Year Book No. 15), but limitations of space preclude the repetition of this information in the present issue. During the past few years substantial improvements in both the speed and grade of telegraph service throughout Australia have been effected, the entire system being subjected to intensive re-organization.

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

(iii) *Carrier Wave System.* This system which permits a number of messages to be transmitted simultaneously over the one line is now in operation between Perth and Adelaide, Adelaide and Melbourne, Melbourne and Sydney, and Sydney and Brisbane. There are now 43,848 miles of uni-directional telegraph carrier channels in operation.

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

(v) *Machine Telegraphy.* In order to speed up transmission, machine printing telegraph systems have been introduced between capital cities and between important country centres. Murray multiplex machine apparatus is in operation between Sydney and Melbourne, Sydney and Brisbane, Sydney and Adelaide, Sydney and Perth, Melbourne and Brisbane, Melbourne and Adelaide, Melbourne and Perth, Adelaide and Perth, Brisbane and Rockhampton, and Brisbane and Townsville, providing telegraph outlets which permit the carriage of very heavy loads with a minimum transit time. The operation of the apparatus has been steadily improved, and now is worked so that each channel has an output up to 50 words per minute. Between Sydney and Bathurst, Sydney and West Maitland, Melbourne and Bendigo, Melbourne and Mildura, Brisbane and Toowoomba, Brisbane and Charleville, Perth and Fremantle, and Perth and Kalgoorlie, start-stop telegraph printing systems are in operation.

(vi) *Phonogram Service.* Telephone subscribers may now telephone telegrams for onward transmission, or have messages telephoned to them. The fee for the service is small, and the innovation means, in effect, that the telegraph system is brought into the home of every telephone subscriber. The number of telegrams lodged by telephone during the twelve months ended 30th September, 1931, was 1,530,606 or 9.6 per cent. of the total lodgments, and the popularity of this facility is growing.

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

(viii) *Picturegram Service.* During the year ended 30th June, 1931, 202 picturegrams were transmitted between Sydney and Melbourne, the revenue being £493. Any kind of picture or document may be accepted for transmission, the charges varying from 30s. to 67s. 6d. according to the size of the picture or document and the grade of transmission desired.

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 1927 to 1931 :—

## TELEGRAPHS, AUSTRALIA.—SUMMARY.

Particulars for Year ended 30th June.	1927.	1928.	1929.	1930.	1931.
Number of offices .. .. .	9,111	9,136	9,252	9,317	9,189
Length of wire (miles)—					
Telegraph purposes only .. .. .	70,563	73,303	72,642	71,629	62,009
Telegraph and telephone purposes .. .. .	158,470	87,376	87,303	88,785	98,140
Length of line (miles)—					
Conductors in Morse cable .. .. .	3,280	3,441	3,500	3,735	3,789
Conductors in submarine cable .. .. .	4,251	4,505	4,676	4,524	4,859
Pole routes (miles) .. .. .	93,237	97,110	96,467	98,450	100,596

(ii) *States.* The following table gives corresponding particulars for each State for the year 1930-31 :—

## TELEGRAPHS.—STATES, SUMMARY, 30th JUNE, 1931.

Particulars.	N.S.W.	Victoria.	Q'land.	S.Aust.	W.Aust.	Tas.	Aus- tralia.
Number of offices .. .. .	3,055	2,428	1,435	799	929	543	9,189
Length of wire (miles)—							
Telegraph purposes only .. .. .	20,944	8,401	13,372	8,735	9,823	734	62,009
Telegraph and telephone purposes .. .. .	34,804	14,154	27,565	14,226	5,718	1,673	98,140
Length of line (miles)—							
Conductors in Morse cable .. .. .	1,721	1,434	468	..	142	24	3,789
Conductors in submarine cable (statute miles) .. .. .	3,567	282	335	251	..	424	4,859
Pole routes (miles) .. .. .	34,788	19,404	15,914	15,162	11,812	3,516	100,596

A total length of 160,149 miles of wire is available for telegraph purposes, of which 98,140 miles are also used for telephone purposes. Compared with those for the previous year the figures show a decrease of 265 miles (0.17 per cent.) in the total length and an increase of 9,355 miles (10.5 per cent.) in the length of line used for both telegraph and telephone purposes. The decrease in the mileage of wire available for telegraph purposes only is due to the extension of the practice of superimposing telegraph facilities over telephone wires.

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

## TELEGRAMS DISPATCHED.—AUSTRALIA.

Telegrams.	Year ended 30th June—				
	1927.	1928.	1929.	1930.	1931.
Number (a) .. .. .	17,274,289	16,608,226	16,345,152	15,724,246	12,985,298

(a) Including interstate cablegrams.

(ii) *States.* The appended table shows the total number of telegrams dispatched in each State in 1930-31 according to the class of message transmitted :—

## TELEGRAMS DISPATCHED.—STATES, 1930-31.

Class of Message Transmitted within the Commonwealth.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
<b>Paid and Collect—</b>							
Ordinary ..	3,606,388	2,476,917	1,973,123	769,966	1,212,853	242,897	10,282,144
Urgent ..	322,174	122,887	85,613	33,354	48,843	9,632	622,503
Press ..	232,804	150,826	98,573	42,273	34,086	32,406	590,968
Lettergram ..	73,623	64,863	63,886	32,528	67,448	27,011	329,359
Radiogram ..	15,243	4,819	4,602	4,544	2,944	6,494	38,646
<b>Total ..</b>	<b>4,250,232</b>	<b>2,820,312</b>	<b>2,225,797</b>	<b>882,665</b>	<b>1,366,174</b>	<b>318,440</b>	<b>11,863,620</b>
<b>Unpaid—</b>							
Service ..	117,987	50,508	45,425	42,531	55,530	19,024	331,005
Shipping ..	62,104	118,164	20,721	20,721	13,567	5,087	224,777
Meteorological ..	179,528	81,120	74,572	74,572	114,189	26,158	565,896
<b>Total ..</b>	<b>359,619</b>	<b>249,792</b>	<b>140,718</b>	<b>137,994</b>	<b>183,286</b>	<b>50,269</b>	<b>1,121,678</b>
<b>Grand Total</b>	<b>4,609,851</b>	<b>3,070,104</b>	<b>2,366,515</b>	<b>1,020,659</b>	<b>1,549,460</b>	<b>368,709</b>	<b>12,985,298</b>

The figures in the foregoing table show a decrease in the total volume of telegraph business of 2,738,948 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 1926-27 to 1930-31 are given in earlier pages.

6. **Telegraph Density.**—Analysis of the latest world statistics available discloses a high telegraph density in Australia; the ratio of telegrams to population being the highest for any country in the world except New Zealand. The following table gives the figures for the more important countries :—

## TELEGRAPH DENSITY STATISTICS—CHIEF COUNTRIES.

Country.	Percentage of Telegraph to Total Wire Communication.	Telegraph Communication per Head of Population.
Australia .. .. .	3.5	2.6
Austria .. .. .	0.5	0.4
Belgium .. .. .	2.5	0.7
Canada .. .. .	0.5	1.4
Czechoslovakia .. .. .	1.9	0.4
Denmark .. .. .	0.4	0.6
France .. .. .	4.0	0.8
Germany .. .. .	1.0	0.4
Great Britain .. .. .	3.2	1.1
Hungary .. .. .	2.0	0.4
Japan .. .. .	1.6	0.8
Netherlands .. .. .	0.9	0.6
New Zealand .. .. .	1.9	4.1
Norway .. .. .	1.4	1.2
Poland .. .. .	0.7	0.2
Spain .. .. .	3.5	1.0
Sweden .. .. .	0.5	0.7
Switzerland .. .. .	1.2	0.7
Union of South Africa .. .. .	2.6	0.7
United States of America .. .. .	0.8	1.8

### § 4. Overseas Cable and Radio Communication.

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

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

3. **Merging of Cable and Wireless Interests.**—Following upon the recommendations of the Imperial Wireless and Cable Conference in London in 1928 to examine the situation which had arisen as the result of the competition of the Beam Wireless with the Cable services, the Imperial and International Communications Limited was formed and took over the operations of the Pacific Cable Board and the control of the Eastern Extension Cable Company and the Marconi Wireless Company.

4. **Overseas Cable and Radio Business.**—(i) *Australia.* The subjoined table shows the number of cablegrams and radiograms received and dispatched in Australia from 1928-29 to 1930-31 :—

#### CABLEGRAMS AND RADIOGRAMS.—AUSTRALIA, 1928-29 TO 1930-31.

Messages.	Number Received.			Number Dispatched.			Total Number Received and Dispatched.		
	1928-29.	1929-30.	1930-31.	1928-29.	1929-30.	1930-31.	1928-29.	1929-30.	1930-31.
Number	727,256	718,339	572,423	808,812	781,982	647,655	1,536,068	1,500,321	1,220,078

(ii) *States.* The number of cablegrams received and dispatched in each State during the year 1930-31 is given hereunder :—

#### CABLEGRAMS AND RADIOGRAMS.—STATES, 1930-31.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas. (a)	Australia.
Number received ..	282,253	196,951	26,894	27,071	30,761	8,493	572,423
Number dispatched	326,857	209,356	33,499	30,645	37,212	10,086	647,655
Total ..	609,110	406,307	60,393	57,716	67,973	18,579	1,220,078

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

5. **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 in regard to traffic with the principal countries :—

## CABLEGRAM AND RADIOGRAM RATES, JUNE, 1931.

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

(ii) *Deferred Telegrams (via Cable or Radio)*. Under this system a reduction of 50 per cent. in the ordinary cable or radio 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" services, has affected the ordinary business to a considerable extent. "Deferred Press" telegrams, 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 radio; (b) Canada, at 2½ per word by cable and 2½d. per word via radio; and (c) United States of America, at 3d. to 4d. per word by cable and 3½d. to 4d. per word via radio.

(iii) *Daily Letter Telegrams*. The "Daily Letter" telegram service was inaugurated in September, 1923, between Australia and Great Britain and Canada. It has since been extended to most countries in the British Empire and in Europe, to the United States, and to certain others. The messages are accepted subject to a minimum transit delay of 48 hours and a minimum charge for 20 words except in two cases where the minimum charge is for 25 words. The rates per word for messages to the following countries are:—Great Britain, by cable 9d., by radio 6d.; Austria, Belgium, Denmark, Germany, Greece, Holland, Luxembourg and Sweden, 9d. by cable or radio; France, Latvia, Lithuania, Norway and Switzerland, 9½d. by cable or radio; Russia, 10d. by cable or radio; South Africa, 6d.; United States of America, 7d. to 9d. by cable and 6½d. to 8½d. by radio; Canada, 7d. by cable, 6½d. by radio; China, 10d. to 1s. 0d.; and Japan, 1s. 2d.

(iv) *Week-end Letter Telegrams*. Week-end letter telegrams may be exchanged with certain countries. Messages—which may be lodged at any post office—are forwarded to reach the transmitting station by midnight on Saturdays and are deliverable to the addresses on Tuesday mornings, or if practicable on Mondays. The rates per word for messages (20 word minimum) to the following countries are:—Great Britain, by cable 7½d., by radio 5d.; Czechoslovakia, Italy, Algeria and Tunis, 9d.; Canada, 5½d. and 5½d.; Newfoundland, 7½d. and 7d.; Fanning Island, 6d.; France, Austria, Norway and Switzerland, 8d.; and Sweden, Denmark, Germany, Greece, Holland, Belgium, and Luxembourg, 7½d. A week-end letter telegram service between the Commonwealth and Papua and New Guinea was opened in December, 1929, the rate being 4½d. per word with a minimum charge of 7s. 6d. for 20 words.

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

(vi) *Night Letter Telegrams*. 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.

### § 5. 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, 1929 to 1931 :—

#### TELEPHONE LINES.—AUSTRALIA, 30th JUNE, 1929 TO 1931.

Particulars.	1929.	1930.	1931.
<b>Ordinary Lines—</b>			
Conduits .. .. duct miles	5,507	5,844	6,047
" .. .. route miles	3,083	3,310	3,416
Conductors in aerial cables .. loop mileage	6,055	5,461	5,213
Conductors in underground cables .. "	691,170	761,723	789,736
Conductors in cables for junction circuits .. "	98,065	101,040	105,047
Open conductors .. single wire mileage	408,559	424,007	422,737
<b>Trunk Lines—</b>			
Telephone trunk lines only .. .. miles	224,150	232,909	233,543
Telegraph and telephone purposes .. .. "	87,303	88,785	98,140

(ii) *Comparison with Other Countries.* Despite the general depression in business Australia has maintained its position in the list of countries showing the most rapid advance in the use of the telephone, and it still occupies sixth place, with 76.6 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 5.1 miles, as compared with 4.1 miles in the United States of America and 3.5 miles in Canada and New Zealand.

(iii) *Trunk Line System.* The trunk line system of Australia aims at making the telephone service in Australia nation-wide and at improving long distance communication so that each subscriber may communicate with every other subscriber. Notwithstanding the great distances separating the capital cities of the various States, commercial speech is now provided between practically all the cities and towns on the mainland. On the 18th December, 1930, a service was established between Perth and Adelaide, a circuit distance of 1,676 miles, thus establishing commercial communication between Western Australia and South Australia, Victoria and New South Wales. In May, 1931, the service was extended to Queensland, and telephonic speech is now practicable between Geraldton (W.A.) and Cairns (Q.), a circuit distance of 4,762 miles, which probably constitutes a record in land line telephony.

The practicability of linking Tasmania telephonically with the mainland has been investigated by the Parliamentary Standing Committee on Public Works which has recommended that when funds can be made available a submarine telephone cable be laid from Lorne (V.) via King Island to Stanley (T.). When this service is provided, telephonic communication will be available between all the States. Substantial progress has been made with the introduction of the carrier system of telephony whereby several additional channels of communication may be obtained over one pair of wires, thus obviating the costly expenditure involved in erecting additional wire along important routes where the business justifies extra channels. At the 30th June, 1932, there were forty-five carrier telephone systems in operation in Australia, giving a total of eighty-one channels with an aggregate channel mileage of approximately 22,500 miles.

(iv) *Automatic Exchanges.* At 30th June, 1931, there were 67 automatic or semi-automatic exchanges in operation providing facilities for 145,074 subscribers' lines, 142,049 of which were in the metropolitan areas. Trials are being made with a specially constructed automatic unit to provide an economical 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. Progress in this direction has, however, been retarded by lack of funds.

(v) *Summary for States.* Particulars relating to the telephone service in each State for the years ended 30th June, 1929 to 1931, will be found in the following table:—

TELEPHONE SERVICES.—SUMMARY.

Particulars.	Year (30th June).	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
No. of Exchanges	1929	1,890	1,620	891	537	626	347	5,911
	1930	1,951	1,656	924	551	652	360	6,094
	1931	1,946	1,652	934	553	646	355	6,086
No. of Telephone Offices (Including Exchanges)	1929	2,892	2,340	1,415	776	958	526	8,907
	1930	3,008	2,358	1,417	786	970	520	9,059
	1931	2,993	2,353	1,424	787	934	516	9,007
No. of lines connected	1929	146,492	114,603	48,065	42,186	21,562	11,450	384,358
	1930	150,606	118,074	49,737	42,868	22,558	11,969	395,812
	1931	141,445	113,282	48,979	39,552	21,258	11,727	376,243
No. of instruments connected	1929	193,718	155,841	60,447	53,814	27,686	14,048	505,554
	1930	199,007	160,381	62,607	54,550	29,082	14,542	520,169
	1931	188,345	154,647	62,375	50,656	27,734	14,298	498,055
(a) No. of subscribers' instruments	1929	189,154	152,657	58,332	52,512	26,460	13,288	492,403
	1930	194,253	157,325	60,451	53,189	27,829	13,747	506,794
	1931	183,507	151,190	60,065	49,237	26,505	13,499	484,003
(b) No. of public tele-phones	1929	2,779	2,256	1,482	770	935	521	8,743
	1930	2,879	2,295	1,522	785	957	528	8,966
	1931	2,944	2,213	1,527	788	900	525	8,897
(c) No. of other local instruments	1929	1,785	928	633	532	291	239	4,408
	1930	1,875	761	634	576	296	267	4,409
	1931	1,894	1,244	783	631	329	274	5,155
Instruments per 100 of population	1929	7.84	8.82	6.52	9.22	6.73	6.61	7.93
	1930	7.98	8.99	6.64	9.32	6.95	6.75	8.08
	1931	7.49	8.60	6.50	8.61	6.59	6.52	7.66
Earnings	1929	£ 2,138,369	£ 1,567,241	£ 779,105	£ 606,329	£ 330,567	£ 143,381	£ 5,564,992
	1930	2,361,924	1,685,377	839,531	632,367	363,327	150,507	6,033,033
	1931	2,246,395	1,628,164	819,395	568,925	328,833	139,636	5,731,348
Working expenses	1929	1,668,407	1,218,232	567,787	561,992	252,047	159,353	4,427,818
	1930	1,660,982	1,230,603	678,680	563,847	271,644	187,676	4,593,432
	1931	1,643,800	1,219,722	558,500	496,097	272,543	167,225	4,358,487
Percentage of working expenses on earnings	1929	78.02	77.73	72.88	92.69	76.25	111.14	79.56
	1930	70.32	73.02	80.84	89.16	74.77	124.70	76.14
	1931	73.18	74.91	68.16	87.30	82.88	119.76	76.05

The number of instruments per 100 of population declined from 8.08 in 1929-30 to 7.66 in 1930-31. The actual number of instruments decreased from 520,169 to 498,055, a decrease of 4.25 per cent. Of the 498,055 instruments connected at 30th June, 1931, 220,556, or 44.3 per cent., were served by exchanges situated beyond the limits of the telephone networks of the six State capital cities. The metropolitan networks are limited to a radius of 15 miles from the General Post Office in Sydney and Melbourne, and 10 miles in the other State capital cities.

(vi) *Systems in Use.* The following table shows the percentage of automatic, common battery, and magneto telephone lines at 30th June, 1929 to 1931:—

PERCENTAGE OF AUTOMATIC, COMMON BATTERY, AND MAGNETO LINES.

System.	30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Automatic	1929	42.5	34.9	19.1	33.1	33.6	..	34.5
	1930	42.5	39.2	34.3	38.9	41.3	28.7	39.5
	1931	41.8	37.3	34.1	37.9	40.9	28.7	38.5
Common Battery	1929	3.1	19.2	14.3	15.7	6.5	45.7	12.2
	1930	3.0	18.6	..	13.7	6.3	16.6	9.1
	1931	2.9	18.6	..	13.4	6.1	16.8	9.0
Magneto	1929	54.4	45.9	66.6	51.2	59.9	54.3	53.3
	1930	54.5	42.2	65.7	47.4	52.4	54.7	51.4
	1931	55.3	44.1	65.9	48.7	53.0	54.5	52.5

(vii) *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 1930-31 :—

TELEPHONES.—SUBSCRIBERS' LINES AND DAILY CALLING RATE, 1930-31.

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	14,754	11.26	68,200	3.97	62,431	2.15	145,385	3.93
Victoria ..	7,562	10.41	59,517	3.83	48,568	1.68	115,647	3.36
Queensland ..	6,468	8.96	12,390	3.15	30,128	2.38	48,986	3.44
South Australia ..	5,432	8.59	16,610	3.31	19,177	1.56	41,219	3.19
Western Australia	7,264	5.94	4,099	3.72	10,403	1.59	21,765	3.44
Tasmania ..	2,768	4.10	1,029	2.15	7,828	1.97	11,625	2.49
Australia ..	44,248	9.13	161,845	3.77	178,534	1.96	384,627	3.55

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

(viii) *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 1928-29 to 1930-31 :—

TELEPHONES.—TRUNK LINE CALLS AND REVENUE.

Particulars.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
Total Calls for Year—	No.	No.	No.	No.	No.	No.	No.
1928-29 ..	11,985,196	9,222,655	5,960,612	3,964,987	2,062,621	1,545,600	34,741,671
1929-30 ..	12,250,856	9,380,862	6,190,891	3,966,504	2,075,417	1,524,185	35,388,715
1930-31 ..	10,384,188	8,100,657	5,549,423	3,099,105	1,736,945	1,293,759	30,164,077
Total Revenue for Year—	£	£	£	£	£	£	£
1928-29 ..	472,858	338,837	298,190	162,494	100,678	46,405	1,419,462
1929-30 ..	549,585	382,055	331,305	174,119	110,955	49,048	1,597,067
1930-31 ..	512,403	358,833	318,748	142,557	90,085	43,494	1,466,120
Average Revenue per Call—	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
1928-29 ..	9.47	8.82	12.01	9.84	11.71	7.20	9.80
1929-30 ..	10.76	9.77	12.84	10.54	12.83	7.72	10.83
1930-31 ..	11.84	10.63	13.78	11.04	12.45	8.07	11.66

The number of trunk line calls recorded during 1930-31 decreased by over five millions compared with the figures for the previous year, and the average revenue per call increased by 0.83d.

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

## § 6. 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.

Under the Wireless Telegraphy Act and Regulations, no wireless station can be installed or operated without a licence from the Postmaster-General. Licences are issued for the following:—(a) Coast Stations, which are operated at various points around the coast and in Papua and New Guinea by Amalgamated Wireless (Australasia) Ltd., under agreement with the Commonwealth; (b) Ship Stations. Regulations under the Navigation Act require that all ships registered in Australia of 1,600 tons or more registered tonnage or carrying more than twelve passengers, shall be fitted with an efficient radio telegraph installation; (c) Land Stations to be operated where no telegraph of telephone facilities exist; (d) Broadcasting Stations, other than those of the National Broadcasting Service; (e) Broadcast Listeners' Receiving Sets; (f) Portable Stations, for transportable sets on motor cars, &c.; (g) Aircraft Stations; (h) Experimental Stations; and (i) Special Stations, for services other than those named above.

The following table shows the number of each class of licence issued in each State, etc., during the years 1930-31 and 1931-32:—

## WIRELESS LICENCES, 1930-31.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.	Papua	Grand Total.
Coast .. ..	2	1	6	1	5	3	1	19	2	21
Ship .. ..	9	50	13	19	5	1	..	97	..	97
Land (b) ..	7	6	3	1	3	..	3	23	..	23
Broadcasting (a) ..	16	10	6	3	2	2	..	39	..	39
Broadcast listeners' ..	122,470	137,005	24,062	30,217	9,075	8,232	21	331,082	46	331,128
Experimental ..	278	260	106	94	69	31	1	839	2	841
Portable .. ..	7	1	11	..	1	..	..	20	..	20
Aircraft .. ..	..	..	..	..	..	..	..	..	..	..
Special .. ..	3	10	..	..	4	..	..	17	..	17
<b>Total Licences Issued</b>	<b>122,792</b>	<b>137,343</b>	<b>24,207</b>	<b>30,335</b>	<b>9,164</b>	<b>8,269</b>	<b>26</b>	<b>332,136</b>	<b>50</b>	<b>332,186</b>

(a) In addition there are nine stations operated by the National Broadcasting Service. (b) In addition to the licensed stations two are operated by the Postmaster-General's Department, viz.:—Wave Hill (N.T.) and Camooweal (Q.).

## WIRELESS LICENCES, 1931-32.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	Aust.	Papua and New Guinea	Grand Total.
Coast .. ..	2	1	6	1	5	3	1	19	9	28
Ship .. ..	100	54	12	20	6	1	..	103	..	103
Land (b) ..	8	3	3	1	2	3	3	23	3	26
Broadcasting (a) ..	16	13	8	6	4	3	..	50	..	50
Broadcast listeners' ..	141,450	139,323	28,938	37,120	12,679	9,540	22	369,072	20	369,092
Experimental ..	295	269	160	93	67	27	..	851	6	857
Portable .. ..	9	1	7	..	1	..	5	23	..	23
Aircraft .. ..	..	..	..	..	..	..	..	..	..	..
Special .. ..	28	12	..	1	6	..	..	47	..	47
<b>Total Licences issued</b>	<b>141,818</b>	<b>139,676</b>	<b>29,074</b>	<b>37,242</b>	<b>12,770</b>	<b>9,577</b>	<b>31</b>	<b>370,188</b>	<b>38</b>	<b>370,226</b>

(a) In addition there are twelve stations operated by the National Broadcasting Service. (b) In addition to the licensed stations, two are operated by the Postmaster-General's Department, viz.:—Wave Hill (N.T.) and Camooweal (Q.).

(ii) *Broadcasting.* The National Broadcasting Service which is controlled by the Postmaster-General's Department now operates two stations in Sydney and Melbourne, and one each in the other capital cities. The licence fees paid by listeners provide the revenue of the National Service, the fee for each licence being 24s. per annum. The programmes, which during the previous three years were provided under contract by the Australian Broadcasting Company, have been supplied since 1st July, 1932, by the Australian Broadcasting Commission. This body which was constituted under the provisions of the Australian Broadcasting Commission Act, 1932, is composed of five members appointed by the Commonwealth Government. The Commission receives 12s. from each listener's licence fee, from which revenue it provides all programmes for the national stations.

A relay station commenced broadcasting at Newcastle (N.S.W.) on the 19th December, 1930. This was the first of a series of stations to be erected and operated in country districts by the National Broadcasting Service to ensure satisfactory broadcast reception in all the thickly populated parts of the Commonwealth. Additional stations have since commenced operations as follows:—4R.K. Rockhampton (Q.), 29th July, 1931; 2C.O. Corowa (N.S.W.), 16th December, 1931; and 5C.K. Crystal Brook (S.A.), 15th March, 1932.

The services of other broadcasting stations are conducted by private enterprise under licence from the Postmaster-General. Licences are granted on conditions which ensure satisfactory alternative programmes for listeners. The fee for a broadcasting station licence is £25 and the maximum period of a licence is three years. The licensees of these stations do not share in the listeners' licence fees, but rely for their income on revenue received from the broadcasting of advertisements and other publicity.

Simultaneous broadcasting in the various States has been a regular feature for some years. By means of telephone trunk lines and amplifying apparatus, items of national interest and programmes of special merit are distributed to the various stations of the National Broadcasting Service. In some cases they are relayed overseas by means of short wave stations or the Anglo-Australian radiotelephone service. Frequently, the licensed stations also are linked by telephone trunk lines for simultaneous broadcasts.

(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 services are being well patronized by the public. A comparison of the rates charged for "Beam" and Cable messages is given in § 4, Overseas Cable and Wireless Communication. Particulars of international traffic via "Beam" are given in para. (vi) (a) hereunder.

(iv) *International Wireless Telephone Service.* A wireless telephone service between England and Australia was opened on 30th April, 1930. The service is now available to most of the ordinary telephone subscribers of Europe and Australia. The fee for a conversation between Australia and England is £6 for a minimum of three minutes and £2 for each additional minute. The fee is slightly more for conversations to continental countries. Additional services have since been opened to the United States of America, New Zealand, Java, South America and to certain trans-atlantic liners whilst at sea, the fees per minute for conversations being £3, £1, £2, £3 and £2 8s. respectively. The rates to the United States of America and South America increase slightly for calls made to the western portions of these countries. The Australian telephone subscriber now has access to approximately 32,500,000 telephones, or 92 per cent. of the world's total. Since the first radio-telephone service was established in 1930, 2,383 calls have been completed satisfactorily, of which 1,714 were between Great Britain and Australia and 360 between Australia and New Zealand. During the year ended 30th June, 1932, 858 calls were completed, 541 originating in Australia and 317 in other countries. Of the total calls, 587 were between Great Britain and Australia and 146 between Australia and New Zealand. All of the remaining calls, with the exception of one from Java, were to and from European and American countries.

(v) *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.

(vi) *Radiotelegraphic Traffic. (a) International.* The following statement shows particulars of international traffic "via Beam" to and from United Kingdom and other places during the year ended 30th June, 1931 :—

**RADIO TRAFFIC.—INTERNATIONAL, YEAR ENDED 30th JUNE, 1931.**

Class of Traffic.	Number of Words Transmitted.			Number of Words Received.		
	United Kingdom.	Other Places.	Total.	United Kingdom.	Other Places.	Total.
Ordinary .. ..	757,346	369,704	1,127,050	507,619	124,467	632,086
Deferred .. ..	495,409	229,123	724,532	376,909	84,106	461,015
Government .. ..	67,199	13,209	80,408	60,580	6,560	67,140
Press (including deferred press) .. ..	306,337	17,114	323,451	830,829	13,394	844,223
Daily letter and week-end telegrams (a) .. ..	3,167,949	796,775	3,964,724	2,004,202	248,571	2,252,773
<b>Total .. ..</b>	<b>4,794,240</b>	<b>1,425,925</b>	<b>6,220,165</b>	<b>3,780,139</b>	<b>477,098</b>	<b>4,257,237</b>

(a) Includes Christmas and New Year Greeting telegrams.

(b) *Coast Stations.* Particulars of the traffic handled by the several coast stations during the year 1930-31 are as follows :—

**RADIO TRAFFIC.—COAST STATIONS, 1930-31.**

State or Territory.	Particulars.				
	Total, Paying Words.	Messages.			
		Paying.	Service.	Weather.	Total.
	No.	No.	No.	No.	No.
New South Wales .. ..	1,050,518	59,005	570	4,492	64,067
Victoria .. ..	108,953	9,319	30	1,077	10,426
Queensland .. ..	304,109	20,247	1,258	5,481	26,986
South Australia .. ..	53,428	4,597	204	807	5,608
Western Australia .. ..	380,288	13,287	237	2,878	16,402
Tasmania .. ..	147,760	9,452	848	1,161	11,461
Northern Territory .. ..	38,907	1,912	431	2,015	4,358
<b>Australia .. ..</b>	<b>2,083,963</b>	<b>117,819</b>	<b>3,578</b>	<b>17,911</b>	<b>139,308</b>
<b>Papua .. ..</b>	<b>202,510</b>	<b>12,113</b>	<b>731</b>	<b>1,157</b>	<b>14,001</b>
<b>Grand Total .. ..</b>	<b>2,286,473</b>	<b>129,932</b>	<b>4,309</b>	<b>19,068</b>	<b>153,309</b>

(c) *Island Stations.* Particulars of the island radio traffic dealt with during the year 1930-31 are given hereunder:—

## RADIO TRAFFIC.—ISLAND STATIONS, 1930-31.

Particulars.	To Australia.	From Australia.	Inter- Island.	Ship.	Service.	Total.
Messages .. ..	15,067	10,076	18,376	1,767	..	45,286
Words .. ..	274,564	165,807	242,396	22,613	..	705,380

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

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

Certificates issued under the International Radiotelegraph Convention of London (1912) ceased to be valid on 31st December, 1929, after which date it became necessary for certificate holders to exchange their certificates for equivalent certificates issued under the provisions of the Washington Convention (1927). To 30th June, 1932, 291 first class and 408 second class certificates had been issued under the new conditions.

At 30th June, 1932, 4 limited certificates in radiotelegraphy, 70 limited certificates in radiotelephony, and 930 amateur proficiency certificates, in addition to 114 watchers' certificates, had been issued.