

CHAPTER XV.

LOCAL GOVERNMENT.

§ 1. Introduction.

1. **General.**—The statistics on Local Government operations are not entirely satisfactory, as they are incomplete, and not sufficiently comparable and up to date. Those on Local Government financial operations were improved, prior to the 1939–45 War, through the use by the State Statisticians of standard forms in supplying information on their respective States to the Commonwealth Statistician. The presentation of the statistics thus made available was only being developed when the war made it necessary to discontinue the returns. However, since the war they have been recommenced, and the matter in § 2, advanced and extended in the previous issue of the *Official Year Book*, has been further extended, particularly in regard to Local Government (and Semi-governmental) debt.

Efforts are being made, as opportunity and circumstances permit, to widen the range of information presented on local government activities beyond the purely, or primarily, financial.

2. **Local Government Authorities.**—In each State of the Commonwealth there exists a system of local government whose powers and responsibilities are in general similar, covering such matters as the upkeep and construction of roads and bridges, water and sewerage systems (except in most of the chief cities), health, sanitary services and conditions, lighting, supervision of building, and the administration of acts dealing with certain subjects (e.g., dog acts, food and drug acts, slaughtering acts, weights and measures acts, etc.). In addition to these obligatory functions there are also a large number which may be performed by local government authority either with or without the consent of the ratepayers or the governor-in-council. These include transport facilities, electricity, gas and other business undertakings, hospitals, charitable institutions, recreation grounds, parks, baths, libraries, museums, etc.

The system is based on the principle of a grant of specific powers by the State legislatures to the local authorities, their autonomy, however, being more or less limited by the provision for general supervision by a department of the central government or by the governor-in-council. Otherwise, within the scope of the acts under which they are constituted or which they have to administer, they are responsible only to the ratepayers.

While the broad pattern of local government throughout the States of Australia is similar, the range of activities, election of officers, methods of valuation and rating powers, etc., differ considerably.

The areas over which local government bodies exercise general control, numbering 970, are known in New South Wales as cities, municipalities and shires; in Victoria as cities, towns, boroughs and shires; in Queensland as cities, towns and shires; in South Australia as municipal corporation areas and district council areas; in Western Australia as municipalities and road districts; and in Tasmania as municipalities. In New South Wales some local government authorities in an area have combined to provide services such as electricity supply and water and sewerage—e.g., the county councils. There are also some municipal units within shires known as urban areas. In Western Australia there are local health boards, whose personnel in most cases coincides with those of municipalities and road boards. Apart from the more thinly populated parts of New South Wales and South Australia and the Federal Territories, practically the whole of Australia comes within local government jurisdiction.

The financial statistics in § 2. following are classified under the headings of Ordinary Services and Business Undertakings, the former covering the obligatory and general functions referred to above and also those other functions apart from business undertakings. Business Undertakings includes particulars of public utilities such as water supply and sewerage, electricity and gas, transport and hydraulic power undertakings, and other miscellaneous works such as abattoirs, quarries, ice works, cinemas, etc.

A description of the various systems of municipal governments in the different States, and their development from the earliest date, was published in 1919 by this Bureau in a separate work entitled *Local Government in Australia*. In this publication the systems in force at that time are examined, the development of local government in Australia is traced since its inception, and all available statistical information is collected.

3. Semi-Governmental Authorities.—The business undertakings covered by the statistics in § 2 do not include all those public business undertakings whose finances do not form part of the general budget revenue and expenditure of the central government. There is also a large number of authorities set up to control specific activities.

Their forms of activity are often identical with some of those performed by either, or both, of the other classes of public authority—central government and local government—and a complete picture of any field of activity for the State or Australia as a whole cannot be obtained without reference to each class operating in that particular field. These semi-governmental authorities differ primarily from local government authorities in that the operations of each of the former are restricted to the one or two forms of activity for which it was specifically constituted—e.g. roads and bridges, or water and sewerage, or electricity and irrigation, or harbours, or tramways, etc.—i.e. each dispenses a specific service throughout an area as distinct from the general services of the local authority. (It may be well to note here that the county councils in New South Wales, although constituted for a specific purpose or purposes, are included as local government authorities in § 2, because they are combinations of municipalities and shires.)

Sections 4 to 7 following, dealing with roads and bridges, water supply and sewerage, harbours and fire brigades, include particulars of the more important of these authorities which operate within the range covered by this chapter. A detailed list of the authorities classed as semi-governmental from whom returns of loan operations are received appears on pages 662–3, § 3, par. 2 following.

4. Roads, Bridges, etc.—The construction and maintenance of roads, bridges and ferries are generally part of the functions of local authorities, but in each State there exists a central road authority or a Government department whose duties relate to the construction and maintenance of “main” and “developmental” roads, the distribution of funds to local bodies, and the supervision and co-ordination of road construction and policy throughout the State. Although roads and bridges constructed and maintained directly by the Government or by the central road authority do not properly come under the heading of “Local Government”, they have been included in this chapter for the sake of convenience. Owing to difficulty in obtaining complete particulars of receipts and expenditure by the various local governing bodies in regard to roads under their control, the details of receipts and expenditure given in § 4 are those of the Government only, relating either to the supervisory board or commission in the State or to direct activities of a department. In § 2 some information is given of the revenue and expenditure of Local Government Authorities in respect of roads.

5. Water Supply and Sewerage.—In the cities of Sydney and Melbourne the control of water supply and sewerage is in the hands of special Boards, while in Adelaide and Perth these services are under the direct supervision of Government departments. In most of the other cities and towns, the municipal councils, or, in some cases, water trusts, are the controlling bodies which either construct the works out of their own resources or take them over after they have been constructed by the Government.

6. **Harbours.**—The majority of the harbours in Australia are managed by Boards, the members of which are either elected by persons interested, or are appointed by the Government. In a few instances, however, they are directly controlled by the Government.

7. **Fire Brigades.**—In all the States, the management of fire brigades is undertaken by Boards. These Boards usually comprise members elected by the councils of municipalities and insurance companies within the districts placed under their jurisdiction, and one or more members appointed by the Government. Occasionally volunteer or country fire brigades are represented.

8. **Other Local Government Activity.**—The activities referred to above are not the only forms of local government undertakings. There are others, the most important being tramways and omnibus services and electric light and gas undertakings, whose control generally is less restricted to local government authorities. These are not dealt with in this chapter, except to the extent that they are represented in the finances as shown in the following section. Chapter V.—Transport and Communication contains information on municipal transport services, while particulars of electric light and gas undertakings, although not shown separately, are included in the relevant sections in Chapter XXIV.—Manufacturing Industry.

§ 2. Local Government Authorities.

1. **Area, Population, Dwellings and Value of Ratable Property.**—(i) *New South Wales.* For purposes of local government the whole of the Eastern and Central land divisions and a small portion of the sparsely populated Western division have been divided into cities, municipalities (most principal towns) and shires (mainly large rural areas, some of which embrace important towns). At the end of 1946 the area incorporated was 184,000 square miles, or nearly three-fifths of the total area of the State.

The Local Government (Areas) Act 1948 repealed the Sydney Corporation Act 1932 which had regulated the operations of the Capital City. It unites the City of Sydney and certain areas, constituting the united area as a city; unites certain other areas or areas and parts of areas, constituting them as municipalities; and reconstitutes the Sydney County Council. All local government authorities in the State are now subject to the general provisions of the Local Government Act.

Municipalities and shires may combine to form county councils for the establishment and conduct of services of joint benefit, e.g., electricity, water, sewerage. There were 16 county councils and the Grafton and South Grafton Water Board at 31st December, 1946.

The area, population, dwellings and value of ratable property in the incorporated areas for the year ended 31st December, 1946 are shown in the table below. The valuations relate to ratable property only and exclude Government and other non-ratable property, whose value is not inconsiderable in the aggregate. In this table, and in the corresponding tables for other States, particulars of dwellings are in accordance with the definition used in the 1947 Census, and are the results of information collected on the Census schedules. Occupied dwellings include individual private houses, flats and tenements, and dwellings other than private (boarding houses, hotels, caretakers' quarters, hospitals, educational establishments, etc.). Also included are portions of shared private houses in respect of which portions separate householders' schedules were furnished. Unoccupied dwellings include "week-end" and holiday dwellings and other dwellings temporarily unoccupied on the night of the Census. Dwellings being built are not included.

LOCAL GOVERNMENT AUTHORITIES, NEW SOUTH WALES : AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1946.

Local Bodies.	Number.	Area.	Popu- lation. (a)	Dwellings.(a)		Value of Ratable Property.		
				Occu- pied.	Unoccu- pied.	Unim- proved Capital Value.	Im- proved Capital Value.	Assessed Annual Value. (b)
		'000 acres.	'000	No.	No.	£'000.	£'000.	£'000.
Metropolitan— Capital City	1	3	96	21,863	429	51,788	182,683	9,221
Other(c)	48	151	1,375	355,049	2,339	109,804	371,665	29,950
Total	49	154	1,471	376,912	2,768	161,592	554,348	39,171
Outside Metropolitan Area (d)	240	117,622	1,492	367,370	14,387	189,413	(e)	(e)
Grand Total	289	117,776	2,963	744,282	17,155	351,005	(e)	(e)

(a) As at Census, 30th June, 1947. (b) Nine-tenths annual rental value of land with improvements thereon. (c) Excludes whole of municipality of Holroyd. (d) Includes City of Greater Newcastle. (e) Not available. (f) Includes 42,253 shares of private houses—see above.

(ii) *Victoria.* Local Government is established throughout the State, the various divisions being termed cities, towns, boroughs, or shires. The only unincorporated areas are French Island in Westernport Bay (42,000 acres), Julia Percy Island, off Port Fairy (650 acres), and Tower Hill, adjacent to the Borough of Kororoit (1,350 acres). Melbourne and Geelong were incorporated under special statutes prior to the establishment of a general system of local government, but are now subject to several provisions of the Local Government Act. The law relating to local government was consolidated by the Local Government Act 1946.

As from 1st January, 1947, the metropolitan area for statistical and health purposes was redefined by the inclusion of the city of Nunawading, the borough of Ringwood, the Broadmeadows and Campbellfield ridings of the shire of Broadmeadows, the Doutta Galla riding of the shire of Keilor and the shire of Mulgrave.

The area, population, dwellings and estimated value of ratable property in the incorporated areas for the year ended 30th September, 1947 are shown below :—

LOCAL GOVERNMENT AUTHORITIES, VICTORIA : AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1946-47.

Local Bodies.	Number.	Area.	Popu- lation. (a)	Dwellings.(a)		Value of Ratable Property.	
				Occupied.	Un- occupied.	Improved Capital Value.	Annual Value.
		'000 Acres.	'000	No.	No.	£'000.	£'000.
Metropolitan— Capital City	1	8	100	24,805	206	104,952	5,248
Other (b)	33	341	1,134	296,793	1,630	359,958	18,952
Total	34	349	1,234	321,598	1,836	464,910	24,200
Outside Metropolitan Area	163	55,853	817	208,947	9,572	319,574	16,011
Grand Total	197	56,202	2,051	530,545	11,408	784,484	40,211

(a) As at Census, 30th June, 1947. (b) Includes the whole of the city of Heidelberg, the borough of Ringwood, and the whole of the shires of Braybrook, Broadmeadows and Keilor. (c) Includes 36,782 shares of private houses—see par. 1 (i) above.

Particulars of the unimproved capital value are not available.

(iii) *Queensland.* The whole of the State (except certain islands along the coast, the Dawson Valley Irrigation Area and the Somerset Dam Area) is incorporated into cities, towns and shires under the Local Authorities Act 1902 and its amendments. The following table shows particulars of the area, population, dwellings and value of ratable property in the incorporated areas for the year ended 30th June, 1947 :—

LOCAL GOVERNMENT AUTHORITIES, QUEENSLAND: AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1946-47.

Local Bodies.	Number.	Area.	Population. (a)	Dwellings.(a)		Un-improved Capital Value of Ratable Property.
				Occupied.	Un-occupied.	
		'000 acres.	'000.	No.	No.	£'000.
Capital City (b)	1	246	402	100,180	1,475	21,177
Outside Metropolitan Area ..	143	428,874	697	171,789	8,071	54,076
Total	144	429,120	1,099	(c) 271,969	9,546	75,253

(a) As at Census, 30th June, 1947.

(b) City of Greater Brisbane.

(c) Includes 10,749

shares of private houses—see par. 1 (i) above.

Particulars of improved capital value and annual value are not available.

(iv) *South Australia.* The settled portion of South Australia is incorporated, being mostly under municipal corporations in the larger cities and towns, and district councils in the agricultural areas.

The following table shows the area, population, dwellings and value of ratable property in incorporated areas for the year ended 30th June, 1947.

LOCAL GOVERNMENT AUTHORITIES, SOUTH AUSTRALIA: AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1946-47.

Local Bodies.	Number.	Area.	Population. (a)	Dwellings.(a)		Value of Ratable Property.		
				Occu- pied.	Unoccu- pied.	Unim- proved Capital Value.	Im- proved Capital Value.	Annual Value.
		'000 Acres.	'000.	No.	No.	£'000.	£'000.	£'000.
Metropolitan— Capital City	1	4	35	8,195	68	12,000	30,000	1,506
Other	20	99	348	92,383	696	(b)	90,000	4,380
Total	21	103	383	100,578	764	(b)	120,000	5,886
Outside Area	122	34,402	253	66,372	2,680	(b)	96,000	4,768
Grand Total	143	34,505	636	166,950	3,453	(b)	216,000	10,654

(a) As at Census, 30th June, 1947.

(b) Not available.

(c) Includes 15,324 shares of private

houses—see par. 1 (i) above.

(v) *Western Australia.* In this State, Local Government is carried on by means of municipalities and district road boards. Certain functions are delegated to health boards, whose personnel, in most cases, coincides with those of the municipalities and district road boards. The following table shows particulars of the area, population, dwellings and value of ratable property in incorporated areas for the year ended October, 1947 for municipalities, and the year ended June, 1947 for district road boards.

LOCAL GOVERNMENT AUTHORITIES, WESTERN AUSTRALIA: AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1946-47.

Local Bodies.	Number.	Area.	Population. (a)	Dwellings.(a)		Value of Ratable Property.		
				Occu- pied.	Unoccu- pied.	Unim- proved Capital Value.	Im- proved Capital Value.	Annual Value.
		'000 Acres.	'000.	No.	No.	£'000.	£'000.	£'000.
Municipalities—								
Metropolitan—								
Capital City	1	14	99	23,633	115	(b)	41,500	1,664
Other	8	11	71	18,004	115	(b)	14,659	750
Total	9	25	170	41,637	230	(b)	56,159	2,414
Outside Metropolitan Area	12	35	52	12,469	222	(b)	8,858	540
Total	21	60	222	54,106	452	(b)	65,017	2,954
District Road Boards—								
Other Metropolitan (c)	11	96	103	25,306	219	3,922	(b)	15
Outside Metropolitan Area	116	624,432	175	45,605	1,866	18,777	(b)	511
Total	127	624,528	278	70,911	2,085	22,699	(b)	526
All Authorities—								
Metropolitan—								
Capital City	1	14	99	23,633	115	(b)	41,500	1,664
Other	19	107	174	43,310	334	(b)	(b)	765
Total	20	121	273	66,943	449	(b)	(b)	2,429
Outside Metropolitan Area	128	624,467	227	58,074	2,088	(b)	(b)	1,051
Grand Total	148	624,588	500	125,017	2,537	(b)	(b)	3,480

(a) As at Census, 30th June, 1947. (b) Not available. (c) Includes part only (8,064 acres) of Swan River District situated in Metropolitan Area. (d) Includes 6,455 shares of private houses—see par. 1 (i) above.

The method of valuation is not identical in the case of all district road boards, as in some the assessment is based on the unimproved capital value and in others partly on the unimproved capital value and partly on the annual value. The amounts shown are the totals for the areas rated on each valuation, and are not a function of each other.

(vi) *Tasmania*. The whole State is divided into municipal districts, Hobart and Launceston being incorporated under separate Acts. The Hobart Corporation Act was consolidated in 1947. The following table shows particulars of the area, population, dwellings and value of ratable property in incorporated areas for the year ended June, 1947.

LOCAL GOVERNMENT AUTHORITIES, TASMANIA: AREA, POPULATION, DWELLINGS AND VALUE OF RATABLE PROPERTY, 1946-47.

Local Bodies.	Number.	Area.	Popu- lation. (a)	Dwellings.(a)		Value of Ratable Property.		
				Occu- pied.	Unoccu- pied.	Unim- proved Capital Value.	Im- proved Capital Value.	Annual Value.
		'000 Acres.	'000.	No.	No.	£'000.	£'000.	£'000.
Metropolitan—								
Capital City ..	1	18	57	13,662	56	5,208	15,777	994
Other (b) ..	2	99	19	4,571	331	1,162	3,560	259
Total ..	3	117	76	18,233	387	6,370	19,337	1,253
Outside Metropolitan Area ..	46	16,661	180	44,376	1,964	17,488	41,709	2,314
Grand Total ..	49	16,778	256	62,609	2,351	23,858	61,046	3,567

(a) As at Census, 30th June, 1947. (b) Comprises the whole of the Municipalities of Clarence and Glenorchy. (c) Includes 4,911 shares of private houses—see par. 1 (i) above.

2. **Finances.**—(i) *General*. As the result of resolutions adopted at a conference of Statisticians in 1936 the financial statistics of Local Government Authorities were compiled in the various States on a more comparable basis than formerly. The collection of this information was suspended in most States for the duration of the war, but has now been resumed. The tables following show the latest figures available, which, except for the State of New South Wales where the figures relate to the year 1946, refer to the year 1946-47.

(ii) *Ordinary Services*. (a) *Details*. In the returns of revenue and expenditure for 1946-47 in the following table the proceeds from loans and expenditure thereof have been excluded, as have the operations of business undertakings controlled by the various Local Government Authorities. The profits resulting from the working of these undertakings, where taken into general revenue, have been included.

LOCAL GOVERNMENT AUTHORITIES : ORDINARY SERVICES—REVENUE AND EXPENDITURE, 1946-47.

Particulars.	N.S.W. (a)	Vic. (b)	Q'land. (c)	S. Aust. (c)	W. Aust. (d)	Tas. (e)	Total.
Number of Local Government Authorities ..	289	197	144	143	148	49	970

REVENUE (EXCLUDING LOAN RECEIPTS).

(£.)

Taxation—							
Rates (net) ..	6,742,581	4,580,888	3,125,976	1,135,537	811,928	460,287	16,939,422
Penalties ..	56,490	23,456					
Licences ..	142,087	58,553					
Total ..	6,941,158	4,664,897	3,162,378	1,162,904	832,892	470,621	17,234,250
Public Works and Services—							
Sanitary and Garbage Services ..	670,426	214,097	619,063	36,866	116,803	28,281	1,685,536
Council Properties ..	763,605	766,087	490,366	135,294	117,307	72,748	2,345,467
Street Construction ..	214,682	142,092	41,879	27,601	30,159	694	457,167
Other ..	379,497	106,151	26,549	36,149	24,996	13,084	586,426
Total ..	2,028,210	1,228,427	1,177,857	235,970	289,325	114,807	5,074,596
Government Grants—							
Unemployment Relief ..				6,820			6,826
Roads ..	1,146,556	95,847	534,383	352,204	54,513	19,319	2,202,822
Other ..	446,281	184,228 (f)	293,688	12,425	6,923	13,912	959,457
Total ..	1,592,837	280,075	828,071	371,455	63,436	33,231	3,169,105
Profits from Business Undertakings ..		211,492	25,711		91,770		328,973
Fees and Fines ..		18,358	286,860	26,248	357,217		948,587
All Other ..		73,015		38,749	85,650	62,490	
Total, Revenue ..	10,562,205	6,476,264	5,480,877	1,835,326	1,720,290	680,549	26,755,511

EXPENDITURE (EXCLUDING LOAN EXPENDITURE).

(£.)

General Administration ..	827,247	926,656	418,891	196,443	188,396	86,687	2,644,320
Debt Services (excluding Business Undertakings)—							
Interest ..	614,042	348,421	566,977	25,014	52,938	18,663	1,626,055
Redemption ..	958,010	486,648	571,077	60,944	123,948	35,744	2,236,371
Exchange ..	25,913		92,674		2,277	505	121,369
Other ..	2,419	6,776	8,312	121	556		18,184
Total ..	1,600,384	841,845	1,239,040	86,079	179,719	54,912	4,001,979
Public Works and Services—							
Roads, Streets and Bridges ..	4,632,759	2,419,274	2,245,295	1,168,907	629,481	285,945	11,381,661
Health Administration ..	224,462	273,146	111,346	99,813	53,106	21,118	782,991
Sanitary and Garbage Services ..	976,854	451,145	465,493	112,000	162,689	33,284	2,201,465
Street Lighting ..	391,912	182,125	91,833	66,649	55,651	27,707	815,877
Council Properties ..	1,545,568	1,334,979	582,098	205,116	394,690	106,022	4,168,473
Other ..	290,497	61,960 (g)	475,064	71,369	46,593	13,982	959,465
Total ..	8,062,052	4,722,629	3,971,129	1,723,854	1,342,210	488,058	20,300,932
Grants—							
Fire Brigades ..	172,181	116,127	59,957	(h)	25,944		
Hospitals and Ambulances ..	56,770	63,891	2,426		3,966		
Other Charities ..			872	4,259	3,765		
Other ..	(i) 227,739	j 281,675	47,415	4,678	1,944		
Total ..	356,690	461,693	110,670	8,937	35,619	14,957	1,088,566
All Other ..	332,082	33,925	99,776	270	86,856	77,460	630,378
Total, Expenditure ..	11,278,455	6,986,748	5,839,506	2,015,592	1,832,800	722,074	28,675,175
	less						less
	k 183,244						183,244
	11,095,211	6,986,748	5,839,506	2,015,592	1,832,800	722,074	28,491,931

(a) Figures for New South Wales relate to the year ended 31st December, 1946, and are on an income and expenditure basis as distinct from those of other States, which are on a cash basis. (b) Year ended 30th September, 1947. (c) Year ended 30th June, 1947. (d) Municipalities—Year ended 31st October, 1947; Road Districts—Year ended 30th June, 1947. (e) Includes £20,463 reimbursements from Highways Department for work done. (f) Includes £141,860 for sewerage and drainage. (g) Includes £179,405 for sewerage, mosquito control and drainage. (h) Compulsory contributions included under Public Works and Services. (i) To Main Roads Department. (j) Includes £132,569 to Country Roads Board. (k) This deduction offsets duplications caused by the inclusion above of particulars of expenditure on (i) the purchase from revenue of assets and the depreciation of those assets, and (ii) the depreciation of assets purchased from loans and the repayment of those loans. The amount deducted cannot be apportioned according to the various headings.

(b) Years 1938-39 and 1942-43 to 1946-47. The following table shows the revenue and expenditure (excluding loan) of local government authority ordinary services for the years 1938-39 and 1942-43 to 1946-47.

LOCAL GOVERNMENT AUTHORITIES: ORDINARY SERVICES—REVENUE AND EXPENDITURE.
(£.)

Year.	N.S.W.(a)	Victoria.(b)	Q'land.(c)	S. Aust.(c)	W. Aust.(d)	Tas.(c)	Total.
REVENUE (EXCLUDING LOAN RECEIPTS).							
1938-39 ..	10,657,409	6,070,551	4,177,632	1,578,688	1,447,154	518,755	24,450,189
1942-43 ..	(e)	5,641,982	(e)	1,403,364	(f)1,382,105	530,876	(e)
1943-44 ..	(e)	5,566,219	(e)	1,368,639	(f)1,400,380	529,886	(e)
1944-45 ..	9,015,895	5,608,618	4,577,539	1,408,048	(f)1,368,044	551,634	22,529,778
1945-46 ..	9,256,534	5,904,597	4,874,703	1,554,280	1,441,370	507,945	23,629,429
1946-47 ..	10,562,205	6,476,264	5,480,877	1,835,326	1,720,290	680,549	26,755,511
EXPENDITURE (EXCLUDING LOAN EXPENDITURE).							
1938-39 ..	10,790,273	6,192,859	4,334,634	1,558,169	1,489,079	506,976	24,871,990
1942-43 ..	(e)	4,984,390	(e)	1,222,129	(f)1,237,193	514,291	(e)
1943-44 ..	(e)	5,106,856	(e)	1,283,542	(f)1,311,488	529,531	(e)
1944-45 ..	8,956,007	5,344,471	4,564,402	1,385,934	(f)1,346,459	534,915	22,132,188
1945-46 ..	9,260,781	6,218,016	5,267,540	1,632,714	1,504,060	622,311	24,595,461
1946-47 ..	11,095,211	6,986,748	5,839,506	2,015,592	1,832,800	722,074	28,491,931

(a) Years ended previous 31st December. (b) Years ended 30th September. (c) Years ended 30th June. (d) Municipalities—Years ended 31st October; Road Districts—Years ended 30th June. (e) Not available. (f) Includes loan receipts and expenditure of Local Boards of Health.

(iii) *Business Undertakings.* (a) *Details.* The table hereunder shows, for 1946-47, particulars of the revenue and expenditure, other than loan, of business undertakings under the control of local government authorities. These particulars are not included in the foregoing tables.

LOCAL GOVERNMENT AUTHORITIES: BUSINESS UNDERTAKINGS—REVENUE AND EXPENDITURE, 1946-47.
(£.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
REVENUE (EXCLUDING LOAN RECEIPTS).							
Water Supply and Sewerage— Rates	592,667	(a)	14,184	..	5,752	174,539	(a)
Charges for Services and Sales of Products	201,518	(a)	1,366,391	690	7,236	51,409	(a)
Other (including Grants)	205,967	(a)	111,378	..	1,343	29,351	(a)
Total	1,000,152	48,887	1,491,953	690	14,331	255,299	2,811,312
Electricity and Gas— Rates	34,586	(a)	8,076	..	..	..	(a)
Charges for Services and Sales of Products	8,606,520	(a)	1,289,956	174,558	1,333,975	14,922	(a)
Other (including Grants)	76,424	(a)	71,879	6,618	14,803	2	(a)
Total	8,807,530	2,558,518	1,369,911	181,176	1,348,778	14,924	14,280,837
Railways, Tramways and Omnibuses— Rates .. .. .	..	(a)	..	..	..	7,169	(a)
Charges for Services and Sales of Products .. .. .	..	(a)	1,374,517	..	..	322,354	(a)
Other (including Grants) .. .. .	..	(a)	32,771	..	..	4,478	(a)
Total .. .. .	..	9,266	1,407,288	..	..	334,001	1,750,555
Other— Rates	(e)	(d)	(e)	(f)	(g)	(h)	(a)
Charges for Services and Sales of Products	515,863	(a)	34,239	12,937	18,749	16,586	(a)
Other (including Grants)	4,625	(a)	7,305	14,476	955	715	(a)
Total	520,488	180,704	41,544	14,413	19,704	17,373	704,226
Grand Total	10,328,170	2,797,375	4,310,696	196,279	1,382,813	621,597	19,636,930

NOTE.—See next page for notes.

LOCAL GOVERNMENT AUTHORITIES: BUSINESS UNDERTAKINGS—
REVENUE AND EXPENDITURE, 1946-47—continued.

(£.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
EXPENDITURE (EXCLUDING LOAN EXPENDITURE).							
Water Supply and Sewerage—							
Working Expenses ..	481,814	(a)	555,442	690	5,252	93,837	(a)
Depreciation ..	25,457	(a)	..	..	..	..	(a)
Debt Charges ..	396,330	(a)	733,087	..	9,182	137,057	(a)
Other (including Transfers to General Revenue and Construction) ..	..	(a)	156,409	..	..	26,332	(a)
Total	852,687	50,674	1,444,938	690	14,434	257,226	2,620,649
Electricity and Gas—							
Working Expenses ..	6,309,844	(a)	950,274	134,858	1,049,822	14,337	(a)
Depreciation ..	887,304	(a)	..	..	104,601	..	(a)
Debt Charges ..	1,289,957	(a)	229,596	9,987	47,982	39	(a)
Other (including Transfers to General Revenue and Construction) ..	..	(a)	196,653	38,422	91,549	422	(a)
Total	8,487,105	2,478,526	1,376,523	183,267	1,293,954	14,798	13,834,173
Railways, Tramways and Omnibuses—							
Working Expenses ..	..	(a)	1,046,927	..	..	283,347	(a)
Depreciation ..	..	(a)	..	..	..	..	(a)
Debt Charges ..	..	(a)	202,348	..	..	42,858	(a)
Other (including Transfers to General Revenue and Construction) ..	..	(a)	214,891	..	..	17,887	(a)
Total .. ..	..	8,500	1,464,166	..	..	344,092	1,816,758
Other—	(c)	(d)	(e)	(f)	(g)	(h)	
Working Expenses ..	487,602	(a)	38,331	12,368	18,044	13,414	(a)
Depreciation ..	3,461	(a)	..	..	360	..	(a)
Debt Charges ..	22,918	(a)	..	..	856	3,636	(a)
Other (including Transfers to General Revenue and Construction) ..	..	(a)	3,903	2,000	..	1,724	(a)
Total	507,059	196,443	42,234	14,368	19,260	18,774	798,138
Grand Total	9,846,851	2,734,143	4,327,861	198,325	1,327,648	634,890	19,069,718

(a) Not available separately. (b) Includes £144,282 Government Grant for part of cost of new works borne by Government. (c) Abattoirs and ice works. (d) Hydraulic power undertaking, quarries and abattoirs. (e) Municipal markets, ice works, amusement parks and accommodation hostel. (f) Quarries. (g) Quarries, ice works, cinema and abattoirs. (h) Abattoirs.

NOTE.—Minus sign (—) indicates an excess of credits.

(b) Years 1938-39 and 1942-43 to 1946-47. This table shows the revenue and expenditure, other than loan, of local government business undertakings for the years 1938-39 and 1942-43 to 1946-47.

LOCAL GOVERNMENT AUTHORITIES: BUSINESS UNDERTAKINGS—REVENUE AND EXPENDITURE.

(£.)

Year.	N.S.W.(a)	Victoria.(b)	Q'land.(c)	S. Aust.(c)	W. Aust.(d)	Tas.(c)	Total.
REVENUE (EXCLUDING LOAN RECEIPTS).							
1938-39 ..	6,405,010	1,813,796	3,373,966	113,132	962,470	528,461	13,196,835
1942-43 ..	(e)	2,420,520	(e)	145,352	1,006,726	659,157	(e)
1943-44 ..	(e)	2,510,079	(e)	153,072	1,079,175	682,766	(e)
1944-45 ..	9,323,148	2,674,803	4,805,321	174,422	1,137,903	595,984	18,771,581
1945-46 ..	9,583,012	2,691,167	4,725,507	182,867	1,259,405	603,329	19,045,287
1946-47 ..	10,328,170	2,797,375	4,310,696	196,279	1,382,813	621,597	19,636,930
EXPENDITURE (EXCLUDING LOAN EXPENDITURE).							
1938-39 ..	5,556,123	1,802,972	3,256,263	123,356	935,052	513,666	12,187,432
1942-43 ..	(e)	2,339,587	(e)	130,398	970,982	628,917	(e)
1943-44 ..	(e)	2,429,326	(e)	146,579	1,031,757	655,381	(e)
1944-45 ..	8,805,878	2,515,912	4,383,756	154,161	1,076,958	574,770	17,511,435
1945-46 ..	9,068,181	2,668,730	4,723,246	162,937	1,177,146	593,503	18,393,743
1946-47 ..	9,846,851	2,734,143	4,327,861	198,325	1,327,648	634,890	19,069,718

NOTE.—See notes to corresponding table on Ordinary Services.

(iv) *Loan Expenditure.* (a) *Details.* The table below shows particulars for 1946-47 of loan expenditure on works connected with the ordinary services and the business undertakings of local government authorities.

LOCAL GOVERNMENT AUTHORITIES: LOAN EXPENDITURE ON WORKS, 1946-47.

(£.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
ORDINARY SERVICES.							
Roads, Bridges, Streets; Footpaths, Drainage and Sewerage	250,525	159,286	733,860	76,932	63,475	84,548	2,274,931
Council Properties	233,141	41,689	69,972	27,958	8,711		
Parks, Gardens and Recrea- tional Reserves	21,679	12,789		..	5,827		
Other	141,542	72,371		..	46,648		
Total	646,887	286,135	1,027,810	104,890	124,661	84,548	2,274,931
BUSINESS UNDERTAKINGS.							
Water Supply	259,152	19,467	369,997	..	..	117,815	2,328,529
Sewerage	16,100	..	195,141	..	..
Electricity and Gas	672,140	187,658	213,074	..	23,038		
Railways, Tramways and Omnibuses .. ..	..	..	194,188	..	..
Other	13,613	21,138	1,996	..	(c) 24,012	..	..
Total	961,005	228,263	974,396	..	47,050	117,815	2,328,529
Grand Total	1,607,892	514,398	2,002,206	104,890	171,711	202,363	4,603,460

(a) Includes advances for homes £22,587.
Fund.

(c) Housing schemes.

(b) Excludes £255,340 transferred to General Revenue

(b) *Years 1938-39 and 1942-43 to 1946-47.* The following table shows the loan expenditure on works connected with local government ordinary services and business-undertakings during the years 1938-39 and 1942-43 to 1946-47.

LOCAL GOVERNMENT AUTHORITIES : LOAN EXPENDITURE ON WORKS.
(£.)

Year.	N.S.W.(a)	Victoria.(b)	Q'land.(c)	S. Aust.(c)	W. Aust.(d)	Tas.(e)	Total.
ORDINARY SERVICES.							
1938-39 ..	1,757,704	662,986	1,316,651	43,479	(f) 117,172	39,481	3,937,473
1942-43 ..	(e)	59,384	(e)	2,668	(f) 2,205	1,976	(e)
1943-44 ..	(e)	69,509	(e)	689	(f) 1,494	4,272	(e)
1944-45 ..	93,220	(e)	92,231	10,925	(f) 560	16,727	(e)
1945-46 ..	144,568	114,811	247,023	44,382	25,346	25,111	601,281
1946-47 ..	646,887	286,135	1,027,810	104,890	124,661	84,548	2,274,931
BUSINESS UNDERTAKINGS.							
1938-39 ..	1,481,484	452,374	941,911	9,542	76,280	232,687	3,194,278
1942-43 ..	(e)	132,461	(e)	..	(f) 1,500	124,081	(e)
1943-44 ..	(e)	89,417	(e)	..	..	92,811	(e)
1944-45 ..	419,180	(e)	221,659	4,500	..	97,228	(e)
1945-46 ..	425,886	211,365	507,780	..	2,500	43,978	1,191,509
1946-47 ..	961,005	228,263	974,396	..	47,050	117,815	2,328,529

(a) Years ended previous 31st December. (b) Years ended 30th September. (c) Years ended 30th June. (d) Municipalities—Years ended 31st October; Road Districts—Years ended 30th June. (e) Not available. (f) Excludes Local Boards of Health.

§ 3. Local and Semi-Governmental Authorities' Debt.

1. **General.**—Previous issues of the Official Year Book (*see* No. 36, page 595) have contained particulars of Local and Semi-Governmental Debt up to and including 1940-41. These particulars were compiled from returns collected prior to the 1939-45 War. Because of difficulties created by the war this collection was discontinued after 1940-41, but was resumed in 1946-47. The information in the following table has been compiled from returns furnished by all Local Government Authorities and those Semi-Governmental Authorities listed in the following paragraph.

2. **Semi-Governmental Authorities furnishing Returns.**—The following Semi-Governmental Authorities supplied returns of debt liability for the year ended 30th June, 1947 :—

New South Wales. *Water Supply and Sewerage.*—Metropolitan Water, Sewerage and Drainage Board, Hunter District Water Board, Broken Hill Water Board, and County Councils. *Electricity Supply.*—County Councils. *Fire Brigades.*—Board of Fire Commissioners. *Banking.*—Rural Bank of New South Wales.

Victoria. *Water Supply and Sewerage.*—Melbourne and Metropolitan Board of Works, Ballarat Water Commission, Geelong Water Works and Sewerage Trust, Mildura Urban Water Trust, Waterworks Trusts and Sewerage Authorities. *Irrigation and Drainage.*—First Mildura Irrigation Trust and Trafalgar Meadows Drainage Trust. *Harbours.*—Melbourne Harbour Trust and Geelong Harbour Trust. *Tramways.*—Melbourne and Metropolitan Tramways Board. *Electricity Supply.*—State Electricity Commission. *Fire Brigades.*—Metropolitan Fire Brigades Board and Country Fire Authority. *Marketing, Buying and Selling.*—Western Metropolitan Marketing Trust. *Grain Elevators.*—Grain Elevators Board. *Banking.*—State Savings Bank (Crédit Foncier Department). *Housing.*—Housing Commission of Victoria.

- Queensland.** *Water Supply and Sewerage.*—Coolangatta-Nerang Water Supply Board, Stanley River Works Board, Cairns-Mulgrave Water Supply Board and Bore Water Supply Boards. *Irrigation and Drainage.*—Inkerman Irrigation Board (Water). *Harbours.*—Harbour Boards, Harbour Dues Fund, River Works Board, Brisbane Harbour Loans Fund, Brisbane Graving Dock, Burdekin River Trust Fund. *Electricity Supply.*—Barron Falls Hydro-Electricity Board, Inkerman Irrigation Board (Electricity), Capricornia Regional Electricity Board, Cairns Regional Electricity Board, Wide Bay Regional Electricity Board. *Roads and Bridges.*—Lamington Bridge Board, Main Roads Commission. *Trading Activities.*—State Coal Mines, Chillagoe State Smelters, State Coke Works, Irvinebank State Treatment Works. *Fire Brigades.*—Fire Brigades. *Universities.*—University Works Board. *Hospitals and Ambulances.*—Hospitals and Ambulances. *Marketing, Buying and Selling.*—Queensland Meat Industry Board, Atherton Tableland Maize Board, Northern Pig Board, Queensland Barley Board, Queensland Cotton Board, Queensland Egg Board, Queensland Peanut Board, Queensland Butter Board, Queensland Sugar Board, Queensland Ginger Board, and Fish Supply Fund. *Marketing Agency.*—Queensland Arrowroot Board, Committee of Direction Fruit Marketing, Queensland Broom Millet Board, Queensland Cheese Board, Queensland Honey Board, Queensland Plywood and Veneer Board, Northern Plywood and Veneer Board, State Wheat Board, State Fish Board, Queensland Central Coal Board, West Moreton District Coal Board, Maryborough District Coal Board, Central District Coal Board and Darling Downs District Coal Board. *Industry Improvement.*—Queensland Dairy Products Stabilization Board, Dairy Cattle Improvement Fund, Queensland Cane Growers Council, Council of Agriculture, Stock Diseases Fund, Brands Act Fund, Moreton Rabbit Board, Darling Downs Rabbit Board, Leichhardt Rabbit Board, Toowoomba Pest Destruction Board, Brisbane and East Moreton Pest Destruction Board, Banana Industry Fund, Sugar Cane Prices Fund, Sugar Fund, Buffalo Fly Control Fund and the Stock Routes and Pest Destruction Fund. *Banks.*—Agricultural Bank Fund. *Miscellaneous.*—Aboriginal Welfare Fund and Committee of Reconstruction Training Fund.
- South Australia.** *Irrigation and Drainage.*—Renmark Irrigation Trust. *Tramways.*—Municipal Tramways Trust. *Electricity Supply.*—Electricity Trust of South Australia. *Fire Brigades.*—Fire Brigades Board. *Hospitals and Ambulances.*—Metropolitan Infectious Diseases Board, Adelaide Children's Hospital and Public Hospitals. *Marketing, Agency.*—Dried Fruits Board and Metropolitan and Export Abattoirs Board. *Industry Improvement.*—Vermin Boards. *Banking.*—State Bank. *Housing.*—South Australian Housing Trust. *Miscellaneous.*—Centennial Park Cemetery Trust, Enfield General Cemetery Trust, Institute of Medical and Veterinary Science, and School of Mines and Industries.
- Western Australia.** *Water Supply and Sewerage.*—Water Boards. *Irrigation and Drainage.*—Drainage Boards. *Harbours.*—Fremantle Harbour Trust and Bunbury Harbour Board. *Tramways.*—Western Australian Transport Board and Eastern Goldfield Transport Board. *Fire Brigades.*—Western Australian Fire Brigades Board. *Hospitals and Ambulances.*—Perth Hospital, Children's Hospital. *Marketing.*—Metropolitan Milk Board, Western Australian Alumite Industry, Dried Fruits Board, The Western Australian Barley Marketing Board, State Gardens Board, Western Australian Marketing Board, Dairy Products Marketing Board and Charcoal Iron and Steel Industry. *Housing.*—McNess Housing Trust and State Housing Commission. *Miscellaneous.*—King's Park Board, Karrakatta Cemetery Board, Fremantle Cemetery Board and State Government Insurance Office.
- Tasmania.** *Harbours.*—Marine Boards and Harbour Trusts. *Fire Brigades.*—Hobart Fire Brigade.

3. **Local and Semi-Governmental Authorities' Debt, 1946-47.**—The following table provides a summary of new money loan raisings, provisions for the redemption of debt, debt outstanding and interest payable, of local and semi-governmental authorities for the year ended 30th June, 1947. For greater detail see *Finance Bulletin* No. 39, 1947-48, published by this Bureau.

**LOCAL AND SEMI-GOVERNMENTAL AUTHORITIES: NEW MONEY LOAN
RAISINGS, REDEMPTION, DEBT AND INTEREST PAYABLE, 1946-47.**

(£'000.)

Particulars.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
LOCAL GOVERNMENT AUTHORITIES.							
New Money Loan Raisings—							
From Government ..	13	25	192	55	..	..	285
From Public ..	2,819	649	2,215	27	280	270	6,260
Total ..	2,832	674	2,407	82	280	270	6,545
Funds Provided for Redemption—							
Government Loans ..	44	23	356	17	..	..	440
Loans due to Public ..	1,466	638	751	55	172	140	3,162
Total ..	1,450	661	1,107	72	172	140	3,602
Accumulated Sinking Fund Balance ..	5,837	1,230	2,713	1	443	286	10,510
Debt—							
Due to Government ..	699	263	7,644	119	7	144	8,876
Due to Banks (Net Overdraft) ..	51	106	38	48	10	6	259
Due to Public Creditor (a) ..	24,214	10,207	22,260	531	1,681	2,619	61,512
Total (a) ..	24,964	10,576	29,942	698	1,698	2,769	70,647
Maturing Overseas (a)(b) ..	2,117	..	5,315	..	175	200	7,807
Interest Payable (a) ..	(c)	425	1,229	29	73	107	(c)

SEMI-GOVERNMENTAL AND OTHER PUBLIC AUTHORITIES.

New Money Loan Raisings—							
From Government ..	..	4,216	674	1,851	272	..	7,013
From Public(a) ..	3,000	2,611	1,213	11,092	6	37	17,068
Total ..	3,000	6,827	1,887	12,943	278	37	24,981
Funds Provided for Redemption—							
Government Loans ..	224	77	303	201	47	10	862
Loans due to Public ..	1,403	575	248	1	13	13	2,253
Total ..	1,627	652	551	202	60	23	3,115
Accumulated Sinking Fund Balance ..	6,475	4,692	406	268	362	..	12,203
Debt—							
Due to Government ..	21,099	10,647	12,012	8,871	5,194	151	57,974
Due to Banks (Net Overdraft) ..	233	262	393	19	16	..	923
Due to Public Creditor (a) ..	74,681	59,105	5,281	11,050	247	480	150,844
Total (a) ..	96,013	70,014	17,686	19,940	5,457	631	209,741
Maturing Overseas (a)(b) ..	9,994	5,558	..	1,188	..	..	16,740
Interest Payable (a) ..	(c)	2,514	649	720	231	23	(c)

(a) Includes debt or interest payable in London and New York. The former is expressed in United Kingdom currency, the latter is payable in dollars which have been converted at the rate of 4.8665 dollars to £1. (b) Included in debt figures above. (c) Not available.

In the table above, debt includes all liabilities for which arrangements have been made for repayment over a period of one year or more, and net overdrafts. Interest capitalized and amounts due for the capital cost of assets or for services rendered which are to be repaid over a period of one year or more have been included. Current liabilities, such as interest accrued (but not capitalized), trade creditors, amounts held in trust and other debts which are to be repaid in less than one year are not included. Net overdraft is the gross overdraft of all funds less all bank credit balances (including fixed deposits) which do not form part of a sinking fund to repay a loan. New loans raised during the year include new loan liabilities incurred during the year, loans raised to repay indebtedness to the Government and interest capitalized. Loans raised and redeemed within the year, increases in overdrafts and loans raised for conversion or redemption of existing debt are excluded. Principal repaid excludes principal repaid from sinking funds or the proceeds of any conversion or redemption loan. The amount credited to sinking funds includes amounts contributed from revenue, etc., sources and earnings on sinking fund investments credited to the sinking fund.

§ 4. Roads and Bridges.

1. **Commonwealth Government Grants.**—The following table shows particulars of the amounts paid from Consolidated Revenue Fund by the Commonwealth Government, under the Commonwealth and Federal Aid Roads and Works Acts, to the several States for road construction, maintenance and repair and other works connected with transport during the years 1938–39 and 1943–44 to 1947–48. Particulars of payments for the construction and maintenance of strategic roads and for the promotion of road safety practices made in 1947–48 are excluded. In addition, particulars are shown of the aggregate grants for these purposes for the years 1922–23 to 1947–48, under Commonwealth and Federal Aid Roads and Works, and Main Roads Development, Acts. For further particulars see Chapter XVII.—Public Finance, Payments to or for the States.

ROAD CONSTRUCTION, MAINTENANCE, ETC. : GRANTS BY COMMONWEALTH GOVERNMENT.

(£'000.)

Year ended 30th June—	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.
1939 (a)	1,199	747	815	474	819	213	4,267
1944 (a)	131	330	360	210	362	94	1,487
1945 (a)	619	385	420	244	423	110	2,201
1946 (a)	935	582	636	369	639	167	3,328
1947 (a)	1,350	841	918	533	923	240	4,805
1948 (b)	2,017	998	1,102	631	1,102	287	6,137
Aggregate years 1922–23 to 1947–48 (c)	17,866	11,327	12,157	7,177	12,294	3,200	64,021

(a) Under Federal Aid Roads and Works Acts. (b) Under Commonwealth Aid Roads and Works Acts, except for £398,830 to New South Wales under Federal Aid Roads and Works Acts, representing amounts not drawn by that State during 1943–44 and 1944–45. (c) Under Commonwealth and Federal Aid Roads and Works, and Main Roads Development, Acts.

In addition to the foregoing amounts, financial assistance from loan fund has been granted by the Commonwealth Government to the States for road construction, although not in recent years. At 30th June, 1949 the aggregate amount was £249,686.

2. *New South Wales.*—(i) *General.* A central road authority was created by legislation early in 1925 for the purpose of providing improved and uniform standards of construction and maintenance of the principal roads, and to administer Governmental subsidies for work on those roads. This authority (now organized as the Department of Main Roads) exercises control over Governmental activities in connexion with road works, these activities embracing works on main and developmental roads throughout the State, all roads in the unincorporated portion of the Western Division, and proclaimed national works, principally bridges and ferries, constructed from Government funds. The department co-operates with the municipal and shire councils in the work of constructing and maintaining a well-organized system of main highways. Public roads, except those within the City of Sydney, may be proclaimed as main roads upon the recommendation of the Commissioner. The most important classes are :—

State Highways—the principal avenues of communication between the coast and the interior or throughout the State, connecting with such avenues in other States ; *Trunk Roads*—forming with the State highways the framework of the general system of intercommunication throughout the State ; *Ordinary Main Roads*—used principally by through traffic as the means of intercommunication between towns or important centres of population and, with the State highways and trunk roads, forming part of the general system of road communication throughout the State.

In addition, there are :—

Secondary Roads—in the metropolitan area of Sydney, carrying a substantial amount of through traffic and relieving neighbouring main roads of traffic which they would otherwise have to bear ; *Developmental Roads*—serving to develop a district or area of land by improving or providing access to a railway station or a shipping wharf, or to a road leading to a railway station or a shipping wharf.

In the metropolitan district the whole cost of the construction and maintenance of main roads is paid from the funds of the Main Roads Department, while in the country districts assistance in respect of road works may be granted for any area through which a main road passes. The cost of constructing developmental roads and works is borne in full by the Main Roads Department, but local councils are required to maintain them in satisfactory condition. For other roads the cost of both construction and maintenance work is generally chargeable to the revenue of local authorities, although Governmental assistance is not infrequently granted for works of construction and re-construction. In the Western Division the full cost of all roads and bridges is met by the Department of Main Roads.

The length of main and secondary roads maintained by the Department of Main Roads at 30th June, 1948 (excluding the Western Division) was 2,725 miles (16 per cent.), while the length maintained by Councils was 14,625 miles (84 per cent.). The proportions of the several classes of main roads maintained by Department and Councils respectively were :—State highways, 37 per cent., 63 per cent. ; trunk roads, 2 per cent., 98 per cent. ; ordinary main roads, 8 per cent., 92 per cent. ; secondary roads, 75 per cent., 25 per cent. In the County of Cumberland the Department maintained 77 per cent. of the roads (682 miles).

(ii) *Length of Roads.* (a) *Proclaimed Roads.* The following table shows lengths of proclaimed roads at 30th June, 1948, according to class of road :—

PROCLAIMED ROADS, NEW SOUTH WALES : LENGTHS, 30th JUNE, 1948.
(Miles.)

Division.	Main Roads.				Secondary Roads.	Developmental Roads.	Total.
	State Highways.	Trunk Roads.	Ordinary Main Roads.	Total.			
Eastern and Central ..	5,161	2,388	9,746	17,295	(a) 56	2,801	20,152
Western ..	1,329	1,353	2,889	5,571	..	..	(b) 5,571
Total ..	6,490	3,741	12,635	22,866	56	2,801	25,723

(a) Metropolitan area.
Department.

(b) Excludes 2,309 miles of unclassified roads, the responsibility of the

During 1947-48 the following roads were proclaimed or declared :—83 miles of new main roads and extensions of existing main roads, 8 miles of new secondary roads, and 41 miles of new developmental roads.

(b) *Composition of Roads.* In 1946 the total length of all roads in New South Wales was estimated at 124,443 miles, including 7,820 miles in the Western Division. The lengths of roads, according to their composition or nature, were as follows :—cement concrete, 377 miles; asphaltic concrete, 212 miles; tar or bituminous macadam, 3,791 miles; surfaced water-bound macadam, 3,758 miles; water-bound macadam, 2,701 miles; gravel or crushed rock, 30,316 miles; formed only, 26,114 miles; cleared or natural surface only, 57,174 miles.

(iii) *Main Roads Department.* (a) *General.* The Main Roads Department plan for the main road development of the metropolis, and the County of Cumberland generally, has been adapted to, and mainly incorporated in, the Cumberland County Council planning scheme for the development and improvement of the County of Cumberland. Surveys and designs have been advanced, and the acquisition of land is proceeding, in connexion with the planned Newcastle and District Arterial Road System and Wollongong-Port Kembla District Main Roads System.

In addition to its construction and maintenance work on roads, the Main Roads Department is engaged on a scheme for widening metropolitan roads. This class of work had already been commenced by several councils prior to the inception of the Department. At 30th June, 1948 the total lengths of roads widened and reconstructed to widths, in the main, between 80 and 84 feet amounted to about 26 miles.

Important work on bridges during 1947-48 included the replacement of a timber deck by one of reinforced concrete over a length of 1,208 feet on the Pyrmont Bridge, Darling Harbour, Sydney, work being carried out, for the most part, while traffic continued to flow; progress in the construction of a steel and concrete bridge over the Hunter River at Hexham (length 1,253 feet); construction work on piers and abutments in a steel truss bridge with concrete piers and abutments and reinforced concrete deck at Iron Cove, between Balmain and Drummoyne, Sydney (length 1,536 feet); commencement of work on a steel and reinforced concrete bridge, with lifting span, over the Clyde River at Bateman's Bay (length 1,008 feet).

(b) *Receipts and Payments.* The funds of the Department of Main Roads are derived principally from taxation of motor vehicles, contributions by the Commonwealth Government under the Commonwealth and Federal Aid Roads and Works Acts (see Chapter XVII.—Public Finance, for some particulars of the basis and distribution of grants under these Acts and par. 1 of this section, page 665, for particulars of the amounts paid in recent years), contributions by municipal and shire councils, and special (not statutory) assistance by the State Government by way of loan moneys or special grants from revenue funds. Receipts and payments for the four years 1944-45 to 1947-48 compared with the income and expenditure for 1938-39 are shown below.

Commencing with the year 1941-42 a change was made to a receipts and payments system of accounting :—

DEPARTMENT OF MAIN ROADS, NEW SOUTH WALES: RECEIPTS AND PAYMENTS.

(£.)

Item.	1938-39. (a)	1944-45.	1945-46.	1946-47.	1947-48.
RECEIPTS.					
Motor Vehicle Taxation, and Registration and Licence Fees (part)	2,018,556	1,845,377	2,024,947	2,081,870	2,266,351
Commonwealth and Federal Aid Roads and Works Acts	1,176,039	536,509	873,425	1,310,459	1,851,324
Councils' Contributions	250,679	242,021	222,097	244,043	249,674
Loans from State Government	302,643	..	300,000	400,000	300,000
Grants and Contributions from State Government and Departments, etc.	13,549	18,691	17,231	10,117	53,095
Commonwealth Funds for Defence and Other Works .. ..	..	633,312	77,337	26,127	38,633
Hire of Plant and Motor Vehicles .. ..	..	161,662	131,389	191,400	269,018
Suspense Accounts .. ..	..	73,636	..	2,694	3,574
Other	54,782	113,192	124,858	132,528	107,570
Total	3,816,248	3,624,400	3,771,284	4,399,238	5,139,239
PAYMENTS.					
Roads and Bridges in New South Wales—					
Construction	1,736,898	444,164	561,185	1,082,087	1,402,546
Maintenance	1,519,929	1,609,678	1,811,500	2,222,637	2,483,366
Roads and Bridges outside New South Wales .. ..	..	206,498	—34,087	—1,551	2,232
Other Works .. ..	..	783,105	220,414	82,822	14,708
Debt Charges—					
Interest, Exchange, etc.	152,469	163,656	152,129	161,794	138,124
Sinking Fund and Repayments	200,591	101,940	97,495	99,967	(c) 776,444
Repairs and Expenses, Plant and Motor Vehicles .. ..	..	137,520	124,819	138,538	122,077
Purchase of Assets .. ..	..	100,555	292,078	268,581	148,059
Suspense Accounts .. ..	..	..	67,822	..	108,359
Administration, etc.	100,583	119,241	138,199	170,990	185,179
Other	914	16,573	45,689	37,177	38,670
Total	3,711,384	3,682,930	3,477,243	4,263,042	5,419,764

(a) Income and expenditure. (b) Includes £398,830 not drawn by State during 1943-44 and 1944-45. (c) Includes £696,096 to liquidate certain outstanding liabilities before due dates.

The figures shown above represent the aggregate receipts and payments of three funds—the County of Cumberland Main Roads Fund, the Country Main Roads Fund and the Developmental Roads Fund. From 1st January, 1925 to 30th June, 1948 receipts amounted to £86,869,204 and payments to £84,412,148. Particulars of the individual funds are—County of Cumberland, receipts £24,151,280, payments £22,878,875; Country, £59,233,646, £58,220,597; Developmental, £3,484,278, £3,312,676.

The total expenditure on roads, streets and bridges in the State by all authorities during the years 1938-39 and 1944-45 to 1947-48 was, respectively, £8,894,000, £4,606,000 £5,252,000, £7,201,000 and £8,934,000. These figures are approximate and they include expenditure on construction, maintenance and direct administration, but not on debt charges. Expenditure on the Sydney Harbour Bridge is not included.

(c) *Sydney Harbour Bridge.* The Sydney Harbour Bridge was opened for traffic on 19th March, 1932. The main span is 1,650 feet and the clearance for shipping 170 feet from high water level. The deck, 160 feet wide, carries a roadway, two railway tracks and two tramway tracks, and there is also a footway on each side. The capital cost of the bridge to the 30th June, 1948 was £9,746,388, but this amount will be reduced by approximately £138,000 upon the disposal of all surplus resumed property. The portion met from repayable loan funds, over £8,000,000, is to be repaid over a period of 53 years, ending approximately in 1985. The accumulated balance of the Bridge Account to 30th June, 1948 showed a deficiency of £409,843. The following table shows income and expenditure for the years 1938-39 and 1944-45 to 1947-48 :—

SYDNEY HARBOUR BRIDGE, NEW SOUTH WALES : INCOME AND EXPENDITURE.
(£.)

Item.	1938-39.	1944-45.	1945-46.	1946-47.	1947-48.
INCOME.					
Road Tolls	278,297	150,370	225,554	321,496	352,488
Railway Passenger Tolls	103,697	119,253	134,005	130,561	130,460
Tram and Omnibus Passenger Tolls	38,738	25,401	25,547	26,607	26,380
Other	8,366	7,518	8,621	9,224	9,801
Total	429,098	302,542	393,727	487,888	519,129
EXPENDITURE.					
Maintenance and Improvement	36,739	24,889	32,013	52,936	56,139
Interest, Exchange, etc.	334,797	315,300	309,286	303,381	288,357
Sinking Fund	40,564	65,465	66,608	65,531	66,272
Other	12,194	14,222	13,300	15,939	23,064
Total	424,294	419,876	421,207	437,787	433,832

During 1947-48, 23,548,000 rail travellers, 23,834,000 tram and omnibus travellers, and 15,218,000 road travellers in 8,741,000 road vehicles crossed the bridge, contributing, respectively, 26 per cent., 5 per cent., and 69 per cent. of the total toll revenue.

3. *Victoria.*—(i) *General.* With the object of improving the main roads of the State the Country Roads Board was established by legislation passed in 1912. The principal duties of the board are to determine the main roads, State highways, tourists' roads, etc., to inquire into the State's resources in road materials and the most effective methods of road construction and maintenance, and to recommend deviations in existing roads or the construction of new roads in order to facilitate communication or to improve the conditions of traffic.

(ii) *Length of Roads.* (a) *Declared Roads.* The total length of declared roads in Victoria at 30th June, 1948 was 14,295 miles (an increase of 1,180 miles over the previous year's total), classified as follows:—State highways, 3,846 miles; main roads, 9,806 miles; tourists' roads, 402 miles; forest roads, 241 miles. The total length of the surface treated (black) system included in the foregoing totals was 6,055 miles or 42.3 per cent.

(b) *Composition of Roads.* It is estimated that, in addition to the 14,295 miles of classified roads as above, there were about 50,000 miles of more important unclassified roads. The latest detailed estimate of the length of roads and streets in Victoria (as at 30th September, 1948) provides the following information:—Wood or stone, 62 miles; portland cement concrete, 150 miles; asphaltic concrete and sheet asphalt, 202 miles; tar or bitumen surface seal, 10,241 miles; water-bound macadam, gravel, sand and hard loam pavements, 28,418 miles; formed only, 23,901 miles; surveyed only, 38,437 miles; total 101,411 miles.

(iii) *Country Roads Board.* (a) *General.* During 1946-47 and 1947-48, respectively, 660 miles and 927 miles of work were carried out on roads under the Board's control. In addition, 43 miles (each year) were treated for municipalities, and 25 miles of bituminous surfacing were laid for the Commonwealth in 1946-47. The total mileages of work carried out were 728 miles in 1946-47 and 970 in 1947-48. Of the work on the roads under the Board's control, 200 miles related to State highways in 1946-47 and 259 miles in 1947-48.

Major bridge work carried out during 1947-48 included the construction and driving of concrete piles for the Swan-street Bridge, Melbourne, over the River Yarra. The proposed bridge will cross the river at a 45° angle. It will be a reinforced concrete "T" beam type structure of five main spans, the three centre spans being 90 feet each in length and the two end spans 69 feet each, a total of 408 feet between abutments. The roadway will be 40 feet in width together with two footways each 8 feet wide. The Country Roads Board is the constructing authority.

(b) *Receipts and Payments.* Funds created under the Act were the Country Roads Board Fund, the Loan Account and the Developmental Roads Loan Account. Particulars of the operations of these funds, together with those of the Commonwealth and Federal Aid Roads and Works Account, are given hereunder:—

Country Roads Board Fund. All fees (other than fees for licences to drive motor cars) and fines under the Motor Car Act, and all registration fees and fines for traction engines, less cost of collection of such fees and fines, are credited to this fund. Particulars of receipts and payments connected with the Commonwealth and Federal Aid Roads and Works Acts, Commonwealth Defence Works and several other funds are not included therein (*see* next page for particulars). Receipts and payments for the years 1938-39 and 1944-45 to 1947-48 were as follows:—

COUNTRY ROADS BOARD FUND, VICTORIA : RECEIPTS AND PAYMENTS.

(£.)

	1938-39.	1944-45.	1945-46.	1946-47.	1947-48.
RECEIPTS.					
Motor Vehicle Registration Fees..	1,690,962	1,395,225	1,558,480	1,762,796	1,963,555
Municipalities' Payments ..	318,878	241,764	264,506	276,477	302,905
Stores and Materials ..	233,104	254,451	214,569	411,750	598,080
Hire of Plant ..	53,724	108,647	98,782	181,936	230,982
Other ..	117,341	125,636	173,227	206,004	241,210
Total ..	2,414,009	2,125,723	2,309,564	2,838,963	3,336,732

COUNTRY ROADS BOARD FUND, VICTORIA: RECEIPTS AND
PAYMENTS—*continued*.

(£.)

Item.	1938-39.	1944-45.	1945-46.	1946-47.	1947-48.
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PAYMENTS.

Maintenance of Roads and Murray River Bridges and Punts ..	1,205,069	737,812	836,707	1,416,659	1,770,918
Relief to Municipalities ..	240,170	221,040	221,040	220,704	220,682
Interest, Sinking Fund, etc.— Recoup to Consolidated Revenue—					
Interest, etc.	282,484	315,790	311,769	294,471	296,076
Sinking Fund	25,794	25,567	25,424	25,091	25,262
Municipalities' Repayments, etc.	119,167	107,975	106,413	105,546	104,295
Plant, Stores and Materials ..	310,332	314,686	479,371	817,797	1,043,506
Other (including Administration)	230,125	183,979	318,365	369,930	520,811
Total	2,413,141	1,906,849	2,299,089	3,250,198	3,981,550

Country Roads Board Loan Account Loans have been authorized from time to time under the Country Roads Acts for permanent works on main roads and State highways. During the years ended 30th June, 1947 and 1948, respectively, receipts amounted to £10,007 and £15,120, and payments to £9,979 and £15,178. The total expenditure to 30th June, 1948 was £5,072,283.

Developmental Roads Loan Account. This fund was created for the purpose of constructing and maintaining subsidiary or developmental roads. Loan moneys raised were exhausted at 30th June, 1937, the total expenditure at that date being £6,425,758.

Commonwealth and Federal Aid Roads and Works Account. Revenue and expenditure in respect of the Commonwealth and Federal Aid Roads and Works Account, particulars of which are not included above, were as follows:—

(£.)

Item.	1938-39.	1944-45.	1945-46.	1946-47.	1947-48.
Revenue	716,019	370,789	548,934	813,024	993,144
Expenditure(a)	767,767	235,419	234,386	554,682	1,338,301

(a) Excludes the following amounts spent on maintenance and repairs of public roads adjoining, or of approach to, Commonwealth properties in Victoria:—1938-39—£13,321; 1944-45—£3,598; 1945-46—£381; 1946-47—£4,388; 1947-48—£3,407.

Total Expenditure. The total expenditure by the Board on road construction and maintenance during each of the five years 1938-39 and 1944-45 to 1947-48 was as follows :—

COUNTRY ROADS BOARD : EXPENDITURE ON ROADS.

(£.)

Item.	1938-39.	1944-45.	1945-46.	1946-47.	1947-48.
State Highways—Maintenance, etc. (a)	453,708	251,048	261,956	597,180	1,181,382
Main Roads—Construction(a) ..	224,290	43,794	40,948	95,168	58,710
Maintenance(a) ..	802,920	490,706	550,170	905,344	1,300,652
Developmental Roads—Construction, etc. (a)	468,122	153,081	148,588	252,946	436,467
Tourists' Roads—Construction, etc. (a)	77,694	30,487	53,786	96,302	98,662
Forest Roads—Maintenance ..	..	..	8,021	19,770	29,342
Murray River Bridges and Punts—Maintenance	4,067	4,115	7,623	4,630	4,004
Roads adjoining Commonwealth Areas—Maintenance, etc. ..	13,321	3,598	381	4,888	3,407
Unemployment Relief Works ..	54,662	..	..	..	..
Other Permanent Works ..	..	..	..	9,979	15,178
Commonwealth Defence Works—Northern Territory—Construction, etc... ..	..	751,342	6,758	..	..
Allied Works Council ..	..	Cr. 25,962	Cr. 14,072	..	..
Total	2,098,784	1,702,209	1,064,159	1,986,207	3,127,804

(a) Includes amounts contributed by the Commonwealth Government under the provisions of the Commonwealth and Federal Aid Roads and Works Acts.

4. *Queensland.*—(i) *General.* Under the Main Roads Act 1920 a Main Roads Board was constituted, consisting of three members appointed by the Governor-in-Council. In 1925 the Board was abolished and its powers conferred upon a single Commissioner. The duties of the Commissioner are to carry out surveys and investigations necessary to determine State highways, main, developmental, secondary, mining access, farmers' and tourist roads and tourist tracks, and the responsibility for building and maintaining these declared roads is largely that of the Commission. Roads of purely local importance are constructed and maintained by local authorities. In many cases construction is subsidized by the State Government by means of Treasury loans. Other roads are built by the Public Estate Improvement Branch of the Lands Department in order to open up areas of previously inaccessible or undeveloped country.

(ii) *Length of Roads.* (a) *Declared Roads.* The total length of declared roads in Queensland at 30th June, 1948 was 19,737 miles, comprising State highways, 7,262 miles; main roads, 10,605 miles; developmental roads, 245 miles; secondary roads, 538 miles; mining access roads, 673 miles; farmers' roads, 156 miles; tourist roads, 256 miles; tourist tracks, 2 miles. During 1947-48, 659 miles were added to the list. The length of roads improved in Queensland from the date of commencement of work under the Main Roads Acts 1920-1943 to 30th June, 1948 was 8,892 miles (45 per cent.). At that date, also, 551 miles of new road construction and 306 miles of stage construction work were proceeding.

(b) *Composition of Roads.* The total length of roads and streets in Queensland at 30th June, 1948 was :—Concrete, 86 miles; bitumen, 3,876 miles; macadam, 8,157 miles; other formed, 44,602 miles; unconstructed, 78,803 miles; total, 135,524 miles.

(iii) *Main Roads Commission.* (a) *General.* During 1947-48 (1946-47 in parenthesis) the Commission completed 570 miles (474 miles) of roads including new construction and stage construction. Bridges of all types to a length of 2,909 (3,706) lineal feet were constructed during 1947-48 (1946-47), bringing the total constructed by the Commission at 30th June, 1948 to 144,422 feet, approximately 27 miles. In addition, at 30th June, 1948, 5,177 feet were under construction. These figures exclude particulars of the Fitzroy River and Burdekin River bridges—special projects.

The first of these is a joint operation being carried out by the Main Roads Commission and the Rockhampton City Council. The design provides for a bridge 1,210 feet long, comprising seven spans varying in length from 143 feet to 198 feet. There will be 42 feet between kerbs for vehicles, with two 5-feet clear footways. The total estimated cost of this structure, including approaches, is approximately £426,000, one-half being financed under the terms of the Main Roads Act. The bulk of the work completed to 30th June, 1948 has been on pier foundations and approaches. The second of these, over the Burdekin River, will be a combined road and rail bridge, estimated to cost about £1,900,000. This work, the largest single post-war project actually under construction in Queensland, had been advanced to a stage at 30th June, 1948, where two of the nine caissons designed for the river bed had been sunk to foundation level. The overall length of the bridge including approaches will be 3,620 feet, and there will be ten spans across the river.

(b) *Receipts and Payments.* The funds of the Main Roads Commission are obtained chiefly from motor vehicle registration and collections, fees, etc., under the Transport Acts, contributions under the Commonwealth and Federal Aid Roads and Works Acts, and loans, grants and advances from the State Government. The total receipts and payments, including amounts for defence works, during each of the years 1938-39 and 1944-45 to 1947-48 are shown below:—

MAIN ROADS COMMISSION, QUEENSLAND: RECEIPTS AND PAYMENTS.

(£.)

Item.	1938-39.	1944-45.	1945-46.	1946-47.	1947-48.
RECEIPTS.					
Motor Vehicle Registration, Transport Acts Collections, Fees, etc.	938,227	847,479	976,890	915,192	967,817
Loans from State Government ..	392,225	220,000	300,000	321,250	300,000
Grants, Advances, Refunds, etc. from State Government ..	579,775	648,755	518,730	230,231	590,708
Commonwealth and Federal Aid Roads and Works Acts ..	806,218	402,229	596,564	893,622	1,088,756
Commonwealth and Allied Defence Works and Services ..	..	2,418,722	464,892	—29,051	..
Maintenance Repayments—Local Authorities ..	98,154	103,660	138,133	167,229	189,010
Hire, Rent, Sales of Plant, etc. ..	288,330	80,324	44,590	65,823	58,169
Other ..		67,790	119,244	82,452	114,317
Total ..	3,102,925	4,797,959	3,159,043	2,646,748	3,308,777
PAYMENTS.					
Permanent Road Works and Surveys ..	2,045,900	602,105	668,484	1,635,547	1,972,304
Maintenance of Roads ..	331,734	643,411	639,610	935,158	1,066,543
Port Development Works ..	..	158,795	46,910	15,096	4,885
Plant, Machinery, Buildings, etc. (including Plant Maintenance)	73,632	114,330	341,438	381,061	509,203
Loan—Interest ..	38,861	162,510	180,713	171,407	178,518
Redemption ..	78,153	127,172	133,640	148,413	165,553
Payments to State Consolidated Revenue ..	340,244	93,637	107,837	39,810	..
Payments to Local Authorities ..	27,418	29,709	32,782	41,541	..
Commonwealth and Allied Defence Works and Services ..	..	2,378,090	721,174	17,039	—16,943
Other Works and Services ..	..	3,746	61,750	14,404	654
Administration, etc. ..	149,950	177,906	211,893	303,990	342,768
Other ..	1,750	37,063	28,347	14,528	19,560
Total ..	3,087,642	4,528,493	3,174,580	3,718,989	4,243,045

5. *South Australia.*—(i) *General.* The Highways Act 1926–1944 created a Commissioner of Highways and provided for a Highways Fund. The Commissioner is virtually empowered to determine upon which main roads he will spend the moneys available; in doing which he has to take into account the availability of funds for main roads, the service the road is intended to render, and the present or future adequacy of railway facilities in the area through which it passes.

The Highways Fund is credited with the receipts from State motor taxation, fees, fines and licences, after deduction of the costs of collection, and all loans raised and appropriated for roads. All moneys received by the State from the Commonwealth under the Commonwealth and Federal Aid Roads and Works Acts are also expended by the Commissioner of Highways under the general provisions of the Highways Act.

(ii) *Length of Roads.* The total length of roads in use for general traffic at 30th June, 1948, was as follows:—Within District Council and Corporation Boundaries.—Blocks (wood or stone), 8 miles; bituminous concrete (asphalt and premix), 393 miles; cement concrete and cement penetration, 2 miles; penetration or surface dressed (bitumen or tar), 4,283 miles; metalled (gravelled or rubble), 13,429 miles; formed, but little or no metal, 8,742 miles; surveyed, used by traffic, but little or no improvement, 25,220 miles; total, 52,077 miles: Outside Districts (main roads only), 565 miles: Grand total, 52,642 miles. Lengths of main roads within district council and corporation boundaries aggregated 7,556 miles.

(iii) *State Highways and Local Government Department.* (a) *General.* A programme of road works proposed to be carried out during the period of five years after the cessation of hostilities provides for the reconstruction of approximately 2,850 miles of main roads throughout the State at an estimated cost of more than £3,000,000, the greater proportion to be provided from motor vehicle taxation. The programme includes (i) the realignment and widening of roads constructed in the early stages of the first five-year plan (prepared in 1936, but suspended because of the war), now below the accepted standard necessary for modern traffic, (ii) the construction or reconstruction of existing unimproved main roads, and (iii) the construction of roads to assist development in the newer settled areas, with particular reference to the south-eastern part of the State. The continuing shortages of man-power and materials, and difficulties in securing road-making plant and machinery, however, have prevented the progress from being as much as was expected.

(b) *Receipts and Payments.* The following table shows particulars of receipts and payments, during the years 1938–39 and 1944–45 to 1947–48, of funds controlled by the Highways and Local Government Department. Wholly comparable figures for 1938–39 are not available.

HIGHWAYS AND LOCAL GOVERNMENT DEPARTMENT : RECEIPTS AND PAYMENTS.

(£.)

Item.	1938–39. (a)	1944–45.	1945–46.	1946–47.	1947–48.
RECEIPTS.					
Motor Vehicle Registration, Licences, Fees, Fines, etc. . .	690,849	569,380	612,349	681,573	718,951
Commonwealth and Federal Aid Roads and Works Acts . .	479,922	241,112	354,050	526,686	637,520
Loans from State Government . .	200,000	..	..	..	100,000
Recoups—Local and Semi- governmental Authorities . .	1,531	9,923	1,945	2,827	19,779
Other		5,342	5,318	9,373	32,434
Total	1,372,302	825,757	973,662	1,220,459	1,508,684

(a) Figures for 1938–39 are not completely comparable with those for following years.

HIGHWAYS AND LOCAL GOVERNMENT DEPARTMENT: RECEIPTS
AND PAYMENTS—*continued.*

(£.)

Item.	1938-39. (a)	1944-45.	1945-46.	1946-47.	1947-48.
PAYMENTS.					
Construction and Reconstruction of Roads and Bridges	51,150,082	219,961	270,936	387,264	524,507
Maintenance		112,036	123,047	145,066	168,003
Recoups to Consolidated Revenue Fund—Interest, Sinking Fund and Exchange	(c) 178,273	184,322	177,295	171,142	167,376
Grants and Advances to Local and Semi-governmental Authorities	(d)	174,106	211,575	318,222	621,553
Administration	45,753	33,134	40,971	57,362	69,848
Suspense Accounts, Plant, Machinery, etc.		23,820	00,657	227,167	145,179
Other		1,441	1,652	1,791	3,951
Total	1,374,10	749,420	916,133	1,308,014	1,700,417

(a) Figures for 1938-39 are not completely comparable with those for following years. (b) Roads, plant, etc. (c) Interest and sinking fund payments. (d) Not available separately.

The total expenditure, both revenue and loan, by State and local governments on roads, streets and bridges in South Australia during the years 1938-39 and 1944-45 to 1947-48 was, respectively, £1,966,000, £1,198,000, £1,461,000, £1,930,000 and £2,411,000.

6. Western Australia.—(i) *General.* Under the Main Roads Act 1930-1939 the Main Roads Board previously existing was abolished and a Commissioner of Main Roads was appointed. His duties include:—The recommending of the declaration that any road shall be, or shall cease to be, a main road, taking into account the availability of funds for main roads and the service the road is intended to render; the construction and maintenance of main roads; the carrying out of surveys, investigations and experiments connected with—the determination of main roads, the resources of the State in materials suitable for road construction and maintenance and their utilization, suitability, etc., and methods of road construction and maintenance, etc. Provision also exists for the declaration and provision of developmental roads. The Act authorizes two trust accounts (Main Roads Trust Account and Main Roads Contribution Trust Account) to record the moneys prescribed as available to the Commissioner for expenditure associated with roads, etc. In addition, the Commissioner operates on those Trust Accounts which are used for funds made available under the Commonwealth and Federal Aid Roads and Works Acts.

(ii) *Length of Roads and Streets.* The total known length of streets and roads in existence in the various municipalities at 31st October, 1948, and in road districts at 30th June, 1948, was as follows:—Concrete, 4 miles; bituminous, 3,208 miles; granite, limestone, etc., waterbound, 305 miles; gravel waterbound, 10,069 miles; other constructed surfaces, 244 miles; formed only, 28,211 miles; unprepared, 32,940 miles (incomplete); total, 74,981 miles.

The lengths of declared roads at 30th June, 1948, were:—Main roads, 3,154 miles; developmental roads, 12,115 miles; other classified roads, 24 miles; total, 15,293 miles. No new main roads were declared during the years 1946-47 and 1947-48.

(iii) *Main Roads Department.* During the year 1947-48 (1946-47 in parenthesis) the activities of the Department included :—clearing, 926 miles (261 miles); forming, 854 miles (466 miles); gravelling, 729 miles (309 miles); metalling, 3 miles (nil); reconditioning, 1,920 miles (2,285 miles); sanding, 28 miles (25 miles); side drains, 66 miles (62 miles). In addition, lengths of tar and bitumen work performed aggregated 350 miles (233 miles). Bridges constructed numbered 23 (14). In October, 1947 work was commenced on the new causeway over the Swan River. This project involves the construction of two bridges, one 737 feet long and one 382 feet long, with approach roads, and connecting road and embankments. At the end of June, 1948 work had progressed to the stage that four coffer dams were completed and two were under construction on the longer bridge. A start has been made on the widening of the principal highways converging on Perth (the necessity for which was recognized some years ago) by work during 1947-48 on sections of the Perth-Armadale Road and the Great Eastern Highway.

(iv) *Receipts and Payments—Combined Road Funds.* The following table shows the combined transactions of the Main Roads Trust Account, the Main Roads Contributions Trust Account, the Metropolitan Traffic Trust Account, the Transport Co-ordination Trust Account (up to the end of 1946-47) and the Commonwealth and Federal Aid Roads and Works Trust Accounts during the years ended 30th June, 1939 and 1945 to 1948.

ROAD FUNDS, WESTERN AUSTRALIA : RECEIPTS AND PAYMENTS.
(£.)

Item.	1938-39. (a)	1944-45. (a)	1945-46.	1946-47.	1947-48. (b)
RECEIPTS.					
Motor Vehicle Registration, Licences, Fees, Fines, etc. ..	218,962	190,611	191,167	221,010	354,946
Commonwealth and Federal Aid Roads and Works Acts ..	823,162	399,434	594,787	893,401	1,098,758
Recoups from Local Authorities, etc. ..	1,958	174	2,437	16,667	15,529
Other ..		3,359	2,142	7,575	51,315
Total ..	1,044,082	593,578	790,533	1,138,653	1,520,548
PAYMENTS.					
Construction and Reconstruction of Roads and Bridges ..	922,756	268,216	239,163	541,377	920,255
Maintenance ..			77,957	97,436	109,936
Other Road Works, etc. ..	..	..	..	10,252	39,821
Other Works ..	..	..	..	..	54,840
Grants to Local Authorities, etc. .	143,544	113,842	115,865	141,580	142,000
Transfer to State Consolidated Revenue ..	..	30,696	33,876	37,739	67,003
Interest, Sinking Fund and Ex- change—State Consolidated Revenue ..	7,616	7,616	7,402	7,399	7,391
Administration, Plant, etc. ..	52,176	25,079	57,030	71,077	36,469
Other ..	19,181	24,508	3,219	4,601	..
Total ..	1,145,273	469,957	534,512	911,461	1,377,715

(a) Figures not completely comparable with those for following years.
Co-ordination Trust Account.

(b) Excludes Transport

7. **Tasmania.**—(i) *General.* Under the Transport Act 1938, which came into operation on 1st July, 1939, the Transport Commission was constituted to co-ordinate, regulate, control, and improve the means of, and facilities for, transport by road, rail or air within the State. Revenues at its disposal for road and motor traffic purposes are the Commonwealth and Federal Aid Roads and Works Grants, motor vehicle registration fees and tax, and licensing fees for drivers and public motor vehicles. Under the Roads and Jetties Act 1944, which provides for the classification of the whole of the roads of the State so that they will be adequately and efficiently maintained, the cost of maintenance of roads classified as State highways, tourist roads and developmental roads is borne by the Transport Commission. It is also responsible for a proportion of the cost of maintenance of main and secondary roads. Municipal councils bear the cost of maintaining country roads and a proportion of the cost of main and secondary roads, except in special cases. The cost of construction of roads and bridges in Tasmania is borne almost entirely by the State Government. The expenditure of the Public Works Department (the construction and maintenance authority for the Transport Commission) during 1947–48 on roads, tracks and bridges amounted to £693,198, of which £609,981 was charged to road funds, £17,073 to revenue, £65,274 to loan and £870 to Crown lands funds.

(ii) *Length of Roads.* (a) *Classified Roads.* The mileages of classified roads in Tasmania at 30th June, 1948 were as follows:—State highways, 1,199 miles; main roads, 662 miles; secondary roads, 186 miles; tourist roads, 50 miles; developmental roads, 12 miles; total 2,109 miles. Country roads totalled 10,276 miles. The mileage of sealed roads were:—State highways, 537 miles (45 per cent.); main roads, 137 miles (21 per cent.); secondary roads, 6 miles (3 per cent.); total, 680 miles (32 per cent. of all classified roads, and 6 per cent. of all roads, in Tasmania).

(b) *Composition of Roads.* The length of all roads in Tasmania, including those with surfaces of lower grade, at 30th June, 1942 (the latest date for which this information is available) was as follows:—Sheet asphalt on concrete base, 1 mile; other bituminous, 788 miles; concrete, 6 miles; granite, limestone, etc., waterbound, 4,797 miles; surfaces of lower grade, 6,794 miles; total, 12,386 miles.

(iii) *Transport Commission.* The principal improvement and reconstruction works carried out during 1947–48 included the construction of the Northern Outlet Road, the widening of the Huon Road, the West Tamar Highway deviation, and the construction of the Zeehan-Renison Bell Road, the expenditure for these projects amounting to almost £80,000. The resealing programme carried out during the same year was the largest ever attempted by the Public Works Department. A total of 195 miles was sealed, 43 miles more than for the previous year. The sealing carried out included 68 miles of normal resealing and 127 miles of war-time lag.

(iv) *Receipts and Payments—Combined Road Funds.* The table hereunder shows particulars of the receipts and payments of the combined Road Fund and Commonwealth and Federal Aid Roads and Works Funds under the control of the Transport Commission for the years 1939-40 and 1944-45 to 1947-48 :—

ROAD FUNDS, TASMANIA : RECEIPTS AND PAYMENTS.
(£.)

Item.	1939-40. (a)	1944-45. (a)	1945-46.	1946-47.	1947-48.
RECEIPTS.					
Motor Vehicle Taxation and Registration, Licences, Fees, Fines, etc.	193,165	204,685	219,486	241,438	264,780
Commonwealth and Federal Aid Roads and Works Acts	220,241	105,032	155,416	232,944	286,158
Recoups from Local Authorities, etc. . . . .	..	..	4,207	7,365	8,660
State Loan Fund . . . . .	..	..	..	..	28,795
Other	719	85,920	15,443	30,448	37,470
Total	414,125	395,637	394,552	512,195	625,863
PAYMENTS.					
Construction and Reconstruction of Roads and Bridges	127,929	71,636	150,959	284,283	379,050
Maintenance	113,199	178,642	164,438	257,145	254,056
Jetties, etc.	22,467		4,129	4,658	4,682
Other Road Works	2,995		11,041	13,589	23,724
Other works connected with Transport	5,748	..			
Grants to Local Authorities, etc. . . . .	..	..	825	6,451	13,163
Administration	15,053	28,375	39,725	47,836	258
Other	31,894	88,262	6,807	58,720	52,199
Total	319,285	366,915	377,924	672,682	781,704

(a) Figures not completely comparable with those for following years.

(v) *Hobart Bridge.* Under the Hobart Bridge (Acquisition and Administration) Act 1944 the Transport Commission is responsible for the administration, control and management of the Hobart Bridge and transport services. Receipts from bridge tolls for the year ended 30th June, 1948 amounted to £32,291 compared with £33,002 during 1946-47. Expenditure was £9,993 compared with £8,258, and capital expenditure amounted to £19,827 and £20,149, 1947-48 and 1946-47 respectively. Net profit was £2,471 and £4,595. Capital cost to 30th June, 1948 amounted to £303,916.

8. Summary of Roads used for General Traffic.—(i) *Proclaimed or Declared Roads.* The table hereunder is a summary of the roads proclaimed or declared under the Acts of the several States relative to the operations of the central road authorities, and shows the lengths of various classes proclaimed or declared as at 30th June, 1948. These proclaimed or declared roads are those for which the central road authority assumes responsibility under the Act for the whole, or a proportion, of the cost of construction and/or maintenance, the extent varying from State to State and with the class and locality of the roads. Before proclamation of a main road, the following points are, in general, amongst the more important of those to be considered :—(a) the funds available or likely

to be available for main roads; (b) whether the road is, or will be, the main trunk route connecting any large producing district with its market or point of shipment; (c) whether the road is, or will be, the main trunk route of intercommunication between two or more such districts or between two or more large centres of population; (d) whether the road is, or will be, the main trunk route between the capital of the State and any large producing district or any large centre of population; (e) whether the road is, or will be, the main trunk route between the capitals of two or more States; (f) whether the district concerned is, or will be, sufficiently served by railways. Provision is also made in some States for the declaration of roads other than main. The absence of a particular class from the following data for any State does not necessarily imply that there are no roads within that State that might be so classified; the classes are restricted only to roads proclaimed or declared under the Acts. A further point to make is that, through various causes, e.g. insufficiency of funds, manpower or materials, etc.—construction or maintenance may not keep pace with gazettals of mileages, and that therefore the condition of a road may not match its status.

PROCLAIMED OR DECLARED ROADS: LENGTHS, 30th JUNE, 1948.

(Miles.)

Class of Road.	N.S.W.	Vic.	Q'land.	S. Aust.	W. Aust.	Tas.	Total.				
State highways... ..	6,490	3,846	7,262	8,122	3,154	1,199	67,522				
Trunk roads	3,741	9,806	10,605								
Ordinary main roads	12,635										
Total Main Roads	22,866	13,652	17,867	8,122	3,154	1,861	67,522				
Secondary roads	56	..	538	..	..	186	780		
Developmental roads	2,801	..	245	..	12,115	12	15,173				
Tourist roads .. ..	..	402	256	..	..	50	708	
Other roads .. ..	..	(a) 241	(b) 831	..	24	..	1,096			
Total Other Roads	2,857	643	1,870	..	12,139	248	17,757				
Grand Total	25,723	14,295	19,737	8,122	15,293	2,109	85,279				

(a) Forest roads.
tourist tracks, 2 miles.

(b) Includes mining access roads, 673 miles; farmers' roads, 156 miles;

(ii) *Composition of Roads.* The following table represents an attempt to classify all the roads used for general traffic in Australia, at the latest date available, according to States and to certain broad composition groups. The results are not entirely satisfactory, (i) because the whole of Australia is not covered, (ii) because the dates of reference differ, and (iii) because the figures constituting each group are not wholly comparable, State by State. It is hoped, however, despite these defects, that the table will provide an approximate and general idea of the main types of roads in Australia.

The data in the table are compiled from publications of the State Government Statisticians, and are derived mainly from local government sources. They therefore exclude the Territories of the Commonwealth and probably unincorporated areas in some States. Furthermore, the figures on the returns supplied by the local government authorities are in some cases of doubtful accuracy. Details of the composition of roads, as far as they are available, vary to such an extent between States that it was considered preferable to show here only major divisions, rather than to attempt greater dissection, which would have resulted either in a lengthy total column incomplete for most of its items, or, by the expedient of "forcing", in some mixed classes of little value. Even the broad classes shown suffer somewhat from this latter defect, but not to an extent sufficient to mar the table as a whole.

Groups 1-4 as shown in the table include, respectively, the following types of composition :—

1. *Wood or Stone.* Wood blocks ; stone paved.
2. *Concrete.* Cement concrete ; asphaltic concrete ; bituminous concrete ; sheet asphalt on concrete base.
3. *Bituminous.* Tar or bituminous macadam ; tar and bituminous surface seal ; surfaced water-bound macadam or gravel ; bituminous or cement penetration.
4. *Macadam and Other.* Water-bound macadam ; granite, limestone, and blast-furnace slag, water-bound ; gravel water-bound ; gravel or crushed rock ; metallised (gravel or rubble) ; gravel, sand and hard loam pavements.

Groups 5 and 6 include roads so-called mainly because they are used for general traffic, irrespective of their surfaces, prepared or otherwise.

It will be noticed that some of the terms used above are practically synonymous. Such terms are, of course, not used by any one State, but are the classifications adopted by different States.

For details of any particular State, *see* the respective paragraphs in the preceding pages.

ALL ROADS USED FOR GENERAL TRAFFIC : LENGTHS.
(Miles.)

Composition of Road.	N.S.W. 1946.	Victoria. 30th Sept., 1948.	Q'land. 30th June, 1948.	S. Aust. 30th June, 1948.	W. Aust. 1948. (a)	Tasmania. 30th June, 1942.	Total.
1. Wood or stone ..	..	62	..	8	..	..	70
2. Concrete ..	589	352	86	395	4	7	1,433
3. Bituminous ..	7,549	10,241	3,876	4,283	3,208	788	29,945
4. Macadam and other ..	33,017	28,418	8,157	13,429	10,618	4,797	98,436
5. Formed only ..	26,114	23,901	44,602	9,307	28,211	(b) 2,424	134,559
6. Cleared, or natural surface, only ..	57,174	38,437	78,803	25,220	32,940	(b) 4,370	236,944
Total ...	124,443	101,411	135,524	52,642	74,981	12,386	501,387

(a) Municipalities, 31st October and Road Districts, 30th June.

(b) Estimated dissection.

NOTE.—In addition to the foregoing, there are 453 miles of roads in the Australian Capital Territory and 9,798 miles of roads and tracks in the Northern Territory. The bulk of the former fall within groups 3 and 4, and of the latter within groups 5 and 6. Including these, the total length of roads, etc. for Australia amounts to 511,638 miles.

It will be seen from the foregoing table that a little more than one-quarter of the road lengths of Australia has actually been constructed, the remainder, for the greater part, being in little more than the natural state. The percentages for each group are as follows :—Group 1, 0.01 ; Group 2, 0.29 ; Group 3, 5.97 ; Group 4, 19.63 ; Group 5, 26.84 ; Group 6, 47.26. The percentage of constructed lengths to total length in each State is as follows :—New South Wales, 33 ; Victoria, 39 ; Queensland, 8 ; South Australia, 34 ; Western Australia, 18 ; Tasmania, 45. Comparisons between the States should be made with caution, however, because, in addition to the defects enumerated at the beginning of this section, factors such as the area, physiography, density and distribution of population, nature of economic activity, other facilities for transport, etc., in each State must be taken into account.

9. *Summary of Expenditure on Roads and Bridges.*—(i) *General.* Figures showing the total expenditure on roads and bridges in all States are not available. Such totals are very difficult to obtain, not only because of the number of States, but also because of the number of authorities concerned. In most States there are three classes of authorities—the State Government, the central road authority, and the numerous local government bodies. Both State Government and local government bodies operate

through revenue and loan funds, and payments may be made by the State Government direct from either fund, or through the funds of other authorities. The expenditure of the central road authority may also be direct or indirect. Consequently the problem of duplication caused by inter-fund payments arises. On the other hand, some expenditure may be omitted because separate particulars are not available, or they may be overlooked by the compiler. Ignorance of the precise nature of items may cause either incorrect inclusion or omission. To produce accurate figures would entail more research than at present can be undertaken.

The two paragraphs following therefore represent only: (i) aggregate expenditure from the various State road funds referred to in the foregoing pages, and (ii) loan fund expenditure by State Governments. No direct expenditure by local government bodies is included. Sub-section 2. Finances, of § 2. Local Government Authorities, contains some particulars of local government revenue and expenditure in connexion with roads, streets and bridges (*see* pages 658 and 661).

(ii) *Aggregate Expenditure from State Road Funds.* The following table shows the expenditure on the construction and maintenance of roads, including payments to local government bodies, by each State during the years 1938-39 and 1944-45 to 1947-48, as summarized from the foregoing sections. Expenditure on administration, debt charges, Commonwealth defence works, payments to State consolidated revenues, and on plant and materials is not included. In some instances expenditure on works other than roads and bridges is included. Figures are not completely comparable as between States, and, in some States, as from year to year.

ROADS AND BRIDGES : AGGREGATE EXPENDITURE FROM ROAD FUNDS.

(£'000.)

Year ended 30th June—	N.S.W. (a)	Victoria.	Q'land.	S. Aust.	W. Aust.	Tasmania.	Total.
1939 ..	3,257	2,099	2,405	692	1,067	(b) 272	9,792
1945 ..	2,054	977	1,275	507	382	250	5,445
1946 ..	2,373	1,071	1,341	605	433	331	6,154
1947 ..	3,305	1,976	2,613	851	791	566	10,102
1948 ..	3,886	3,113	3,030	1,314	1,212	675	13,230

(a) Excludes Sydney Harbour Bridge.

(b) Year 1939-40.

The foregoing particulars do not represent the total expenditure on roads and bridges in each State. To obtain such information additions must be made on account of (i) State Government expenditure from revenue and loan, and (ii) local government expenditure from revenue and loan, while, on the other hand, allowances must be made for inter-fund payments. (*See* par. (i) above.)

(iii) *State Net Loan Expenditure.* In recent years, expenditure from State loan funds on roads and bridges has not been large, and it would appear, also, that a considerable proportion passes through the funds of the central road authorities and is therefore included in the figures on their financial operations in the foregoing sections, while, on the other hand, it must be supplemented by expenditure from State revenue. Gross loan expenditure by all State Governments during each of the years 1946-47 and 1947-48 amounted to a little over £1,000,000, and net expenditure to considerably less. Aggregate net loan expenditure on roads and bridges in each State to 30th June, 1948 amounted to the following approximate sums:—New South Wales, £21,000,000; Victoria, £13,000,000; Queensland, £8,000,000; South Australia, £4,000,000; Western Australia, £3,000,000; Tasmania, £6,000,000; total, £55,000,000.

§ 5. Water Supply, Sewerage and Drainage.

NOTE.—See also Chapter XXV.—Water Conservation and Irrigation.

1. New South Wales.—(i) *General*. The largest two domestic water supply and sewerage systems are controlled by statutory boards each consisting of a president and a vice-president appointed by the State Government and five members elected by local councils. These are (a) the Metropolitan Water, Sewerage and Drainage Board, which administers the systems in the County of Cumberland, i.e., in Sydney and in the surrounding districts, and, in addition, has jurisdiction over territory extending along the South Coast beyond Wollongong to Lake Illawarra, and (b) the Hunter District Water Board, serving the Newcastle area. At Broken Hill a similar board includes a representative of the mining companies. Other systems, apart from irrigation projects and water storage systems administered by the State Government, are controlled by county, municipal and shire councils.

(ii) *Water Supply—to 30th June, 1948. (a) Metropolitan*. The storage reservoirs of the metropolitan system, with a combined available capacity of 125,144 million gallons, drain catchment areas of 376 square miles (Upper Nepean, 347 square miles and Woronora, 29 square miles). Water is drawn also from the Warragamba River, with a catchment of 3,383 square miles. This system is being developed, and proposals exist for a dam to be built to a height of 348 feet above bed level, giving a safe draught of 260 million gallons per day. The existing temporary storage is supplied by a weir 50 feet high with a maximum daily off-take of 40 million gallons. At 30th June, 1948 there were 92 service reservoirs in use with a combined capacity of 537.1 million gallons. Rating for water for 1947-48 was 9½d. in the £1 of assessed annual value and the charge for water measured by meter 1s. 2d. per 1,000 gallons.

(b) *Newcastle*. The water supply is drawn from two sources (1) the Chichester Reservoir, with a storage capacity of about 5,000 million gallons and draining a catchment of 76 square miles, and (2) the Tomago Sandbeds, which extend northerly along the coast towards Port Stephens. Service reservoirs and tanks distributed throughout the Water Supply District have a total storage capacity of 106 million gallons. Water rating for 1947-48 was 1s. in the £1 on assessed annual value (approval was given to the provision for an increase of 3d. in the £1 as from 1st July, 1948). The price of water to domestic and industrial consumers is 1s. 3d. per 1,000 gallons.

(c) *Water Supplied, etc.* The following tables show, for the Sydney and Newcastle systems, the number of properties, the estimated population supplied, and other details for the years 1946-47 and 1947-48 :—

WATER SUPPLY, SYDNEY (a) : SERVICES.

Year.	Improved Properties for which Water Main available.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for the Year.	Average Daily Consumption.		Length of Mains.	Number of Meters.
					Per Property.	Per Head of Estimated Population.		
	No.		Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1946-47 ..	387,980	1,718,000	131.2	47,874	338	77.1	4.743	160,169
1947-48 ..	400,615	1,774,300	122.1	44,682	305	69.6	4.817	170,124

(a) Includes part of South Coast.

WATER SUPPLY, NEWCASTLE : SERVICES.

Year.	Pro- perties Supplied.	Esti- mated Popu- lation Supplied	Average Daily Supply.	Total Supply for Year.	Average Daily Supply.		Length of Mains.
					Per Pro- perty.	Per Head of Esti- mated Popu- lation.	
1946-47	..	No. 56,804	Mill. gals. 18.9	Mill. gals. 6,900	Gallons. 333	Gallons. 83.9	Miles. 1,134
1947-48	..	58,660	18.5	6,774	316	79.3	1,169

(iii) *Sewerage and Drainage—to 30th June, 1948. (a) Metropolitan.* The Sydney sewerage system consists mainly of outfall systems discharging into the Pacific Ocean. At 30th June, 1948 there were six outfalls and six treatment works.

Stormwater drainage channels under the Metropolitan Water, Sewerage and Drainage Board's control at the same date were 129 miles long. Sewerage rating for 1947-48 was 9½d. in the £1 of assessed annual value and drainage from ¾d. to 3d.

(b) *Newcastle.* The main sewerage system of the Newcastle area discharges into the Pacific Ocean at Merewether Gulf. In some of the outlying districts treatment works have been installed.

Sewerage rates for 1947-48 were 1s. 3d. in the £1 of assessed annual value and drainage rates (on certain areas served) 3d. in the £1. Approval has been given for the reduction of 1d. in the £1 on stormwater drainage rates.

(c) *Particulars of Services.* The following table supplies, for the Sydney system, details of sewerage services and stormwater drains as at 30th June, 1947 and 1948.

SEWERAGE AND DRAINAGE, SYDNEY(a) : SERVICES.

At 30th June—				Improved Properties for which Sewer Available.	Estimated Population Served.	Total Sewage Pumped for the Year.	Length of Sewers.	Length of Storm- water Channels.
				No.		Mill. gals.	Miles.	Miles.
1947	..	..	..	287,098	1,197,755	9,604	2,805	117
1948	..	..	..	291,069	1,263,436	9,894	2,829	129

(a) Includes part of South Coast.

At 30th June, 1948 (at 30th June, 1947 in parenthesis) 41,261 (39,886) premises had been connected to the Hunter District Water Board's sewerage system (Newcastle area). The total length of sewers under the Board's control was 596 (586) miles, and the length of drains over 24 inches diameter was 38 (38) miles.

(iv) *Finances, Sydney and Newcastle Systems.* The following statement shows the debt, revenue and expenditure on account of the services of water supply, sewerage and drainage by the Metropolitan Water, Sewerage and Drainage Board and the Hunter District Water Board during 1946-47 and 1947-48.

**WATER SUPPLY, SEWERAGE AND DRAINAGE, SYDNEY(a) AND NEWCASTLE :
FINANCES.
(£.)**

Service.	Capital Debt.	Revenue.	Expenditure.				Surplus (+) or Deficit (—).
			Working Expenses. (b)	Interest and Exchange.	Sinking Fund and Loan Re- payment.	Total.	
1946-47.							
Sydney (a)—							
Water ..	30,091,515	2,506,085	1,112,118	1,156,515	220,174	2,488,807	+ 17,278
Sewerage	17,771,447	1,445,285	615,771	721,546	124,847	1,462,164	+ 16,879
Drainage	(c)923,693	80,202	35,125	39,546	5,331	80,002	+ 200
Total	48,786,655	4,031,572	1,763,014	1,917,607	350,352	4,030,973	+ 599
Newcastle—							
Water ..	4,551,502	333,164	144,456	168,507	27,454	340,417	— 7,253
Sewerage	2,349,106	194,952	86,700	91,945	13,483	192,128	+ 2,824
Drainage	138,157	20,074	4,976	5,672	903	11,551	+ 8,523
Total	7,038,765	548,190	236,132	266,124	41,840	544,096	+ 4,094
1947-48.							
Sydney (a)—							
Water ..	32,220,977	2,562,670	1,123,518	1,198,278	240,069	2,561,865	+ 805
Sewerage	18,029,075	1,554,141	689,004	724,427	130,287	1,543,718	+ 10,423
Drainage	(c)935,043	81,975	34,799	39,619	5,580	79,998	+ 1,977
Total	51,185,095	4,198,786	1,847,321	1,962,324	375,936	4,185,581	+ 13,205
Newcastle—							
Water ..	4,757,073	355,528	159,913	172,230	29,547	361,690	— 6,162
Sewerage	2,398,127	200,725	93,211	93,098	14,125	200,434	+ 291
Drainage	139,668	20,719	4,535	5,201	971	10,707	+ 10,012
Total	7,294,868	576,972	257,659	270,529	44,643	572,831	+ 4,141

(a) Includes part of South Coast. (b) Includes provision for renewals, long service leave, loss on exchange, etc. (c) Excludes non-interest bearing capital in respect of stormwater drains transferred from Public Works Department—£1,254,320 at 30th June, 1948.

(v) *Country Water Supply and Sewerage Systems.* At 31st December, 1946 country water supply services were conducted or under construction by 73 municipalities, 42 shires and 5 county councils, and country sewerage services by 51 municipalities, 10 shires and one county council. The capital indebtedness of these schemes was £7,009,677 at 31st December, 1946, namely, £4,394,088 for water and £2,615,589 for sewerage. Of the foregoing amounts, Government advances amounted to £583,129. Debt of the municipalities amounted to £4,790,697, shires to £829,273 and county councils to £1,389,707. Aggregate income and expenditure, respectively, amounted to £1,000,152 and £852,687 during 1946, and to £944,657 and £823,325 in 1945.

(vi) *Other Water Supply and Sewerage Systems.* The water supply and sewerage services for Broken Hill are operated by a statutory board, the Broken Hill Water Board. Its capital indebtedness at 31st December, 1948 was £624,955. Income and expenditure, respectively, were £95,504 and £103,864 for 1948 and £81,222 and £92,651 for 1947.

The following country water supply systems—South-West Tablelands, Junee and Fish River—are administered by the Department of Public Works. These supply water in bulk to municipalities and shires, the Railways Department, and other large consumers; only a small quantity is sold directly to private consumers. The capital indebtedness of these systems was £2,282,034 at 31st December, 1948.

There are also the Mulwala Water Supply and Sewerage Service constructed as an urgent war-time work for the Commonwealth, and the Bethunga Water Supply System administered by the Department of Public Works in conjunction with the Junee supply.

2. *Victoria.*—(i) *Melbourne and Metropolitan Board of Works—to 30th June, 1948.*

(a) *General.* The metropolis, for water supply, sewerage and drainage and river improvement purposes, comprises all that land within a radius of 13 miles of the Post Office at the corner of Bourke and Elizabeth-streets, Melbourne, and the remaining portions of the Cities of Moorabbin, Mordialloc, and Nunawading and the shire of Mulgrave and certain portions of the remainder of the Shires of Eltham, Doncaster and Templestowe, and Dandenong, but excludes a portion of the Shire of Werribee within such radius. This territory has an area of 450 square miles and comprises 27 cities and one shire and parts of one other city and 9 other shires. The Board comprises 48 members, including the chairman, who is elected every four years by the other members. These members, or commissioners, are from time to time elected by the councils of the municipal districts wholly or partly within the metropolis. The principal functions of the Board are to control and manage the metropolitan water supply system; to provide the metropolis with an efficient system of main and general sewerage; to deal with main drains and main drainage works; and to control and manage the rivers, creeks and watercourses within the metropolis.

(b) *Water Supply.* There are five storage reservoirs serving the metropolitan area—Yan Yean, 7,234 million gallons (available for consumption, 6,605 million gallons); Toorourrong, 60 million gallons; Maroondah, 6,274 million gallons (4,855 million gallons); O'Shannassy, 930 million gallons; Silvan, 8,853 million gallons (8,823 million gallons); total 23,351 million gallons (21,273 million gallons). Service reservoirs number 25, with a total capacity of 262 million gallons. Preparatory work has been undertaken on the Upper Yarra Dam project, immediately upstream from the confluence of the Yarra and Doctor's Creek. The dam will impound 30,000 million gallons. The preliminary estimate of the cost, including all road deviations and improvements, rail facilities and electric power installation, is £3,800,000.

The following table shows particulars of Melbourne metropolitan water supply services for 1946-47 and 1947-48. The rate levied in 1947-48 was 6d. in the £1 on the net annual value of the property served. There is a charge of 1s. per 1,000 gallons of water supplied by meter.

WATER SUPPLY, MELBOURNE : SERVICES.

Year.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for the Year.	Average Daily Consumption.		Length of Aqueducts, etc., Mains and Reticulation.	Number of Meters.
					Per House.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1946-47 ..	312,735	1,241,558	87.9	32,092	281	70.8	3,594	218,744
1947-48 ..	320,798	1,275,000	91.9	33,651	287	72.1	3,691	220,992

(c) *Sewerage and Drainage.* Particulars of sewerage and drainage services for 1946-47 and 1947-48 are shown below. The rate levied in 1947-48 in respect of sewerage was 1s. in the £1 on the net annual value of the property served. The drainage rate was 1d. in the £1.

SEWERAGE AND DRAINAGE, MELBOURNE : SERVICES.

Year.	Number of Houses for which Sewers are Provided.	Estimated Population for which Sewers are Provided.	Average Daily Pumping.	Total Sewage Pumped for the Year.	Average Daily Pumping.		Length of Sewers, etc.	Length of Main Drains.
					Per House.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	Miles.
1946-47 ..	294,343	1,168,542	59.1	21,570	200.8	50.6	2,773	117
1947-48 ..	302,433	1,202,000	61.6	22,551	203.8	51.3	2,814	122

The metropolitan sewerage system consists of the Main system (serving an area of 65,884 acres) and three subsidiary systems—the Sunshine system (serving an area of 911 acres in the Shire of Braybrook, including the township of Sunshine), the Kew system (serving an area of 99 acres in Kew) and the South-eastern system (serving an area of 1,868 acres in Cheltenham, Parkdale, Mentone and Mordialloc). The Metropolitan Sewage Farm, 24,610 acres in extent and situated about 24 miles south-west of Melbourne beyond the township of Werribee, serves to purify and dispose of more than 99 per cent. of the sewage flow of the metropolis before its discharge into Port Phillip Bay. The total capital cost (less depreciation) to 30th June, 1948 was £1,618,536. Revenue during 1947-48 (1946-47 in parentheses) amounted to £60,615 (£61,632), cost of sewage disposal £91,368 (£84,947), trading expenses £41,184 (£41,417), interest £61,354 (£56,361), and net cost of sewage purification £133,291 (£121,093). These financial particulars are included in the sewerage items of the summary below.

At 30th June, 1948, the Melbourne and Metropolitan Board of Works had 122 miles of main drains under its control—101 miles of underground, 12 miles of constructed open drains, and 9 miles of natural watercourses and unlined open drains.

(d) *Finances.* The following table provides a summary, for the years 1946-47 and 1947-48, of the financial operations of the three services conducted by the Melbourne and Metropolitan Board of Works :—

MELBOURNE AND METROPOLITAN BOARD OF WORKS : FINANCES.

(£.)

Service, etc.	Capital Cost. (a)	Revenue.	Expenditure.				Surplus (+) or Deficit (—).
			Working Expenses, etc.	Interest and Exchange.	Sinking Fund.	Total.	
1946-47.							
Water ..	13,851,065	1,086,847	515,470	532,348	..	1,047,818	+ 39,029
Sewerage ..	15,675,892	1,200,027	390,579	599,169	..	989,748	+ 210,279
Drainage ..	1,916,260	103,073	29,478	58,169	..	87,647	+ 15,426
General(b) ..	..	..	294,766	46,413	65,090	406,269	..
Total ..	31,443,217	2,389,947	1,230,293	1,236,099	65,090	2,531,482	— 141,535
1947-48.							
Water ..	14,552,190	1,167,610	596,972	554,751	..	1,151,723	+ 15,887
Sewerage ..	16,178,614	1,246,670	436,388	622,834	..	1,059,222	+ 187,448
Drainage ..	2,019,048	107,086	22,786	61,787	..	84,573	+ 22,513
General(b) ..	..	..	197,582	..	67,340	264,922	..
Total ..	32,749,852	2,521,366	1,253,728	1,239,372	67,340	2,560,440	— 39,074

(a) Includes depreciation, £395,525. Total loan indebtedness—1946-47, £26,036,165; 1947-48 £26,936,165.

(b) Statutory and general expenditure not distributed over Services.

(ii) *Geelong Waterworks and Sewerage Trust.* (a) *General.* The Geelong Waterworks and Sewerage Trust, constituted in 1908 and reconstituted under the Geelong Waterworks and Sewerage Act in 1910, consists of five commissioners. The amount of loan money which may be raised is limited to £900,000 for water supply undertaking, £760,000 for sewerage undertaking, and £270,000 for sewerage installation to properties under the deferred payment system. The population supplied is estimated by the Trust at 54,200. This and other general information relates to 30th June, 1948.

(b) *Water Supply.* The catchment area is about 16,000 acres. There are five storage reservoirs and seven service basins whose total storage capacity is 2,738 million gallons. In addition, the State Rivers and Water Supply Commission has made available a supplementary supply of a minimum quantity of 545 million gallons of water per annum from the Bellarine Peninsula System. There are 320 miles of mains within the water supply area. The total expenditure on water supply to 30th June, 1948 was £833,039. Expenditure for 1947-48 comprised £33,447 (£30,130 in 1946-47) on working expenses and £39,381 (£32,378 in 1946-47) on interest, sinking fund and reserves, and the revenue for the year 1947-48 was £72,024 (£68,596 in 1946-47). The sinking fund appropriations at June, 1948 amounted to £109,079. The replacement and contingencies reserve amounted to £136,548. There is a water rate of 1s 3d. in the £1 (with minima of five shillings for unbuilt-on land and £1 for tenements) on the net annual value of ratable properties.

(c) *Sewerage Works.* The sewerage scheme consists of a main outfall sewer to the ocean at Black Rock, about 9 miles from Geelong, and 149 miles of main and reticulation sewers. The sewerage area is 9,571 acres, and the number of buildings within the sewered areas is 13,080, of which 13,061 have been connected. The number of buildings within the drainage area is 13,331. The total expenditure to 30th June, 1948 on sewerage works was £662,578, and on the cost of sewerage installation under deferred payment conditions £257,897, of which £118 is outstanding. The revenue in 1947-48 amounted to £48,269 (£46,674 in 1946-47) and the expenditure comprised £12,132 (£9,920 in 1946-47) on working expenses and £35,475 (£33,289 in 1946-47) on interest, sinking fund and reserves. Sinking fund appropriations at June, 1948 were £57,944. Replacement and contingencies reserve amounted to £113,587. A general rate of 1s. 3d. in the £1 is levied on the net annual value of ratable properties.

(iii) *The Ballarat Water Commission and the Ballarat Sewerage Authority.* (a) *General.* The Ballarat Water Commission, was constituted on 1st July, 1880, and the Ballarat Sewerage Authority on 30th November, 1920. The members of the Water Commission constitute the Sewerage Authority. The Commissioners number seven, three (one of whom is chairman) being appointed by the Government, and four being elected by the Council of the City of Ballarat. General information is as at 31st December, 1948.

(b) *Water Supply.* The Water Supply District embraces an area of about 65 square miles, containing a population of about 50,000. The total storage capacity of the six reservoirs is 2,332 million gallons and the catchment area is 17,545 acres.

The capital cost of construction of the waterworks was £1,109,210 to 31st December, 1948. The liabilities are loans due to the Government, amounting to £612,359 at 31st December, 1948. The revenue for the year 1948 was £58,286 (£44,580 in 1947). Working expenses during 1948 amounted to £31,210 (£26,422 in 1947) and interest and other charges to £28,178 (£22,692 in 1947). A rate is levied of 1s. 1d. in the £1 on the net annual value of all ratable properties, with a minimum of 15s. per annum for land on which there is a building or water supply.

(c) *Sewerage.* The scheme as designed provides for a population of 90,000 persons, but at 30th June, 1948 about 40,000 persons were being served. The capital cost of sewerage construction works to 31st December, 1948 was £515,136. The method of sewage disposal is by sedimentation, oxidation and sludge digestion. One hundred and eleven sewered areas had been declared as at 31st December, 1948. Assessments in the sewerage district numbered 13,143, while those in sewered areas numbered 10,430. There were 9,198 tenements connected.

The scheme is financed by debenture-issue loans from various financial institutions. The liabilities on account of loans secured for construction at 31st December, 1948 amounted to £430,045, redemption payments at that date totalling £138,310. An

expenditure of £157,122 was incurred for house connexions, the whole of which has been redeemed. Revenue during 1948 (1947 in parentheses) amounted to £40,274 (£36,741) and expenditure, including £25,835 (£24,264) on interest and redemption, to £38,609 (£36,426).

A general rate is levied of 1s. 6d. in the £1 of the net annual value of all properties within the drainage area.

(iv) *Sewerage Authorities.* At 30th June, 1948, 47 sewerage authorities had been constituted under the provisions of the Sewerage Districts Acts in districts outside the areas under the control of the Melbourne and Metropolitan Board of Works and the Geelong Waterworks and Sewerage Trust, and systems were in operation in 27 districts (including four partly operating) serving a population of 180,400 persons.

In addition, sewerage authorities were constituted in a further 20 districts at this date, but their operations had either been suspended or had not commenced.

(v) *Water Supply in Country Towns and Districts.* Most of the country waterworks are controlled by the State Rivers and Water Supply Commission, but in some instances the control is by waterworks trusts or by municipal corporations.

The waterworks controlled by the State Rivers and Water Supply Commission at 30th June, 1948 included 35 large reservoirs and 226 subsidiary reservoirs and service basins with a total storage capacity of 536,400 million gallons (1,970,250 acre feet). Length of channels was 15,096 miles (irrigation, 4,450 miles, domestic and stock, 8,489 miles, drainage and flood protection, 2,157 miles) and of pipe lines 1,133 miles. The quantity of water delivered to water users during 1947-48 was 618,839 acre feet (730,413 acre feet in 1946-47). The Commission administered 80 rural districts during 1947-48 (28 irrigation districts, 34 waterworks districts, 4 flood protection districts and 14 drainage districts), and the reticulated pipe supplies for domestic and industrial purposes in 127 urban districts. In addition, 118 urban districts were administered by waterworks trusts and 15 by local governing bodies. The populations served in these groups of urban districts numbered, respectively, 140,840, 235,550 and 78,950 persons. The table below is a summary of the Commission's finances for operations in districts under its control for the years 1946-47 and 1947-48:—

STATE RIVERS AND WATER SUPPLY COMMISSION, VICTORIA: FINANCES. (a)

(£.)

Year.	Total Loan Capital Expenditure to 30th June.	Receipts.	Payments.				
			Operating Expenses.	Interest on Capital Allotted.	Depreciation.	Redemption.	Total.
1946-47 ..	27,632,136	919,347	1,084,841	39,061	118,701	1,678	1,245,181
1947-48 ..	29,228,673	1,050,528	1,199,552	39,836	55,303	1,660	1,296,351

(a) Excludes Waterworks Trusts and Local Governing Bodies.

The total loan capital expenditure of waterworks trusts and local governing bodies at 30th June, 1948 was £4,573,708, making a grand total of £33,802,381 when added to the figure for works under the control of the Commission. The net loan capital after redemption payments of £1,566,083 was £32,236,298.

The financial operations of the State Rivers and Water Supply Commission form part of Consolidated Revenue Fund, but are included in this section for convenience. The major proportion of the interest payable is borne by the State and is additional to that shown above. The net expenditure borne by the State during 1947-48 was £1,409,488 (£1,246,931 in 1946-47).

3. **Queensland.**—(i) *Department of Works, Brisbane City Council—to 30th June, 1948.* (a) *General.* This organization conducts the water supply and sewerage systems of the City of Greater Brisbane, extending them, in the case of water supply, to the Cities of Ipswich and Redcliffe. Prior to 1928 water and sewerage activities had been controlled by the Metropolitan Water and Sewerage Board, but were then absorbed by the Brisbane City Council.

(b) *Water Supply.* Water storage facilities comprise the following (available capacities are shown in parenthesis):—Somerset Reservoir, 32,000 million gallons (32,000 million gallons); Lake Manchester, 5,806 million gallons (5,725 million gallons); Brisbane River, 543 million gallons (484 million gallons); Pure Water Reservoir, Holt's Hill, 2.5 million gallons (2.5 million gallons); Enoggera Reservoir, 1,000 million gallons (631 million gallons); Gold Creek Reservoir, 407 million gallons (400 million gallons). There are ten service reservoirs with a capacity of approximately 35.1 million gallons. The Somerset reservoir is under the control of the Stanley River Works Board and is a dual purpose project with a designed total holding capacity of 200,000 million gallons, 55,000 million gallons to be for water storage and 145,000 million gallons for flood mitigation. Water rating at 30th June, 1948 was 5d. in the £1 of unimproved capital value for improved properties, and 3d. in the £1 for vacant lands, with a minimum of £3 10s. and £2 6s. 8d. respectively. The following table is a summary of operations of the complete Brisbane City Council system (metropolitan area, Ipswich and Redcliffe) for the years 1946-47 and 1947-48:—

WATER SUPPLY, BRISBANE (a) : SERVICES.

Year.	Services Connected.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for year.	Average Daily Consumption.		Length of Trunk and Reticulation Mains.	Number of Meters.
					Per Service.	Per Head of Estimated Population.		
			Mill. gals.	Mill. gals.	Gallons.	Gallons.	Miles.	
1946-47 ..	98,803	405,093	22.8	8,317	231	56.3	1,299	52,645
1947-48 ..	103,846	425,769	22.9	8,365	220	53.7	1,330	52,699

(a) Includes Ipswich and Redcliffe.

(c) *Sewerage.* The districts provided for in the Brisbane sewerage scheme comprise the original cities of Brisbane and South Brisbane, the towns of Hamilton, Ithaca, Toowong and Windsor, the shire of Coorparoo and parts of the shires of Stephens, Balmoral, Taringa and Toombul. The sewage treatment works are situated at Luggage Point on the north bank at the entrance to the Brisbane River. The treatment plan is the activated sludge system, but this has not been put into operation, and since the commencement of pumping operations in 1923 a sedimentation plant only has been used. Sewerage rating at 30th June, 1948 was 3d. in the £1 of unimproved capital value for improved properties, and 2d. in the £1 for vacant lands, with a minimum of £2 2s. and £1 8s. respectively. The following table is a summary of operations of the Brisbane Sewerage Scheme for the years 1946-47 and 1947-48:—

SEWERAGE, BRISBANE : SERVICES.

Year.				Premises Connected.	Estimated Population Served.	Total Sewage Pumped for the Year.	Length of Main, Branch, Reticulation, etc. Sewers.
						Mill. gals.	Miles.
1946-47 ..	..	..	..	42,246	173,209	4,539	549
1947-48 ..	..	..	..	43,485	178,289	4,696	567

(d) *Finances.* The following table shows particulars of the finances of the water supply and sewerage undertakings of the Brisbane City Council for the years 1946-47 and 1947-48 :—

WATER SUPPLY AND SEWERAGE, BRISBANE : FINANCES.
(£.)

Service and Year.	Gross Capital Cost.	Revenue.	Expenditure.			Surplus (+) or Deficit (—).
			Working Expenses.	Interest, Redemption, etc. Charges.	Total.	
Water Supply—						
1946-47	6,906,676	744,989	225,343	315,595	596,948	+ 148,041
1947-48	7,156,116	765,936	255,430	335,307	633,982	+ 131,954
Sewerage—						
1946-47	6,763,448	234,032	57,600	224,194	312,152	— 78,120
1947-48	7,048,086	254,777	63,998	246,983	343,259	— 88,482

(ii) *Country Towns.* (a) *Water Supply.* In addition to the city of Brisbane, there were at 30th June, 1947, 90 cities and towns in Queensland provided with water supply systems controlled by municipal and shire councils.

(b) *Sewerage Systems.* At 30th June, 1947, there were 12 cities or towns outside the metropolitan area—Bundaberg, Charleville, Cunnamulla, Goondiwindi, Ipswich, Mackay, Maryborough, Quilpie, Rockhampton, Toowoomba, Townsville and Warwick—with sewerage systems. A sewerage system was in course of construction in Mt. Isa.

(c) *Finances.* The receipts (other than loan) of water and sewerage undertakings controlled by the cities and towns referred to above (excluding one joint authority classed as semi-governmental) amounted to £499,084 in 1946-47 (£522,900 in 1945-46). Expenditure amounted to £318,025, including £194,318 for debt charges (£495,891 and £186,512 in 1945-46). In addition, loan expenditure amounted to £233,668 (£157,630 in 1945-46).

4. *South Australia.*—(i) *General.* The water supply and sewerage systems in this State were constructed and are maintained by the Engineering and Water Supply Department under the control of the Minister of Works. The works controlled comprise the Adelaide, Barossa, Baroota Creek, Beetaloo, Bundaleer, Tod River, Warren and other country water districts systems, the Morgan-Whyalla water supply system, the Adelaide metropolitan sewerage system, the Murray River Weirs, water conservation, and the Metropolitan Flood Waters Scheme.

(ii) *South Australian Waterworks—to 30th June, 1948.* (a) *Services.* The table hereunder shows particulars of the area, capacity, etc. of combined metropolitan and country water works for the years 1946-47 and 1947-48 :—

WATERWORKS, SOUTH AUSTRALIA : SERVICES.

Year.	Assessments.(a)		Area of Districts Supplied. (a)	Capacity of Reservoirs, Tanks, etc.	Length of Mains.	Number of Meters.
	Number.	Annual Value.				
		£	Acres.	Million Gallons.	Miles. —	
1946-47	198,952	7,190,146	11,932,461	23,920	6,927	103,514
1947-48	203,422	7,405,970	11,953,022	23,927	6,997	104,726

(a) Excludes Morgan-Whyalla Water Supply—water sold by measure.

(b) *Finances.* Figures for 1946-47 and 1947-48 are shown in the following table.

WATERWORKS, SOUTH AUSTRALIA : FINANCES.

(£.)

Year.	Invested Capital.	Revenue.	Expenditure.			Surplus (+) or Deficit(-).
			Working Expenses.	Interest and Sinking Fund.	Total.	
1946-47 ..	19,577,522	856,733	542,203	676,604	1,218,807	- 362,074
1947-48 ..	20,229,154	935,693	588,703	680,550	1,269,253	- 333,560

(iii) *Adelaide Waterworks.* At 30th June, 1948 the Adelaide waterworks supplied a district of 143,993 acres. The capacity of its five reservoirs was 14,466 million gallons and there were 1,565 miles of mains.

Approval has been given to schemes (i) for the construction of a large reservoir on the South Para River to provide additional storage to serve the lower northern areas of the State and to make some additional provision for the metropolitan area, and (ii) for bringing River Murray water into Adelaide to supplement the metropolitan and Warren system areas and to serve country areas en route. The capacity of the new reservoir will be about 10,000 million gallons and it will cost about £1,620,000; the pipeline from the Murray near Mannum will deliver about 11,000 million gallons per annum and will cost about £3,390,000.

Particulars of finances for the years 1946-47 and 1947-48 are shown below :—

ADELAIDE WATERWORKS : FINANCES.

(£.)

Year.	Invested Capital.	Revenue.	Expenditure.			Surplus (+) or Deficit(-).
			Working Expenses.	Interest.	Total.	
1946-47 ..	6,018,680	521,962	209,107	200,105	409,212	+ 112,750
1947-48 ..	6,253,146	574,687	211,450	203,510	414,960	+ 159,727

(iv) *Adelaide Metropolitan Sewerage.* The Adelaide metropolitan sewerage system, comprising the Adelaide, Glenelg and Port Adelaide areas, with drainage areas of 86 square miles in all, includes a sewage farm, and treatment works at Glenelg and Port Adelaide. The total quantity of sewage pumped by the various stations was 2,457 million gallons during 1947-48 as compared with 2,071 million gallons during 1946-47. Other particulars for 1946-47 and 1947-48 are shown hereunder :—

ADELAIDE METROPOLITAN SEWERAGE : SUMMARY.

Year.	Length of Sewers.	Number of Con-nexions.	Invested Capital.	Revenue.	Expenditure.			Surplus (+) or Deficit(-).
					Working Expenses.	Interest and Sinking Fund.	Total.	
	Miles.		£	£	£	£	£	£
1946-47 ..	1,008	93,440	4,034,770	307,190	135,868	144,702	280,570	+ 26,620
1947-48 ..	1,025	102,224	4,176,725	319,077	159,509	145,732	305,241	+ 13,836

(v) *Country Water Supply.* Water district systems outside Adelaide at 30th June, 1948 comprised an area of 11,809,029 acres, and the capacity of the reservoirs was 9,427 million gallons. These figures exclude the Morgan-Whyalla supply system, which obtains its water from the River Murray. The storage tanks of this system had a capacity of 44 million gallons.

Construction work is proceeding on the scheme for the augmentation of the Tod River District supplies, and for the supply of other areas not already served, by utilizing water from the Uley-Wanilla sub-artesian basin at an estimated cost of £1,500,000.

At the request of the Commonwealth, arrangements have been made for the Engineering and Water Supply Department to undertake the construction above ground of a 10-in. pipeline, together with service reservoirs, pumping stations, etc., from Port Augusta to the Rocket Range at Woomera, a distance of about 110 miles.

The following table gives financial information on country waterworks for 1946-47 and 1947-48 :—

COUNTRY WATERWORKS, SOUTH AUSTRALIA : FINANCES.(a)

(£.)

Year.	Invested Capital.	Revenue.	Expenditure.			Surplus (+ or Deficit(-).
			Working Expenses.	Interest.	Total.	
1946-47 ..	11,231,493	244,495	397,379	394,392	791,771	— 457,276
1947-48 ..	11,643,730	270,738	337,557	395,246	732,803	— 462,065

(a) Excludes Morgan-Whyalla system.

(vi) *Morgan-Whyalla Water Supply Scheme.* This scheme, which involved the laying of 223 miles of main, was officially opened on 31st March, 1944, the capital invested to 30th June, 1948 being £2,529,956. Particulars of this scheme, where applicable, are included in the tables of the combined waterworks in section (ii) above. The water is sold by measure; hence particulars of assessments and area supplied do not apply. During 1946-47 the water used from the system between Hanson and Whyalla amounted to 508 million gallons and during 1947-48 to 814 million gallons. Revenue for the year 1946-47 was £112,962, working expenses, etc. £48,403, interest charges, £82,107 and net loss £17,548. Corresponding figures for 1947-48 were, respectively, £119,967, £69,395, £81,794 and £31,222.

5. *Western Australia.*—(i) *General.* The water supply and sewerage systems of Western Australia are principally under the management of Government Departments, and are divided into the following categories :—(a) Metropolitan Water Supply, Sewerage and Drainage, covering Perth, Fremantle, Claremont, Guildford, Midland Junction and Armadale District; (b) Goldfields Water Supply; (c) Water Supply of other towns, etc.; (d) Agricultural Water Supply; and (e) Artesian and sub-artesian waters.

(ii) *Metropolitan Water Supply, Sewerage and Drainage.* (a) *General.* The sources of the metropolitan water supply are the Canning Dam, Churchman Brook, Wongong Brook, Victoria Reservoir, Armadale Pipe Head Dam and Well, and certain bores. The largest reservoir, the Canning Dam, has a capacity of 20,550 million gallons, about four and a half times that of the Mundaring Reservoir to which it is linked by a pipe line.

The sewage treatment works of Perth and suburbs consist of primary sedimentation with separate sludge digestion and discharge of all effluent direct to the ocean. Fremantle treatment works consist of septic tanks with ocean outfall for effluent. There are three treatment works, situated at West Subiaco, Swanbourne and Fremantle.

(b) *Water Supply.* The following table shows particulars of water supply services for 1946-47 and 1947-48 :—

METROPOLITAN WATER SUPPLY, WESTERN AUSTRALIA : SERVICES.

Year.	Number of Services.	Estimated Population Supplied.	Average Daily Consumption.	Total Consumption for Year.	Average Daily Consumption.		Length of Mains.	Number of Meters.
					Per Service.	Per Head of Estimated Population.		
1946-47 ..	70,970	279,000	Mill. gals. 24.7	Mill. gals. 9,022	Gallons. 348	Gallons. 88.6	Miles. 1,107	42,968
1947-48 ..	73,601	284,915	26.9	9,838	365	94.4	1,137	44,795

Water rating for 1947-48 was 1s. 6d. in the £1 on annual valuation, with a minimum of 10s.

(c) *Sewerage and Drainage.* Some particulars of the metropolitan sewerage and drainage services for 1946-47 and 1947-48 are shown below :—

METROPOLITAN SEWERAGE AND DRAINAGE, WESTERN AUSTRALIA : SERVICES.

Year.	Houses Connected.	Estimated Population Served.	Sewage Pumped for the Year.(b)	Length of Sewers.	Length of Stormwater Drains.
1946-47 ..	44,638	(a)	Mill. gals. 2,160	Miles. 536	Miles. 33
1947-48 ..	45,977	193,103	2,263	550	34

(a) Revised Census figure not available.

(b) Aggregate of quantities pumped by the various stations.

Sewerage rating for 1947-48 was 1s. 2d. in the £1 on annual valuation, with a minimum of 7s. 6d. Stormwater drainage rating was 5d. with a minimum of 2s. 6d.

(d) *Finances.* The following table shows particulars of the finances of the Western Australian Metropolitan Water Supply, Sewerage and Drainage Department for the years 1946-47 and 1947-48 :—

**METROPOLITAN WATER SUPPLY AND SEWERAGE AND DRAINAGE, WESTERN AUSTRALIA : FINANCES,
(£.)**

Service and Year.	Capital Cost.	Revenue.	Expenditure.			Surplus (+) or Deficit(-).
			Working Expenses.	Interest and Sinking Fund Charges.	Total.	
Water Supply—						
1946-47 ..	5,516,603	372,168	110,572	236,432	347,004	+ 25,164
1947-48 ..	5,669,789	392,761	117,930	243,613	361,543	+ 31,218
Sewerage and Drainage—						
1946-47 ..	3,992,651	219,359	47,401	190,472	237,873	— 18,514
1947-48 ..	4,148,756	223,090	51,119	196,965	248,084	— 24,994

(iii) *Goldfields Water Supply.* The source of supply for Kalgoorlie, Coolgardie and adjacent goldfields, as well as for the towns and districts on or near the pipeline, is the Mundaring Reservoir, which has a capacity of 4,650 million gallons. This scheme is

now linked by pipeline with the Canning Dam. Plans have been formulated by the State Government, assisted financially by the Commonwealth Government, for a comprehensively reticulated water scheme at an estimated cost of approximately £4,000,000 to serve an area of about 4,000,000 acres of farm lands and some 23 agricultural towns including the principal towns on the Great Southern Railway, and to increase the supply to the Eastern Goldfields to permit expansion of the gold-mining industry. The scheme involves the raising of the impounding walls of Mundaring Weir and Wellington Dam to increase the storage capacity of these reservoirs to 15,000 million and 38,000 million gallons respectively. The following table shows details for 1946-47 and 1947-48 :—

GOLDFIELDS WATER SUPPLY, WESTERN AUSTRALIA : SUMMARY.

Year.	Number of Services.	Total Consumption.	Length of Water Mains.	Number of Meters.	Capital Cost.	Revenue.	Expenditure.(a)	Surplus (+) or Deficit.(—)
		Mill. gals.	Miles.		£	£	£	
1946-47 ..	15,130	1,975	1,757	13,163	6,283,631	343,500	396,964	— 53,464
1947-48 ..	15,411	2,028	1,768	13,423	6,425,775	338,892	480,571	— 141,679

(a) Includes interest and sinking fund.

(iv) *Water Supply of Other Towns, etc.* (a) *Controlled by Public Works Department.* During 1947-48 (1946-47 in parenthesis) water supplied to other towns and districts, excluding minor water supplies, amounted to 534 (500) million gallons, including service to adjacent mines, 17,188,700 (19,796,700) gallons, and railways, 49,542,500 (46,267,600) gallons. Estimated population served numbered 34,655 (34,648).

(b) *Controlled by Commonwealth and State Government Railways.* Consumption for the year ended 30th June, 1948 (1946-47 in parenthesis) was 347 (332) million gallons. In addition, 423 (359) million gallons were obtained from other sources, mainly the Goldfields Water Scheme and the Metropolitan Water Supply.

(c) *Water Boards not Controlled by Government.* During 1947-48 (1946-47 in parenthesis) approximately 351 (332) million gallons of water were supplied to an estimated population of 17,135 (20,183).

(v) *Agricultural Water Supply.* During the thirty-eight years from 1st July, 1910 to 30th June, 1948, 553 tanks were built, 385 wells sunk, and 3,911 bores put down to a total depth of 209,787 feet. Of the bores put down, 642 yielded fresh, and 383 stock, water.

(vi) *Artesian and Sub-artesian Waters.* Up to 30th June, 1948 the total number of bores put down in search of artesian or sub-artesian water and in which water was struck (exclusive of operations by Defence Services) was 451, ranging in depth from 21 to 4,006 feet.

6. *Tasmania.*—(i) *Waterworks.* At the end of 1947-48 (1946-47 in parenthesis) there were 36 (36) municipal waterworks in Tasmania. The capacity of the reservoirs was about 870 million gallons, the estimated population served was 171,512 (165,303), the number of properties assessed was 53,429 (52,738), and the length of aqueducts, mains and reticulation was about 1,000 miles. Costs of construction amounted to £1,874,670 (£1,840,481). The largest of these undertakings is Hobart, with a reservoir capacity at the end of 1947-48 of 578,000 gallons, and 153 miles of reticulation and 92 miles of aqueduct and main.

(ii) *Sewerage.* Sewerage in Tasmania also is the concern of local authorities.

§ 6. Harbour Boards and Trusts.

NOTE.—The number and net tonnage of all vessels which entered the major ports in each State during the years 1938-39 and 1944-45 to 1947-48 are shown in Chapter V.—Transport and Communication, § 3. Shipping at Principal Ports. Particulars of oversea and interstate cargo discharged and shipped during 1947-48 are shown in § 6 of the same chapter.

1. **New South Wales.**—(i) *Maritime Services Board of New South Wales.* (a) *General.* The Maritime Services Board of New South Wales is a corporate body of five Commissioners, three of whom are full-time members and two, representing shipping and commercial interests, part-time members. The Board was brought into existence on 1st February, 1936 by the Maritime Services Act 1935, in order to co-ordinate the port and navigation services of the State, which had previously been administered by the Sydney Harbour Trust and by the State Department of Navigation.

The Board exercises general control over intra-State shipping, including the survey and certification of vessels, the licensing of harbour craft and the examination and issue of certificates to officers; is responsible for the provision of pilotage services, lights, beacons, buoys and other port facilities; imposes and collects rates and charges on goods and vessels; and is vested with the general control and management of the navigable waters and ports within the State.

At the Port of Sydney the Board is also responsible for the provision of adequate wharfage and channels, and carries out all construction, maintenance and dredging work. At other ports of New South Wales such work is undertaken by the Department of Public Works on behalf of the Board.

(b) *Port of Sydney.* The entrance to Sydney Harbour is nearly a mile wide, and the depth of its navigable channel is not less than 80 feet. Between the entrance, known as "The Heads", and the Harbour proper, a distance of 4 miles, there are two separate channels, each 700 feet wide, the Western Channel not less than 43 feet deep low water ordinary spring tides and the Eastern Channel 40 feet deep. The foreshores, which have been reduced by reclamations, are 152 miles in length and the total area of the port is 13,600 acres, or 21 square miles, of which about one-half has a depth of 30 feet or more at low water ordinary spring tide. The mean range of tides is 3 feet 6 inches.

Excluding ferry wharves and jetties used for private purposes, there are 64,676 feet of wharfage controlled by the Maritime Services Board and 9,928 feet of commercial wharfage privately owned. Ferry berths cover 3,427 feet, and the total for all purposes is 78,031 feet. Depth of water at wharves is up to 40 feet. The principal wharves are leased to shipping companies whose vessels engage regularly in the trade of the port; the remainder are reserved for vessels which visit the port occasionally. There is ample shed accommodation for normal demands and the port is well equipped with railway wharfage for the handling of traffic which is required to pass direct from ship to rail and vice versa. For the wheat export trade, in both bulk and bag, ample wharfage accommodation and handling equipment of the most modern character are available. Special facilities for the storage and handling of other staple products such as wool, etc., are provided on the waterside, and modern plant has been installed for replenishing ships' bunkers with oil or coal. Facilities in all directions can be very considerably extended when required.

The docking facilities comprise five large graving docks, four floating docks and eight patent slips. The Captain Cook Graving Dock, opened in March, 1945, is capable of accommodating the largest vessel afloat.

The following table shows particulars of the finances of the Board for 1946-47 and 1947-48 in respect of the Port of Sydney:—

MARITIME SERVICES BOARD : FINANCES OF THE PORT OF SYDNEY.
(£.)

Year.	Total Capital Debt.	Revenue.			Expenditure.			Surplus.
		Wharfage and Transhipment Rates.	Tonnage Rates and Berthing Charges.	Total.	Administration and Maintenance.	Interest, Sinking Fund, Exchange, etc.	Total. (a)	
1946-47..	11,097,221	725,903	158,521	1,379,882	702,833	540,240	1,243,073	136,809
1947-48..	11,242,120	759,014	167,406	1,446,779	793,319	530,159	1,323,478	123,301

(a) Excludes capital expenditure : 1946-47—£153,854; 1947-48—£282,345.

(c) *Port of Newcastle.* Newcastle Harbour is administered by the Maritime Services Board and an advisory committee consisting of five members appointed by the Governor. In regard to volume of shipping entered, Newcastle ranks second in importance in New South Wales and third in Australia. It is primarily a coal-loading port, but its activities cover the shipment of general commodities. The wharfage and other facilities of the port have been further improved and extended to meet the actual and the anticipated growth of trade with the expansion of industry in the district. Facilities are available for the shipment of wool, wheat and frozen meat, and a wharf is available for timber.

Wharfage accommodation amounts to 19,756 feet, of which the Maritime Services Board controls 6,211 feet, the Railways Department 7,719 feet, and private shipping companies 2,200 feet. Depths of water range from 25 to 28 feet (low water ordinary spring tide).

(d) *Port Kembla.* As from 3rd May, 1948, the Maritime Services Board assumed the administration and navigational control of Port Kembla, which had previously been administered by the New South Wales Department of Public Works. The Department will, however, continue to be the constructing authority in respect of works, dredging and maintenance. In respect of volume of shipping entered Port Kembla ranks third in the ports of New South Wales, and about eighth in those of Australia. It has an area of approximately 330 acres with depths ranging from 20 to 50 feet (low water ordinary spring tide), and wharfage accommodation has been provided for large ocean-going vessels. Being adjacent to the southern coalfields and a rapidly developing centre of secondary industries, its trade is growing and a great future for the port is predicted.

(e) *Other Ports.* In addition to the ports of Sydney, Newcastle and Port Kembla, the Board controls 29 outports along the coastline of 609 miles. The shipping trade of these outports is relatively small.

(ii) *Port Charges.* The port charges payable in respect of shipping and ships' cargoes in New South Wales are imposed by the Commonwealth Government in terms of the Lighthouses Act and the Federal Navigation Act, and by the State authorities under the Navigation Act of New South Wales, the Harbour and Tonnage Rates Act, and the Sydney Harbour Trust Act. Since 1st February, 1936, the State enactments have been administered by the Maritime Services Board. The gross collections by the State authorities amounted to £1,751,000 in 1946-47 and £1,832,000 in 1947-48. These figures include the Port of Sydney revenue (*see table above*) and State navigation service collections (£371,107 in 1946-37 and £385,118 in 1947-48). Commonwealth Government revenue from light dues, navigation receipts, etc. for the whole of Australia amounted to £147,616 in 1946-47 and £175,631 in 1947-48.

2. *Victoria.*—(i) *Melbourne Harbor Trust.* (a) *General.* Information regarding the origin and constitution of this Trust, which controls the Port of Melbourne, appears in Official Year Book No. 12, p. 970 *et seq.* At 31st December, 1948, the sheds available for wharfage accommodation had a length of 19,606 feet, covering an area of 1,340,888 square feet. The area of water in the bay and River Yarra under the control of the Trust is approximately 5,327 acres and the total length of wharves, piers and jetties in the port is 61,740 feet, giving an area of over 58 acres of wharfage, and 53,109 feet of effective berthing space. The depths of water (low water ordinary spring tide) of main channels and at principal wharves are about 30 feet, the maximum being about 36 feet.

(b) *Finances.* The following table shows particulars of the financial operations of the Trust during the years 1947 and 1948 :—

MELBOURNE HARBOR TRUST : FINANCES.

(£.)

Year.	Gross Loan Indebtedness.	Revenue.		Expenditure.				Surplus.
		Wharfage and Tonnage Rates.	Total. (a)	Administration and Maintenance.	Interest, Sinking Fund, Exchange, etc.	Depreciation, Renewals and Insurance Account.	Total. (a) (b)	
1947 ..	3,937,709	819,425	1,113,456	399,641	238,084	123,940	944,516	168,940
1948 ..	3,820,203	961,925	1,313,813	471,039	220,463	134,230	1,037,152	276,661

(a) Includes statutory payments to Consolidated Revenue and Geelong Harbour Trust : 1947, £182,851; 1948, £211,420. (b) Excludes capital expenditure : 1947, £375,705 ; 1948, £393,240.

(ii) *Geelong Harbor Trust.* The Geelong Harbor Trust was constituted in 1905, and reconstituted in 1934 under the provisions of the Melbourne and Geelong Harbor Trusts Act 1934. The Trust is under the control of three Commissioners appointed by the Governor-in-Council. Revenue for the years 1947 and 1948 was £116,501 and £132,610 respectively, and revenue expenditure was £87,197 and £112,503. Payments made in respect of capital works amounted to £60,935 in 1947 and to £84,731 in 1948, and loans outstanding at the end of each year amounted to £525,504 and £517,414. Depths of water available in Geelong harbour range from 24 to 29 feet (low water ordinary spring tide).

(iii) *Other Ports.* Portland is the only Victorian port other than Melbourne and Geelong of more than minor importance.

3. *Queensland.*—(i) *General.* The ports of Queensland, except Brisbane and certain minor ports, are administered by Harbour Boards with members representing the towns and districts served by the ports. Brisbane and the minor ports are controlled by the State Treasury through the Department of Harbours and Marine, which supervises the engineering activities of the other ports.

(ii) *Brisbane.* Brisbane accommodates comfortably, in its dredged and improved river, the largest vessels in the Australian trade. The main centres for shipping, although further downstream than formerly, because of the increasing size of vessels, are still within easy access of the city. The maximum depths (low water ordinary spring tide) of the shipping channel decrease from 33 feet in the North-West channel to 18 feet in the Bulimba Reach to Victoria Bridge section. Depths at wharves vary between 24 and 30 feet. Adequate dry-docking facilities are available. The finances of Brisbane Harbour for the years 1946-47 and 1947-48 are shown below :—

BRISBANE HARBOUR : FINANCES.

(£'000.)

Year.	Loan Indebtedness.	Revenue.		Expenditure.		Credit Balance.
		Harbour Dues.	Total.	Working Expenses.	Total (including Interest and Redemption).	
1946-47 ..	1,163	149	171	133	212	132
1947-48 ..	1,219	153	222	126	209	145

In addition to Brisbane Harbour, the Department of Harbours and Marine also controls the Brisbane Dry Dock, the Cairncross Dock, the Brisbane River, and ten smaller harbours not administered by Harbour Boards.

(iii) *Harbour Boards.* Harbour Boards control the ports of Bowen, Bundaberg, Cairns, Gladstone, Mackay, Rockhampton and Townsville. Finances for each port for the year 1948 are shown below, and a summary for the year 1947 as well as for 1948.

HARBOUR BOARDS, QUEENSLAND : FINANCES, 1948.

(£.)

Harbour Board.	Loan Indebtedness.	Revenue.		Expenditure (excluding Loan).		Surplus (+) or Deficit(-).
		Wharfage and Harbour Dues.	Total.	Working Expenses.	Total (including Interest and Redemption).	
Bowen	268,531	14,012	16,219	5,648	11,992	+ 4,227
Bundaberg	22,529	4,199	11,830	3,127	10,213	+ 1,617
Cairns	156,351	73,642	100,067	84,837	99,672	+ 395
Gladstone	98,985	8,522	13,470	3,680	7,676	+ 5,794
Mackay	365,883	95,716	105,501	8,557	49,997	+ 55,504
Rockhampton	511,721	16,981	26,347	29,384	39,204	- 12,857
Townsville	53,076	67,288	98,553	78,467	145,364	- 46,811
Total, 1948	1,477,076	280,360	371,987	213,700	364,118	+ 7,869
Total, 1947	1,481,213	234,872	328,464	205,572	330,022	- 1,558

4. *South Australia.—The South Australian Harbours Board.* All South Australian harbours are controlled by the South Australian Harbours Board, which consists of three commissioners, appointed by the Governor for a period of five years and eligible for re-appointment. The Board is responsible to the Minister of Marine for the discharge of its duties and functions, and controls about 60 ports, but at many of them there is little or no shipping movement. The more important are Adelaide, Augusta, Lincoln, Pirie, Wallaroo and Whyalla. Maximum depths of water (low water ordinary spring tide) at the wharves of these ports range from 20 to 24 feet at Pirie to 35 feet at Adelaide (Outer Harbour). The following table shows the finances of the Board for 1946-47 and 1947-48.

SOUTH AUSTRALIAN HARBOURS BOARD : FINANCES.

(£.)

Year.	Capital Expenditure to 30th June.	Revenue.	Expenditure from Revenue.				Surplus.
			Working Expenses.	Interest.	Sinking Fund.	Total.	
1946-47 ..	8,283,775	747,071	341,749	288,833	55,069	685,651	61,420
1947-48 ..	8,367,780	873,059	356,459	281,517	57,585	695,561	177,498

5. *Western Australia.—(i) Fremantle Harbour Trust.* Fremantle Harbour is controlled by a board of five commissioners appointed by the Governor-in-Council. Maximum depth of water (low water ordinary spring tide) at the entrance to the harbour is 36 feet, and at the wharves 33 feet. The length of wharf berth accommodation is 10,566 feet.

Gross earnings for the year 1946-47 amounted to £656,357, working expenses to £432,08c, interest, £127,895, sinking fund, £27,804, renewals fund, £2,000, and payment of surplus cash to Consolidated Revenue, £52,844. Corresponding figures for 1947-48 were: £783,215, £495,822, £128,843, £29,300, £2,000 and £105,169. The total amount debited to loan capital account at 30th June, 1948 was £2,902,966.

(ii) *Bunbury Harbour Board.* The Bunbury Harbour Board consists of five members appointed by the Government. The depth of water at the entrance and at the wharf is 27 feet (low water ordinary spring tide). Berthage accommodation is 3,700 feet. Gross earnings in 1946-47 were £21,753, working expenses £35,513 and interest £30,753 (1947-48, £22,818, £34,815, £28,363). The total amount debited to loan capital account at 30th June, 1948 was £718,086.

(iii) *Other Ports.* Only the ports of Fremantle and Bunbury in Western Australia are under the control of trusts, the remainder are Government operated. Of these Albany, Carnarvon and Geraldton have the largest amount of shipping movement.

6. *Tasmania.* There are seven Marine Boards and two Harbour Trusts in Tasmania. The Marine Boards control the ports of Hobart, Launceston, Circular Head, Burnie and Table Cape, Devonport, Strahan, and King Island (Currie), and the Harbour Trusts those of Smithton and Leven. Aggregate receipts of revenue accounts of all these authorities during the year 1946-47 were £242,524 and expenditures, £286,599, including loan charges, £44,659. Corresponding figures for 1947-48 were £305,614, £318,484 and £48,706. The total receipts of the Hobart Marine Board during 1946-47 were £74,500, loan charges £1,148 and total expenditure £83,629. Corresponding figures for 1947-48 were £134,700, £1,189 and £120,580. Launceston Marine Board receipts during 1946-47 amounted to £77,734, loan charges to £9,934 and total expenditure to £77,734. The figures for 1947-48 were, respectively, £70,405, £9,893 and £71,723. Loan indebtedness of all Marine Boards and Trusts at 30th June, 1948 was £787,885, of which £46,561 was in respect of Hobart and £93,281 in respect of Launceston.

Hobart, Launceston, Burnie and Devonport are the principal ports of Tasmania. In addition to their interstate and intra-state traffic there is also considerable overseas shipping. Depths of water at wharves vary, in general, between 16 and 40 feet (low water ordinary spring tide), but at Hobart the Ocean Pier has a depth of water of from 36 to 60 feet.

§ 7. Fire Brigades.

i. *New South Wales.*—(i) *General.* Under the Fire Brigades Act 1909-1949, a Board of Fire Commissioners, consisting of eight members, operates, and 145 fire districts had been constituted at the end of 1948. The cost of maintenance of fire brigades has been borne in proportions of quarter, quarter, and half by the Government, the municipalities, and the insurance companies concerned, the expenditure so regulated that the proportion payable by the councils in a fire district should not, except in special circumstances, exceed the amount obtainable from ¼d. in the £1 rate on the unimproved capital value of ratable land in the fire district. In June, 1949, legislation was introduced (i) increasing the limit of the Board's borrowing power from £250,000 to £500,000, (ii) providing for the varying of the maximum rate that may be levied by councils and (iii) altering the basis of contributions so that from 1st January, 1950 local councils and the Government will each pay one-eighth and the insurance companies three-quarters.

Other legislation introduced in September, 1949 is designed to improve and modernize the law dealing with the prevention of bush fires and to build up the organization of the bush fire-fighting services. Fire Regions will be established and a Bush Fire Fighting Fund created, to be financed from contributions by the Government, councils and insurance companies in the proportion of one-quarter, one-quarter and one-half, respectively. The contribution of any council shall not exceed one-twentieth of a penny in the £1 on the unimproved capital value of ratable land in the area of the council not being land within a fire district constituted under the Fire Brigades Act 1909-1949.

(ii) *Board of Fire Commissioners of New South Wales.* At 31st December, 1948 the authorized strength of the Fire Brigade throughout the fire districts of New South Wales was 300 officers and 823 permanent, 1,967 volunteer, and 1,818 reserve firemen. Corresponding figures for the Sydney Fire District were 221, 772, 289 and 678. The revenue for the year 1948 (figures for the year 1947 in parenthesis) was £834,870 (£755,880), made up as follows :—From the Government, £204,248 (£185,048) ; municipalities and shires, £204,248 (£185,048) ; fire insurance companies and firms, £408,496 (£370,096) ; and from other sources, £17,878 (£15,688). The disbursements for the year were £902,819 (£752,374).

2. *Victoria.*—(i) *General.* The Fire Brigades Act of 1928 provided for a Metropolitan Fire Brigades Board and a Country Fire Brigades Board each consisting of nine members. In December, 1944 the latter Board was superseded by the Country Fire Authority under an Act of that title, and the number of members was increased to ten. The income of each Board is derived in equal proportions from the Treasury, the municipalities and insurance companies.

(ii) *Metropolitan Fire Brigades Board.* On 30th June, 1948 the Board had under its control 42 stations, 348 permanent staff, 180 special service and clerical, etc. staff, and 141 partially-paid firemen. The total receipts for 1947–48 (1946–47 in parenthesis) were £362,103 (£325,758), comprising contributions £269,769 (£242,687), receipts for services £61,388 (£53,867), and interest and sundries £30,946 (£29,204). The expenditure was £342,760 (£327,821).

(iii) *Country Fire Authority.* This authority, constituted in 1944, is responsible for the prevention and suppression of fires in the “country area of Victoria”, which embraces the whole of the State outside the metropolitan fire district, excluding State forests and certain crown lands. The country area has been divided into 24 fire control regions, three of which (Ballarat, Bendigo and Geelong) are wholly urban and the remainder mixed urban and rural. At 30th June, 1948 there were 170 municipal councils and 121 insurance companies included in the operation of the Act, and 193 urban and 904 rural fire brigades. The effective registered strength of the brigades was 68,343 members.

The receipts for the year 1947–48 (1946–47 in parenthesis) amounted to £114,374 (£94,248). Total expenditure other than loan amounted to £112,347 (£110,378).

3. *Queensland.*—(i) *General.* The Acts of 1920–1931 made provision for the retention of existing fire districts, and for the constitution of new districts. For each district there must be a Fire Brigades Board consisting of seven members, and the cost of maintenance of each brigade is proportioned as follows :—The Treasury two-sevenths, insurance companies three-sevenths, and local authorities two-sevenths. All volunteer fire brigades in a district must be registered.

(ii) *Fire Brigades Boards.* At 30th June, 1948 there were fire brigades in 60 towns. The total number of stations was 91, and full-time staff numbered 404, including 14 administrative, 61 officers and 329 firemen. Workshop staff numbered 22. Part-time staff numbered 461, including 59 administrative, 56 officers and 346 firemen. Volunteers numbered 334. The total revenue for the year 1947–48 (figures for 1946–47 in parenthesis) was £285,296 (£227,326), received mainly from the following sources : Government £71,518 (£60,371), local authorities £71,146 (£60,344), insurance companies £106,818 (£89,309), and loans (Government and other), £17,329 (£5,472). The total expenditure for the year was £270,740 (£235,179), the chief items being salaries and wages £179,032 (£158,426) and interest and redemption of loans, £23,253 (£22,259).

4. *South Australia.*—The Fire Brigades Act 1936–1944 provides for a board of five members, and the expenses and maintenance of brigades are defrayed in the proportion of two-ninths by the Treasury, five-ninths by insurance companies, and two-ninths by the municipalities concerned. The contribution of the Treasury, however, is limited to £10,000 and if two-ninths of the expenses and maintenance exceeds this amount, five-sevenths of the excess is contributed by the insurance companies and two-sevenths by the municipalities. At 30th June, 1948 there were altogether 33 fire brigade stations,

and the authorized strength of the permanent staff was 285, including 191 officers and men and 77 country auxiliary firemen. The total revenue for the years 1946-47 and 1947-48 was £104,850 and £114,471 respectively.

5. **Western Australia.**—Under the 1942 Act certain Municipal and Road Board Districts are constituted fire districts under the control of the Western Australian Fire Brigades Board. There were 27 at 30th June, 1948. The income of the Board is derived in the proportion of two-ninths from the Government, two-ninths from Local Government Authorities, and five-ninths from insurance companies. The brigades throughout the State controlled by the Western Australian Fire Brigades Board number 43, with a staff of 1,164, including 207 permanent officers and firemen and 942 volunteer brigade officers and firemen. The revenue for the year ended 30th September, 1947 was £118,818 and the expenditure £111,112. Corresponding figures for the year ended September, 1948 are £118,468 and £120,500.

6. **Tasmania.**—The Fire Brigades Act 1945 provided for the creation of the Fire Brigades Commission of Tasmania to co-ordinate the activities of the 22 existing Fire Brigades Boards, while leaving the responsibility for individual control and management with the Boards. The Commission consists of five members nominated or elected by the Fire Brigades Boards and one member nominated by the Minister. Contributions towards the cost of operations remain on the old basis of one-third each from the Treasury, the municipalities and the insurance companies concerned. The cost for the year 1946-47 amounted to £24,703 and for 1947-48 to £30,795. There were at 30th June, 1948 26 stations amongst the 22 brigades, and their aggregate staffs numbered 345, including 45 permanent officers and 277 partially-paid firemen including officers.