CHAPTER VI.

TRANSPORT AND COMMUNICATION.

A. SHIPPING.

§ 1. System of Record.

The system of recording statistics of oversea shipping 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 forwarded to the Commonwealth Bureau of Census and Statistics. Similar documents furnish information regarding oversea migration and interstate migration by sea. 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 1924–25 to 1933–34 :—

TOTAL OVERSEA SHIPPING, ENTERED.—AUSTRALIA.

Year.	Steam.		Sailing.		Total.	
	Vessels.	Tons.	Vessels.	Tons.	Vessels.	Tons.
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
1931–32	1,497	5,653,731	22	33,167	1,519	5,686,898
1932–33	1,531	5,891,878	23	41,446	1,554	5,933,324
1933–34	1,356	5,308,584	24	43,987	1,380	5,352,571

The average tonnage per vessel entered has risen from 3,242 tons per vessel in 1924–25 to 3,879 tons in 1933–34.

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, as they are invariably made, of the number and tonnage of vessels arriving from and departing to particular countries may be misleading for the reason that the tonnage of a vessel can be recorded against one country only, notwithstanding that the same vessel on the same

voyage may carry cargo or passengers to or from Australia 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.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
TONNAGE ENTERED.						
United Kingdom and European Countries	Cargo	2,043,137	1,632,252	1,524,673	1,549,889	1,644,837
	Ballast	19,840	248,998	503,997	946,342	485,391
New Zealand	Cargo	457,812	400,623	426,704	448,684	469,343
	Ballast	166,948	157,029	97,781	110,559	92,913
Asiatic Countries and Islands in the Pacific	Cargo	1,329,505	1,196,313	1,182,212	1,291,014	1,373,042
	Ballast	121,907	765,805	895,825	441,286	149,376
Africa	Cargo	42,304	34,543	7,836	19,129	13,394
	Ballast	52,103	261,442	226,226	144,699	143,275
North and Central America	Cargo	1,194,358	861,415	802,672	966,985	1,041,000
	Ballast	8,305	12,987	..	12,088	..
South America ..	Cargo	8,227	2,821	2,821	2,649	..
	Ballast	..	7,289	16,151	..	..
	Cargo	5,075,343	4,127,967	3,946,918	4,278,350	4,481,616
	Ballast	369,103	1,453,550	1,739,980	1,654,974	870,955
Total	..	5,444,446	5,581,517	5,686,898	5,933,324	5,352,571
TONNAGE CLEARED.						
United Kingdom and European Countries	Cargo	2,247,735	2,457,125	2,673,463	2,496,405	2,495,377
	Ballast	5,537	..	5,659	11,784	8,447
New Zealand	Cargo	544,643	469,806	385,088	460,037	512,190
	Ballast	43,584	19,121	66,739	93,613	40,816
Asiatic Countries and Islands in the Pacific	Cargo	1,061,434	1,651,536	1,647,769	1,657,465	1,199,738
	Ballast	594,752	311,894	249,981	440,372	440,489
Africa	Cargo	45,114	(a)169,060	42,096	33,567	22,220
	Ballast	4,205	..	56	2,627	2,627
North and Central America	Cargo	633,692	450,702	488,134	542,663	536,061
	Ballast	306,629	120,786	130,270	146,511	148,268
South America ..	Cargo	12,356	18,643	19,631	23,272	5,077
	Ballast	..	..	..	..	..
	Cargo	4,544,974	5,216,872	5,256,181	5,213,409	4,770,663
	Ballast	954,707	451,801	452,705	694,907	640,647
Total	..	5,499,681	5,668,673	5,708,886	5,908,316	5,411,310

(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. The proportion of British tonnage during 1933–34 as compared with the three years immediately preceding showed some recovery which was due to the smaller amount of Japanese tonnage in consequence of the reduction in the exports of wheat. During the years 1930–31 to 1932–33 much Japanese tonnage entered Australia in ballast to load wheat.

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.				
	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
BRITISH—					
Australian	211,890	227,550	230,996	264,848	289,172
United Kingdom ..	3,244,561	3,086,586	3,138,330	3,218,273	2,788,464
Canadian	57,282	38,683	42,032	54,228	79,268
New Zealand	399,209	320,822	260,628	291,329	335,513
Other British	84,928	62,398	59,905	115,681	221,647
Cargo	3,726,326	2,924,814	2,680,856	2,831,878	3,032,040
Ballast	271,544	811,225	1,051,035	1,112,481	682,024
Total British ..	3,997,870	3,736,039	3,731,891	3,944,359	3,714,064
Per cent. on total ..	73.43	66.94	65.62	66.48	69.39
FOREIGN—					
Danish	72,431	44,693	46,061	107,052	75,753
Dutch	154,036	147,425	156,617	185,342	164,469
French	106,939	102,641	90,552	108,032	114,715
German	105,435	114,922	116,004	117,589	121,829
Italian	63,840	68,220	68,220	76,674	83,055
Japanese	207,910	671,742	688,712	546,088	333,109
Norwegian	307,943	339,695	395,269	394,470	335,775
Swedish	86,540	114,244	111,196	136,059	110,927
United States	267,827	186,800	205,485	245,530	247,959
Other Foreign	73,675	55,096	76,891	72,129	50,916
Cargo	1,349,017	1,203,153	1,266,062	1,446,472	1,449,576
Ballast	97,559	642,325	688,945	542,493	188,931
Total Foreign ..	1,446,576	1,845,478	1,955,007	1,988,965	1,638,507
Per cent. on total ..	26.57	33.06	34.38	33.52	30.61
Cargo	5,075,343	4,127,967	3,946,918	4,278,350	4,481,616
Per cent. on total ..	93.22	73.96	69.40	72.11	83.73
Ballast	369,103	1,453,550	1,739,980	1,654,974	870,955
Per cent. on total ..	6.78	26.04	30.60	27.89	16.27
Grand Total ..	5,444,446	5,581,517	5,686,898	5,933,324	5,352,571

The Australian tonnage which entered Australia from overseas during the year 1933-34 represented 5.40 per cent. of the total tonnage entered and was mainly confined to the New Zealand and Pacific Island trade.

§ 3. Shipping of Ports.

The total shipping tonnage—oversea, interstate, and coastwise—which entered the more important ports of Australia during the year 1933-34, together with similar information in regard to some of the ports of New Zealand and of Great Britain for the year 1933, will be found in the next table :—

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

Port.	Tonnage Entered.	Port.	Tonnage Entered.
AUSTRALIA—		ENGLAND AND WALES—	
Sydney (N.S.W.) ..	9,232,777	London	28,095,284
Melbourne (Vic.) ..	6,941,695	Liverpool (including Birkenhead) ..	16,376,057
Adelaide (S.A.) ..	4,221,988	Southampton ..	12,080,154
Newcastle (N.S.W.) ..	3,944,925	Tyne Ports	8,468,561
Brisbane (Qld.) ..	3,680,219	Plymouth	6,650,086
Fremantle (W.A.) ..	3,419,161	Cardiff	6,584,198
Townsville (Qld.) ..	1,233,983	Hull	5,744,417
Hobart (Tas.)	976,383	Swansea	3,746,611
Geelong (Vic.)	765,645	Manchester (including Runcorn)	3,524,406
Kembla (N.S.W.) ..	751,248	Bristol	3,189,784
Cairns (Qld.)	685,279	Harwich	2,806,292
Pirie (S.A.)	667,727	Blyth	2,687,435
Mackay (Qld.)	403,500	Sunderland	2,668,088
Launceston (Tas.) ..	401,047	Dover	2,499,604
Burnie (Tas.)	393,979	Middlesbrough ..	2,459,679
Rockhampton (Qld.) ..	389,547	Grimsby (including Immingham) ..	2,214,823
Lincoln (S.A.)	368,931	Newport	2,091,775
Whyalla (S.A.)	363,601	Portsmouth	2,042,278
Devonport (Tas.) ..	346,054	SCOTLAND—	
Albany (W.A.) ..	315,992	Glasgow	5,120,184
Bowen (Qld.)	309,534	Greenock	3,202,913
Thursday Island (Qld.) ..	300,842	Leith	2,160,285
NEW ZEALAND—		NORTHERN IRELAND—	
Wellington	3,570,977	Belfast	6,194,062
Auckland	2,584,263		
Lyttleton	2,028,675		
Dunedin	974,099		

§ 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 1930 to 1934, 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.	Composite.	Total.				
1930 ..	..	..	..	..	..	11	2	..	13
1931 ..	..	..	..	..	..	4	..	..	4
1932 ..	..	..	..	..	..	8	2	..	10
1933 ..	..	..	..	..	..	4	2	1	7
1934 ..	..	..	..	..	..	9	1	..	10

TONNAGE.

Year.	Steamers.		Oil Motor Vessels.		Sailing.		Pontoons, Dredges, etc.		Total.	
	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.	Gross.	Net.
1930 ..	..	..	310	219	12	12	..	..	322	231
1931 ..	..	..	60	43	..	..	..	..	60	43
1932 ..	..	..	166	109	15	15	..	..	181	124
1933 ..	..	..	144	118	20	18	779	645	943	781
1934 ..	..	..	363	192	9	9	..	..	372	201

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, 1934 :—

VESSELS ON THE STATE REGISTERS, 31st DECEMBER, 1934.

States and Territory.	Steam.				Sailing.				Barges, Hulks, Dredges, etc., not Self-propelled.		Total.	
	Dredges and Tugs.		Other.		Fitted with Auxiliary Power.		Other.					
	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.	No.	Net Tons.
New South Wales ..	47	1,178	301	64,218	264	4,736	211	6,732	48	11,782	871	88,646
Victoria	40	4,135	132	135,465	53	1,259	45	677	59	25,141	329	166,677
Queensland ..	16	2,429	33	4,679	56	888	93	1,351	27	4,002	225	13,349
South Australia ..	11	337	60	9,649	57	2,562	53	3,107	21	4,743	202	20,398
Western Australia ..	9	173	28	5,810	30	599	291	4,545	21	4,370	379	15,497
Tasmania ..	5	530	43	4,858	66	1,653	65	2,446	1	382	180	9,869
Northern Territory	..	..	..	..	3	44	15	145	..	..	18	189
Total ..	128	8,782	597	224,679	529	11,741	773	19,003	177	50,420	2,204	314,625

§ 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 oversea countries, but at the same time it is necessary to avoid any duplication in the statistics for Australia as a whole. In order to meet these dual requirements, a vessel arriving in any State from an overseas country—say United Kingdom—*via* another State, is recorded in the second State as from United Kingdom, *via States*, thus distinguishing the movement from a *direct* oversea entry. Continuing the voyage, the vessel is in the third State again recorded for the statistics of the State concerned as from United Kingdom *via* other States. On an inward voyage the *clearance* from the first State to the second State is a *clearance* interstate, and is included with interstate tonnage in conformity with the pre-federation practice of the States, and to preserve the continuity of State statistics. Thus, movements of ships which are, from the standpoint of Australia as a whole, purely coastal movements, must for the individual States be recorded as "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.
Inward Voyage—		
Enters Fremantle from United Kingdom	Oversea direct	
Clears Fremantle for Adelaide		Interstate direct
Enters Adelaide from United Kingdom *via* Fremantle		Oversea *via* States
Clears Adelaide for Melbourne		Interstate direct
Enters Melbourne from United Kingdom *via* Adelaide		Oversea *via* States
Clears Melbourne for Sydney		Interstate direct
Enters Sydney from United Kingdom *via* Melbourne		Oversea *via* States
Outward Voyage—		
Clears Sydney for United Kingdom *via* Melbourne		Oversea *via* States
Enters Melbourne from Sydney		Interstate direct
Clears Melbourne for United Kingdom *via* Adelaide		Oversea *via* States
Enters Adelaide from Melbourne		Interstate direct
Clears Adelaide for United Kingdom *via* Fremantle		Oversea *via* 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 oversea shipping for Australia as a whole. (*b*) The aggregate for all ships recorded in any State as "Oversea *direct*" plus those recorded as "Oversea *via States*" gives the total *oversea shipping* for that State. (*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 1929–30 to 1933–34. 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.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
			NUMBER.		
New South Wales ..	1,588	1,564	1,483	1,656	1,679
Victoria	1,739	1,534	1,494	1,678	1,777
Queensland	490	469	483	485	508
South Australia	753	606	598	644	694
Western Australia ..	387	305	311	309	326
Tasmania	1,022	941	933	984	1,008
Northern Territory ..	26	21	19	20	23
Total	6,005	5,440	5,321	5,776	6,015
			TONNAGE.		
New South Wales ..	4,079,399	3,996,976	3,947,128	4,583,979	4,664,917
Victoria	3,552,904	3,274,609	3,154,197	3,594,992	3,791,060
Queensland	1,164,183	1,061,560	1,123,578	1,184,471	1,281,334
South Australia	2,504,065	2,143,692	2,176,155	2,191,498	2,335,796
Western Australia ..	1,915,695	1,653,953	1,643,755	1,695,267	1,763,371
Tasmania	1,207,640	1,134,113	1,094,767	1,255,877	1,282,947
Northern Territory ..	64,075	62,570	51,570	53,553	56,694
Total	14,487,961	13,327,473	13,191,150	14,559,637	15,176,128

3. **Oversea Vessels Moving Interstate.**—(*Oversea via States.*) To ascertain the aggregate movement of shipping between the States during the year 1933–34, 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, 1933–34.

States and Territory.	Entered.		Cleared.		Total.	
	Vessels.	Tonnage.	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales ..	453	2,312,139	515	2,721,497	968	5,033,636
Victoria	430	2,351,721	480	2,654,911	910	5,006,632
Queensland	220	1,378,213	258	1,575,707	478	2,953,920
South Australia ..	282	1,633,132	264	1,595,431	546	3,228,563
Western Australia ..	23	79,806	9	35,161	32	114,967
Tasmania	39	182,541	109	665,798	148	848,339
Northern Territory ..	1	1,201	..	..	1	1,201
Total ..	1,448	7,938,753	1,635	9,248,505	3,083	17,187,258

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 1929–30 to 1933–34 were as follow :—

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

Year.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
1929–30	4,396	6,218,634	4,373	6,091,994
1930–31	4,054	5,761,040	4,074	5,838,626
1931–32	3,958	5,512,175	3,999	5,557,763
1932–33	4,208	5,771,627	4,170	5,789,251
1933–34	4,380	5,927,623	4,379	6,095,043

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 1929–30 to 1933–34 :—

TOTAL INTERSTATE MOVEMENT OF SHIPPING.—AUSTRALIA.

Year.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
1929–30	7,851	23,616,739	7,828	23,490,099
1930–31	6,916	20,987,466	6,936	21,065,052
1931–32	6,631	20,475,864	6,672	20,521,452
1932–33	7,226	22,397,933	7,188	22,415,557
1933–34	7,463	23,114,881	7,462	23,282,301

(ii) *States.* The following table shows the number and tonnage of vessels which entered and cleared each State from and for other States during 1933–34, including the coastal movements of oversea vessels :—

INTERSTATE SHIPPING OF EACH STATE, 1933–34.

States and Territory.	Entered.		Cleared.	
	Vessels.	Tonnage.	Vessels.	Tonnage.
New South Wales	2,132	6,977,056	2,140	7,018,172
Victoria	2,207	6,142,790	2,215	6,286,254
Queensland	728	2,659,547	746	2,761,342
South Australia	976	3,968,928	974	3,945,122
Western Australia	349	1,843,177	317	1,693,116
Tasmania	1,047	1,465,488	1,050	1,529,075
Northern Territory	24	57,895	20	49,220
Total, Australia	7,463	23,114,881	7,462	23,282,301

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 1930 to 1934 :—

INTERSTATE AND COASTAL STEAMSHIP SERVICES.—AUSTRALIA.

Particulars.	1930.	1931.	1932.	1933.	1934.
Number of companies making returns	22	23	23	22	23
Number of steamships ..	173	162	154	154	155
Tonnage { Gross	349,163	319,756	306,878	309,309	302,897
Tonnage { Net	196,342	178,549	171,089	172,334	168,056
Horse-power (Nominal) ..	36,230	34,357	33,340	34,514	33,510
Number of passengers for which licensed { 1st class ..	7,686	7,278	7,222	7,230	7,105
Number of passengers for which licensed { 2nd class and steerage	1,784	1,775	1,755	1,755	1,755
Complement of Crew { Masters and officers	563	524	498	512	505
Complement of Crew { Engineers ..	576	538	514	529	419
Complement of Crew { Crew	4,630	4,232	4,072	4,193	4,045

§ 6. Tonnage of Cargo.

1. **Oversea and Interstate Cargo.**—(i) *Australia.* The table hereunder shows the aggregate tonnage of oversea cargo discharged and shipped and the tonnage of interstate cargo shipped in all ports for the years 1929–30 to 1933–34. Cargo which was stated in cubic feet has been converted to tons measurement on the basis of 40 cubic feet to the ton.

CARGO MOVEMENT.

Year.	Oversea Cargo.				Interstate Cargo.	
	Discharged.		Shipped.		Shipped.	
	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.	Tons Weight.	Tons Meas.
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
1931–32 ..	2,072,334	894,380	5,951,914	726,040	3,002,327	1,007,351
1932–33 ..	2,679,800	1,217,218	5,641,926	778,579	3,819,654	1,047,054
1933–34 ..	2,606,101	1,395,291	4,260,182	738,846	4,278,159	1,201,617

(ii) *Principal Ports.* The following table shows the tonnage of Oversea and Interstate Cargo discharged and shipped at principal ports, 1933–34 :—

TONNAGE OF CARGO DISCHARGED AND SHIPPED AT PRINCIPAL PORTS, 1933–34.

Port.	Discharged.			Shipped.		
	Oversea.	Interstate.	Total.	Oversea.	Interstate.	Total.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Sydney	1,365,498	865,189	2,230,687	1,059,481	619,751	1,679,232
Newcastle	89,047	771,423	860,470	242,038	1,672,330	1,914,368
Kembla	30,528	230,104	260,632	70,966	136,961	207,927
Other	..	310	310	11,941	32,489	44,430
Total, New South Wales	1,485,073	1,867,026	3,352,099	1,384,426	2,461,531	3,845,957
Melbourne	1,203,901	1,572,562	2,776,463	742,119	751,848	1,493,967
Geelong	119,060	150,582	269,642	186,277	41,512	227,789
Other	12,056	10,810	22,866	14,659	2,399	17,058
Total, Victoria ..	1,335,017	1,733,954	3,068,971	943,055	795,759	1,738,814
Brisbane	222,684	340,150	562,834	185,339	146,629	331,968
Cairns	6,627	38,737	45,364	104,161	102,076	206,237
Townsville	29,402	57,565	86,967	111,938	46,582	158,520
Other	11,357	43,049	54,406	166,484	77,749	244,233
Total, Queensland ..	270,070	479,501	749,571	567,922	373,036	940,958
Adelaide	331,205	560,507	891,712	384,915	267,552	652,467
Pirie	64,959	196,424	261,383	329,088	137,243	466,331
Wallaroo	25,328	489	25,817	133,624	16,321	149,945
Whyalla	..	25	25	69,590	806,628	876,218
Other	6,920	10,260	17,180	122,337	10,658	132,995
Total, South Australia ..	428,412	767,705	1,196,117	1,039,554	1,238,402	2,277,956
Fremantle	369,652	254,410	624,062	524,749	33,400	558,149
Bunbury	28,423	279	28,702	161,926	31,114	193,040
Geraldton	25,967	5,781	31,748	125,876	5	125,881
Other	3,391	6,714	10,105	66,530	10,612	77,142
Total, Western Australia ..	427,433	267,184	694,617	879,081	75,131	954,212
Hobart	49,241	249,178	298,419	148,405	175,648	324,053
Launceston	3,721	90,042	93,763	28,384	60,626	89,010
Other	1,163	68,899	70,062	8,117	a298,143	306,260
Total, Tasmania ..	54,125	408,119	462,244	184,906	534,417	719,323
Darwin (Northern Territory) ..	1,262	9,183	10,445	84	1,500	1,584
Total, AUSTRALIA ..	4,001,392	5,532,672	9,534,064	4,999,028	5,479,776	10,478,804

(a) Includes Devonport, 197,430 tons.

2. **Nationality.**—The following table shows the total oversea cargo discharged and shipped according to the nationality of the vessels carrying during the years 1929–30 to 1933–34 :—

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

Vessels Registered at Ports in -	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
British—					
Australia	237,792	219,168	223,841	229,930	257,497
United Kingdom	6,861,323	5,528,848	5,429,998	5,644,962	4,796,937
Canada	135,154	86,775	64,169	88,733	115,125
New Zealand	441,593	357,258	260,988	317,821	357,087
Other British	163,949	98,492	134,739	221,606	403,757
Total British	7,839,811	6,290,541	6,113,735	6,503,052	5,930,403
Per cent. on Total	69.72	63.83	63.39	63.03	65.89
Foreign -					
Denmark	227,779	133,777	137,378	296,265	184,626
France	119,533	92,460	76,666	95,977	108,736
Germany	269,783	241,868	248,983	258,915	276,821
Italy	108,605	90,412	73,962	107,503	103,921
Japan	436,747	1,146,557	1,161,303	1,071,568	635,142
Netherlands	290,949	234,897	254,768	313,188	280,509
Norway	876,701	868,346	876,991	883,810	814,447
Sweden	355,621	360,373	313,986	418,101	325,114
United States of America	512,923	282,383	232,182	226,033	246,858
Other Foreign	206,311	113,312	154,714	143,111	93,843
Total Foreign	3,404,952	3,564,385	3,530,933	3,814,471	3,070,017
Per cent. on Total	30.28	36.17	36.61	36.97	34.11
Grand Total	11,244,763	9,854,926	9,644,668	10,317,523	9,000,420

(*a*) Tons weight and tons measurement combined.

§ 7. 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, 1935, show that the rate for general merchandise from Australia to United Kingdom and Continent was 63s. per ton weight or measurement, while the rates for wheat and wool (greasy) were respectively 23s. 9d. per ton weight and 1⅛d. per lb. plus 5 per cent. less 10 per cent. The charter rate for wheat was 23s. per ton.

4. **Depth of Water at Main Ports.**—A table compiled from information supplied by the Director of Navigation showing the depth of water at the main ports of Australia at 1st January, 1935, was included in the Transport and Communication Bulletin No. 25, 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 who are found at fault. Particulars of shipping casualties reported on or near the coast during the year 1934 are shown in the Transport and Communication Bulletin No. 25. This information also was furnished by the Director of Navigation.

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

(ii) *Amending Acts.* Under an amendment of the Principal Act made by the Navigation Act 1926 (March, 1926) permission may be granted by the Governor-General in Council to unlicensed British ships to engage in the carriage of passengers between any Commonwealth ports where injury is being done to the tourist traffic. By Order in Council under this provision, British vessels of not less than 10,000 tons gross register and of a speed of not less than 15 knots (reduced in December, 1928, to 14 knots) were granted permission—as exempt from the coasting trade provisions of the Act—to engage in the carriage of passengers between the port of Hobart and the ports of Brisbane, Sydney, and Melbourne during certain specified periods in the tourist seasons.

The principal Act was further amended by the Navigation (Maritime Conventions) Act 1934 to implement, and to enable the Commonwealth Government to ratify, a number of International Maritime Conventions, the principal of which were the International Convention for the Safety of Life at Sea, 1929, and the International Convention Respecting Load Lines, 1930.

By the Navigation Act of 1935 Section 7 of the Principal Act was amended to permit British ships of not less than 10,000 tons gross tonnage and a sea speed of not less than 14 knots to carry passengers between ports in Australia not connected by rail without being deemed to engage in the coasting trade within the meaning of the Navigation Act, subject to the condition that such carriage of passengers is without break of journey, transhipment, or second call at any intermediate port. Section 231 of the Principal Act was also amended by the Act of 1935 to make provision for the carriage of wireless telegraphy installation by the smaller cargo steamships engaged in interstate trade.

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 railways owned by the different States are referred to throughout as "State" and those owned by the Commonwealth 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 4 ft. 8½ in. 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, 1934, the total expenditure by the Commonwealth was £4,371,000, the interest charge for the year 1933-34 being £202,057. During the same period, the working of the line, which is the responsibility of the New South Wales and Queensland Railways Commissioners, resulted in a loss of £46,870 being shown on the New South Wales section and a profit of £14,816 on the Queensland section. In addition, the following amounts were paid as interest:—New South Wales £71,967, and Queensland £26,939, the remainder, £103,151, being borne by the Commonwealth. Figures relating to the operation, etc., of the line are incorporated as far as possible with those for New South Wales and Queensland in the tables 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 1929-30 to 1933-34. 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.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.
	Miles.	Miles.	Miles.	Miles.	Miles.
New South Wales ..	6,089.93	6,159.70	6,208.30	6,246.61	6,246.53
Victoria	4,737.65	4,741.69	4,745.71	4,745.71	4,745.71
Queensland	6,728.30	6,796.81	6,823.31	6,836.41	6,836.55
South Australia	3,765.45	3,759.10	3,775.81	3,775.81	3,775.81
Western Australia ..	4,841.89	4,911.37	4,966.06	5,068.72	5,090.87
Tasmania	821.01	806.45	786.45	786.45	786.45
Federal Capital Territory ..	4.94	4.94	4.94	4.94	4.94
Northern Territory ..	489.73	489.73	489.73	489.73	489.73
Australia	27,478.90	27,669.79	27,800.31	27,954.38	27,976.59

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

(ii) *Government and Private Lines Separately.* The next table shows for each State (*a*) the length of lines 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, 1934 :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—MILEAGE CLASSIFIED, 1933-34.

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	6,163.83	..	82.70	6,246.53
Victoria	4,720.77	..	24.94	4,745.71
Queensland	6,566.65	..	269.90	6,836.55
South Australia	2,529.26	1,196.04	50.51	3,775.81
Western Australia	4,359.88	453.99	277.00	5,090.87
Tasmania	644.89	..	141.56	786.45
Federal Capital Territory ..	..	4.94	..	4.94
Northern Territory ..	..	489.73	..	489.73
Australia	24,985.28	2,144.70	846.61	27,976.59

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, 1934 :—

RAILWAYS.—GOVERNMENT AND PRIVATE.—COMPARISON OF FACILITIES, 1934.

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 ..	2.38	2.59	7.14	6.47	11.51	3.45	0.53	99.52	4.19
Per 1,000 sq. miles of Territory ..	20.19	54.00	10.20	9.93	5.22	30.00	5.26	0.94	9.41

7. **Classification of Lines according to Gauge, 1933–34.**—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, 1934, and of private railways open for general traffic to the 31st December, 1934, as nearly as possible.

RAILWAYS.—GOVERNMENT AND PRIVATE.—GAUGES, 1933–34.

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	598.18	..	..	..	1,196.04
Western Australia ..	..	453.99	..	..	..	..	453.99
Federal Capital Territory	..	4.94	..	..	..	..	4.94
Northern Territory ..	..	..	489.73	..	..	..	489.73
Total	..	1,056.79	1,087.91	..	..	..	2,144.70
STATE RAILWAYS.							
New South Wales ..	..	6,124.32	39.51	..	..	..	6,163.83
Victoria	4,599.00	..	..	..	121.77	..	4,720.77
Queensland	..	68.82	6,467.57	..	..	30.26	6,566.65
South Australia ..	1,451.24	..	1,078.02	..	..	..	2,529.26
Western Australia ..	..	..	4,359.88	..	..	..	4,359.88
Tasmania	..	..	633.56	..	..	11.33	644.89
Total	6,050.24	6,193.14	12,578.54	..	121.77	41.59	24,985.28
PRIVATE RAILWAYS OPEN FOR GENERAL TRAFFIC.							
New South Wales ..	..	45.97	36.73	..	..	..	82.70
Victoria	13.94	..	..	11.00	..	..	24.94
Queensland	..	..	99.51	..	7.50	162.89	269.90
South Australia ..	..	..	50.51	..	..	..	50.51
Western Australia ..	..	..	277.00	..	..	..	277.00
Tasmania	..	..	125.07	..	..	16.49	141.56
Total	13.94	45.97	588.82	11.00	7.50	179.38	846.61
ALL RAILWAYS OPEN FOR GENERAL TRAFFIC.							
New South Wales ..	..	6,170.29	76.24	..	..	..	6,246.53
Victoria	4,612.94	..	..	11.00	121.77	..	4,745.71
Queensland	..	68.82	6,567.08	..	7.50	193.15	6,836.55
South Australia ..	1,451.24	597.86	1,726.71	..	..	..	3,775.81
Western Australia ..	..	453.99	4,636.88	..	..	..	5,090.87
Tasmania	..	..	758.63	..	..	27.82	786.45
Federal Capital Territory	..	4.94	..	..	..	..	4.94
Northern Territory ..	..	..	489.73	..	..	..	489.73
GRAND TOTAL ..	6,064.18	7,295.90	14,255.27	11.00	129.27	220.97	27,976.59

8. **Summary of Operations, 1933-34.**—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, 1934 :—

RAILWAYS.—FEDERAL, STATE, AND PRIVATE.—SUMMARY, 1933-34.

Particulars.		Federal Railways.	State Railways.	Private Railways.	Total for Australia.
Mileage open (route) 30th June, 1934	Miles	2,144.70	24,985.28	846.61	27,976.59
Capital cost	£	15,607,126	311,486,688	(a) 5,068,942	332,162,756
Cost per mile	£	7,277	12,467	(a) 5,987	11,873
Gross revenue	£	329,955	36,965,642	(b) 561,507	37,857,104
Gross revenue per train mile	d.	143.82	140.65	136.16	140.60
Working Expenses ..	£	376,168	26,540,000	(b) 343,033	27,259,201
Working Expenses per train mile	d.	163.96	100.98	83.18	101.24
Net Revenue	£	−46,213	10,425,642	(b) 218,474	10,597,903
Net Revenue per train mile	d.	−20.14	39.67	52.98	39.36
Train miles run	Miles	550,618	63,078,220	989,750	64,618,588
Passengers carried ..	No.	88,224	326,982,981	1,175,372	328,246,577
Tons of goods, etc., carried	Tons	88,316	26,791,498	1,911,442	28,791,256
Average number of employees	No.	(d) 1,172	(d) 92,163	(b) (c) 907	94,242
Average wage	£	212	204	229	205

(a) Exclusive of the capital cost of 191.92 miles of private lines for which information is not available. (b) Incomplete. (c) Employees at 30th June, 1934. (d) Exclusive of Construction Branch.

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, 1931 to 1934, classified according to gauge, together with the percentages on the total :—

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

Gauge.	At 30th June—							
	1931.		1932.		1933.		1934.	
	Miles.	%	Miles.	%	Miles.	%	Miles.	%
5 ft. 3 in. ..	7,872.09	25.05	7,860.50	24.88	7,859.71	24.70	7,855.07	24.65
4 ft. 8½ in.	9,113.21	29.01	9,205.61	29.14	9,317.75	29.28	9,324.67	29.26
3 ft. 6 in. ..	14,268.41	45.41	14,358.58	45.45	14,478.76	45.50	14,528.97	45.58
2 ft. 6 in. ..	131.87	0.42	131.87	0.42	131.87	0.42	131.91	0.41
2 ft. 0 in. ..	33.00	0.11	33.00	0.11	33.00	0.10	33.00	0.10
Total ..	31,418.58	100.00	31,589.56	100.00	31,821.09	100.00	31,873.62	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. The North Australia Railway has, since its acquisition by the Commonwealth, been extended twice, first to Emungalan and then to Birdum. The Central Australia Railway has also been extended from Oodnadatta to Alice Springs. In 1917 the "Commonwealth Railways Act" was passed by which all the Federal railways were vested in the Commonwealth Railways Commissioner.

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

In the "Northern Territory Acceptance Act, 1910" the construction of a transcontinental line to and from South Australia was 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 provided for the construction of a 3 ft. 6 in. gauge line from the then existing terminus at Emungalan to Daly Waters, a distance of approximately 160 miles. The estimated cost of this line was £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 until December, 1927, when, owing to a reduction in the amount of money available for construction, a drastic curtailment of operations was made. The work then proceeded at a reduced 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 to suspend construction work beyond Birdum (316 miles 40 chains from Darwin), and on 4th September, 1929, this section was opened for traffic.

3. **Central Australia Railway (Port Augusta to Alice Springs).**—(i) *General.* Under the "Northern Territory Acceptance Act, 1910", the railway from Port Augusta to Oodnadatta was taken over by the Commonwealth Government on the 1st January, 1911. The South Australian Government, however, continued to operate and maintain it, bearing any loss and taking any profit from ordinary working, while the Commonwealth was responsible for extraordinary maintenance and interest. From the 1st January, 1914, the line was worked under a fresh agreement by the South Australian Government for and on behalf of the Commonwealth, the latter being responsible for any loss in working and maintenance, but from 1st January, 1926, the complete control 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 from Oodnadatta to Alice Springs. The estimated cost, exclusive of rolling stock, of the proposed extension, which comprises 293 miles, was £1,700,000. The first section 21¼ miles from Oodnadatta was completed on the 29th August, 1927. The contract for the construction of the balance of 271¾ miles to Alice Springs was signed on the 11th August, 1927. The section from Oodnadatta to Rumbalara (169 miles 67 chains) was opened for public traffic on the 23rd December, 1928, and the remaining portion from Rumbalara to Alice Springs was completed and opened for public traffic on the 2nd August, 1929.

4. **Federal Capital Territory Railway (Queanbeyan to 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 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 traffic on 25th May, 1914. It connects with the New South Wales railway system at Queanbeyan, and is 4.94 miles in length.

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.

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.

On the 22nd October, 1917, the first through train left Port Augusta with an official party on board for Kalgoorlie.

6. **Lines Open, Surveyed, etc.**—The following table shows the lines open for traffic under the control of the Commonwealth Government at 30th June, 1934, together with the lines which have been surveyed :—

RAILWAYS, FEDERAL, 30th JUNE, 1934.

Terminals.	Miles.
OPEN FOR TRAFFIC.	
Trans-Australian Railway—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
Federal Territory Railway—Queanbeyan (New South Wales) to Canberra (Federal Capital Territory)	4.94
North Australia Railway—Darwin to Birdum (Northern Territory)	316.50
Total opened for traffic	2,144.70
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 to Red Hill (South Australia)	82.68
Total surveyed or being surveyed	1,083.26

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 (4) 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 1930 to 1934 :—

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

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
	MILES OPEN FOR TRAFFIC.				
	Miles.	Miles.	Miles.	Miles.	Miles.
1930	1,052	771	5	317	2,145
1931	1,052	771	5	317	2,145
1932	1,052	771	5	317	2,145
1933	1,052	771	5	317	2,145
1934	1,052	771	5	317	2,145
	AVERAGE MILES WORKED.				
	Miles.	Miles.	Miles.	Miles.	Miles.
1930	1,052	760	5	307	2,124
1931	1,052	771	5	317	2,145
1932	1,052	771	5	317	2,145
1933	1,052	771	5	317	2,145
1934	1,052	771	5	317	2,145
	TRAIN MILES RUN.(a)				
1930	453,151	239,303	9,865	43,594	745,913
1931	403,615	200,051	6,900	40,686	651,252
1932	319,747	154,529	6,865	35,819	516,960
1933	324,173	182,414	6,850	33,809	547,246
1934	328,477	178,916	6,885	36,340	550,618

(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 1930 to 1934 :—

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.				
	£	£	£	£	£
1930	7,805,945	4,739,364	84,253	2,749,807	15,370,369
1931	7,840,504	4,760,548	84,429	2,750,718	15,436,199
1932	7,879,397	4,769,938	84,429	2,755,700	15,489,464
1933	7,928,876	4,773,301	84,429	2,758,139	15,544,745
1934	7,987,216	4,777,278	81,493	2,758,139	15,607,126
	COST PER MILE OPEN.				
1930	7,421	6,132	17,064	8,688	7,167
1931	7,454	6,171	17,091	8,691	7,197
1932	7,490	6,187	17,091	8,693	7,221
1933	7,538	6,188	17,091	8,714	7,248
1934	7,593	6,193	17,104	8,714	7,277

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

The sum of £1,694,385, of which £113,614 was for surveys, etc., has been provided from revenue for capital purposes to 30th June, 1934, 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 1930 to 1934 inclusive :—

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

Year ended 30th June—	Railway.				Total.
	Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	
Total Gross Revenue.					
	£	£	£	£	£
1930	265,562	99,626	6,473	32,475	404,136
1931	187,681	88,479	3,964	29,010	309,134
1932	173,402	79,400	3,810	23,495	280,107
1933	188,168	93,359	4,313	22,612	308.452
1934	206,205	90,566	5,277	27,907	329,955
Gross Revenue per Average Mile Worked.					
1930	252	131	1,311	106	190
1931	179	115	802	92	144
1932	165	103	771	74	131
1933	179	121	873	71	144
1934	196	117	1,068	88	154
Gross Revenue per Train-Mile run.					
	d.	*d.*	*d.*	*d.*	*d.*
1930	140.65	99.92	157.48	178.79	130.03
1931	111.60	106.15	137.88	171.13	113.92
1932	130.15	123.32	133.20	157.42	130.04
1933	139.31	122.83	151.11	160.51	135.27
1934	150.66	121.49	183.95	184.31	143.82

(ii) *Classification and Percentages.* During the year 1933–34 receipts from coaching traffic and goods and live stock represented 46 per cent. and 27 per cent. respectively of the total gross revenue of the Trans-Australian line, similar percentages for the remaining lines being :—Central Australia line 14 per cent. and 81 per cent., Federal Capital Territory line 50 per cent. and 49 per cent., and North Australia line 13 per cent. and 34 per cent. coaching and goods and live stock revenue respectively.

The miscellaneous receipts for the year 1933–34 include an amount of £16,122, revenue from dining cars and refreshment services on the Trans-Australian and Central Australia Railways. A sum of £15,669 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 1930 to 1934 :—

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

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

Year ended 30th June—	Railway. Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	Total.
TOTAL WORKING EXPENSES.					
	£	£	£	£	£
1930	296,403	194,918	8,031	55,229	554,581
1931	241,490	155,438	6,363	55,330	458,621
1932	197,147	111,555	5,012	44,088	357,802
1933	197,363	106,875	4,720	38,843	347,801
1934	218,506	113,050	4,919	39,693	376,168
PERCENTAGE OF WORKING EXPENSES ON REVENUE.					
	%	%	%	%	%
1930	111.61	195.65	124.07	170.07	137.23
1931	128.67	175.68	160.52	190.73	148.36
1932	113.69	140.49	131.55	187.65	127.74
1933	104.90	114.48	109.43	171.79	112.76
1934	105.97	124.83	93.22	142.23	114.01

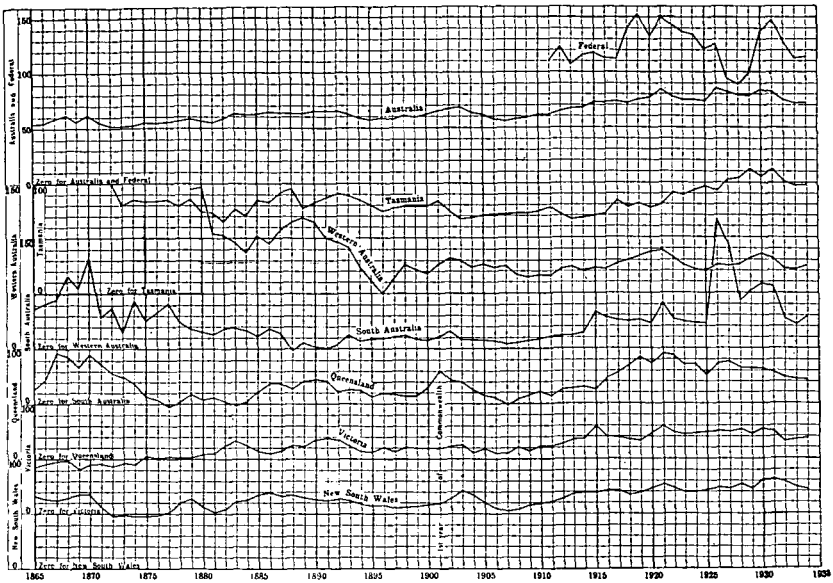
Compared with results for the previous year, the percentage of working expenses on revenue shows decreases for the Federal Capital Territory and North Australia Railways. Earnings increased on all the railways, with the exception of the Central Australia line. The loss on the Trans-Australian Railway was greater than that of the previous year, owing to increased sleeper renewals, while the heavier loss on the Central Australia Railway was due to the same cause combined with the repair of flood damage.

(ii) *Averages.* The next table gives the working expenses per average mile worked, and per train-mile run for each railway for the years 1930 to 1934 :—

RAILWAYS, FEDERAL.—WORKING EXPENSES, AVERAGES.

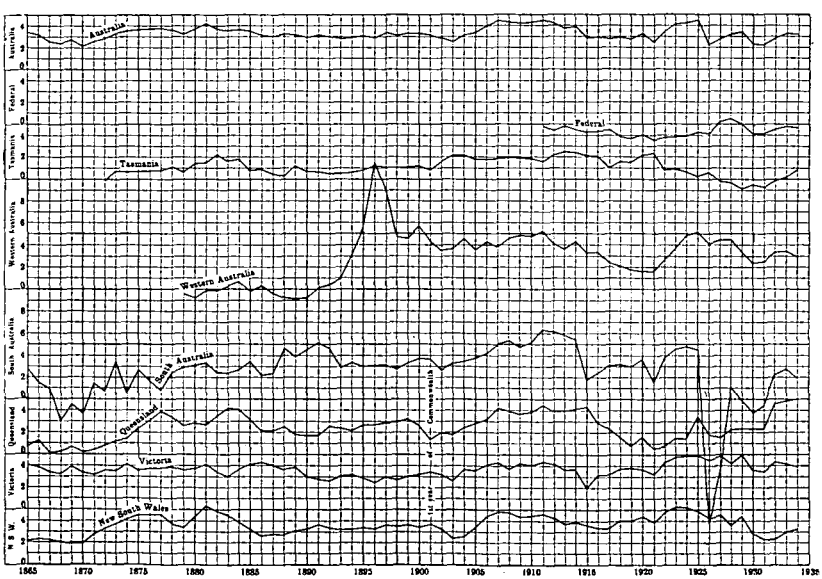
Year ended 30th June—	Railway. Trans-Australian.	Central Australia.	Federal Capital Territory.	North Australia.	Total.
WORKING EXPENSES PER AVERAGE MILE WORKED.					
	£	£	£	£	£
1930	282	256	1,627	180	261
1931	230	202	1,288	175	214
1932	187	145	1,015	139	167
1933	188	139	956	123	162
1934	208	147	996	125	175
WORKING EXPENSES PER TRAIN-MILE RUN.					
	d.	*d.*	*d.*	*d.*	*d.*
1930	156.98	195.49	195.38	304.05	178.44
1931	143.60	186.48	221.32	326.38	169.01
1932	147.98	173.26	175.21	295.40	166.11
1933	146.11	140.61	165.37	275.73	152.53
1934	159.65	151.65	171.47	262.14	163.96

PERCENTAGES OF WORKING EXPENSES ON GROSS REVENUE OF GOVERNMENT RAILWAYS, 1865 TO 1934.



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.

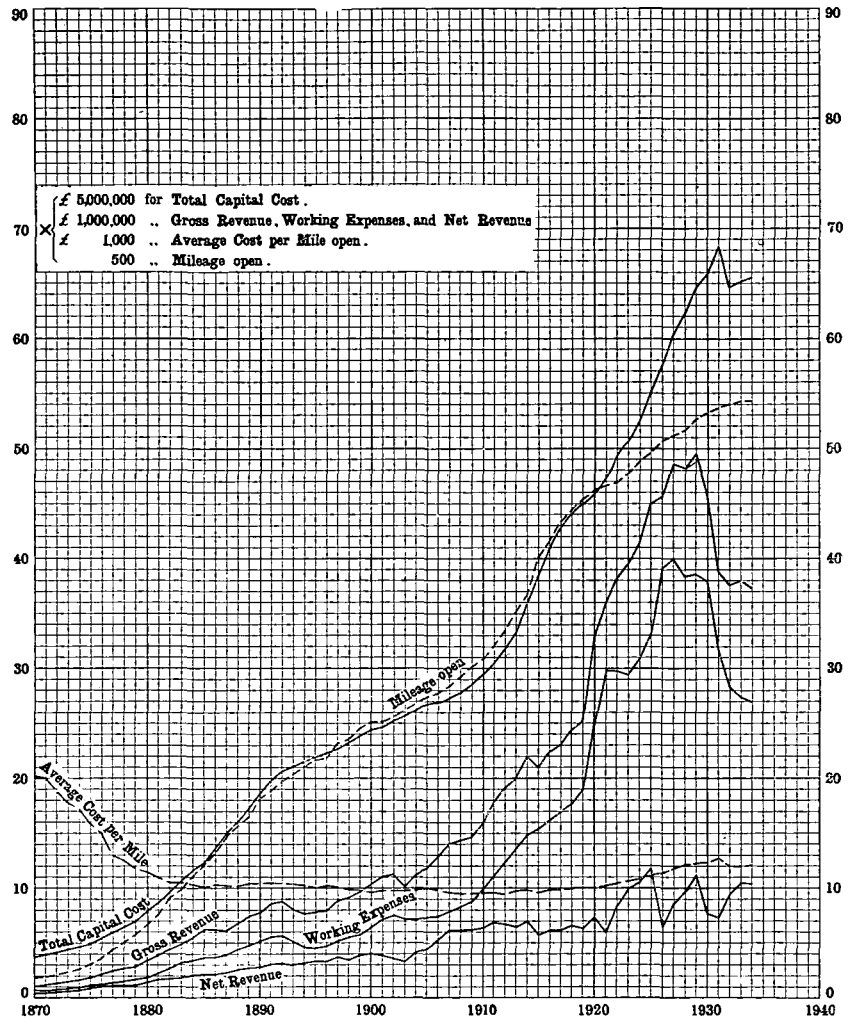
PERCENTAGES OF NET REVENUE ON CAPITAL COST OF GOVERNMENT RAILWAYS, 1865 TO 1934.



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.

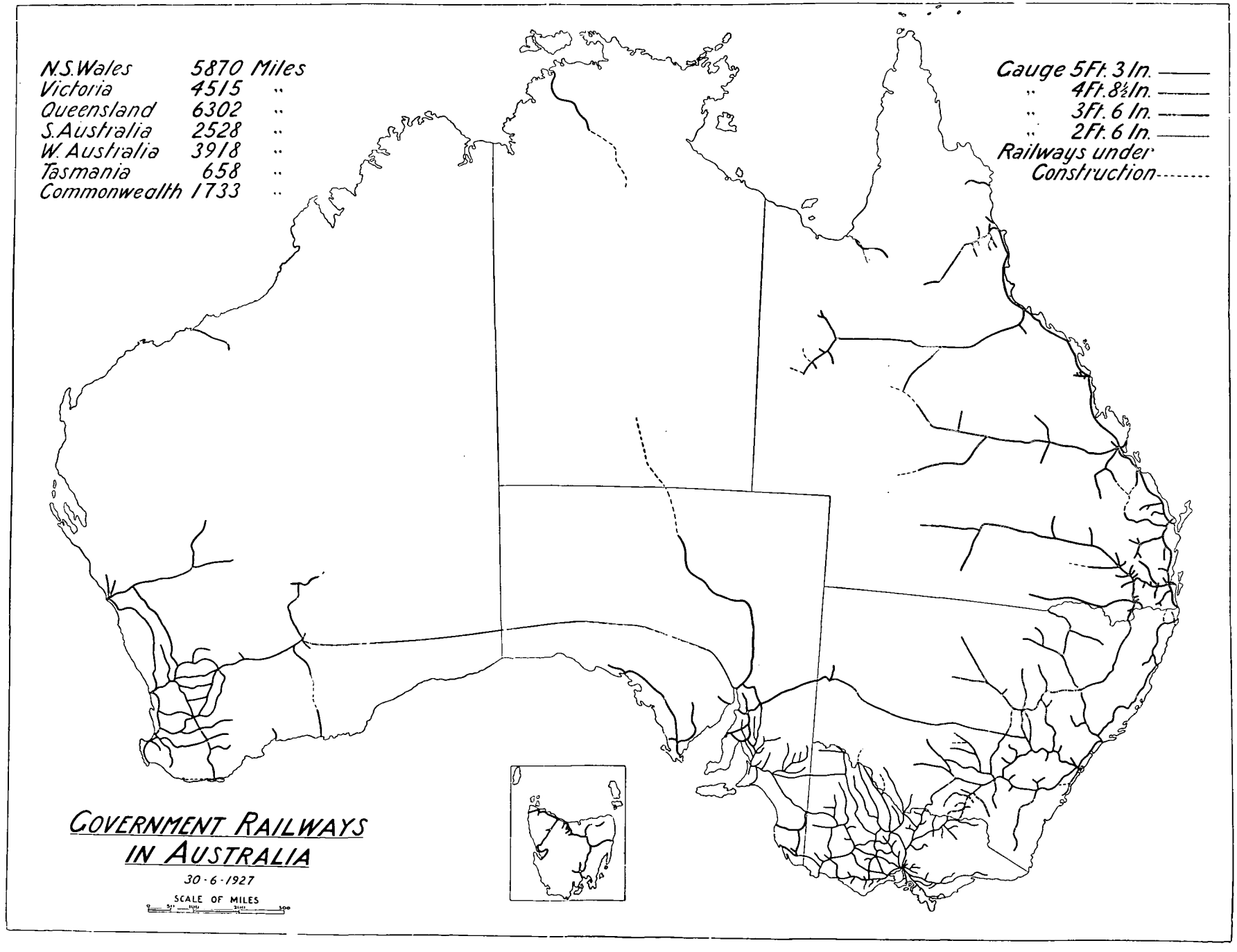
FINANCIAL POSITION OF THE GOVERNMENT RAILWAYS OF AUSTRALIA, 1870 TO 1934.



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

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

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


N.S.Wales 5870 Miles
Victoria 4515 ..
Queensland 6302 ..
S.Australia 2528 ..
W.Australia 3918 ..
Tasmania 658 ..
Commonwealth 1733 ..
Gauge 5Ft. 3 In.
.. 4Ft. 8½ In.
.. 3Ft. 6 In.
.. 2Ft. 6 In.
Railways under Construction
GOVERNMENT RAILWAYS IN AUSTRALIA
30-6-1927
SCALE OF MILES

(iii) *Classification and Percentages.* Of the total working expenses of the Federal Railways during the year 1933–34, maintenance expenses represented 45 per cent., locomotive, carriage and wagon charges 34 per cent., and traffic expenses 13 per cent. Details for each line were as follow:—Trans-Australian line 42 per cent., 37 per cent. and 11 per cent.; Central Australia line 50 per cent., 33 per cent., and 11 per cent.; Federal Capital Territory line 20 per cent., 37 per cent. and 38 per cent.; and North Australia line 48 per cent., 21 per cent. and 25 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 1930 to 1934:—

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.
1930	29,163	45,235	45,457	3,238	123,093
1931	19,209	31,107	31,248	3,384	84,948
1932	15,875	25,683	29,417	3,101	74,076
1933	19,642	28,380	30,533	2,784	81,339
1934	19,218	28,493	37,335	3,178	88,224
Tonnage of Goods and Live Stock Carried.					
	Tons.	Tons.	Tons.	Tons.	Tons.
1930	20,906	44,047	20,966	7,024	92,943
1931	12,360	38,831	10,077	3,296	64,564
1932	21,316	65,538	7,807	3,039	97,700
1933	19,754	71,710	10,502	3,435	105,401
1934	21,598	47,100	15,930	3,688	88,316

(ii) *Passenger-Mileage Summary.* The appended table gives particulars of "Passenger-Mileage" on each of the Federal railways for the year 1933–34:—

RAILWAYS, FEDERAL.—PASSENGER-MILES SUMMARY, 1933–34.

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.
			,000 omitted.	£		Miles.	*d.*	£ *s.* *d.*	
Trans-Australian ..	222,377	19,218	15,428	70,235	69	803	1.09	3 13 1	14,663
Central Australia ..	22,578	28,493	1,631	8,892	72	57	1.30	0 6 3	2,114
Federal Capital Territory ..	5,600	37,335	186	1,428	33	5	1.80	0 0 9	37,595
North Australia ..	11,020	3,178	362	2,973	33	114	1.97	0 18 9	1,145

(iii) *Ton-Mileage Summary.* Particulars of ton-mileage are shown hereunder in respect of each of the Federal railways for the year 1933-34 :—

RAILWAYS, FEDERAL.—"TON-MILEAGE" SUMMARY, 1933-34.

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.
			'000 omitted.	£	Tons.	Miles.	d.	
Trans-Australian ..	106,100	21,598	10,401	56,830	(a) 98	482	1.31	9,888
Central Australia ..	156,338	47,100	9,131	73,146	(a) 58	194	1.92	11,836
Federal Capital Territory	1,285	15,930	80	2,609	62	5	7.86	16,132
North Australia ..	25,320	3,688	493	9,460	(a) 19	134	4.60	1,559

(a) Approximate.

12. **Rolling Stock.**—Particulars of locomotives and rolling stock in use on the Federal railways may be found on page 21 of Transport and Communication Bulletin No. 25.

13. **Employees.**—(i) *General.* The following table shows the number of employees on the Federal railways at 30th June in each year from 1930 to 1934 inclusive, classified according to salaried and wages staffs :—

RAILWAYS, FEDERAL.—EMPLOYEES.

Railway.	At 30th June—									
	1930.		1931.		1932.		1933.		1934.	
	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
Trans-Australian	117	733	106	(b) 554	102	(b) 556	99	(b) 718	99	(b) 696
Central Australia	59	383	57	331	55	275	53	(c) 297	53	(c) 311
Federal Capital Territory (a) ..	5	7	4	5	4	5	4	5	4	7
North Australia..	15	93	13	100	14	82	15	88	15	95
Total ..	196	1,216	180	990	175	918	171	1,108	171	1,109

(a) Worked by New South Wales Government Railways until 1st July, 1928. (b) Includes those engaged on construction work, 1931, 4; 1932, 15; 1933, 157; and 1934, 91. (c) Includes 6 on construction work in 1933 and 4 in 1934.

(ii) *Average Employed throughout Year.* The average number of employees throughout the year 1933-34 was 169 salaried staff and 1,100 wages staff (97 of whom were on construction work).

14. **Accidents.**—The following table shows the number of accidents in each of the years 1930 to 1934 :—

RAILWAYS, FEDERAL.—ACCIDENTS.

Railway.	Number of Persons.									
	Killed.					Injured.				
	1930.	1931.	1932.	1933.	1934.	1930.	1931.	1932.	1933.	1934.
Trans-Australian..	..	..	..	..	1	..	2	3	2	4
Central Australia..	1	..	..	..	..	..	2	1	4	8
Federal Capital Territory ..	..	..	..	..	..	..	..	1	..	1
North Australia ..	..	..	..	..	..	..	..	1	..	..
Total ..	1	..	..	..	1	..	4	6	6	13

Further details are available on page 24 of Transport and Communication Bulletin No. 25.

§ 3. State Railways.

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

2. **Mileage Open, 1930 to 1934.**—The following table shows the length of State railways open for traffic on the 30th June in the years 1930 to 1934 :—

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.
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
1932	6,126	4,721	6,558	2,529	4,235	645	24,814
1933	6,164	4,721	6,566	2,529	4,338	645	24,963
1934	6,164	4,721	6,566	2,529	4,360	645	24,985

A graph indicating the mileage open in Australia at the end of each of the years 1870 to 1934 accompanies this chapter.

The appended statement shows the actual mileage opened for traffic in the year 1934, also the annual average increase in mileage opened since 1924 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 1933-34	..	..	..	..	21.72	..	21.72
Average annual mileage increase for 10 years to 30th June, 1934 ..	64.10	28.61	52.67	7.76	73.10	— 2.80	223.44

The only new mileage opened for traffic during 1933-34 was in Western Australia from Pemberton to Northcliffe, a distance of 22.2 miles, whilst minor adjustments decreased the length of existing lines in the same State by 0.48 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, 1934, is given in the Transport and Communication Bulletin No. 25 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 1930 to 1934 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.							
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
1932 ..	6,050	4,720	6,550	2,529	4,214	645	24,708
1933 ..	6,159	4,721	6,565	2,529	4,278	645	24,897
1934 ..	6,164	4,721	6,567	2,529	4,351	645	24,977
TRAIN-MILES RUN.(a)							
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
1932 ..	25,848,580	15,363,776	10,964,819	4,914,265	5,093,179	1,130,122	63,314,741
1933 ..	25,562,220	15,321,398	10,826,016	4,909,588	5,282,989	1,107,800	63,010,011
1934 ..	25,173,199	15,311,461	11,139,229	4,930,271	5,389,931	1,134,129	63,078,220

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

5. **Lines under Construction, and Lines Authorized, 1934.**—(i) *General.* The following statement gives particulars at the 30th June, 1934, 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, 1934.

Particulars.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	All States.
Mileage under construction	(a)	(b)38.00	(c)	..	..	..	38.00
Mileage authorized but not commenced ..	366.24	39.50	1,130.00	26.25	398.23	..	1,960.22

(a) 127 miles on which work has been suspended. (b) Exclusive of 65.75 miles on which work has been suspended. (c) 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.* Apart from that shown under (*b*) below, no railway construction work was in progress in New South Wales at 30th June, 1934. Work has been suspended on the Guyra to Dorrigo (89 miles) and Casino to Bonalbo (38 miles) lines.

(*b*) *Victoria.* In this State 35.50 miles of 5 ft. 3 in. gauge lines have been partially constructed, from Nowingi to Millewa South, work thereon being temporarily suspended. Under the provisions of the *Border Railways Act* 1922 (Vic. 3194) the following lines are under construction in New South Wales territory, viz. :—Euston to Lette (30.25 miles); and Yarrawonga to Oaklands (38 miles). Work has also been suspended on the former line. 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, 1934, no railway construction work was in progress. The following lines are partially constructed, but work thereon is temporarily suspended :—Goondoon to Kalliwa Creek (18 miles); Yaraka to Powell's Creek (27 miles); Dajarra to Moonah Creek (41 miles); Rannes to Monto (63 miles); and Winton to 37-Mile (37 miles); a total of 186 miles.

(*d*) *South Australia.* At 30th June, 1934, no railway construction work was in progress.

(*e*) *Western Australia.* No railway construction work was in progress at 30th June, 1934.

(*f*) *Tasmania.* At 30th June, 1934, no railway construction work was in progress.

(iii) *Lines Authorized for Construction.* (*a*) *New South Wales.* At the 30th June, 1934, the following lines had been authorized for construction but not commenced :—Gilgandra to Collie (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, 1934 :—5 ft. 3 in. gauge; La La Siding to Big Pat's Creek (2.50 miles); Casterton to Nangeela (9 miles); and Orbost to Brodribb (6 miles). Under the *Border Railways Act* 1922, the following line has been authorized for construction in New South Wales Territory :—Mildura to Gol Gol (22 miles).

(*c*) *Queensland.* In addition to the new lines upon which work has been commenced, Parliament has authorized the construction of the following parts of the Great Western Railway—Section A, from Quilpie to Eromanga (120 miles); Section B, from Powell's Creek (224 miles); Section C, from 37-Mile to Springvale (324 miles); and Section D from Moonah Creek (216 miles). The following lines were also authorized for construction :—Texas to Silverspur (9 miles); Mount Edwards to Maryvale (28 miles); Lanefield to Rosevale (17 miles); Gatton to Mount Sylvia (11 miles); Wandoan to Taroom (42 miles); Dirranbandi extension (52 miles); Yarraman to Nanango (16 miles) Brooloo to Kenilworth (10 miles); Dobbyn to Myally Creek (50 miles); and Peeramon towards Boongee (11 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, 1934 :—Yarramony to Merredin (85 miles); Brookton to Dale River (28 miles); Boyup Brook to Cranbrook (95.23 miles); Manjimup to Mount Barker (107 miles); Leighton to Robb's Jetty (4.62 miles); Southern Cross—Southwards (27.38 miles); Yuna to Dartmoor (51 miles); a total distance of 398.23 miles.

(f) *Tasmania.* There were no new railways authorized on which work had not been commenced at 30th June, 1934.

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, 1934, amounted to £311,486,688, representing an average cost of £46.75 per head of population. If the cost of railways owned by the Commonwealth Government is included, the total capital cost (£327,093,814) is equivalent to an amount of £48.99 per head of the population of the Commonwealth, while the total mileage open (27,129.98 miles) per 1,000 of population is 4.06. 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, 1934.

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.
	Miles.	£	£	£	Miles.
New South Wales (a) ..	(b)6,163.83	(d)139,058,321	(d) 22,560	(d) 53.04	(b) 2.35
Victoria	4,720.77	75,225,403	15,935	41.11	2.58
Queensland	(b)6,566.65	(d) 34,389,657	(d) 5,237	(d) 35.90	(b) 6.85
South Australia (a) ..	2,529.26	27,176,158	10,745	46.59	4.34
Western Australia (a) ..	4,359.88	24,704,212	5,666	55.88	9.86
Tasmania	644.89	6,561,937	10,175	28.79	2.83
All States ..	24,985.28	(c)311,486,688	(c) 12,467	(c) 46.75	3.75

(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 par. 4, page 154). (c) Includes Grafton-South Brisbane line, £4,371,000. (d) Exclusive of Grafton-South Brisbane line.

Excluding Queensland, the lowest average cost (£5,666) per mile open is in Western Australia, and the highest (£22,560) in New South Wales, as compared with an average of £12,467 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 Queensland a reduction of £28,000,000 in the capital cost of the railways was effected by "The Railway (Capital Indebtedness) Reduction Act of 1931", it being considered inequitable to burden the Department with interest charges on capital expended on railways for the purpose of developing the State.

The large increases in the capital cost of the New South Wales railways during the last few years are mainly attributable to the electrification of suburban lines and the construction of the underground city railway.

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 1930 to 1934 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.				
	£	£	£	£	£	£	£
1930 ..	124,555,236	74,193,518	58,727,528	27,272,316	22,846,871	6,534,186	314,129,655
1931 ..	130,802,362*a*	74,302,935	59,497,495*a*	27,255,643	23,329,093	6,549,965	*b*326,108,493
1932 ..	137,792,319*a*	74,415,458	*c*33,884,190*a*	27,202,936	23,648,654	6,561,429	*b*307,875,986
1933 ..	138,921,968*a*	74,706,736	*c*34,098,724*a*	27,167,930	24,159,782	6,560,434	*b*309,986,574
1934 ..	139,058,321*a*	75,225,403	*c*34,389,657*a*	27,176,158	24,704,212	6,561,937	*b*311,486,688
			COST PER MILE OPEN.				
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
1932 ..	(*a*) 22,493	15,763	(*a*) 5,167	10,756	5,584	10,173	(*b*) 12,407
1933 ..	(*a*) 20,915	15,833	(*a*) 5,193	10,743	5,569	10,173	(*b*) 12,418
1934 ..	(*a*) 22,560	15,935	(*a*) 5,237	10,745	5,666	10,175	(*b*) 12,467

(*a*) Exclusive of Grafton-South Brisbane line. (*b*) Includes Grafton-South Brisbane line. (*c*) The Capital Account was reduced by £28,000,000, in accordance with "The Railway (Capital Indebtedness) Reduction Act of 1931."

(*b*) *From Consolidated Revenue.* The following table shows the amounts provided from Consolidated Revenue for construction and equipment to 30th June, 1934 :—

RAILWAYS, STATE.—EXPENDITURE FROM CONSOLIDATED REVENUE FOR CONSTRUCTION AND EQUIPMENT TO 30th JUNE, 1934.

To 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
	£	£	£	£	£	£	£
1934 ..	669,390	5,254,582	..	..	640,908	16,935	6,581,815

(iii) *Loan Expenditure.* The subjoined table shows the total net loan expenditure on Government railways in each State for the years 1930 to 1934 :—

RAILWAYS, STATE.—NET LOAN EXPENDITURE.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
	£	£	£	£	£	£	£
1930 ..	5,034,505	947,527	739,548	405,153	849,335	*Cr.* 69,940	7,906,128
1931 ..	2,312,557	455,293	434,350	*Cr.* 55,467	454,159	44,725	3,645,617
1932 ..	1,052,137	..	50,275	*Cr.*127,576	137,025	*Cr.* 15,008	1,096,853
1933 ..	214,885	..	*Cr.* 28.829	*Cr.*101,622	180,495	*Cr.* 6,682	258,247
1934 ..	122,203	1,044	341,917	*Cr.* 79,856	316,081	*Cr.* 644	700,745

The following statement shows the total loan expenditure on railways to the 30th June, 1934 :—

RAILWAYS, STATE.—TOTAL LOAN EXPENDITURE TO 30th JUNE, 1934.

State.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.(c)	All States.
	£	£	£	£	£	£	£
Expenditure	b139,727,811	a74,280,758	61,994,052	31,860,614	24,355,906	6,938,769	339,157,910

(a) Gross expenditure. (b) Includes expenditure on Grafton-South Brisbane Railway. (c) Includes losses funded.

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 1930 to 1934 inclusive were as follow :—

RAILWAYS, STATE.—GROSS REVENUE.

Year ended 30th June—	N.S.W.(a)	Victoria.(b)	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
			TOTAL GROSS REVENUE.				
	£	£	£	£	£	£	£
1930	18,626,692	12,001,806	7,302,281	3,270,945	3,659,203	507,374	45,374,301
1931	16,005,741	10,008,358	6,476,979	2,586,132	3,198,913	400,176	38,676,299
1932	15,801,022	9,454,304	5,994,523	2,746,341	2,922,385	381,283	37,299,858
1933	16,205,320	9,446,121	5,992,394	2,734,083	2,932,140	381,483	37,691,541
1934	15,690,186	9,175,111	6,230,188	2,559,939	2,919,315	390,903	36,965,642
			GROSS REVENUE PER AVERAGE MILE WORKED.				
	£	£	£	£	£	£	£
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
1932	2,612	2,003	915	1,086	693	591	1,510
1933	2,631	2,001	913	1,081	685	592	1,514
1934	2,546	1,943	949	1,012	671	606	1,480
			GROSS REVENUE PER TRAIN-MILE RUN.				
	d.	d.	d.	d.	d.	d.	d.
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
1932	146.71	147.69	131.21	134.12	137.71	80.97	141.39
1933	152.15	147.97	132.84	133.65	133.20	82.65	143.56
1934	149.59	143.82	134.23	124.62	129.99	82.72	140.65

(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 ; 1931–32, £139,429 ; 1932–33, £124,288 ; and 1933–34, £134,424.

The amounts of revenue earned per average mile worked and per train-mile run during 1933–34 in respect of (*a*) passenger 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 from 1930 to 1934, 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.
Coaching Traffic Receipts.							
	£	£	£	£	£	£	£
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
1932 ..	5,606,430	3,946,053	1,762,225	631,104	649,890	132,456	12,728,158
1933 ..	5,693,953	3,968,871	1,768,247	655,799	662,444	126,273	12,875,587
1934 ..	5,555,290	3,904,663	1,872,598	646,784	688,480	128,079	12,795,894
Goods and Live Stock Traffic Receipts.							
1930 ..	9,353,867	5,599,182	4,780,114	2,249,895	2,523,302	311,669	24,818,029
1931 ..	7,841,406	4,817,808	4,191,161	1,787,747	2,289,638	241,458	21,169,218
1932 ..	7,853,315	4,805,738	4,008,966	1,948,293	2,106,129	234,986	20,957,427
1933 ..	8,169,056	4,773,699	4,006,279	1,924,982	2,110,065	240,978	21,225,059
1934 ..	7,802,130	4,572,038	4,146,808	1,762,899	2,059,813	248,261	20,591,949
Miscellaneous Receipts.							
	(*a*)	(*b*)					
1930 ..	1,832,809	974,274	144,369	219,960	207,466	17,906	3,396,784
1931 ..	2,293,659	812,388	264,152	162,895	184,286	14,192	3,731,572
1932 ..	2,341,277	702,513	223,332	166,944	166,366	13,841	3,614,273
1933 ..	2,342,311	703,551	217,868	153,302	159,631	14,232	3,590,895
1934 ..	2,332,766	698,410	210,782	150,256	171,022	14,563	3,577,799

(*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; 1931–32, £139,429; 1932–33, £124,288; 1933–34, £134,424.

(*b*) *Percentages.* The following table shows for the two years 1932–33 and 1933–34 the percentage which each class of receipts bears to the total gross revenue :—

RAILWAYS, STATE.—PERCENTAGES OF RECEIPTS.

State.	1932–33.			1933–34.		
	Coaching.	Goods and Live Stock.	Miscellaneous.	Coaching.	Goods and Live Stock.	Miscellaneous.
	%	%	%	%	%	%
New South Wales ..	35.14	50.41	14.45	35.41	49.72	14.87
Victoria	42.01	50.54	7.45	42.56	49.83	7.61
Queensland ..	29.51	66.85	3.64	30.06	66.56	3.38
South Australia ..	23.98	70.41	5.61	25.27	68.86	5.87
Western Australia ..	22.59	71.96	5.45	23.58	70.56	5.86
Tasmania	33.10	63.17	3.73	32.76	63.51	3.73
All States ..	34.16	56.31	9.53	34.62	55.70	9.68

(c) *Averages for Passenger Earnings.* The subjoined table shows the passenger earnings per average mile of line worked and per passenger-train-mile in each State for the year ended the 30th June, 1934. Further particulars of passenger-mileage will be found in sub-paragraph 14 (i) hereinafter.

RAILWAYS, STATE.—PASSENGER EARNINGS, AVERAGES, 1933-34.

State.	Number of Passenger-Train-Miles.	Passenger Earnings.		
		Gross.	Per Average Mile Worked.	Per Passenger-Train-Mile.
	No.	£	£	d.
New South Wales	16,326,264	4,869,235	790	71.58
Victoria	10,559,394	3,502,513	742	79 61
Queensland (b)	4,808,243	1,375,542	209	68.66
South Australia	3,201,893	516,253	204	38.70
Western Australia	(a) 2,290,493	526,756	121	55.19
Tasmania	(a) 500,270	107,097	166	51.38
All States	37,686,557	10,897,396	436	69.40

(a) Includes " Assistant " and " Light " mileage. (b) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) 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, 1934, 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, 1933-34.

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 ..	8,846,935	b11,066,275	7,802,130	1,266	211.66	169 21
Victoria	4,752,067	5,858,377	4,572,038	968	230.91	187.30
Queensland (c) ..	6,235,714	4,152,384	4,080,906	621	157.07	235.87
South Australia ..	1,728,378	2,141,646	1,762,899	697	244.79	197.56
Western Australia ..	(a)3,231,783	2,652,247	2,050,813	473	152.97	186.39
Tasmania	(a) 637,207	560,611	248,261	385	93.51	106.28
All States ..	25,432,084	26,431,540	20,526,047	822	193.70	186.38

(a) Includes " Assistant " and " Light " mileage. (b) Exclusive of 297,960 tons of coal on which way leave charges only were collected. (c) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) 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 when traffic is heavy ; and this is especially true in Australia, where ton-mile rates are in many cases based on a tapering principle—i.e., a lower rate per ton-mile is charged upon merchandise from remote interior districts—and where on many of the lines there is but little back loading.

The following table shows the total annual expenditure and the percentage thereof on gross revenue in each State for the years 1930 to 1934 :—

RAILWAYS, STATE.—WORKING EXPENSES.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
Total Working Expenses.							
	£	£	£	£	£	£	£
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
1932	12,532,869	6,181,490	4,429,218	2,130,395	2,123,281	386,929	27,784,182
1933	11,966,648	6,366,838	4,323,655	1,978,545	2,111,588	373,762	27,121,036
1934	11,203,520	6,241,505	4,494,314	2,028,772	2,186,506	385,383	26,540,000
Percentage of Working Expenses on Gross Revenue.							
	%	%	%	%	%	%	%
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
1932	79.32	65.38	73.89	77.57	72.65	101.48	74.49
1933	73.84	67.40	72.15	72.37	72.02	97.97	71.96
1934	71.40	68.03	72.14	79.25	74.90	98.59	71.80

The variation in the percentage of working expenses on the gross revenue in each State for the years 1865 to 1934 is illustrated in the graph which accompanies this chapter.

(ii) *Averages.* The next table shows the working expenses per average mile worked and per train-mile run in each State for the years 1930 to 1934 :—

RAILWAYS, STATE.—WORKING EXPENSES, AVERAGES.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
Working Expenses per Average Mile Worked.							
	£	£	£	£	£	£	£
1930	2,511	1,978	922	1,408	758	811	1,533
1931	2,145	1,592	780	1,079	633	675	1,273
1932	2,071	1,310	676	842	504	600	1,124
1933	1,943	1,349	659	782	494	580	1,089
1934	1,818	1,322	684	802	503	598	1,063
Working Expenses per Train-Mile Run.							
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
1930	134.42	126.47	120.34	154.48	130.39	85.41	130.18
1931	120.80	112.83	111.93	131.48	115.98	86.10	117.07
1932	116.36	96.56	96.95	104.04	100.05	82.17	105.32
1933	112.35	99.73	95.85	96.72	95.93	80.97	103.30
1934	106.81	97.83	96.83	98.76	97.36	81.55	100.98

(iii) *Distribution.* The subjoined table shows the distribution of working expenses under four chief heads of expenditure for the years 1930 to 1934 :—

RAILWAYS, STATE.—DISTRIBUTION OF WORKING EXPENSES.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
			MAINTENANCE.				
	£	£	£	£	£	£	£
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
1932	2,346,791	1,110,987	1,221,829	335,280	470,544	102,116	5,587,547
1933	2,460,825	1,464,041	1,156,044	327,887	493,968	94,756	5,997,521
1934	2,654,375	1,564,771	1,161,699	367,776	552,907	96,441	6,397,969
			LOCOMOTIVE, CARRIAGE, AND WAGON CHARGES.				
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
1932	5,280,630	2,260,152	1,780,463	1,102,292	978,698	168,194	11,570,429
1933	4,991,900	2,231,648	1,764,765	955,698	960,993	167,605	11,072,609
1934	4,193,295	2,156,706	1,851,705	951,529	956,702	176,451	10,286,388
			TRAFFIC EXPENSES.				
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
1932	3,059,815	1,690,542	1,177,336	457,706	572,101	92,275	7,049,775
1933	2,771,583	1,628,237	1,136,739	450,886	562,000	87,154	6,636,599
1934	2,612,947	1,647,482	1,210,915	457,182	577,981	90,230	6,596,737
			OTHER CHARGES.				
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
1932	1,845,633	1,119,809	249,590	235,117	101,938	24,344	3,576,431
1933	1,742,340	1,042,912	266,107	244,074	94,627	24,247	3,414,307
1934	1,742,903	872,546	269,995	252,285	98,916	22,261	3,258,906

9. **Salaries and Wages.**—The following table shows the total amount paid in salaries and wages in each State during the years 1930 to 1934 :—

RAILWAYS, STATE.—SALARIES AND WAGES PAID.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	All States.
			TOTAL SALARIES AND WAGES PAID.				
	£	£	£	£	£	£	£
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
1932	9,637,122	4,435,648	3,341,129	1,382,707	1,620,084	260,943	20,677,633
1933	8,462,906	4,417,160	3,244,342	1,376,676	1,675,594	249,856	19,426,534
1934	8,154,378	4,603,125	3,396,671	1,418,788	1,902,457	259,288	19,734,707

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 1930 to 1934 :—

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.							
	£	£	£	£	£	£	£
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
1932	3,268,153	3,272,814	1,565,305	615,946	799,104	− 5,646	9,515,676
1933	4,238,672	3,079,283	1,668,739	755,538	820,552	7,721	10,570,505
1934	4,486,666	2,933,606	1,735,874	531,167	732,809	5,520	10,425,642
Percentage of Net Revenue on Capital Expenditure.							
	%	%	%	%	%	%	%
1930	2.94	3.63	2.31	− 1.09	2.39	−0.43	2.53
1931	(*a*) 2.40	3.38	(*a*) 2.38	− 0.54	2.52	−0.74	(*b*) 2.27
1932	(*a*) 2.37	4.40	(*a*) 4.62	2.26	3.37	−0.09	(*b*) 3.09
1933	(*a*) 3.05	4.12	(*a*) 4.81	2.78	3.40	0.12	(*b*) 3.41
1934	(*a*) 3.23	3.90	(*a*) 4.99	1.95	2.97	0.84	(*b*) 3.35

(*a*) Exclusive of Grafton-South Brisbane line. (*b*) 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.							
	£	£	£	£	£	£	£
1930	615	571	211	−117	132	−42	325
1931	517	532	215	− 59	143	−73	302
1932	540	693	239	243	190	− 9	385
1933	688	652	254	299	192	12	425
1934	728	621	265	209	168	8	417
Net Revenue per Train-Mile Run.							
	d.	*d.*	*d.*	*d.*	*d.*	*d.*	*d.*
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
1932	30.34	51.12	34.26	30.08	37.65	− 1.20	36.07
1933	39.79	48.24	36.99	36.93	37.28	1.67	40.26
1934	42.78	45.99	37.40	25.86	32.63	1.17	39.67

11. **Interest.**—The amount of interest payable on expenditure from loans on the construction and equipment of the railways in each State, during the five years ended 30th June, 1934, was 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.
	AMOUNT OF INTEREST PAYABLE.						
	£	£	£	£	£	£	£
1930	6,420,643	3,508,657	2,953,211	1,399,053	950,797	284,379	15,516,740
1931	a6,790,082	3,596,758	a3,018,355	1,426,741	968,066	285,881	a16,205,274
1932	a6,519,217	3,641,109	a1,589,643	1,217,338	989,173	263,900	a14,328,560
1933	a6,352,581	3,221,710	a1,595,522	1,137,103	996,233	263,861	a13,673,133
1934	a5,971,412	3,181,736	a1,565,455	1,088,627	1,008,453	246,762	a13,165,596

(a) Including interest charges on the Grafton-South Brisbane line, which for the year 1933–34 amounted to £207,587 and was contributed by New South Wales, £71,967; Queensland, £32,469; and the Commonwealth, £103,151. *See* B § 1, 4 ante.

The interest payable on the cost of construction and equipment, exclusive of expenditure from consolidated revenue (£6,581,815) for that purpose, was at the rate of 4.32 per cent. in 1933–34. The reduction of £28,000,000 in the Queensland Capital Account referred to on page 172 is reflected in the decrease in the annual interest payable by that State.

Exchange on interest payments abroad is not included in the above table. This item is not charged against the Railways in Queensland, Western Australia and Tasmania and the figures for these States are not available. In the remaining States the amounts apportioned since 1930–31 were as follows :—

RAILWAYS, STATE.—EXCHANGE ON OVERSEA INTEREST PAYMENTS.

Year ended 30th June—	New South Wales.	Victoria.	South Australia.
	£	£	£
1931	737,633	183,863	..
1932	1,313,541	440,938	176,913
1933	1,143,476	402,705	180,826
1934	1,012,165	354,335	157,001

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.
	PROFIT OR LOSS AFTER PAYMENT OF WORKING EXPENSES, INTEREST, AND OTHER CHARGES.						
	£	£	£	£	£	£	£
1930	−2,756,374	− 818,399	−1,597,093	− 1,695,229	− 404,489	− 312,419	−7,584,003
1931	a−3,683,987	−1,088,334	−1,616,854a	− 1,575,228	− 379,992	− 334,543	a−8,798,329
1932	a−3,251,064	− 368,295	− 24,338a	− 601,392	− 190,069	− 269,546	a−4,812,884
1933	a−2,113,909	− 142,427	+ 73,217a	− 381,655	− 175,681	− 256,140	a−3,102,628
1934	a−1,484,746	− 248,130	+ 170,419a	− 557,460	− 275,644	− 241,242	a−2,739,954
	PERCENTAGE OF PROFIT OR LOSS ON CAPITAL COST OF CONSTRUCTION AND EQUIPMENT.(b)						
	%	%	%	%	%	%	%
1930	−2.21	−1.10	−2.72	−6.22	−1.77	−4.78	−2.41
1931	−2.73	−1.46	−2.64	−5.78	−1.63	−5.11	−2.70
1932	−2.36	−0.49	−0.07	−2.21	−0.80	−4.11	−1.56
1933	−1.52	−0.19	+0.21	−1.40	−0.73	−3.90	−1.00
1934	−1.07	−0.33	+0.53	−2.05	−1.12	−3.68	−0.88

(a) See Note (a) paragraph 11 above. (b) The cost of the Grafton-South Brisbane line is excluded from New South Wales and Queensland but is included with "all States."

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.

The following table gives particulars for the years 1930 to 1934 :—

RAILWAYS, STATE.—TRAFFIC.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	All States.
Number of Passenger Journeys.							
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
1932 ..	128,359,419	125,990,585	20,761,976	15,608,245	10,394,311	1,680,897	302,795,433
1933 ..	132,867,221	130,190,013	22,216,409	16,074,221	11,732,291	1,678,483	314,758,638
1934 ..	142,520,429	131,367,215	22,877,900	16,325,004	12,103,104	1,789,329	326,982,981
Per 100 of Mean Population.							
1930 ..	5,872	8,833	2,704	3,114	3,329	1,023	5,666
1931 ..	4,983	7,511	2,397	2,688	2,715	831	4,819
1932 ..	4,999	6,984	2,231	2,705	2,397	744	4,630
1933 ..	5,128	7,173	2,361	2,774	2,685	736	4,775
1934 ..	5,454	7,198	2,407	2,803	2,748	781	4,924
Per Average Mile of Line Worked.							
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
1932 ..	21,216	26,693	3,170	6,172	2,467	2,606	12,255
1933 ..	21,574	27,577	3,384	6,355	2,742	2,603	12,643
1934 ..	23,122	27,826	3,484	6,454	2,782	2,775	13,092
Tonnage of Goods and Live Stock Carried.							
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	26,482,572
1932 ..	10,211,322	6,186,081	3,860,668	2,419,094	2,847,568	449,039	25,973,772
1933 ..	11,147,866	6,244,346	3,685,608	2,387,817	2,840,077	510,585	26,816,299
1934 ..	11,364,235	5,858,377	4,214,382	2,141,646	2,652,247	560,611	26,791,498
Per 100 of Mean Population.							
1930 ..	482	422	501	463	829	288	483
1931 ..	422	340	420	377	732	209	408
1932 ..	398	343	415	419	657	199	397
1933 ..	430	344	392	412	650	224	407
1934 ..	435	321	443	368	602	245	403

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.							
1930 ..	2,039	1,596	702	1,045	859	958	1,270
1931 ..	1,787	1,295	593	853	765	701	1,079
1932 ..	1,688	1,311	589	956	676	696	1,051
1933 ..	1,810	1,323	561	914	664	792	1,077
1934 ..	1,844	1,241	642	847	610	869	1,073

(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 1933-34:—

RAILWAYS, STATE.—METROPOLITAN AND SUBURBAN, AND COUNTRY PASSENGER TRAFFIC AND RECEIPTS, 1933-34.

State.	Passenger Journeys.			Revenue.		
	Metropolitan and Suburban.	Country.	Total.	Metropolitan and Suburban.	Country.	Total.
	No.	No.	No.	£	£	£
N.S.W. ..	*a*133,805,451	8,714,978	142,520,429	2,332,897	2,536,338	4,869,235
Victoria ..	*b*126,294,486	5,072,729	131,367,215	2,190,310	1,312,203	3,502,513
Queensland ..	18,071,192	4,806,708	22,877,900	254,720	1,155,007	1,409,727
S. Australia	*c* 15,228,736	1,096,268	16,325,004	214,634	301,619	516,253
W. Australia	10,671,439	1,431,665	12,103,104	134,408	392,348	526,756
Tasmania ..	(*d*)	(*d*)	1,789,329	(*d*)	(*d*)	107,097
Total ..	(*e*)	(*e*)	326,982,981	(*e*)	(*e*)	10,931,581

(*a*) Within 34 miles of Sydney and Newcastle, including the Richmond line. (*b*) Within 20 miles of Melbourne. (*c*) Within 25 miles of Adelaide. (*d*) Not available. (*e*) Incomplete.

(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 1933–34 :—

RAILWAYS, STATE.—CLASSIFICATION OF COMMODITIES CARRIED, 1933–34.

State.	Coal, Coke, and Shale.	Other Minerals.	Grain and Flour.	Hay, Straw and Chaff.	Wool.	Live Stock.	All other Commodities.	Total.
				TONS CARRIED.				
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
New South Wales	5,286,596	1,041,780	1,730,792	192,674	174,795	721,096	2,216,502	11,364,235
Victoria ..	217,448	271,596	1,116,653	197,125	67,931	586,187	3,401,437	5,858,377
Queensland ..	543,220	388,855	1,859,009a	(b)	80,352	317,670	1,025,276	4,214,382
South Australia	117,133	488,459	586,323	20,330	29,780	119,066	780,555	2,141,646
Western Australia	225,345	267,065	911,017	45,327	19,470	93,187	1,090,836	2,652,247
Tasmania ..	240,541	(c)	64,051	24,212	4,263	20,764	206,780	560,611
All States ..	6,630,283	2,457,755	6,267,845	479,668	376,591	1,857,970	8,721,386	26,791,498
				PERCENTAGE OF TOTAL TONNAGE CARRIED.				
	%	%	%	%	%	%	%	%
New South Wales	46.52	9.17	15.23	1.70	1.54	6.34	19.50	100.00
Victoria ..	3.71	4.64	19.06	3.36	1.16	10.01	58.06	100.00
Queensland ..	12.89	9.22	a44.11	(b)	1.91	7.54	24.33	100.00
South Australia	5.47	22.81	27.38	0.95	1.39	5.56	36.44	100.00
Western Australia	8.50	10.07	34.35	1.71	0.73	3.51	41.13	100.00
Tasmania ..	42.91	(c)	11.43	4.32	0.76	3.70	36.88	100.00
All States ..	24.75	9.17	23.39	1.79	1.41	6.94	32.55	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 1933–34 according to a classification which has been adopted by all States :—

RAILWAYS, STATE.—GOODS, ETC., TRAFFIC—REVENUE, 1933–34.

Class.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Total.
	£	£	£	£	£	£	£
General merchandise	4,752,969	2,984,775	2,738,846	914,146	1,178,755	177,531	12,747,022
Wheat	(a)	569,515	(a)	278,212	507,283	(a)	d1,355,010
Wool	641,140	195,134	432,383	67,355	60,541	5,320	1,401,873
Live stock ..	1,017,777	675,450	512,775	163,942	122,031	17,664	2,509,639
Minerals—							
Coal, coke, and shale ..	1,114,447	66,913	224,966	27,032	123,933	(b) 27,373	1,584,664
Others ..	275,797	80,251	237,838	312,212	67,270	(c) 20,373	993,741
Total ..	7,802,130	4,572,038	4,146,808	1,762,899	2,059,813	248,261	20,591,949

(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 all States for the years 1929–30 to 1933–34.

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.
NEW SOUTH WALES.									
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
1932	17,148	128,359	1,366,764	4,943,790	80	10.64	0.86	9.24	220,768
1933	16,382	132,867	1,422,105	5,025,484	87	10.70	0.85	9.08	230,911
1934	16,326	142,520	1,543,531	4,869,235	95	10.83	0.76	8.20	250,418
VICTORIA.									
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
1932	10,534	125,991	1,053,215	3,514,104	100	8.35	0.80	6.69	223,138
1933	10,541	130,190	1,087,543	3,561,588	103	8.35	0.79	6.57	230,363
1934	10,559	131,367	1,079,981	3,502,513	102	8.22	0.78	6.40	228,761
QUEENSLAND.									
1930	4,313	24,441	(a)	1,838,812	(a)	(a)	(a)	18.06	(a)
1931*b*	4,411	21,955	(a)	1,510,412	(a)	(a)	(a)	16.51	(a)
1932*b*	4,625	20,695	(a)	1,290,225	(a)	(a)	(a)	14.96	(a)
1933*b*	4,658	22,147	(a)	1,301,405	(a)	(a)	(a)	14.10	(a)
1934*b*	4,808	22,806	(a)	1,375,542	(a)	(a)	(a)	14.48	(a)
SOUTH AUSTRALIA.									
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
1932	3,140	15,608	166,407	493,933	53	10.66	0.71	7.59	65,792
1933	3,152	16,074	172,106	519,277	55	10.71	0.72	7.75	68,046
1934	3,202	16,325	175,559	516,253	55	10.75	0.71	7.59	69,411
WESTERN AUSTRALIA.									
1930	2,206	14,175	(a)	720,137	(a)	(a)	(a)	12.19	(a)
1931*c*	2,062	11,703	(a)	551,347	(a)	(a)	(a)	11.31	(a)
1932*c*	1,938	10,394	(a)	489,436	(a)	(a)	(a)	11.30	(a)
1933*c*	2,181	11,732	(a)	503,177	(a)	(a)	(a)	10.29	(a)
1934*c*	2,290	12,103	(a)	526,756	(a)	(a)	(a)	10.45	(a)
TASMANIA.									
1930	670	2,243	35,257	147,487	53	15.71	1.00	15.77	53,428
1931	(c) 590	1,852	28,646	117,339	49	15.46	0.98	15.20	43,083
1932	(c) 506	1,681	27,158	107,587	54	16.16	0.95	15.36	42,111
1933	(c) 498	1,678	26,795	104,978	54	15.09	0.94	15.01	41,549
1934	(c) 500	1,789	27,960	107,097	56	15.62	0.92	14.36	43,356

(*a*) Not available. (*b*) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) line. (*c*) Includes "Assistant" and "Light" Mileage.

(ii) *Ton-Miles.* Particulars regarding total "ton-miles" are given in the following table for each of the years 1929-30 to 1933-34 :—

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

Year ended 30th June—	Goods-Train-Mileage.	Total Tons Carried.	Total "Ton-miles."	Earnings.	Average Freight-paying Load Carried per "Train."	Average Haul per Ton.	Earnings per "Ton-mile."	Density of Traffic per Average Mile Worked.
	No. (,000 omitted.)	No. (,000 omitted.)	No. (,000 omitted.)	£	Tons.	Miles.	*d.*	Tons.
NEW SOUTH WALES.								
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
1932	8,700	10,054	1,407,451	7,853,315	186	139.99	1.33	233,030
1933	9,180	10,889	1,550,327	8,169,056	193	142.38	1.25	252,129
1934	8,847	11,066	1,410,854	7,802,130	187	127.49	1.31	228,892
VICTORIA.								
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
1932	4,830	6,186	769,228	4,805,738	181	124.34	1.49	162,972
1933	4,781	6,244	734,970	4,773,699	178	117.70	1.55	155,681
1934	4,752	5,858	693,741	4,572,038	146	118.42	1.58	146,948
QUEENSLAND.								
1930	7,546	4,528	554,171	4,780,114	*c* 73	125.20	2.06	88,628
1931*b*	6,406	3,838	495,912	4,148,845	*c* 77	133.20	2.00	79,149
1932*b*	6,257	3,835	516,699	3,968,227	*c* 83	139.02	1.83	82,084
1933*b*	6,073	3,620	517,502	3,944,275	*c* 85	147.72	1.82	82,101
1934*b*	6,236	4,152	541,238	4,080,906	*c* 87	130.34	1.81	82,422
SOUTH AUSTRALIA.								
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
1932	1,774	2,419	287,619	1,948,293	170	118.37	1.63	113,731
1933	1,758	2,388	283,565	1,924,982	161	118.76	1.63	112,114
1934	1,728	2,142	265,682	1,762,899	154	124.06	1.59	105,044
WESTERN AUSTRALIA.								
1930 *a*	3,654	3,530	361,935	2,523,302	115	102.53	1.67	88,083
1931 *a*	3,487	3,154	373,405	2,289,638	121	118.41	1.47	90,566
1932 *a*	3,266	2,848	347,492	2,106,129	119	122.03	1.45	82,461
1933 *a*	3,230	2,840	339,007	2,110,065	105	119.37	1.49	79,237
1934 *a*	3,232	2,652	317,870	2,059,813	98	119.85	1.56	73,055
TASMANIA.								
1930 *a*	857	607	33,715	288,373	*c* 39	55.58	2.05	51,091
1931 *a*	667	444	27,253	220,545	*c* 41	61.39	1.94	40,988
1932 *a*	627	427	26,690	215,180	*c* 43	62.45	1.93	41,386
1933 *a*	613	490	27,246	223,262	*c* 44	55.63	1.98	42,248
1934 *a*	637	540	27,623	230,597	*c* 43	51.17	1.98	42,833

(*a*) Includes "Assistant" and "Light" mileage. (*b*) Exclusive of Queensland portion of Grafton-South Brisbane (uniform gauge) line. (*c*) Approximate.

In New South Wales the tonnage carried is exclusive of some coal on which way leave charges only have been collected, the quantities being 289,667 tons (1930), 127,209 tons (1931), 157,110 tons (1932), 258,893 tons (1933) and 297,960 tons (1934). Particulars for Tasmania 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.**—Particulars of locomotives and rolling stock in use on State railways may be found in the Transport and Communication Bulletin No. 25.

17. **Employees.**—(i) *At 30th June.* The following table gives the number of railway employees in each year from 1930 to 1934 inclusive, classified according to (*a*) salaried staff, and (*b*) wages staff :—

RAILWAYS, STATE.—EMPLOYEES.(*a*)

State.	At 30th June—									
	1930.		1931.		1932.		1933.		1934.	
	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.	Salaried Staff.	Wages Staff.
New South Wales	5,754	34,243	5,947	34,517	5,948	34,091	5,724	32,982	5,734	33,965
Victoria ..	4,249	20,361	4,051	17,985	3,720	17,456	3,621	18,159	3,533	17,450
Queensland ..	3,219	14,542	3,030	12,970	2,946	12,461	2,917	12,554	2,948	13,854
South Australia ..	1,293	6,794	1,158	5,586	1,137	5,736	1,148	5,784	1,173	5,563
Western Australia	1,424	7,587	1,287	5,900	1,204	5,671	1,178	6,135	1,205	7,154
Tasmania ..	217	1,352	191	1,234	174	1,137	166	1,133	179	1,156
All States ..	16,156	84,879	15,664	78,192	15,129	76,552	14,754	76,747	14,772	79,145

(*a*) Exclusive of construction staff.

In the period under review the totals of salaried and wages staffs decreased from 101,035 in 1930 to 93,917 in 1934, a decline of 7.0 per cent.

(ii) *Average staff employed,* 1933-34. 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, 1933-34.

State.	Operating Staff.		Construction Staff.		All Employees—Staff.	
	Salaried.	Wages.	Salaried.	Wages.	Salaried.	Wages.
New South Wales ..	5,706	32,468	8	43	5,714	32,511
Victoria	3,740	18,219	..	..	3,740	18,219
Queensland ..	2,936	12,809	10	283	2,946	13,092
South Australia ..	1,158	5,738	..	..	1,158	5,738
Western Australia ...	1,185	6,869	12	249	1,197	7,118
Tasmania	179	1,156	..	..	179	1,156
All States ..	14,904	77,259	30	575	14,934	77,834

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

18. **Accidents.**—The following 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 1930 to 1934 inclusive :—

RAILWAYS, STATE.—ACCIDENTS.

State.	In year ended 30th June—									
	1930.		1931.		1932.		1933.		1934.	
	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.	Killed.	Injured.
New South Wales	64	571	44	409	73	308	69	329	53	389
Victoria ..	57	197	57	150	56	227	52	177	49	164
Queensland ..	26	133	15	138	13	124	26	100	21	161
South Australia ..	9	196	13	98	7	104	13	127	11	127
Western Australia	18	330	13	195	23	266	15	236	21	327
Tasmania ..	6	84	2	42	4	16	1	10	1	20
All States ..	180	1,511	144	1,032	176	1,045	176	979	156	1,188

Further details relating to the number of passengers, employees and other persons affected by railway accidents are published on page 24 of Transport and Communication Bulletin No. 25.

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 1933–34 :—

GOVERNMENT RAILWAYS.—CONSUMPTION AND VALUE OF OIL AND FUEL, 1933–34.

Government Railways.	Oil.						Coal.		
	Lubricating.			Fuel and Light.					
	Gallons.	Value.	Average Cost per Gallon.	Gallons.	Value.	Average Cost per Gallon.	Tons.	Value.	Average Cost per Ton.
		£	s. d.		£	s. d.		£	£ s. d.
New South Wales	331,402	31,148	1 10.56	1,095,647	34,793	0 7.62	1,235,421	775,405	0 12 6.63
Victoria ..	166,346	14,650	1 9.13	1,654,578	55,500	0 8.05	499,676	392,327	0 15 8.43
Queensland ..	155,413	16,177	2 0.99	177,892	9,205	1 0.42	349,816	299,302	0 17 1.34
South Australia	87,673	9,797	2 2.82	944,315	40,948	0 10.41	142,861	174,724	1 4 5.53
Western Australia	61,580	6,663	2 1.97	305,326	10,584	0 8.32	284,278	195,481	0 13 9.03
Tasmania ..	29,736	3,018	2 0.35	81,400	4,489	1 1.23	42,939	44,542	1 0 8.96
Total States ..	832,150	81,453	1 11.49	4,259,158	155,519	0 8.76	2,554,991	1,881,781	0 14 8.76
Federal ..	15,859	1,719	2 2.02	56,094	4,743	1 8.29	19,042	27,935	1 9 4.08
Total, Australia ..	848,009	83,172	1 11.54	4,315,252	160,262	0 8.91	2,574,033	1,909,716	0 14 10.06

The range in the average cost per ton of coal from 12s. 6d. in New South Wales to £1 9s. 4d. 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 1933–34 showed a decrease of 1s. 4.22d. on that for 1932–33.

§ 4. Private Railways.

1. **Total Mileage Open, 1933–34.**—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 1933–34 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 1933–34 :—

RAILWAYS, PRIVATE.—SUMMARY, 1933–34.

State.	Companies from which returns were received.	Miles Open (Route).	Capital Cost.	Gross Revenue.	Working Expenses.	Train-Miles.	Passenger Journeys.	Tonnage of Goods, etc.	No. of Employees.	Rolling Stock.		
										Locos.	Coaches.	Other Vehicles.
	No.	Miles.	£	£	£	Miles.	No.	Tons.	No.	No.	No.	No.
New South Wales ..	7	82.70	1,282,309	286,556	173,332	469,302	1,085,160	613,903	390	45	2	723
Victoria ..	2	24.94	94,159	11,623	8,487	19,176	11,302	30,906	20	5	4	36
Queensland	13	269.90	556,421	40,586	31,641	102,781	13,486	182,535	82	22	14	469
South Australia ..	1	50.51	(a)	(a)	(a)	38,536	240	903,958	21	7	1	204
Western Australia	1	277.00	2,239,613	158,208	72,851	243,316	26,885	117,130	230	23	23	509
Tasmania	4	141.56	896,440	64,534	56,722	116,639	38,299	63,010	164	21	17	302
All States (b)	28	846.61	5,068,942	561,507	343,033	989,750	1,175,372	1,911,442	907	123	61	2,243

(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 in a number of the larger towns.

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

(ii) *Total Mileage Open and Classification of Lines.* The following tables show the total mileage of tramway lines open for general passenger traffic for the year 1933–34, classified (*a*) according to the motive power used, and (*b*) according to gauge, also for Australia according to motive power for the years 1929–30 to 1933–34 :—

TRAMWAYS.—ROUTE MILEAGE OPEN, 1933–34.

Nature of Motive Power and Gauge.	N.S. Wales.	Victoria.	Q'land.	South Australia.	Western Australia.	Tasmania.	Total Australia.
According to Motive Power.							
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Electric	185.43	154.48	56.86	82.83	65.56	28.43	573.59
Steam	9.06	..	6.65	..	6.10	..	21.81
Cable	..	24.29	..	..	..	..	24.29
Horse	..	..	..	..	2.51	..	2.51
Total ..	194.49	178.77	63.51	82.83	74.17	28.43	622.20
According to Gauge.							
Gauge—							
5 ft. 3 in. ..	..	5.18	..	..	..	..	5.18
4 ft. 8½ in. ..	194.49	173.59	56.86	82.83	..	..	507.77
3 ft. 6 in. ..	..	..	6.65	..	74.17	28.43	109.25
Total ..	194.49	178.77	63.51	82.83	74.17	28.43	622.20

Of the total mileage of tramway lines, 423.76 are Government owned, 183.38 are municipal and 15.06 are private. Further details on this subject may be obtained from page 27 of Transport and Communication Bulletin No. 25.

TRAMWAYS.—ROUTE MILEAGE OPEN, AUSTRALIA.

Nature of Motive Power.	1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
According to Motive Power.					
	Miles.	Miles.	Miles.	Miles.	Miles.
Electric	571.85	574.52	574.59	571.87	573.59
Steam	41.62	29.37	21.97	21.97	21.81
Cable	26.44	24.29	24.29	24.29	24.29
Horse	1.50	1.50	1.50	1.50	2.51
Total	641.41	629.68	622.35	619.63	622.20

(iii) *Cost of Construction and Equipment.* The table hereunder shows the total cost of construction and equipment of all tramways to the 30th June, 1934, classified according to the nature of the motive power. Further details relating to controlling authorities are available on page 27 of Transport and Communication Bulletin No. 25.

TRAMWAYS.—COST OF CONSTRUCTION AND EQUIPMENT, 1933-34.

Nature of Motive Power.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
ACCORDING TO MOTIVE POWER.							
	£	£	£	£	£	£	£
Electric	8,233,955[a]	7,277,464	2,062,234	4,072,007	1,746,161	634,192	24,026,013
Steam ..	177,023	..	53,235	..	62,510	..	292,768
Cable ..	..	1,284,835	..	..	..	..	1,284,835
Horse ..	..	..	..	..	10,104	..	10,104
Total ..	8,410,978	8,562,299	2,115,469	4,072,007	1,818,775	634,192	25,613,720

(a) Exclusive of Stores Advance and Power Houses Accounts transferred to Railways Department.

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 Department of Road Transport and Tramways. In Sydney and suburbs the Government tramways are divided into six distinct systems, five of which are operated by electricity, and one, the Kogarah to Sans Souci line, by steam. The conversion of the Newcastle system from steam to electric traction was completed in 1930. The gauge of all lines is 4 ft. 8½ in.

(ii) *Particulars of Working.—Electric and Steam Tramways.* The following table gives a summary of the operations of all tramways for the years 1930 to 1934 :—

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

Year ended 30th June—	Mileage Open for Traffic (Route).	Total Cost of Construction and Equipment.	Gross Revenue.	Working Expenses.	Net Earnings.	Interest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. ,000.	No.
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	a8,090,699	3,059,897	3,124,366	−64,469	475,571	102.11	−0.80	266,393	8,191
1932 ..	197.57	a8,155,204	3,306,557	3,049,267	257,290	546,626	92.22	3.15	286,504	8,417
1933 ..	197.47	a8,204,065	3,268,200	2,781,968	486,232	484,057	85.12	5.93	295,783	8,033
1934 ..	194.49	a8,410,978	3,028,716	2,375,152	653,564	455,986	78.42	7.77	296,639	7,922

(a) 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.

3. **Victoria.**—(i) *General.* In Melbourne, electric and cable tramway systems with route mileages of 114.64 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 Black Rock 2.43 miles, belong to and are operated by the Railways Commissioners. The line from Black Rock to Beaumaris was closed for traffic in August, 1931. The State Electricity Commission operates 10.98 miles of electric tramways at Geelong, acquired from the Melbourne Electric Supply Company on the 1st September, 1930, and 21.25 miles of similar traction at Ballarat and Bendigo, taken over from the Electric Supply Company of Victoria on 1st July, 1934.

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.—Electric and Cable Tramways.* The following table gives particulars for all tramways in Victoria during each of the years 1930 to 1934 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.	Interest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. ,000.	No.
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 ..	180.85	8,690,155	2,191,009	1,524,033	666,976	347,546	69.56	7.68	188,452	4,785
1932 ..	178.67	8,644,770	2,049,698	1,327,161	722,537	326,250	64.75	8.36	175,433	4,740
1933 ..	178.67	8,600,453	2,058,241	1,285,984	772,257	325,412	62.48	8.98	176,917	4,732
1934 ..	178.77	8,562,299	2,088,716	1,306,301	782,415	300,015	62.54	9.14	179,779	4,870

4. **Queensland.**—(i) *General.* The electric tramways in the city and suburbs of Brisbane were controlled by a private company, with head office in London, until the 31st December, 1922, on which date they were purchased by the Queensland Government which, under the provisions of the *Brisbane Tramway Trust Act* 1922, appointed a Trust to control and operate the system until 1st December, 1925, when 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 56.86 route miles at 30th June, 1934, the gauge of the line being 4 ft. 8½ in.

In addition to the electric tramways, 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.

(ii) *Particulars of Working.—Electric and Steam Tramways.* The following table gives particulars of the working of all tramways in Queensland for each year from 1930 to 1934 :—

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.	Interest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. ,000.	No.
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
1932 ..	63.51	2,195,545	688,883	481,186	207,697	106,689	69.85	9.46	69,478	1,431
1933 (*a*)	63.51	2,162,631	694,611	479,426	215,185	106,651	69.02	9.95	69,646	1,359
1934 (*a*)	63.51	2,115,469	700,723	501,846	198,877	106,611	71.62	9.40	71,185	1,485

(*a*) Year ended 30th June.

5. **South Australia.**—(i) *General.* The tramways in Adelaide and suburbs are controlled by a Municipal Tramways Trust created in 1907. Prior to that year, the system was run with horse-traction by several private companies. Electric traction was inaugurated in 1909, and at the 31st July, 1934, the Tramways Trust operated a total route mileage of 82.83 miles of 4 ft. 8½ in. gauge.

(ii) *Particulars of Working.—Electric Tramways.* The following table gives particulars of the working of electric tramways in Adelaide for each year from 1930 to 1934 :—

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.	Interest.	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. ,000.	No.
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
1932..	82.84	*a*4,043,913	*a* 659,575	*a* 383,400	*a* 276,175	*a* 264,597	*a*58.13	*a* 6.83	*a* 48,467	*a* 1,777
1933..	82.83	*a*4,068,156	*a* 643,274	*a* 392,526	*a* 250,748	*a* 253,930	*a*61.02	*a* 6.16	*a* 48,154	*a* 1,719
1934..	82.83	*a*4,072,007	*a* 627,897	*a* 388,136	*a* 239,761	*a* 248,760	*a*61.82	*a* 5.89	*a* 47,021	*a* 1,708

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

There are also various Government horse-tramways in country districts, worked in connexion with the railway system, which are used mainly for passenger service though some are for special purposes.

6. **Western Australia.**—(i) *General.* 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, 1934, was 45.39 route miles. Electric tramways with a route mileage at 31st August, 1934, 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 1934, the length of line was 11.56 route miles. All the electric tramways of the State are of 3 ft. 6 in. gauge.

In addition to the electric tramways, there are several Government tramways, with a total length of 8.61 miles of 3 ft. 6 in. gauge. The line are under control of the Department of Works and Labour, and the total mileage of 8.61 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.

(ii) *Particulars of Working.—All Tramways.* The following table gives a summary for all tramways in the State for the years 1930 to 1934 :—

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.	Interest. (a)	Percentage of Working Expenses on Gross Revenue.	Percentage of Net Earnings on Capital Cost.	Passengers carried.	Persons employed.
	Miles.	£	£	£	£	£	%	%	No. ,000.	No.
1930 ..	69.02	1,783,798	429,067	365,087	63,980	55,857	85.09	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
1932 ..	69.03	1,793,651	359,080	288,098	70,982	55,480	80.23	3.96	36,133	761
1933 ..	68.84	1,802,831	354,321	290,448	63,873	55,426	81.97	3.54	36,329	741
1934 ..	74.17	1,818,775	354,552	297,367	57,185	56,347	83.87	3.14	36,595	773

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

7. **Tasmania.**—(i) *General.* In Hobart there is a system of electric tramways consisting of 16.70 route miles of 3 ft. 6 in. gauge controlled by the Hobart Municipal Council. The Launceston City Council operates a length of 11.73 miles of 3 ft. 6 in. gauge in that City.

There are also 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.

(ii) *Particulars of Working.—Electric Tramways.*—The following table gives a summary of the working of the two electric systems for the years 1930 to 1934 :—

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.
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
1932 ..	30.73	628,794	154,812	115,096	39,716	41,485	74.34	6.32	15,493	353
1933 ..	28.31	630,657	161,902	116,112	45,790	42,726	71.72	7.26	14,850	291
1934 ..	28.43	634,192	164,826	123,998	40,828	36,376	75.23	6.44	14,942	308

8. **Australia.**—*All Tramways—Summary 1930 to 1934.* The following table gives a summary of the working of all tramway systems in Australia for the years 1930 to 1934 :—

ALL TRAMWAYS—AUSTRALIA—SUMMARY.

Particulars.		1930.	1931.	1932.	1933.	1934.
Mileage open for traffic	Miles	639.98	629.68	622.35	619.63	622.20
Cost of Construction and Equipment	£	28,616,003	a25,330,705	a25,461,877	a25,468,793	a25,613,720
Cost per mile	£	44,714	a 40,228	a 40,912	a 41,103	a 41,166
Gross Revenue	£	8,514,345	7,227,991	7,218,605	7,180,549	6,965,430
Working Expenses	£	7,001,248	6,068,041	5,644,208	5,346,464	4,992,800
Net Earnings	£	1,513,097	1,159,950	1,574,397	1,834,085	1,972,630
Interest	£	1,424,525	1,314,737	1,341,127	1,268,202	1,204,095
Percentage of Working Expenses on Gross Revenue	%	82.23	83.95	78.19	74.46	71.68
Percentage of Net Earnings on Capital Cost	%	5.29	4.58	6.18	7.20	7.70
Tram-miles run	,000 miles	79,010	77,308	79,963	80,910	80,757
Gross revenue per tram mile	d.	25.86	22.44	21.66	21.30	20.70
Working expenses per tram mile	d.	21.27	18.84	16.94	15.86	14.84
Net earnings per tram mile	d.	4.59	3.60	4.72	5.44	5.86
Passengers carried	,000	718,000	633,014	631,508	641,680	646,161
Passengers carried per tram mile	No.	9.09	8.19	7.90	7.93	8.00
Average revenue per passenger journey	d.	2.85	2.74	2.74	2.69	2.59
Persons employed at end of year	No.	19,839	17,402	17,479	16,875	17,066

(*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.**—A brief account of the foundation and of the objects of this Department will be found in Official Year Book No. 19, p. 299.

3. **Aerodromes and Landing Grounds.**—Landing grounds have been established over the following approved routes :—Perth to Wyndham (2,067 miles); Perth to Adelaide (1,453 miles); Adelaide to Sydney (790 miles); Sydney to Brisbane (500 miles); Brisbane to Camooweal (1,226 miles); Camooweal to Darwin (802 miles); Katherine to Ord River (375 miles); Cloncurry to Normanton (216 miles); Melbourne to Hobart, via King Island (487 miles) and via Flinders Island (433 miles); Melbourne to Hay (233 miles); Mildura to Broken Hill (189 miles); Melbourne to Charleville, via Cootamundra (900 miles).

Up to the 30th June, 1935, 209 landing grounds had been acquired or leased and prepared by the Commonwealth Government for civil aviation purposes. In addition to landing grounds established and maintained by the Commonwealth Government, considerable activity is being displayed by local governing authorities in the establishment of public aerodromes. The Civil Aviation Branch assists local authorities desirous of establishing aerodromes by giving technical advice regarding the suitability of proposed sites and the preparation of approved areas to comply with Departmental requirements. At the 30th June, 1935, there were 140 licensed public aerodromes under the control of local authorities. The total number of recognized landing grounds in Australia and New Guinea at the 30th June, 1935, was 358.

4. **General Flying Activities, 1934.**—During 1934, 645,273 miles were flown by the subsidized contractors with three fatal accidents. Operators of other regular, but unsubsidized services flew 667,230 miles without a fatal accident. The total mileage flown by all Civil Aircraft in Australia and New Guinea during the year was 4,236,742 miles.

5. Air Services.—(i) *General.* Since the year 1920 the grant of financial assistance for the establishment and maintenance of regular air transport services has been part of the Government's policy for the development of civil aviation in Australia.

At the 30th June, 1935, nine subsidized contractors were operating under contracts which provided that such space as is required on each trip must be reserved for mails. On letters within the Commonwealth there is an air mail fee of 3d. per ½ ounce in addition to the ordinary postage rate, and for letters to the United Kingdom the inclusive postage is 1s. 6d. per ½ ounce. The total route mileage of these services is 10,778 miles.

The new system of services, as indicated on page 194 of Official Year Book No. 27, duly came into operation in 1934, the Brisbane–Singapore service being inaugurated on the 10th December, when the official opening ceremony was performed by H.R.H. the Duke of Gloucester. This service is proving most successful in all respects, and the Company's aircraft have been operating to full capacity. Mail loadings in particular have shown a continuous and steady increase.

Since their inception the various subsidized regular air services over prepared routes have completed 13,325,546 passenger miles, and have carried 66,546 paying passengers over various stages. Approximately 98 tons of letters have also been carried to the 31st March, 1935.

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

(ii) *Regular Air Service at 30th June,* 1935. The following regular air services were in operation at 30th June, 1935 :—

(*a*) "*Major*" *Subsidized Services.*—Qantas Empire Airways Ltd.—Brisbane–Darwin–Singapore, 4,361 miles; Cloncurry–Normanton, 216 miles. MacRobertson–Miller Aviation Co. Ltd.—Perth–Daly Waters, 2,252 miles. Butler Air Transport Co.—Cootamundra–Charleville, 629 miles. Holyman's Airways Pty. Ltd.—Melbourne–Launceston–Hobart, 460 miles. West Australian Airways Ltd.—Perth–Adelaide, 1,453 miles. All these services are operated once weekly in each direction over the routes mentioned, except the Melbourne–Hobart service, which is daily (Sundays excepted) in each direction.

A temporary service was maintained by MacRobertson–Miller Aviation Co. Ltd. between Ord River and Wyndham, Western Australia, from October to December, 1934. This service is likely to be recommenced on a permanent basis in July, 1935.

(*b*) "*Minor*" *Subsidized Services.* Aircrafts Pty. Ltd.—Brisbane–Cracow, 250 miles. Rockhampton Aerial Services Ltd.—Rockhampton–Mt. Coolon, 330 miles. Adastra Airways Ltd.—Sydney–Bega, 205 miles. Commercial Aviation Co.—Adelaide–Port Pirie–Eyre's Peninsula, 475 miles. Services are weekly in each direction excepting Sydney–Bega, which is bi-weekly.

(*c*) *Unsubsidized Services.* New England Airways Ltd.—Sydney–Brisbane, 500 miles; Sydney–Newcastle, 80 miles; Brisbane–Toowoomba, 75 miles; Brisbane–Townsville, 711 miles (weekly service). The first three services are operated daily (except Sundays) in each direction. Rockhampton Aerial Services Ltd.—Brisbane–Rockhampton, 325 miles (weekly service). Aircrafts Pty. Ltd.—Brisbane–Rockhampton, 325 miles (weekly service). T. H. McDonald—Cairns–Cooktown, 100 miles (thrice weekly). W.A.S.P. Airlines Ltd.—Sydney–Narromine, 210 miles (weekly service). Eastern Air Transport—Sydney–Canberra, 145 miles (daily service during Parliamentary Sessions and the summer months). Reliable Air Travel Ltd.—Brisbane–Cunnamulla, 467 miles (weekly service). Surcharged air mail is carried on the Sydney–Brisbane service under arrangement with the Postmaster-General's Department, but as yet air mails are not carried by the other services.

(*d*) *Air Ambulance Services.* Following an agreement between the Queensland and Northern Territory Aerial Services Ltd. and the Australian Inland Mission, an air ambulance service to provide medical attention where required in Western and Northern

Queensland, operating from a base at Cloncurry, was inaugurated on the 17th May, 1928. The aircraft company provides the aircraft and pilot, and the mission authorities provide the doctor. The scheme has proved most successful, and many instances are recorded of lives being saved by the services thus made available.

With the assistance of a small Governmental subsidy the Far West (New South Wales) Children's Health Scheme maintains an "Aerial Baby Health Clinic" at Bourke and surrounding district. An aeroplane is chartered from a local owner, and is used for the conveyance of the clinic's nurse who interviews mothers and gives lectures at the centres visited. To facilitate its work, the clinic (with the aid of financial assistance from the New South Wales Government) has had aerodromes prepared in the territory over which periodical flights are carried out.

The "flying doctor" scheme will be extended to north-west Australia with the inauguration of the Ord River–Wyndham regular air service in July, 1935. This service will be maintained with a D.H. 83 aircraft, which will be specially fitted for ambulance work, and which will be available for the use of the Australian Aerial Medical Service, as required. The Victorian Section of the Australian Aerial Medical Service, with the aid of a small Commonwealth monetary grant, will provide a doctor and bear the cost of flying operations in this district. A further air ambulance will also be available at Port Hedland, Western Australia, as from July, 1935, under the joint managements of the MacRobertson–Miller Aviation Company and the Western Australian section of the Australian Aerial Medical Service.

The outback districts of North Australia also have the benefit of a "flying doctor", as the Commonwealth Medical Officer at Katherine is a licensed pilot, and, by arrangement with the Government, he uses his aeroplane to visit patients at distant isolated centres.

6. **Gliding.**—During the past year only two bodies, the Western Australian Flying Club and the Queensland Gliding Association, complied with the prescribed conditions for participation in the Governmental grant which had been made available for gliding.

7. **Meteorological Aids to Aviation.**—Close co-operation exists between the meteorological authorities and aviation interests, with mutual advantage. Certain of the air transport companies operating regular services compile for the meteorological authorities logs of the weather conditions along their routes. In return, aviation interests obtain from the Weather Bureau regular weather reports and forecasts for the main air routes, while special information may be had at any time on request. Civil Aviation authorities have also made available special apparatus for upper air observations, and special observation flights have been conducted over a long period by the Royal Australian Air Force at Point Cook.

Weather information is wirelessed to Koepang before aircraft leave that port. Such messages are transmitted by Amalgamated Wireless (A/asia.) Ltd. which maintains a continuous W/T. watch at Darwin over the movements of aircraft. The meteorological office at Darwin is thus enabled to keep in touch with the aircraft crossing the Timor Sea, and furnish up to date advice of weather conditions.

A meteorological station has been erected at Darwin, and regular weather forecasts and reports are supplied to Qantas Empire Airways Ltd. and the MacRobertson–Miller Aviation Company to facilitate the operation of the air services in North Australia, and across the Timor Sea. The information supplied includes upper air observations at Darwin.

8. **Wireless.**—Increasing use has been made of wireless facilities as aids to navigation in the operation of the Melbourne–Hobart and Singapore-Darwin air services, and in the northern section of the Perth–Daly Waters service. D/F. wireless stations have been established at Essendon and Western Junction aerodromes. Continuous wireless touch is now maintained between aircraft and ground stations over the whole of the overseas air route, and also whilst aircraft are traversing the sparsely populated section of the route between Cloncurry and Darwin.

9. **Aircraft Construction.**—The development of the twin-engined Codock monoplane in 1933–34 revived interest in the design and construction of aircraft in Australia, and considerably increased activity in local manufacture is evident at the present time.

Tugan Aircraft Ltd., Sydney, have undertaken the production of a new commercial monoplane known as the Tugan "Gannet". This machine is a twin-engined cabin monoplane of high-wing cantilever type and is somewhat similar in appearance to the Codock monoplane, but is slightly larger and equipped with higher-powered engines. The first aircraft of this type is now being built, and it is announced that the construction of two more machines is already contemplated. This Company has also carried out the complete rebuilding of seven aircraft of the "Moth" type for the Defence Department.

The designs of two other types of aircraft are being prepared by Australian designers and the prospects for the coming year indicate that the industry may soon be established on a satisfactory basis. One feature worthy of comment is the greatly increased demand for aircraft material and replacement parts, due primarily to the large increase in flying activities on regular air services. This has resulted in the building up of increased reserves of stores and equipment both by aircraft companies and by regular importers, and in the expansion of service facilities by the regular aircraft operators. There is also increased demand for locally manufactured parts for aircraft and aircraft engines.

10. **Aircraft Imports.**—There has been a notable increase in the number of aircraft imported into the Commonwealth and Territory of New Guinea during the past year, as the following figures indicate :—

Year.	1932–33.	1933–34.	1934–35.
Number of aircraft imported	14	15	48

The importations during the past year include many types not previously seen in Australia, and among these are the following :—Airspeed Courier, Comper Swift, Cierva Autogiro C.19, Cierva Autogiro C.30, D.H.82, D.H.85, D.H.89, D.H. Moth Major, D.H. Tiger Moth, Ford 4.A.T., Ford 5.A.T., Klemm Eagle, Klemm Swallow, Miles Hawk, Monospar S.T.10, Monospar S.T.11, Monospar S.T.12, Short Scion.

The opening of the new overseas and internal mail services resulted in the replacement of obsolete types which had been used for some years on subsidized air routes by modern aircraft of the D.H.84 and D.H.86 types, and there is also a very welcome tendency on the part of unsubsidized operators to replace old equipment by modern aircraft.

11. **Training of Air Pilots.**—(i) *The Associated Aero Clubs.* These clubs provide facilities in all States for flying instruction and practice. During the six months ended 30th June, 1935, 131 pupils qualified for private ("A") pilots' licences. Many graduates have completed advanced courses of training, gained their commercial ("B") licences and now own aircraft. Other pupils have qualified as instructors.

The Commonwealth Government grants assistance to the clubs by providing hangar accommodation, the free use of aerodromes, suitable club houses which are leased to the clubs, and bonuses for each pupil trained to a standard that will enable him to obtain a private ("A") pilots' licence. Bonuses are also paid to the clubs in respect of the renewal of pilots' licences of club members, and each club receives an establishment grant conditional on a prescribed number of aircraft being maintained in an airworthy condition and a prescribed amount of flying being performed each month. Included in the aircraft fleets of the several clubs is a number of D.H.60 ("Moth") machines, which were loaned by the Commonwealth Government.

Originally instruction was confined to the capital cities, but operations have now been extended by the clubs to a certain number of provincial centres where aircraft and instructors are made available as required.

Aviation pageants are held from time to time by the various Aero Clubs, both at their base cities and at country centres, and have had a valuable educative effect in stimulating interest in aviation.

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

During the year 1934, 158 pupils graduated from all flying training organizations for "A" pilots' licences.

12. **Notable Flights.**—Since the end of the European War, many notable long distance flights have been carried out by Australian pilots. Short accounts of those prior to the year under review are contained in previous issues of the Year Book. (See No. 21 and subsequent issues.)

During the twelve months ended 30th June, 1935, the outstanding event of this nature was the MacRobertson Air Race from England to Melbourne, which was held in October, 1934, in conjunction with the Victorian Centenary Celebrations, and which was made possible by the generosity of Sir MacPherson Robertson, K.B.E. The contest was divided into two sections—(*a*) Speed, and (*b*) Handicap, the prizes being for (*a*) 1st £10,000; 2nd, £1,500; and 3rd, £500, and for (*b*) 1st, £2,000, and 2nd, £1,000. Twenty machines participated in the race which was won by Messrs. C. W. Scott and T. Campbell Black in a D.H. Comet aircraft, the time being approximately 71 hours. The handicap section was won by the Dutch entrants, Messrs. Parmentier and Moll, who flew a Douglas machine. Eleven aircraft actually completed the course, and of these, nine reached Melbourne in under twelve days.

Apart from the contestants in the MacRobertson Air Race, there was a number of other flights between Europe and Australia during the twelve months ended 30th June, 1935. Immediately after the Air Race two of the competitors, Messrs Cathcart Jones and Waller, flew their D.H. Comet back from Melbourne to England in 6 days 15 hours 9 minutes, thus completing the return journey in 13 days 6 hours. In September, 1934, Mr. James Melrose flew from Australia to England in 8 days 9 hours; in March, 1935, Mr. H. L. Brook, in a Falcon Monoplane aircraft, completed the journey in 7 days 19 hours 50 minutes. Mr. Melrose also made a meritorious flight in August, 1934, when he circled Australia—a distance of 8,000 miles, in 5½ days, but this record was also eclipsed at a later date when Mr. H. F. Broadbent covered the journey in 3 days 9 hours 54 minutes. The late C. T. P. Ulm, with Mr. G. U. Allen and Mr. R. N. Boulton, carried out the first official return air mail flight to New Guinea via the east coast of Australia, in July–August, 1934, in the aircraft *Faith of Australia*. Twenty-eight thousand nine hundred articles of mail were despatched from Australia, and on the return trip 33,100 letters were carried.

Sir Charles Kingsford Smith, with Mr. P. G. Taylor, as co-pilot and navigator, made a number of very fast flights in a Lockheed Altair aircraft in 1934, including Melbourne–Perth (1,915 miles) in 10 hours 22 minutes; Perth–Adelaide–Sydney (2,220 miles) in 10 hours 20 minutes; Melbourne–Sydney in 2 hours 23 minutes and Brisbane–Sydney (475 miles) in 2 hours 17 minutes. Mr. D. F. Collins in a Percival Gull Monoplane left Perth at 6 p.m. on 4th October, 1934, and arrived at Brisbane at 7.40 p.m. the following day. Two successful Australia–New Zealand flights were effected during the past year, but a third attempt was unsuccessful.

Probably the most outstanding flight during this period was that of Sir Charles Kingsford Smith and Mr. P. G. Taylor from Australia to America in the former's Lockheed Altair aircraft in October–November, 1934. The journey was accomplished in three stages, Brisbane–Fiji (1,760 miles), Fiji–Honolulu (3,000 miles), and Honolulu–San Francisco (2,551 miles). The full distance of 7,311 miles occupied 52 hours' flying time.

A second attempt by the late C. T. P. Ulm accompanied by G. Littlejohn and J. L. Skilling, to fly from United States of America to Australia in December, 1934, was unfortunately unsuccessful, the aircraft failing to arrive at Honolulu. A most exhaustive search for the missing craft was carried out by the United States of America Navy and Air Force, but without result.

13. **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, 1930 to 1934 :—

CIVIL AIRCRAFT.—AUSTRALIA.—SUMMARY.

Particulars.	Year ended 30th June—				
	1930.	1931.	1932.	1933.	1934.
Registered Aircraft Owners (*a*) .. .. No.	122	129	115	115	114
Registered Aircraft (*a*) No.	220	225	189	197	188
Licensed Pilots—(*a*)					
Private .. No.	344	407	363	370	429
Commercial .. No.	181	209	183	184	201
Flying Instructors (*a*) No.	..	..	..	..	59
Licensed Ground Engineers (*a*) .. .. No.	257	293	277	272	261
Aerodromes—(*a*)					
Government No.	58	57	58	59	64
Public .. No.	39	66	96	114	126
Government Emergency Grounds .. No.	114	121	121	119	135
Flights carried out No.	128,916	113,340	96,192	85,346	89,894
Hours flown .. No.	42,963	44,507	31,959	31,883	35,487
Approx. Mileage .. Miles	3,234,307	3,596,930	2,527,700	2,587,389	3,061,449
Passengers carried—					
Paying .. No.	91,415	80,651	56,883	58,155	54,119
Non-paying .. No.	12,801	13,699	13,771	12,949	10,117
Total .. No.	104,216	94,350	70,654	71,104	64,236
Goods, weight carried (*c*) lb.	196,795	204,445	221,552	244,258	296,983
Mails, letters carried No.	383,942	(*b*) 48,503	(*b*) 29,494	(*b*) 36,212	(*b*) 43,627
Accidents—					
Persons killed No.	18	29	7	5	10
Persons injured No.	20	20	17	6	12

(*a*) At 30th June. (*b*) Weight in lb. all contractors. (*c*) For South Australia and Western Australia stage freight figures are included.

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 Australia as a whole.

14. **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 less than one hour, the nature of the intervening country is such that a journey by other means occupies more than a week. Guinea

Airways Ltd. employs specially constructed freight machines for the transportation of dredging machinery and other heavy material to the Bulolo fields. Horses, cattle, motor cars, building material and various kinds of heavy freight are continually being carried inland from the coast in aircraft, and such activity constitutes one of the most notable feats of transport in the history of aviation. Inward mails are carried by Guinea Airways Ltd., under arrangement with the Postmaster-General's Department, from Port Moresby to Wau, Lae and Bulolo. The air mail fee is 1½d. per ounce in addition to the ordinary postage, plus 3d. per half-ounce (air mail surcharge) if an Australian air service is also used. Mails are carried by W. R. Carpenter and Co. Ltd. under arrangement with the New Guinea Administration from Salamaua to Wau and other inland mining centres. None of the air services operating in the Territory are subsidized by the Commonwealth Government, but the latter Company and the Pacific Aerial Transport Ltd. hold contracts with the New Guinea Administration for the provision of air transport for Administration passengers and goods between the coast and the gold-fields. Several new aerodromes have been prepared in the Territory and there has been an increase in aviation activities generally. The Companies and persons operating in New Guinea are :—Guinea Airways Ltd. ; Holden's Air Transport Service Ltd.; Pacific Aerial Transport Ltd. ; W. R. Carpenter and Co. Ltd. ; Salamaua Aerial Services ; A. T. Collins and S. Marshall. The subjoined table gives a summary of operations for the years ended 30th June, 1930 to 1934.

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

Particulars.		Year ended 30th June—				
		1930.	1931.	1932.	1933.	1934.
Registered Aircraft Owners (a)	No.	7	5	6	5	10
Registered Aircraft (a)	No.	13	15	15	19	26
Licensed Pilots—(a)						
Private	No.	1	4	2	1	4
Commercial	No.	11	13	16	21	24
Licensed Ground Engineers (a)	No.	11	18	30	30	37
Aerodromes—(a)						
Government	No.	2	2	2	2	3
Public	No.	..	..	..	..	3
Government Emergency Landing Grounds	No.	4	3	3	3	15
Flights carried out	No.	2,882	2,672	4,664	7,228	9,877
Hours flown	No.	3,619	3,969	5,160	8,499	10,061
Approximate mileage	Miles	272,976	325,807	424,232	680,871	811,440
Passengers carried—						
Paying	No.	2,490	2,992	3,450	6,948	10,799
Non-paying	No.	649	87	31	93	209
Total	No.	3,139	3,079	3,481	7,041	11,008
Goods, weight carried	lb.	3,062,430	3,107,616	9,778,072	10,982,936	14,985,723
Mails, weight carried	lb.	23,257	24,604	23,394	47,097	90,046
Accidents—						
Persons killed	No.	..	1	..	2	..
Persons injured	No.	..	1	..	..	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 1929–30 to 1933–34 :—

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

Particulars.		1929–30.	1930–31.	1931–32.	1932–33.	1933–34.
Motor bodies built in Australia ..	No.	46,409	10,417	6,323	13,532	26,302
	Value £	3,118,987	864,209	450,510	1,100,504	2,112,439
Motor bodies imported	No.	6,556	137	61	108	1,116
	Value £	697,862	14,007	7,360	12,233	86,899
Chassis imported	No.	61,981	9,367	4,146	15,776	32,924
	Value £	5,807,024	721,893	355,415	1,306,830	2,528,969
Fuels imported—						
Crude petroleum ..	Million gallons	122	93	49	58	58
	Value £	1,118,332	823,575	448,651	486,302	488,341
Petroleum spirit, etc. ..	Million gallons	240	171	156	181	208
	Value £	7,429,485	4,054,265	2,622,414	3,218,209	2,852,649

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.

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

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

4. **Motor Omnibuses.**—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. The regulation of traffic of motor vehicles has arisen from the belief that the economic waste arising from duplication of services parallel with or continguous 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. In some States the various railway and tramway systems have motor services complementary to their main services. Such services are conducted in New South Wales by the Department of Road Transport and Tramways, in Victoria by the Victorian Railways Commissioners, in South Australia by the South Australian Railways Commissioners and by the Municipal Tramways Trust, Adelaide, and in Tasmania by the Municipality of Hobart. In most 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 1933–34.* Particulars of the registration of motor vehicles, etc., for the year 1933–34 are contained in the subjoined table :—

MOTOR VEHICLES.—SUMMARY, 1933–34.

States and Territories.	Motor Vehicles Registered.					Drivers' and Riders' Licences Issued.	Gross Revenue derived from—			
	Motor Cars.	Motor Cycles.	Commercial Vehicles	Total.	Per 1,000 of Population.		Vehicle Registrations and Motor Tax.	Drivers' and Riders', etc., Licences.	Other Sources. (e)	Total.
	No.	No.	No.	No.	No.	No.	£	£	£	£
New South Wales (a) ..	155,063	22,571	50,108	227,742	86.9	320,801	1,538,482	161,827	75,929	1,776,238
Victoria ..	130,495	24,248	33,513	188,256	102.9	245,847	1,199,674	61,466	19,738	1,280,878
Queensland ..	b 85,333	7,502	(c)	92,835	96.9	d 115,935	535,619	43,604	18,933	598,156
South Australia	42,417	8,584	15,228	66,229	113.5	96,916	485,075	47,707	3,392	536,174
Western Australia ..	28,499	6,284	14,199	48,982	110.8	60,472	272,994	15,118	4,656	292,768
Tasmania ..	12,014	3,785	2,708	18,507	81.4	21,534	90,261	10,767	9,429	110,457
North Australia	234	40	338	612	137.8	508	149	223	..	372
Central Australia	44	2	20	66		165	65	67	..	132
Federal Capital Territory ..	1,100	88	227	1,415	152.3	1,804	6,986	906	29	7,921
Australia ..	455,199	73,104	116,341	644,644	96.6	863,982	4,129,305	341,685	132,106	4,603,096

(a) Approximate figures only on account of Annual and Quarterly Registration Certificates. (b) Includes Commercial Vehicles. (c) Included under Motor Cars. (d) Certificates of competency (State Transport Act of 1932). (e) Includes Dealers' Plates, Transfers, Duplicates, Fees, Penalties, etc.

(ii) *Quinquennium* 1930–1934. The following table shows the number of vehicles registered, licences issued, and revenue received therefrom during each of the years 1929–30 to 1933–34 :—

MOTOR VEHICLES.—REGISTRATIONS, ETC., AUSTRALIA.

Year.	Motor Vehicles Registered.					Drivers' and Riders' Licences Issued.	(b) Revenue derived from—			
	Motor Cars.	Motor Cycles.	Commercial Vehicles. (a)	Total.	Per 1,000 of Population.		Vehicle Registrations and Motor Tax.	Drivers' and Riders', etc., Licences.	Other Sources.	Total.
							£	£	£	£
1929–30	466,930	84,897	104,487	656,314	101.5	823,452	4,194,909	329,988	..	4,524,898
1930–31	429,206	76,966	97,933	604,105	92.6	805,626	3,747,726	324,907	..	4,072,633
1931–32	419,970	71,696	96,254	587,920	89.4	754,839	3,717,707	305,175	..	4,022,882
1932–33	438,499	72,896	105,837	617,232	93.1	760,973	3,815,470	303,909	..	4,119,379
1933–34	455,199	73,104	116,341	644,644	96.6	863,982	4,129,305	341,685	132,106	4,603,096

(a) Incomplete, Queensland commercial vehicles included with motor cars. (b) Prior to the year 1933–34 the figures purporting to show the revenue collected were not uniform throughout the States.

(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 1930 to 1934 :—

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

Year.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Federal Capital Territory.	Australia.
31st Dec., 1921	15	16	8	24	12	13	(a)	(a)	15
30th June, 1930	87	87	88	100	101	68	106	154	89
,, 1931	79	80	86	82	92	65	110	155	81
,, 1932	73	81	83	85	96	61	119	134	79
,, 1933	77	86	86	88	92	62	131	135	82
,, 1934	78	90	89	99	97	65	129	143	86

(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 1929-30 to 1933-34. 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.	1929-30.	1930-31.	1931-32.	1932-33.	1933-34.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
New South Wales	7 5 8	7 1 7	7 6 8	6 16 [illegible]	7 6 5
Victoria	7 0 10	6 19 10	6 17 5	0 17 8	7 0 2
Queensland	5 16 9	5 16 4	5 19 10	5 17 3	6 1 3
South Australia	9 9 5	8 4 5	8 16 8	8 13 1	7 19 2
Western Australia	6 16 1	6 15 7	6 3 8	6 3 4	6 4 10
Tasmania	5 1 6	5 11 0	5 14 1	5 14 3	5 14 3
Northern Territory ..	0 3 7	1 0 0	0 7 3	0 4 10	0 6 6
Federal Capital Territory ..	6 2 2	4 19 9	5 8 9	5 4 2	5 3 9
Australia	7 2 7	6 17 9	6 19 10	6 15 7	6 19 5

6. **Comparative Motor Vehicle Statistics, 1935.**—The result of the 1935 World Motor Census, conducted by the "American Automobile" magazine, from which the following particulars have been extracted, shows that there were 34,927,121 motor cars, trucks, and buses registered in various countries of the world at 1st January, 1935.

COMPARATIVE MOTOR VEHICLE STATISTICS, 1st JANUARY, 1935.

Country.	Approximate Population in Millions.	Motor Cars, Trucks, and Buses.	Motor Cycles.
Australia	7	575,000	75,000
Argentine	12	291,924	..
Belgium	8	155,000	..
Brazil	44	140,000	..
Canada	11	1,116,888	10,224
Cuba	4	30,714	350
Denmark	4	125,553	25,272
France	42	2,036,653	..
Germany	65	776,194	933,763
Great Britain	46	1,880,889	575,000
India	353	158,040	12,090
Irish Free State	3	48,375	4,334
Italy	42	370,896	131,462
Japanese Empire	95	120,472	..
Mexico	17	90,000	1,200
Netherlands	8	144,250	32,000
Netherlands East Indies	63	49,923	10,028
New Zealand	2	174,627	23,039
Spain	24	167,700	13,000
Sweden	6	141,000	45,000
Switzerland	4	87,920	29,500
Union of South Africa	8	190,053	33,665
United States of America	125	24,751,644	96,643

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

As regards numbers of motor cars in relation to the population, Australia ranks fourth among the countries of the world.

F. POSTS, TELEGRAPHS AND TELEPHONES.

§ 1. General.

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

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

2. **Postal Facilities.**—(i) *Relation to Area and Population.* The subjoined statement shows the number of post offices, the area in square miles and the number of inhabitants to each post office (including non-official offices) in each State and in Australia at the 30th June, 1934. 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, 1934.

State.	N.S.W.	Vic.	Q'land.	S.A.	W.A.	Tas.	Australia.
Number of post offices (*a*) ..	2,449	2,546	1,202	772	573	508	8,050
Number of square miles of territory to each office in State	127	35	558	1,171	1,703	52	370
Number of inhabitants to each office	1,074	719	797	762	772	449	829
Number of inhabitants per 100 square miles	848	2,082	143	65	46	870	224

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

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

(ii) *Number of Offices.* The following table shows the number of post offices in each State from 1901 to 1933-34 :—

POST OFFICES—NUMBER.

State.	At 31st December—				At 30th June—					
	1901.(*b*)		1914.		1924.		1933.		1934.	
	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	508	2,115	460	2,183	437	2,006	436	2,013
Victoria	224	2,076	295	2,391	273	2,399	276	2,257	275	2,271
Queensland ..	137	1,165	221	1,136	215	1,044	188	1,004	186	1,016
South Australia ..	180	523	154	657	143	662	145	625	144	628
Western Australia	181	34	158	418	137	709	124	443	124	449
Tasmania ..	57	315	51	412	47	495	43	466	42	466
Australia ..	1,217	5,883	1,387	7,129	1,275	7,492	1,213	6,801	1,207	6,843

(*a*) Includes offices previously designated as "Allowance" and "Receiving" Offices. (*b*) Figures for 1904 are not available.

(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—					
	1904.		1914.		1924.		1933.		1934.	
	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.	Employees.	Mail Contractors.
Central Office ..	(a)	..	(a)	..	100	..	178	..	202	..
New South Wales	5,763	1,006	11,131	2,512	13,947	1,791	12,430	1,949	13,220	1,953
Victoria ..	4,041	934	8,614	1,132	10,279	1,133	9,485	1,085	9,979	1,070
Queensland ..	2,641	(b)	4,343	813	6,220	819	4,792	1,054	4,908	1,209
South Australia ..	2,046	(b)	2,432	307	4,014	354	3,221	297	3,280	301
Western Australia	1,316	150	2,327	351	2,450	382	2,623	327	2,629	342
Tasmania ..	(c) 865	(b)	1,176	281	1,582	206	1,361	233	1,391	242
Australia ..	16,672	2,090	30,023	5,396	38,592	4,685	34,090	4,945	35,609	5,117

(a) Included in Victorian Staff. (b) Included in "employees." Separate particulars are not available. (c) At 31st December, 1901.

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

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

Branch and Year.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£
Postal Branch—							
1929-30	2,392,882	1,842,658	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
1931-32	2,305,557	1,583,136	841,602	435,526	381,113	162,695	5,709,629
1932-33	2,340,889	1,620,972	862,051	462,520	397,253	162,112	5,845,797
1933-34	2,431,342	1,673,812	872,913	462,634	402,083	164,630	6,007,414
Telegraph Branch—							
1929-30	492,011	311,882	234,443	170,162	134,766	46,748	1,390,012
1930-31	404,479	261,355	195,767	141,202	111,118	38,997	1,152,918
1931-32	373,139	242,195	194,508	136,321	103,713	36,084	1,085,960
1932-33	358,214	251,097	195,328	136,145	112,154	38,885	1,091,823
1933-34	378,656	263,904	202,579	131,086	120,318	40,385	1,136,928
Wireless Branch—							
1929-30	64,550	84,501	6,169	6,953	4,198	476	166,847
1930-31	54,691	63,690	12,789	16,821	4,006	3,675	155,672
1931-32	63,384	65,545	12,600	16,870	5,524	4,274	168,197
1932-33	79,702	77,567	15,728	22,698	8,843	5,596	210,134
1933-34	127,453	118,626	28,169	36,250	17,130	9,229	336,857
Telephone Branch—							
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
1931-32	2,089,555	1,555,437	792,607	529,790	297,713	134,263	5,399,365
1932-33	2,092,461	1,595,977	787,597	534,157	301,418	134,228	5,445,838
1933-34	2,202,273	1,647,408	818,981	535,158	308,490	135,662	5,647,972
All Branches—							
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
1931-32	4,831,635	3,446,313	1,841,317	1,118,507	788,063	337,316	12,363,151
1932-33	4,871,266	3,545,613	1,860,704	1,155,520	819,668	340,821	12,593,592
1933-34	5,139,724	3,703,750	1,922,642	1,165,128	848,021	349,906	13,129,171
Total Revenue per head of mean population—							
1929-30	2.08	2.18	2.11	2.14	2.13	1.68	2.11
1930-31	1.96	1.99	2.07	2.01	1.94	1.61	1.98
1931-32	1.88	1.91	1.98	1.92	1.82	1.49	1.89
1932-33	1.87	1.95	1.98	1.98	1.88	1.50	1.91
1933-34	1.96	2.03	2.02	1.98	1.93	1.53	1.97

Compared with the corresponding figures for the previous year, an increase of 4.3 per cent. is shown in the gross revenue earned, the increases in the several branches being as follow :—Postal 2.8 per cent., Telegraph 4.1 per cent., Wireless 60.3 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, 1934. 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, 1933-34.

Particulars.	Central Office.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
	£	£	£	£	£	£	£	£
Expenditure from Ordinary Votes—								
Salaries and payments in the nature of salary ..	40,845	1,733,524	1,250,344	647,085	446,745	317,699	164,733	4,600,975
General expenses ..	2,045	90,599	50,269	24,787	19,270	17,613	6,946	211,529
Stores and material	1,198	64,362	44,450	22,032	14,735	11,983	6,680	165,440
Mail services ..	*a* 110,000	395,306	234,458	193,515	66,245	73,162	33,807	1,106,493
Engineering services (other than New Works) ..	35,777	714,528	500,202	258,996	189,474	133,948	89,691	1,922,616
Other services ..	41,707	..	..	..	..	..	..	41,707
Total ..	231,572	2,998,319	2,079,723	1,146,415	736,469	554,405	301,857	8,048,760
Pensions and retiring allowances ..	..	34,571	37,726	..	..	22,935	..	95,232
Rent, repairs, maintenance, fittings, &c. ..	..	28,862	18,561	13,828	7,274	7,878	1,290	77,693
Proportion of audit expenses ..	..	3,761	2,671	1,439	873	624	332	9,700
Interest on transferred properties ..	..	114,328	61,362	45,575	37,523	21,869	9,924	290,581
New Works—								
Telegraph, telephone and wireless ..	..	372,450	246,681	90,136	56,961	59,187	25,792	851,207
New buildings, &c. ..	..	8,230	637	1,835	1,512	1,348	725	14,287
Other expenditure not allocated to States	2,900,713 (*b*)	..	..	..	..	..	..	2,900,713
Total ..	3,132,285 (*c*)	3,560,521	2,447,361	1,299,228	840,612	668,246	339,920	12,288,173 (*c*)

(*a*) Orient Steam Navigation Company's Overseas Mail contract. (*b*) Particulars of apportionment to States not available. (*c*) Including expenditure not apportioned to States.

(ii) *Total, 1930 to 1934.* 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, 1930 to 1934 inclusive.

EXPENDITURE, POSTMASTER-GENERAL'S DEPARTMENT.

Expenditure.	Year ended 30th June—				
	1930.	1931.	1932.	1933.	1934.
	£	£	£	£	£
Total	15,797,072	14,282,984	12,196,307	12,165,210	12,288,173

The total expenditure for 1933–34 decreased by 22.2 per cent. compared with the amount for 1929–30.

5. Profit or Loss, Postmaster-General's Department.—(i) *States*, 1933–34. The foregoing statements of gross revenue and expenditure represent actual collections and payments made and cannot be taken to represent the actual results of the working of the Department for the year. The net results for each branch in the several States after providing for working expenses, depreciation, and interest charges during the year, were as follow :—

PROFIT OR LOSS, POSTMASTER-GENERAL'S DEPARTMENT, 1933–34.

Branch.	Profit or Loss.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Australia.
		£	£	£	£	£	£	£
Postal ..	Profit	664,686	532,190	268,325	125,464	89,538	4,405	1,684,608
	Loss	..	..	..	..	..	..	..
Telegraph ..	Profit	..	15,667	..	..	..	..	..
	Loss	29,296	..	11,128	2,041	10,269	3,945	41,012
Wireless ..	Profit	36,442	55,427	..	3,405	..	..	87,235
	Loss	..	..	5,182	..	683	2,174	..
Telephone ..	Profit	202,309	127,974	88,462	..	..	..	269,273
	Loss	..	..	..	73,062	22,968	53,442	..
All Branches	Profit	874,141	731,258	340,477	53,766	55,618	..	2,000,104
	Loss	..	..	..	..	..	55,156	..

After providing for depreciation, pensions and retiring allowances and interest on capital, the year 1933–34 closed with a surplus of £2,000,104. For the preceding year a surplus of £1,192,618 was shown.

(ii) *Branches*, 1930 *to* 1934. The following statement gives particulars of the operating results of each branch for the period 1930 to 1934 :—

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

Year Ended 30th June—	Branch.									
	Postal.		Telegraph.		Wireless.(a)		Telephone.		All Branches.	
	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.	Profit.	Loss.
	£	£	£	£	£	£	£	£	£	£
1930 ..	557,105	..	..	232,188	..	..	..	127,034	197,883	..
1931 ..	721,282	..	..	390,514	35,148	..	..	432,920	..	67,004
1932 ..	1,267,534	..	..	183,367	30,932	..	..	379,090	736,009	..
1933 ..	1,471,685	..	..	101,588	22,796	..	..	200,275	1,192,618	..
1934 ..	1,684,608	..	..	41,012	87,235	..	269,273	..	2,000,104	..

(a) Included in Telegraph Branch prior to 1930–31.

6. Capital Account.—The appended statement shows particulars of the fixed assets of the Postmaster-General's Department at 30th June, 1934.

FIXED ASSETS, POSTMASTER-GENERAL'S DEPARTMENT, 30th JUNE, 1934.

Particulars.	Net Value, 1st July, 1933.	Capital Expenditure, 1933–34.	Gross Value, 30th June, 1934.	Less Depreciation, &c. 1933–34. (a)	Net Value, 30th June, 1934.
	£	£	£	£	£
Telephone Lines and equipment	31,783,623	901,960	32,685,583	457,695	32,227,888
Telegraph Lines and Trunk Line equipment	10,126,011	124,909	10,250,920	58,988	10,191,932
Telegraph equipment ..	601,704	21,310	623,014	5,816	617,198
Postal equipment	400,032	8,536	408,568	2,496	406,072
Sites, Buildings, Furniture, and Office equipment	9,313,238	27,437	9,340,675	7,006	9,333,669
Miscellaneous	571,062	54,272	625,334	31,046	594,288
Wireless equipment and Buildings	151,940	18,287	170,227	1,526	168,701
Total	52,947,610	1,156,711	54,104,321	564,573	53,539,748

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

During the past quinquennium the value of the fixed assets has increased by 9 per cent., the net value at 30th June, 1929, being £49,265,641.

§ 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 1930 to 1934. 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 Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.	Number (,000 omitted).	Per 1,000 of Population.
POSTED WITHIN AUSTRALIA FOR DELIVERY THEREIN.								
1930	791,241	123,001	150,812	23,444	13,889	2,159	7,267	1,130
1931	701,694	107,985	127,959	19,692	9,769	1,503	6,447	992
1932	677,847	103,437	118,906	18,145	8,841	1,349	6,096	930
1933	699,932	105,974	118,357	17,920	8,661	1,311	6,093	923
1934	733,506	110,217	121,600	18,272	8,816	1,325	6,223	935
TOTAL POSTAL MATTER DEALT WITH.								
1930	865,412	134,531	178,018	27,674	14,586	2,267	8,268	1,285
1931	761,508	117,190	152,326	23,442	10,209	1,571	7,244	1,115
1932	731,134	111,569	139,502	21,288	9,203	1,404	6,731	1,027
1933	751,777	112,963	139,963	21,031	9,044	1,369	6,710	1,016
1934	790,166	118,731	142,040	21,343	9,208	1,384	6,870	1,032

(ii) *States.* The next table shows separately for each State the posta matter dealt with in 1933-34.

POSTAL MATTER DEALT WITH—STATES, 1933-34. (*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	279,277	106,488	57,869	22,065	3,792	1,446	2,306	879
Victoria ..	228,112	124,990	25,915	14,200	1,637	897	1,732	949
Queensland ..	95,299	100,251	20,677	21,751	1,706	1,795	939	988
South Australia ..	52,830	89,950	6,557	11,164	891	1,517	506	862
Western Australia	47,256	107,288	5,667	12,866	670	1,521	511	1,160
Tasmania ..	30,732	134,173	4,915	21,458	120	524	229	1,000
Australia ..	733,506	110,217	121,600	18,272	8,816	1,325	6,223	935
OVERSEA DISPATCHED.								
New South Wales	9,720	3,706	2,036	776	88	34	133	51
Victoria ..	9,181	5,031	3,392	1,859	42	23	75	41
Queensland ..	2,392	2,516	632	665	13	14	35	37
South Australia ..	2,540	4,325	372	633	8	14	15	26
Western Australia	2,569	5,833	399	906	10	23	24	54
Tasmania ..	2,308	10,077	174	760	2	9	3	13
Australia ..	28,710	4,314	7,005	1,052	163	25	285	43
OVERSEA RECEIVED.								
New South Wales	12,985	4,951	7,339	2,798	104	40	177	67
Victoria ..	7,150	3,918	2,015	1,104	68	37	107	59
Queensland ..	2,060	2,117	1,147	1,207	20	21	30	32
South Australia ..	1,683	2,866	847	1,442	13	22	16	27
Western Australia	3,057	6,940	1,717	3,898	20	45	27	61
Tasmania ..	1,015	4,431	370	1,615	4	17	5	22
Australia ..	27,950	4,200	13,435	2,019	229	34	362	54

(*a*) See explanation in paragraph (i).

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

(ii) *Summary of Business.* The next statement gives particulars regarding the value-payable post in each State for the years 1930 to 1934 :—

VALUE-PAYABLE PARCEL POST.—SUMMARY.

NUMBER OF PARCELS POSTED.

Year ended 30th June—	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
	No.	No.	No.	No.	No.	No.	No.
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
1932	280,589	37,144	182,902	25,315	80,330	714	606,994
1933	289,975	37,567	210,992	23,559	79,820	1,711	643,624
1934	305,972	40,769	221,994	21,309	79,030	1,782	670,856

VALUE COLLECTED.

	£	£	£	£	£	£	£
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
1932	331,328	47,481	230,761	26,931	83,973	920	721,394
1933	343,155	49,392	261,183	24,704	81,029	1,980	761,443
1934	377,752	55,305	274,305	22,502	83,524	1,970	815,358

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

	£	£	£	£	£	£	£
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
1932	36,606	4,787	23,962	3,088	9,450	90	77,983
1933	37,555	4,952	25,723	3,031	9,867	212	81,340
1934	40,356	5,460	26,947	2,827	10,452	213	86,255

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, 1934 :—

MAIL SUBSIDIES.—OCEAN AND COASTAL SERVICES, 1933-34.

Service.	Orient S.N. Co.	Queensland Ports.	South Australian Ports.	Western Australian Ports.	Tasmanian Ports.
	£	£	£	£	£
Annual subsidy	110,000	1,200	5,000	5,520	31,853

4. **Total Cost of Carriage of Mails.**—During the year 1933-34 the amount paid for conveyance of mails at poundage rates by non-contract vessels and on account of other countries' services was £30,505; by road services, £542,228; and by railway services, £375,587. The total expenditure during the financial year 1933-34 on the carriage of mails, as disclosed by the Profit and Loss Account, amounted to £1,117,389.

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 1933-34, and the methods adopted in the disposal thereof:—

DEAD LETTER OFFICES.—SUMMARY, 1933-34.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
LETTERS, POSTCARDS, AND LETTER-CARDS.							
Returned direct to writers or delivered	1,058,399	231,926	135,244	65,281	112,531	65,964	1,669,345
Destroyed in accordance with Act	67,021	36,652	20,359	7,904	3,515	2,214	137,665
Returned to other States or Countries as unclaimed ..	32,348	18,092	9,643	4,216	10,461	1,002	75,762
Total	1,157,768	286,670	165,246	77,401	126,507	69,180	1,882,772
PACKETS AND CIRCULARS.							
Returned direct to writers or delivered	658,540	119,637	127,384	11,724	67,066	32,832	1,017,183
Destroyed in accordance with Act	88,934	42,278	25,033	10,071	6,190	618	173,124
Returned to other States or Countries as unclaimed ..	1,497	6,601	3,480	1,980	567	396	14,521
Total	748,971	168,516	155,897	23,775	73,823	33,846	1,204,828
Grand Total (letters, packets, etc.)	1,906,739	455,186	321,143	101,176	200,330	103,026	3,087,600

During the year 1933-34 money and valuables to the amount of £77,150 were found in undelivered postal articles, while 40,704 postal articles were posted without address, including 714 which contained money and valuables to the extent of £3,698.

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*, 1933–34. Particulars regarding the business transacted in each State for the year 1933–34 are given hereunder :—

MONEY ORDERS AND POSTAL NOTES.—SUMMARY, 1933–34.

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 ..	7,106,448	7,124,376	37,361	2,888,345	67,605
Victoria	2,773,676	2,979,429	17,190	1,818,211	42,611
Queensland ..	2,334,354	2,177,756	15,794	736,345	16,288
South Australia ..	762,376	765,484	4,931	397,243	9,569
Western Australia ..	1,204,282	1,107,393	7,634	397,585	8,780
Tasmania	465,045	434,323	2,676	159,109	3,729
Australia ..	14,646,181	14,588,761	85,586	6,396,838	148,582

The figures in the foregoing table relating to money orders and postal notes show an increase compared with the previous year.

(iii) *Australia*, 1930 *to* 1934. The next table shows the total number and value of money orders and postal notes issued and paid in Australia from 1929–30 to 1933–34 :—

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).
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
1932 ..	2,781	14,351	2,788	14,367	16,205	5,579	16,132	5,563
1933 ..	2,707	14,257	2,691	14,229	16,717	5,746	16,735	5,729
1934 ..	2,769	14,646	2,762	14,589	19,595	6,397	19,446	6,370

(iv) *Classification of Money Orders Issued and Paid.* (*a*) *Money Orders Issued.* The next table shows the number and value of money orders issued during the year 1933–34, classified according to the country where payable :—

MONEY ORDERS ISSUED.—COUNTRY WHERE PAYABLE, 1933-34.

Where Issued.	Where Payable.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
	NUMBER.				
Australia	2,628,669	18,235	86,466	36,113	2,769,483
	VALUE.				
Australia	£ 14,217,882	£ 84,118	£ 201,324	£ 142,857	£ 14,646,181

(*b*) *Money Orders Paid.* The number and value of money orders paid during the year 1933-34, classified according to the country where issued, are given hereunder :—

MONEY ORDERS PAID.—COUNTRY OF ISSUE, 1933-34.

Where Paid.	Where Issued.				Total.
	In Australia.	In New Zealand.	In Great Britain and Ireland.	In Other Countries.	
	NUMBER.				
Australia	2,643,085	47,592	48,225	23,453	2,762,355
	VALUE.				
Australia	£ 14,210,448	£ 100,465	£ 200,675	£ 77,173	£ 14,588,761

In the tables above, money orders payable or issued in foreign countries which have been sent from or to Australia through the General Post Office in London are included in those payable or issued in 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 1933-34, 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, 1933-34.

Particulars.	Postal Notes Paid in—						
	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
NUMBER.							
Issued in same State	7,792,704	3,543,767	1,638,381	814,466	912,740	361,352	15,063,410
Issued in other States	905,892	512,038	723,456	89,129	54,735	2,097,712	4,382,962
Total ..	8,698,596	4,055,805	2,361,837	903,595	967,475	2,459,064	19,446,372
VALUE.							
	£	£	£	£	£	£	£
Issued in same State	2,414,599	1,212,473	607,680	262,416	331,920	118,787	4,947,875
Issued in other States	253,526	181,195	330,320	35,184	15,884	606,282	1,422,391
Total ..	2,668,125	1,393,668	938,000	297,600	347,804	725,069	6,370,266

The number and value of postal notes paid in Australia during the year showed an increase of 16.2 per cent. and 11.2 per cent. respectively compared with the corresponding figures for the year 1932-33.

§ 3. Telegraphs.

1. **General.**—(i) *Development of System.* A review of the development of the Telegraph Services in Australia was given in a previous issue of this work (see Year Book No. 15, p. 625), 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 reorganization.

(ii) *External Circulation or Routing of Traffic.* The external circulation system of the Australian telegraph service has been considerably modified, direct communication having been established between cities and towns which formerly were served through intermediate repeating centres. The reorganization has eliminated the loss of time in transit, improved the grade of service, and led to economy as regards the labour formerly required in manual re-transmission. As a result of the reorganization there are now only six repeating centres, seventeen 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 38,260 miles of one-way 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, Sydney and Canberra, Sydney and Lismore, Sydney and Tamworth, Sydney and Wagga Wagga, Melbourne and Brisbane, Melbourne and Adelaide, Melbourne and Perth, Melbourne and Canberra, Adelaide and Perth, Brisbane and Rockhampton, and Brisbane and Townsville, providing telegraph outlets which permit the carriage of very heavy loads with a minimum transit time. The operation of the apparatus has been steadily improved, and now is worked so that each channel has an output up to 50 words per minute. Between Melbourne and Mildura, 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 June, 1934, was 1,809,370 or 13.5 per cent. of the total lodgments, and the popularity of this facility is growing.

(vii) *Radiograms within Australia.* On 1st May, 1929, the rates for radiograms between Flinders Island, King 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, 1934, 284 picturegrams were transmitted between Sydney and Melbourne, the revenue being £676. 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.

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

(x) *Special Telegram Forms.* The use of appropriately designed telegram forms for conveying Christmas and New Year greetings continues to increase in volume and popularity. The increase since the inception of this facility in 1929 represents 63.2 per cent. :—

Year.	No. of Greeting Telegrams.
1929	144,102
1930	157,705
1931	184,142
1932	191,156
1933	192,363
1934	235,252

During the year 1933–34 telegram forms of special design and attractive colouring, in connexion with Mothers' Day messages, Birthday greetings and Congratulatory telegrams, were placed at the disposal of the public. The popularity of these facilities is indicated by the increase in the number of Mothers' Day telegrams from 16,091 in 1934 to 23,305 in 1935. No statistics are available in respect of Birthday greetings and Congratulatory messages, but it is estimated that the number of telegrams in these categories exceeds 250,000 annually.

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

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

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

Fifteen private wire services employing thirty-two teleprinter units have already been installed.

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 1930 to 1934 :—

TELEGRAPHS, AUSTRALIA.—SUMMARY.

Particulars for Year ended 30th June.	1930.	1931.	1932.	1933.	1934.
Number of offices	9,317	9,189	9,160	9,162	9,199
Length of wire (miles)—					
Telegraph purposes only	71,629	62,009	58,891	55,302	54,655
Telegraph and telephone purposes ..	88,785	98,140	98,369	101,797	102,953
Length of line (miles)—					
Conductors in Morse cable ..	3,735	3,789	4,157	4,401	4,538
Conductors in submarine cable (statute miles)	4,524	4,859	4,863	4,833	4,764
Pole routes (miles)	98,450	100,596	100,507	99,951	96,395

(ii) *States.* The following table gives corresponding particulars for each State for the year 1933–34 :—

TELEGRAPHS.—STATES, SUMMARY, 30th JUNE, 1934.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Number of offices ..	2,997	2,421	1,486	806	955	534	9,199
Length of wire (miles)—							
Telegraph purposes only	17,319	8,257	12,637	7,084	8,629	729	54,655
Telegraph and telephone purposes ..	37,309	14,106	28,879	13,849	7,239	1,571	102,953
Length of line (miles)—							
Conductors in Morse cable	2,402	1,437	477	..	198	24	4,538
Conductors in submarine cable (statute miles) ..	3,543	282	309	214	..	416	4,764
Pole routes (miles) ..	31,388	19,248	15,735	14,943	11,587	3,494	96,395

A total length of 157,608 miles of wire is available for telegraph purposes, of which 102,953 miles are also used for telephone purposes. Compared with those for the previous year, the figures show an increase of 509 miles (0.3 per cent.) in the total length and an

increase of 1,156 miles (1.14 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—				
	1930.	1931.	1932.	1933.	1934.
Number (*a*) ..	15,724,246	12,985,298	12,679,951	12,778,028	13,393,627

(*a*) Including interstate cablegrams.

(ii) *States.* The appended table shows the total number of telegrams dispatched in each State in 1933–34 according to the class of message transmitted :—

TELEGRAMS DISPATCHED.—STATES, 1933-34.

Class of Message Transmitted within Australia.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Australia.
Paid and Collect—							
Ordinary ..	3,831,555	2,575,608	2,165,858	841,148	1,307,653	247,754	10,969,576
Urgent ..	212,579	68,744	60,389	38,848	39,813	8,064	428,437
Press ..	200,287	127,019	77,911	42,157	38,369	22,230	507,973
Lettergram ..	81,636	62,961	72,377	37,221	85,454	32,734	372,383
Radiogram ..	27,956	4,021	4,731	4,982	2,517	6,234	50,441
Total ..	4,354,013	2,838,353	2,381,266	964,356	1,473,806	317,016	12,328,810
Unpaid—							
Service ..	134,628	46,665	51,669	35,727	47,268	15,328	331,285
Shipping ..	28,734	69,668	16,777	3,624	10,270	4,919	133,992
Meteorological ..	187,434	80,397	85,080	89,107	128,260	29,262	599,540
Total ..	350,796	196,730	153,526	128,458	185,798	49,509	1,064,817
Grand Total ..	4,704,809	3,035,083	2,534,792	1,092,814	1,659,604	366,525	13,393,627

The figures in the foregoing table show an increase in the total volume of telegraph business of 615,599 messages (4.8 per cent.) 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 net operating results of the telegraph systems for the years 1929–30 to 1933–34 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	3.3	2.1
Austria	0.3	0.3
Belgium	2.7	0.8
Canada	0.4	1.0
Czechoslovakia	1.6	0.3
Denmark	0.3	0.5
France	3.5	0.7
Germany	0.8	0.3
Great Britain	2.8	1.0
Hungary	1.5	0.1
Japan	1.4	0.7
Netherlands	0.9	0.4
New Zealand	1.3	2.7
Norway	1.2	1.1
Poland	0.5	0.1
Spain	3.0	0.9
Sweden	0.4	0.6
Switzerland	0.8	0.5
Union of South Africa	2.2	0.5
United States of America	0.6	1.2

§ 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 1931–32 to 1933–34 :—

CABLEGRAMS AND RADIOGRAMS.—AUSTRALIA.

Messages.	Number Received.			Number Dispatched.			Total Number Received and Dispatched.		
	1931–32.	1932–33.	1933–34.	1931–32.	1932–33.	1933–34.	1931–32.	1932–33.	1933–34.
Number	564,205	579,958	608,323	610,763	639,121	656,935	1,174,968	1,219,079	1,265,258

(ii) *States.* The number of cablegrams received and dispatched in each State during the year 1933–34 is given hereunder :—

CABLEGRAMS AND RADIOGRAMS.—STATES, 1933-34.

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas. (*a*)	Australia.
Number received ..	321,493	196,489	24,511	28,841	27,658	9,331	608,323
Number dispatched	322,382	221,852	31,145	34,102	37,336	10,118	656,935
Total ..	643,875	418,341	55,656	62,943	64,994	19,449	1,265,258

(*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 follow :—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 rates between Australia and Great Britain "Via Beam" are—Ordinary, 1s. 8d. ; deferred ordinary, 10d. ; Government, 10d. The following are the rates at present operating in regard to traffic with the principal countries :—

CABLEGRAM AND RADIOGRAM RATES, JUNE, 1934.

To—	Rate per Word and Route.	
	Via Cable.	Via Beam.
European Countries	2s. 6d. to 2s. 7d.	1s. 11½d. to 2s. 5½d.
Asiatic Countries	2s. 5d. to 6s. 3d.	..
Africa	1s. 8d. to 5s. 4d.	2s. 2½d. to 2s. 11d.
North America	1s. 7d. to 4s. 4d.	1s. 5½d. to 3s. 7d.
Central America	3s. 10d. to 6s. 1d.	3s. 5½d. to 4s. 10d.
West Indies	3s. 0d. to 5s. 8d.	..
South America	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 the "Daily Letter Telegram" service, 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 2½d. per word by cable and 2¼d. 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, later being extended to most countries in the British Empire and in Europe, to the United States and to certain other places. In accordance with the decision of the International Telegraph Conference which was held at Madrid in 1932, the charges on Daily Letter Telegrams have, since 1st April, 1933, been based on one-third of the tariff per word for full-rate messages, and are now subject to a minimum charge as for 25 words (in lieu of 20 as previously). These messages are delivered on the morning of the second day following that of lodgment.

(iv) *Week-end Letter Telegrams.* The Week-end Letter Telegram facility which had been in operation for a number of years between Australia and certain other countries was abolished on 1st April, 1933, in accordance with the decision of the Madrid International Telegraph Conference.

(v) *Press Telegrams.* The rate per word ordinary on press messages exchanged with Great Britain is 6d. by cable and 4d. via radio, while that on deferred press is 4½d. and 3d. respectively.

(vi) *Night Letter Telegrams.* A Night Letter Telegram service was introduced between Australia and New Zealand on 1st May, 1924, and was extended to Fiji on 1st December, 1924. As from 1st April, 1933, the minimum charge for messages has been fixed as for 25 words (in lieu of 20 as previously) in accordance with a decision of the Madrid Conference, the minimum charges being—to New Zealand, 3s. 9d. minimum, 2d. for each additional word beyond 25; Suva, 5s. 10d. minimum, 3d. for each additional word; other places in Fiji, 7s. 4d. minimum, and 4d. for each additional word beyond 25. 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, 1931 to 1934.

TELEPHONE LINES.—AUSTRALIA.

Particulars.	Year ended 30th June—			
	1931.	1932.	1933.	1934.
Ordinary Lines—				
Conduits .. .. duct miles	6,047	6,217	6,454	6,733
,, ... route miles	3,416	3,571	3,776	4,079
Conductors in aerial cables loop mileage	5,213	4,436	4,276	(a)
Conductors in underground cables loop mileage	789,736	800,081	811,122	829,506
Conductors in cables for junction circuits loop mileage	105,047	103,237	102,168	100,850
Open conductors single wire mileage	422,737	418,264	418,053	419,015
Trunk Lines—				
Telephone trunk lines only .. miles	233,543	236,209	232,409	228,084
Telegraph and telephone purposes ,,	98,140	98,369	101,797	102,953

(a) Included in figures for conductors in underground cables.

(ii) *Comparison with Other Countries.* The number of telephones connected with exchanges at the 30th June, 1934, shows a very substantial recovery. The maximum was attained in 1930 with 520,169 instruments connected. The number, however, fell to 484,626 in 1932, but increased again to 501,402 at 30th June, 1934. There are 75.1 telephones per 1,000 of population and Australia occupies seventh place among countries with the greatest density of telephones. The average length of wire per telephone in Australia is 5.2 miles, as compared with 5.0 miles in the United States of America, 4.0 miles in Canada and 3.9 miles in New Zealand.

(iii) *Trunk Line System.* Telephone trunk lines are provided in practically every settled area of the Commonwealth, and when the proposed submarine cable between the mainland and Tasmania is completed the ideal of a nation-wide telephone service will be realized.

With the object of still further improving the transmission between widely separated centres additional telephone carrier systems have been installed. There are 58 such systems in service in Australia, giving a total of 95 speech channels with an aggregate mileage of approximately 26,000 miles.

(iv) *Automatic Exchanges.* At the 30th June, 1934, there were 69 automatic or semi-automatic exchanges in operation, providing facilities for 209,032 telephones, 203,480 of which were in the telephone networks of the six State capital cities.

(v) *Rural Automatic Exchanges.* Successful experiments have been made with an automatic type of exchange suitable for installation in rural areas, the advantage of this particular equipment being that it affords an economical day and night service. There are eighteen such exchanges in operation, and the installation of further units is proceeding.

(vi) *Summary for States.* Particulars relating to the telephone service in each State for the years ended 30th June, 1932 to 1934, 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 ..	1932	1,942	1,641	938	552	648	348	6,069
	1933	1,935	1,639	947	554	644	352	6,071
	1934	1,935	1,648	962	556	642	344	6,087
No. of Telephone Offices (including Exchanges)	1932	2,981	2,350	1,429	790	937	513	9,000
	1933	2,937	2,339	1,415	791	930	512	8,924
	1934	2,950	2,427	1,427	801	947	510	9,062
No. of lines connected ..	1932	135,179	110,213	48,346	37,815	20,639	11,380	363,572
	1933	135,859	110,386	48,170	37,339	20,561	11,461	363,776
	1934	139,485	113,983	49,009	37,713	20,832	11,599	372,621
No. of instruments connected	1932	181,326	151,455	62,065	48,696	27,117	13,967	484,626
	1933	182,992	152,693	62,207	48,463	27,220	14,087	487,662
	1934	188,694	157,802	63,762	49,089	27,731	14,324	501,402
(*a*) No. of subscribers' instruments	1932	176,426	147,989	59,740	47,181	25,884	13,148	470,368
	1933	177,869	149,179	59,859	46,945	25,956	13,255	473,063
	1934	183,378	154,137	61,382	47,537	26,455	13,499	486,388
(*b*) No. of public telephones	1932	2,986	2,199	1,532	788	903	544	8,952
	1933	3,229	2,226	1,534	789	900	549	9,227
	1934	3,353	2,344	1,559	803	900	541	9,500
(*c*) No. of other local instruments	1932	1,914	1,267	793	727	330	275	5,306
	1933	1,894	1,288	814	729	364	283	5,372
	1934	1,963	1,321	821	749	376	284	5,514
Instruments per 100 of population	1932	7.15	8.39	6.38	8.25	6.42	6.32	7.40
	1933	7.01	8.39	6.56	8.27	6.20	6.19	7.36
	1934	7.17	8.62	6.66	8.34	6.27	6.28	7.51
		£	£	£	£	£	£	£
Earnings	1932	2,087,878	1,556,936	798,088	529,743	303,527	134,905	5,411,077
	1933	2,125,762	1,603,177	799,251	532,090	308,470	136,090	5,504,840
	1934	2,245,139	1,666,633	835,162	538,001	316,772	139,614	5,741,321
Working expenses ..	1932	1,351,053	1,033,698	485,962	405,252	241,369	143,919	3,661,253
	1933	1,330,070	1,037,901	479,664	391,371	226,122	138,224	3,603,352
	1934	1,409,843	1,077,961	493,682	408,115	231,433	143,922	3,764,956
		%	%	%	%	%	%	%
Percentage of working expenses on earnings	1932	64.71	66.39	60.89	76.50	79.52	106.68	67.66
	1933	62.57	64.74	60.01	73.55	73.30	101.57	65.46
	1934	62.80	64.68	59.11	75.86	73.06	103.09	65.58

The number of instruments per 100 of population increased from 7.36 in 1932–33 to 7.51 in 1933–34. The actual number of instruments increased from 487,662 to 501,402, a gain of 2.82 per cent. Of the total instruments connected at 30th June, 1934, 215,871, or 43.1 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.

(vii) *Systems in Use.* The following table shows the percentage of automatic, common battery, and magneto telephone lines at 30th June, 1932 to 1934 :—

PERCENTAGE OF AUTOMATIC, COMMON BATTERY, AND MAGNETO LINES.

System.	30th June.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Australia.
Automatic	1932	42.6	37.1	35.7	37.3	40.8	29.0	39.0
	1933	45.1	37.7	36.0	37.0	41.9	29.4	40.1
	1934	46.1	38.6	36.5	37.5	49.1	30.2	41.4
Common Battery ..	1932	2.9	19.0	..	13.5	6.2	17.2	9.1
	1933	2.8	18.9	..	13.7	6.2	17.1	9.1
	1934	2.8	19.2	..	13.9	..	17.4	8.9
Magneto	1932	54.5	43.9	64.3	49.2	53.0	53.8	51.9
	1933	52.1	43.4	64.0	49.3	51.9	53.5	50.8
	1934	51.0	42.2	63.5	48.6	50.9	52.4	49.7

(viii) *Subscribers' Lines and Calling Rates.* The next table gives the number of subscribers' lines and the daily calling rate at central, suburban, and rural telephone exchanges in the several States for the year 1933–34 :—

TELEPHONE.—SUBSCRIBERS' LINES AND DAILY CALLING RATE, 1933–34.

State.	Central Exchanges.		Suburban Exchanges.		Rural Exchanges.		Total.	
	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.	Subscribers' Lines.	Average Outward Calls Daily per line.
New South Wales	15,815	11.37	61,136	4.21	58,280	2.11	135,231	4.14
Victoria ..	7,617	10.49	57,554	3.88	45,410	1.65	110,581	3.42
Queensland ..	6,665	9.19	11,850	3.42	29,430	2.48	47,945	3.65
South Australia ..	5,161	8.26	14,329	3.39	17,425	1.57	36,915	3.21
Western Australia	6,882	6.12	3,857	3.95	9,482	1.55	20,221	3.56
Tasmania ..	2,788	4.02	1,002	2.29	7,434	1.99	11,224	2.52
Australia ..	44,928	9.28	149,728	3.92	167,461	1.96	362,117	3.68

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 rural exchanges. For Australia as a whole, the average number of calls per line at central exchanges was approximately two and a third times the number registered at suburban exchanges, while the average for suburban exchanges was double the number shown for rural exchanges.

(ix) *Trunk Line Calls and Revenue.* In the next table the number of telephone trunk line calls recorded, the amount of revenue received, and the average revenue per call are shown for each of the States for the years 1931–32 to 1933–34 :—

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.
1931–32 ..	9,678,897	8,067,603	5,334,890	3,059,101	1,549,363	1,218,231	28,908,085
1932–33 ..	9,851,642	8,157,857	5,329,262	3,115,450	1,559,904	1,196,868	29,210,983
1933–34 ..	10,713,588	8,519,955	5,684,435	3,183,224	1,653,861	1,241,947	30,997,010
Total Revenue for Year—	£	£	£	£	£	£	£
1931–32 ..	480,847	357,688	300,801	140,023	83,831	41,500	1,404,690
1932–33 ..	473,295	357,063	288,681	142,013	81,858	41,454	1,384,364
1933–34 ..	527,651	380,004	317,223	149,272	87,939	41,667	1,503,756
Average Revenue per Call—	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.	Pence.
1931–32 ..	11.91	10.64	13.53	10.99	12.99	8.18	11.66
1932–33 ..	11.53	10.51	13.00	10.94	12.59	8.31	11.37
1933–34 ..	11.82	10.70	13.40	11.25	12.76	8.05	11.64

The number of trunk line calls originated during 1933–34 increased by over one and three quarter millions, or by 6.1 per cent. compared with the figures for the previous year, and the average revenue per call increased by 0.27d.

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

§ 6. Radio Telegraphy and Telephony.

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

2. **Wireless Licences.**—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 have an efficient radio telegraph installation, and further regulations will shortly be introduced compelling the installation of radiotelegraph apparatus in all ships engaged in the interstate trade, while similar regulations will also be introduced by some State Governments in respect of vessels in intra-state trade); (*c*) Land Stations to be operated where no telegraph or telephone facilities exist; (*d*) Broadcasting Stations, other than those of the National Broadcasting Service; (*e*) Broadcast Listeners' Receiving Sets; (*f*) Portable Stations on motor cars, etc.; (*g*) Aircraft Stations; (*h*) Experimental Stations; and (*i*) Special Stations, i.e., stations other than those named above.

The following table shows the number of each class of licence issued in each State, etc., during the years 1933–34 and 1934–35 :—

WIRELESS LICENCES, 1933–34.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	F.C.T.	Aust.	Papua and New Guinea	Grand Total.
Coast	2	1	6	1	5	3	1	..	19	9	28
Ship	16	68	4	6	3	3	..	..	100	..	100
Land (*b*)	8	3	4	1	2	3	7	..	28	8	36
Broadcasting (*a*) ..	16	15	8	4	6	3	..	1	53	..	53
Broadcast listeners'	225,897	206,995	51,998	64,139	31,404	16,547	35	934	597,949	40	597,989
Experimental ..	454	329	146	128	72	35	1	4	1,169	5	1,174
Portable	9	5	7	..	3	..	7	..	31	1	32
Special	26	15	..	1	6	..	..	..	48	..	48
Total Licences Issued	226,428	207,431	52,173	64,280	31,501	16,594	51	939	599,397	63	599,460

WIRELESS LICENCES, 1934-35.

Station Licence.	N.S.W.	Vic.	Qld.	S.A.	W.A.	Tas.	N.T.	F.C.T.	Aust.	Papua and New Guinea	Grand Total.
Coast	2	1	6	1	5	3	1	..	19	9	28
Ship	22	66	6	7	3	1	..	..	105	..	105
Aircraft	6	4	..	..	..	..	1	..	11	1	12
Land (*b*)	9	3	19	4	4	3	18	..	60	10	70
Broadcasting (*a*) ..	17	15	10	5	6	3	..	1	57	..	57
Broadcast listeners'	277,576	236,886	67,351	76,306	41,176	20,088	59	1,072	720,514	18	720,532
Experimental ..	512	361	176	148	81	33	2	6	1,319	1	1,320
Portable	11	5	4	..	1	..	4	..	25	3	28
Special	29	15	..	..	3	..	..	..	47	..	47
Total Licences Issued	278,184	237,356	67,572	76,471	41,279	20,131	85	1,079	722,157	42	722,199

(*a*) There are also thirteen stations operated by the National Broadcasting Service, including a short-wave station (3LR, Lyndhurst, Victoria). (*b*) In addition to the licensed stations there are two operated by the Postmaster-General's Department, viz.:—Wave Hill (N.T.) and Camooweal (Q.), and fourteen low powered stations established by the Government of the Territory of New Guinea.

3. **Broadcasting**—(i) *The National Broadcasting Service.* The technical services for the National Service are provided by the Postmaster-General's Department, and the programmes by the Australian Broadcasting Commission, a body consisting of five members, constituted under the provisions of the Australian Broadcasting Commission Act. The fee for a broadcast listener's licence was reduced from 24s. to 21s. as from the 6th August, 1934. Licences are issued free to blind persons. The Department receives 9s. and the Commission 12s. from each listener's licence fee.

There are at present twelve National Medium Wave Stations—2*FC* Sydney, 2*BL* Sydney, 2*NC* Newcastle—regional station—programmes relayed from Sydney, 2*CO* Corowa—regional station—programmes relayed from Melbourne, 3*LO* Melbourne, 3*AR* Melbourne, 4*QG* Brisbane, 4*RK* Rockhampton—regional station—programmes relayed from Brisbane, 5*CL* Adelaide, 5*CK* Crystal Brook—regional station—programmes relayed from Adelaide, 6*WF* Perth, 7*ZL* Hobart. There is also a short wave station at Lyndhurst (Victoria), call sign, 3*LR*. This station transmits programmes of the national service to remote regions at present not served by the medium wave stations.

Seven additional medium wave stations are in course of construction. Particulars of the call signs, locations and the ultimate powers of these stations, all of which it is hoped will be put into operation during the coming year, are:—7*NT* Kelso, near Launceston (Tasmania), 30 k.w.; 3*GI* Sale (Victoria), 30 k.w.; 2*NR* Lawrence, near Grafton (New South Wales), 30 k.w.; 4*QN* Clevedon, near Townsville (Queensland), 30 k.w.; 6*WA* Minding, near Wagin (Western Australia), 60 k.w.; 2*CR* Cumnock, near Dubbo (New South Wales), 60 k.w.; 3*WV* Horsham (Victoria), 60 k.w.

Some of the new stations will use a new form of transmitting aerial, which has been devised by the Postmaster-General's Department. With this form of aerial, the mast itself is the radiating element and the particular object of the design is to achieve, with masts of 500 to 600 feet in height, results similar to those otherwise only obtainable by masts of 800 to 1,000 feet.

The Department has considerably developed the use of very high frequency radio transmission; the frequencies used range from 40 million to 200 million cycles per second (wave-lengths approximately seven metres to one and a half metres). Apparatus using this high frequency has been employed in the broadcasting system for connecting pick-up points with the fixed programme lines where unusual mobility or freedom from physical connexion was required.

Progress has been made in the facilities for the reception of overseas broadcasting. Programmes from overseas have been regularly received and re-transmitted over the National network. Most of the important programmes from the Empire Broadcasting Station at Daventry have thus been made available to listeners in the Commonwealth.

(ii) *Commercial Broadcasting Stations.* The services of other broadcasting stations are conducted by private enterprise under licence from the Postmaster-General. Licences are granted on conditions which ensure satisfactory alternative programmes for listeners. The fee for a broadcasting station licence is £25 and the maximum period of a licence is three years, although they may be renewed annually at the discretion of the Postmaster-General. Licensees of these stations do not share in the listeners' licence fees, but rely for their income on revenue received from the broadcasting of advertisements and other publicity. The number of these stations in operation at 30th June, 1935, was 57, and there are several stations in prospect.

(iii) *Radio Inductive Interference.* The Postmaster-General's Department takes active measures to suppress, so far as possible, interference with broadcast reception resulting from the radiations of energy from electric machinery and appliances. During the year, the Department received 6,500 complaints of interfering noises, of which 5,361 were satisfactorily disposed of.

(iv) *Prosecutions Under the Wireless Telegraphy Act.* During the year 2,190 persons were convicted for using unlicensed broadcasting receiving equipment, the total fines amounted to £3,927.

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

(ii) *International Wireless Telephone Service.* A wireless telephone service between Australia and England was opened on the 30th April, 1930. Since then, direct services have been opened to New Zealand and Java, and the Anglo-Australian service has been extended to most of the countries in Europe, and to Egypt, Palestine, certain trans-Atlantic liners, French Indo China, India, South Africa, and North and South America. The fee for a conversation between Australia and England is £4 10s. for a minimum of three minutes' effective conversation and £1 10s. for each additional minute, and to Continental countries is slightly higher. The fee for calls to Egypt, and the trans-Atlantic liners is £2 8s. per minute, and to French Indo China, India, South Africa, and North and South America £3 per minute. The rates to the last-mentioned countries increase slightly on calls made to the western portions. Calls to New Zealand and Java cost £1 and £1 10s. per minute respectively.

With a view to stimulating the use of the radio channel for social calls, arrangements were made as from the 23rd December, 1933, for calls between Australia and Great Britain on Saturdays to be charged for at half the normal tariff, and this innovation has proved most successful.

The Australian telephone subscriber now has access to about 32,000,000 telephones, or approximately 93 per cent. of the world's total. Since the first overseas radio telephone service was established in 1930, 7,305 calls have been completed, of which 5,401 were between Australia and Great Britain, and 1,206 between Australia and New Zealand. During the year ended 30th June, 1935, 2,342 calls were completed, 1,212 originating in Australia and 1,130 in other countries. Of the total calls, 1,804 were between Australia and Great Britain, 372 between Australia and New Zealand, 60 between Australia and the United States of America, and 106 between Australia and other foreign countries.

(iii) *Radio Stations (Pacific Ocean).* Radiotelegraphic 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.

(iv) *Radiotelegraphic Traffic.* (*a*) *International.* The following statement shows particulars of international traffic " via Beam " to and from United Kingdom and other places during the year ended 30th June, 1934 :—

RADIO TRAFFIC.—INTERNATIONAL, YEAR ENDED 30th JUNE, 1934.

Class of Traffic.	Number of Words Transmitted.			Number of Words Received.		
	United Kingdom.	Other Places.	Total.	United Kingdom.	Other Places.	Total.
Ordinary (*b*) ..	1,341,950	550,473	1,892,423	954,064	213,194	1,167,258
Deferred	893,645	325,665	1,219,310	797,859	104,221	902,080
Government (*b*) ..	97,257	11,609	108,866	113,592	5,205	118,797
Press (including deferred press) ..	149,693	1,001	150,694	1,595,568	55,793	1,651,361
Daily letter and greeting telegrams (*a*) ..	2,956,240	767,429	3,723,669	1,722,773	238,884	1,961,657
Total	5,438,785	1,656,177	7,094,962	5,183,856	617,297	5,801,153

(*a*) Includes Christmas and New Year Greeting telegrams. (*b*) Includes Code telegrams.

(*b*) *Coast Stations.* Particulars of the traffic handled by the several coast stations during the year 1933-34 are as follow :—

RADIO TRAFFIC.—COAST STATIONS, 1933-34.

State or Territory.	Particulars.				
	Total Paying Words.	Messages.			
		Paying.	Service.	Weather.	Total.
	No.	No.	No.	No.	No.
New South Wales ..	1,124,816	69,227	3,146	4,713	77,086
Victoria	82,734	7,724	180	1,692	9,596
Queensland	181,705	14,453	4,671	4,371	23,495
South Australia	49,591	4,653	184	602	5,439
Western Australia ..	136,440	10,729	2,324	2,958	16,011
Tasmania	205,225	12,222	1,560	2,445	16,227
Northern Territory ..	55,361	2,563	1,109	1,315	4,987
Australia	1,835,872	121,571	13,174	18,096	152,841
Papua	202,234	12,528	637	994	14,159
Grand Total ..	2,038,106	134,099	13,811	19,090	167,000

(*c*) *Island Stations.* Particulars of the island radio traffic dealt with during the year 1933-34 are given in the following table :—

RADIO TRAFFIC.—ISLAND STATIONS, 1933-34.

Particulars.	To Australia.	From Australia.	Inter-Island.	Ship.	Total.
	No.	No.	No.	No.	No.
Messages	23,350	17,066	17,612	1,614	59,642
Words	318,481	284,816	239,512	18,834	861,643

(v) *Proficiency Certificates.* Every station, in respect of which a licence is issued, must be operated by a person holding a certificate of proficiency.

The number of each class of certificate issued during the year ended 30th June, 1934, was:—First Class 40, Second Class 20, limited certificates in radiotelegraphy 8, limited certificates in radiotelephony 52, and amateur certificates 168.