

SECTION XXVI.

LOCAL GOVERNMENT.

§ 1. Introduction.

1. **Systems of Local Government.**—In all civilised nations, whatever the previous course of their constitutional history, the persistent and rapid growth of the functions of the central Government, with repeated assumptions of new and onerous duties and responsibilities, has rendered some attempts at decentralisation and some form of local government essential. Without such a relief national administration could be carried on with success only with great difficulty, if at all. Experience, ancient and modern alike, has demonstrated that a completely centralised bureaucracy—that is, a body of officials working from a single centre and responsible only to itself—cannot carry on indefinitely the administration of a large country; such a body tends to ignore the varieties of local conditions, to become stereotyped in its ideas and methods, and sooner or later breakdown is inevitable. There are two possible policies which a Legislature may adopt towards local authorities apart from the imposition of compulsory duties upon them. There is first (a) the grant of general power to all local bodies of a particular class—that is, the Legislature may establish a set of authorities and empower them to do anything which in their judgment will tend to promote the satisfactory administration and general well-being of the areas under their control, so long as any particular powers which they propose to use are not expressly prohibited or reserved to other authorities. But as this liberty might easily in some cases be abused, there is necessarily the restriction, of greater or less extent according to the country and the nature of the authorities in question, that the actual exercise of these general powers shall be subject to the approval of an administrative department of the central Government. Or, on the other hand, the Legislature may (b) grant only specific powers to local bodies—that is, may give them permission to do all or any of a number of enumerated things, with or without the approval of the central departments, and in this case nothing further can be done by the local body unless permitted by fresh legislative enactments. In a general way it may be said that legislation on the continent of Europe has ordinarily followed the first of these two methods, and has given to the local self-governing communities power to do anything for which they can get administrative approval; while in the Commonwealth, as well as in Great Britain and in the United States, the practice has been the opposite one—local authorities are empowered to do only specified things; but in order, in spite of this, to allow free play to local initiative and enterprise, parliamentary procedure permits of local authorities being able to obtain additional powers for particular works or undertakings by means of special Acts. This difference between the Australian or British and continental systems has two important results.

(i.) *Difference between Australian and Continental Systems.* (a) The first important result of this difference is that in Australia, England and the United States the enterprise and activity of local authorities depend upon the temper and ideas of Parliament—that is to say, upon the elected representatives of the nation; whilst throughout a large part of the continent of Europe the controlling influence is ordinarily exercised by a bureaucracy whose opinions upon the matters in question may or may not be coincident with that of the majority of the electorate. The result is that in Australia it is the

business of the State Parliaments to determine what powers are to be conferred upon local authorities, while, ordinarily, under the continental system, the administrative bodies have to regulate what the local authorities may or may not do. The efficiency of such continental systems depends almost entirely upon the character of the controlling bureaucracy, although it is true that the legal powers of a municipality under that system might be very much wider than those of a municipal council in Australia. If the bureaucracy is enterprising and ready to encourage and aid in every way the growth of local action and experiment—as it is in Prussia—then there is the largest scope for municipal development; but if, as in France, the bureaucracy is conservative in its ideas and slow to move, the action of local authorities remains cramped and limited.

(b) The second important result of the difference between the Australian and continental systems is that in all matters entrusted to them local authorities in Australia consider that their duty is to carry out the law according to the will of, and in the manner desired by, the ratepayers of their local areas, subject generally to the supervision of the central Government, whereas, on the continent of Europe local authorities regard themselves normally as bodies appointed to carry out, within their respective localities, the will of the central Government, even in such matters as are of purely local importance. Local authorities under the continental systems are responsible to the central Government and are subject to administrative control, whilst in Australia municipal councils, so long as they do not infringe the Acts under which they are constituted, or which they have to administer, are responsible only to the ratepayers of their respective localities.

(ii.) *Various Systems in the Several States of the Commonwealth.* In all the States of the Commonwealth, Acts have now been passed providing for comprehensive schemes for the decentralisation of power by the constitution of various forms of local authorities to deal with a large variety of subjects and matters. The general policy of the Legislatures towards local authorities in Australia has already been pointed out. Generally speaking, these authorities exercise their powers under enactments of two kinds.

(a) There are, first, what may be called constituent Acts, which create the various classes of local bodies and arm them with the powers necessary for the fulfilment of the duties intended to be discharged by them, and there are, secondly (b) general Acts dealing with one subject or group of subjects, of administration—such as the Public Health Acts—giving power to the local authorities for that particular service. Although the Acts controlling local government in the several States vary considerably in detail, especially as regards the election of councillors and presiding officers, method of valuation, and rating powers, there is a great similarity between the general powers and duties conferred and imposed upon local authorities in the various States; these powers and consequent duties being many and varied. As a rule the municipal council is the highway authority, being responsible for all the roads within its area and the upkeep of all bridges; it is a public health authority; it supervises the sanitary work, the water supply and the lighting of its area, and for these and for other purposes may appoint officers; it administers the Acts relating to the sale of foods and drugs, the slaughter and diseases of animals, weights and measures, and river pollution; it may establish hospitals, public recreation grounds, libraries, and museums, and also provide asylums and support charitable institutions; it may make provision for preventing fires and floods; it administers the municipal property, makes by-laws with regard to a large variety of things and matters, and may acquire other powers by petition to the Governor. The councils are elected by the ratepayers and seek only to carry out the wishes of the electorate, subject to the general supervision of the central Government.

(iii.) *Systems on the Continent of Europe.* On the continent of Europe a careful distinction is generally drawn between those internal affairs in which the central Government is thought to be directly concerned and those which are held to be primarily of only local interest. In Prussia, for instance, the former includes, besides the army,

State taxes and domains, ecclesiastical affairs, police, and the general supervision of local authorities, while to the localities are left roads, poor relief, and a number of miscellaneous matters. The work of the central Government is deconcentrated, that is to say, the country is divided into districts, in each of which there is a delegation of the central authority, doing its work and thereby decreasing the pressure upon the head offices. The executive agents in each locality are elected by the inhabitants, but they are also the representatives of the central Government, and as such they are members of the bureaucracy and are under its control, with the consequence that they look to the central Government for guidance and direction in regard to local affairs. Local government is in fact weak; it is not so much the exercise of the will of a locality by the central power, as the exercise of the will of the latter by the locality. The system of deconcentrated centralised control as carried out in Prussia has, however, some distinct advantages.

- (a) In the first place the duties of supervising the actions of a large number of local authorities do not rest only upon a comparatively small number of officials at the seat of Government, but are carried out by delegations in all parts of the country, which are able to acquire a more intimate knowledge of local requirements and conditions.
- (b) Secondly, the supervision is not only by Government officials, but by responsible and experienced persons elected by the inhabitants and who command local confidence. The general results are that, firstly, the staff at the central offices is relieved of much detailed work, and, secondly, that the control of the localities is rendered much less bureaucratic.

2. Early History of Local Government in Australia.—Before the more comprehensive systems of self-government were first provided for in the several States, various enactments had from time to time been passed and amended in order to satisfy the growing demand for local government which asserted itself as one of the primary results of the spread of education and increase of population. In the latter part of the year 1839 the first municipal law was passed in South Australia, which was thus the birth-place of local government in the Commonwealth. On 31st October, 1840, the principles of self-government were practically adopted in Adelaide by the election of a mayor and council. In 1842 the Sydney City Incorporation Act was passed by the New South Wales Government; under this Act the city was divided into six wards, and resident occupiers or owners of houses, warehouses, or shops within a radius of seven miles were duly enrolled as citizens and entitled to vote at the election of councillors, the number of which was fixed at twenty-four. A city fund was established and rates levied. The duties of the council were to construct and maintain streets, sewers, and waterworks, to light the streets, and to make by-laws for the general good rule and government of the city. In the same year, 1842, Melbourne was incorporated as a town by special Act, and as a city in 1847, while Geelong was incorporated in 1849. The Acts by which Sydney and Melbourne were incorporated contained no provision for the extension of the municipal principle to other localities, but in 1842 an Imperial Act was passed under which the Governor of New South Wales was empowered to incorporate by Letters Patent every county or any part of a county to form districts for the purpose of local government. In the following year the districts of Appin, Campbelltown, Camden, Narellan, and Picton, in New South Wales, were incorporated under one county district council, while later in the same year Appin and Campbelltown were constituted as a separate district under the control of six councillors. In 1844 the Sydney City Incorporation Act was amended; by this time the number of county district councils had increased to eight, and these, in conjunction with the municipal council of Sydney and the Road Trusts, which were generally created by special Acts, constituted the whole of the local government system in New South Wales prior to 1858. The Imperial Act of 1850, under which the State of Victoria was granted responsible government, provided for the division of the State into districts under the government of local councils. In all the States of the Commonwealth, systems of local government have been provided for ;

in some of the States, such as Victoria, practically the whole area of the State has for some years been divided into districts for the purposes of self-government, while in others, more especially in New South Wales, a general system of extending the advantages of local government throughout the more settled parts of the country has only recently been provided. In other States systems of local government which have been in force for some years have, as is only to be expected, made comparatively slow progress owing to the small population scattered over such large areas. Taking, however, into consideration the benefits which must accrue, especially in a country of great distances, from the establishment of suitable systems of local government, and judging by the success of similar institutions in other countries, there is every reason to expect that, as population increases and settlement progresses, the people of Australia will take fuller advantage of the systems provided.

§ 2. New South Wales.

1. **Development of Local Government Systems.**—In the year 1858 the Municipalities Act, the first important measure with regard to general local government in New South Wales, was passed. Under this Act provision was made for the incorporation of any town or rural district as a municipality upon presentation to the Governor of a petition signed by at least fifty of the respective ratepayers, and containing a larger number of signatures than those attached to any counter petition. The members of the council were elected by the ratepayers, and the chairman was chosen by the councillors from their own number. The duties of the council were to abate and remove nuisances; to make by-laws for the regulation of their own proceedings and for the general good government of the town; to control all roads, bridges, ferries, and wharves; to establish hospitals, asylums, libraries, and gardens; and to establish tolls and rents for the use of markets, bridges, wharves, and jetties within and belonging to the municipality. The general rate was not to exceed one shilling in the pound, but a special rate for water supply, sewerage, and street lighting could be levied. Government endowment was provided for, by way of subsidies on the amount collected from rates, over a period of fifteen years. In all thirty-five districts were incorporated under this Act, and these districts, with the exception of Cook, which was united to Camperdown (now part of the City of Sydney) in 1870, and East St. Leonards, subsequently joined to St. Leonards, still exist, though the boundaries of most of them have since been changed.

(i.) *The Municipalities Act 1867.* The Act of 1858 was repealed in 1867 by the Municipalities Act of that year. Under the provisions of the latter Act the thirty-five existing municipalities were to continue their existence under the designation of boroughs, and all municipalities created in the future were to be classified either as (a) boroughs, or (b) municipal districts.

(a) *Boroughs* could consist of any city, town, or suburb of the metropolis, or of any populous country district, but every borough had to have a population of not less than 1000, and was limited to an area of nine square miles, of which no part was more than six miles distant from any other part.

(b) *Municipal Districts* could comprise any part of the colony not containing a borough, but had to include an area of not more than fifty square miles, with a population of not less than 500 souls.

The duties and powers of the councils were extended and defined, while the maximum rate remained as before. This Act still left it optional for any district to become constituted as a municipality, with the consequence that only a small proportion of the State was incorporated under its provisions.

(ii.) *Division of the State into Shires, 1905.* The Act of 1867 was amended from time to time during the succeeding thirty years until the whole of the Acts—sixteen in number—were repealed by the consolidating Act of 1897. This Act did not alter the

chief features of previous Acts, and still retained the voluntary principle of incorporation, which was not conducive to the adoption of a general system of local government, because so long as the central Government continued to construct and pay for local works, it was natural that the inhabitants benefited would be willing to deny themselves the advantages of self-government. The law on the subject remained in an admittedly unsatisfactory condition for several years, and, though various measures were introduced into Parliament for its amendment, it was not until the year 1905, when the Shires Act was passed, that a comprehensive scheme of local government was extended to the greater part of the State.

- (a) *The Shires Act 1905* divided the whole State, with the exception of existing municipalities, the Western Division, Lord Howe Island, the islands in Port Jackson, and the Quarantine Station of Port Jackson, into shires, which were themselves subdivided into ridings, each riding having equal representation in the council. An important feature of the Act was that the rates were to be charged on the unimproved value of the land instead of on the annual rental; the rate to be levied was not to be less than one penny, nor more than twopence in the pound, and the minimum rate in respect of any portion of land was fixed at two shillings and sixpence. Another important provision of the Act was that as soon as a rate was imposed by a council, the operation of the Land Tax Act was suspended. The councils were vested with wide general powers and could acquire additional powers by resolution of a majority of the council followed by an application by the President on behalf of the council to the Governor.
- (b) *The Local Government Extension Act 1906* amended and consolidated the law relating to municipalities and extended the principles of the Shires Act to municipalities. Provision was also made whereby the Governor was authorised to proclaim as a city any municipality which had, during the five years preceding such proclamation an average population of at least 20,000 persons and an average revenue of at least £20,000, and which formed an independent centre of population.
- (c) *The Local Government Act 1906*. Towards the close of the year 1906 the Local Government Act, which deals comprehensively with both shires and municipalities, was passed; by this Act (which was amended in 1908), both the Shires Act 1905 and the Local Government Extension Act 1906 were repealed, and their provisions amended and consolidated.
- (d) *The Local Government (Loans) Act 1907*. In 1907 the Local Government (Loans) Act was passed in order to overcome certain difficulties at the inception of the new system, authorising the Governor to approve of municipal loans in special cases, without going through the procedure required by the Local Government Act.
- (e) *The Local Government (Amending) Act 1908*. This Act was passed in December, 1908, and contains important amendments, more especially in regard to the constitution of areas, functions of councils, values and valuations, and rates.

2. Local Government Systems now in Operation.—The law relating to local government in New South Wales is now contained in the Acts of 1906, 1907, and 1908 referred to above. Practically the whole of the State, with the exception of the Western Division, has now been brought under the operation of these Acts.

(i.) *Areas Incorporated*. Prior to the year 1907 the total area incorporated formed a very small part of the whole area of the State, as may be seen in the following statement:—

AREAS INCORPORATED IN NEW SOUTH WALES, 1860 to 1906.

Year	...	...	1860.	1870.	1880.	1890.	1900.	1906.
Area incorporated—sq. miles	...	...	409	649	1,482	2,387	2,763	2,830

Total area of State (exclusive of Lord Howe Island), 310,367 square miles.

The areas incorporated in 1906 in each of the three territorial divisions of the State were as follows:—

DISTRIBUTION OF INCORPORATED AREAS, 1906.

Division.			Incorporated Area.	Unincorporated Area.	Total Area.
Eastern	...	Sq. miles	1,977	93,742	95,719
Central	...	"	571	88,579	89,150
Western	...	"	282	125,216	125,498
Total	...	...	2,830	307,537	*310,367

* Total area of State, exclusive of Lord Howe Island, the area of which is 5 square miles.

The total area incorporated under the Local Government Act 1906, to the end of the year 1910, was 185,108 square miles, of which 182,111 square miles were comprised within shires and 2997 within municipalities. The areas incorporated comprise the whole of the eastern and central divisions of the State, with the exception of Lord Howe Island, the islands in Port Jackson, and the quarantine station at Port Jackson.

(ii.) *General.* The above Act came into operation on the 1st January, 1907; it provided for the continuation of existing shires and municipalities, for the creation of new ones, and for their reconstitution by uniting, dividing, altering, or converting areas. Each shire is divided into three ridings, and each municipality may be divided into wards by petition of the council or a majority of the ratepayers to the Governor. The councils consist, in the case of shires, of either six or nine councillors, and in the case of municipalities, of from six to twelve aldermen, except in the case of the union of two or more municipalities, when the Governor may determine that the council of the united areas shall consist of any number from twelve to eighteen aldermen. All occupiers of rateable property of a yearly value of a least £5 who have been in occupation for at least three months, of either sex, who are either natural-born or naturalised British subjects, of the age of twenty-one years and upwards, are entitled to be registered on the electors' roll, and any male person so enrolled is qualified to be elected as a councillor or alderman, unless he is otherwise ineligible.

(iii.) *Functions of Councils.* The general scheme of the Act was that councils, on their constitution, should start with a limited number of powers of a primary nature, and that, as their needs develop, they should from time to time acquire additional powers on following the prescribed procedure. On the constitution of a shire or municipality the councils may exercise any of the following powers:—The construction and maintenance of all public places, except those vested in the Railway Commissioners or other public bodies or trustees, and national works; lighting of, and controlling the traffic in streets and roads; prevention of fires and floods; the administration of the Public Watering Places Act 1900 and the Impounding Act 1898, and certain parts of the Police Offences Act 1901, the Public Health Act 1902, and the Cattle Slaughtering and Diseased Animals and Meat Act 1902. Other powers and duties, such as the construction of drainage and water supply systems without reticulation, the care and management of parks and commons, and the licensing of hawkers and public vehicles, are conferred and imposed upon municipal councils, while these same powers and duties may be acquired by shire councils by resolution of the council followed by application to the Governor.

(a) *Acquisition of Further Powers.* Further powers may also be acquired either by shires or by municipalities if the council decide that they are necessary for the good government of the locality; these are the administration of the Public Gates Act 1901, and the Native Dog Destruction Act 1901; water supply by reticulation; the maintenance of passenger ferries, of fire brigades, of municipal buildings, of cattle-yards and abattoirs, of markets, parks, and recreation grounds, of refuse destructors, of cemeteries and public baths; the manufacture and supply of gas, electricity, and hydraulic or other power; the regulation and control of theatres, public halls, and lodging houses; the establishment and management of public libraries, art galleries, museums, and public bands; the regulation and supervision of buildings and balconies; of the sale of fish and meat, and the suppression of nuisances caused by the emission of smoke or vapour. These powers may be acquired by a resolution passed by an absolute majority of the council followed by an application in the prescribed form to the Governor. On receipt of a petition signed by not less than fifty, or if there be less than 300 ratepayers on the roll, by one-sixth of the ratepayers, the Governor may direct that a poll be taken as to whether all or any of the powers applied for shall be conferred on the council.

(b) *Appointment of Executive Officers.* Provision is made in the Act for the appointment of officers and servants, such as shire engineers, municipal clerks, and sanitary inspectors, and also for the acquisition by councils of land or buildings either by agreement or compulsorily, for which purpose the provisions of the Public Works Act 1900 are incorporated.

(iv.) *Rates and Ratable Property.* All land is ratable except the following:—Commons, public parks, and public reserves not held under lease or license; cemeteries, public hospitals, benevolent institutions, and buildings used exclusively for public charitable purposes; churches and free public libraries; unoccupied Crown lands, lands vested in the University of Sydney occupied and used solely for the purposes of education; and vested in the Chief Commissioner for Railways and Tramways and actually used for the purposes of the Government railway or tramways. Rates levied by a council may be of four kinds, namely, general, special, local, or loan rates.

(a) *General Rates* are levied on the unimproved value at a rate of not less than one penny nor more than twopence per pound, but if the minimum rate be more than sufficient to meet the requirements of the council, it may be further reduced at the discretion of the Governor. A council of a municipality which has levied a general rate of not less than one penny on the unimproved value may impose such additional rate as may be required either on the improved or the unimproved value; the total amount to be derived from the general rate and the additional rates taken together must not, however, exceed the amount yielded by a rate of twopence in the pound on the unimproved value and two shillings in the pound on the assessed annual value of all ratable land.

(b) *Special, Local, and Loan Rates* may also be imposed either on the improved or the unimproved value at the option of the council, but in the case of special and local rates a poll may be demanded by the ratepayers as to whether the rate shall be imposed or not. Rates on the unimproved value of land may also be levied for the purposes of the Country Towns Water Supply and Sewerage Acts 1880-1905, which provided for the construction by the Government of waterworks and sewerage systems in municipalities which are outside the areas served by the Metropolitan and Hunter River Boards. The cost becomes a charge against the municipality, carrying interest at the rate of 4 per cent., and payable by annual instalments over a period of not more than 100 years.

Particulars of rates levied are given in paragraphs 3 and 4 hereinafter.

(v.) *Endowment.* Government endowments to shires are fixed every third year and the amount is determined according to the extent of the shire, the probable revenue from a rate of 1d. in the £, the necessary expenditure, the extent of roads and other public works to be constructed and maintained, and other matters. The endowment in any year is paid on the basis of the amount of general rates collected in the preceding year. At the end of 1909 the endowments to be paid during the triennium 1910-12 were fixed. The classification for the period mentioned is as follows :—

NEW SOUTH WALES.—ENDOWMENT OF SHIRES, CLASSIFICATION, 1910-12.

Class.	1st.	1st.	2nd.	3rd.	4th.	5th.	6th.
No. of Shires	27	41	10	9	7	14	26
Endowment received in the £ on general rate Up to	*	10s.	15s.	20s.	25s.	30s.	†

* No endowment. † Not less than 40s. in the £ on the general rate.

It is also provided that all municipalities not receiving statutory endowment under any Act repealed by the Act of 1906 shall, upon the result of investigations made into their administration and financial necessities, be entitled to a sum not exceeding three shillings and fourpence in the pound on the general rate collected; but if the revenues are sufficient to meet the reasonable requirements of the corporation under proper management no endowment will be paid.

(vi.) *Borrowing Powers and other Provisions.* A council of a municipality is authorised to borrow up to 10 per cent. of the unimproved capital value, and all money so borrowed is a charge upon the revenue of the council. If a council desire that any proposed loan should be guaranteed by the Government application must be made to the Treasurer, who may either refuse or recommend the guarantee. Both shires and municipalities may temporarily borrow in any year an amount not exceeding one-third of the estimated revenue to be received from rates if the consent of the Minister shall have been first obtained. Auditors are appointed by the councils, and Government examiners are appointed to inspect the accounts of the councils. A defaulting area is defined to be an area in which a sufficient number of councillors have not been elected to form a quorum, or in which the requirements of the Act as to the levying of a general rate have not been carried out, or in which the council has ceased for six months to exercise its functions. The Governor is authorised to appoint an administrator for a defaulting area.

3. *Shires, 1910.*—The total area of the 134 shires constituted under the new system is 182,111 square miles, and the population at the census of 1911 was 595,517.

The shires vary in area from 36 square miles in the case of Ku-ring-gai, immediately north of the metropolis, to 5745 square miles in the case of Lachlan in the Condobolin district.

(i.) *Valuation and Rates Levied.* The unimproved capital value of the shires in 1910 was £89,935,912, as against £83,464,446 in the preceding year. It is not possible to give the improved capital value or the assessed annual value, as the shires are not compelled to make these valuations, and in many cases do not make them. The total amount of all rates levied was £423,477.

(ii.) *Revenue.* The principal heads of revenue for the four years since the new Act came into force are shewn in the following table :—

NEW SOUTH WALES.—INCOME OF SHIRES, 1907 to 1910.

Particulars.	1907.	1908.	1909.	1910.
<i>General Fund—</i>	£	£	£	£
General rates	287,635	382,336	374,540	421,596
Government endowment	235,794	162,859	261,029	277,731
Public works	3,064	65,781	57,017	59,527
Health administration	2,376	2,979	3,033	3,746
Public services	4,593	7,038	6,691	7,441
Shire property ... ..	...	517	1,721	4,229
Miscellaneous	2,197	4,198	5,651	5,008
<i>Special and Local Funds</i> ... ..	...	1,160	7,462	15,095
Total revenue	535,659	626,868	717,144	794,373

(iii.) *Expenditure.* The following statement shows the expenditure of shires during the years 1907 to 1910 inclusive:—

NEW SOUTH WALES.—EXPENDITURE OF SHIRES, 1907 to 1910.

Particulars.	1907.	1908.	1909.	1910.
<i>General Fund—</i>	£	£	£	£
Administrative expenses	100,435	116,932	117,696	125,669
Public works	249,868	516,072	529,954	599,945
Health administration	1,536	4,604	4,573	4,840
Public services	3,870	11,702	10,290	13,012
Shire property	18,853	397	1,911	4,561
Miscellaneous	11,043	6,453	5,886	5,129
<i>Special and Local Funds</i> ... ..	...	58	6,474	11,976
Total expenditure	385,605	656,218	676,784	765,192

(iv.) *Assets and Liabilities.* The financial position of the shires at the end of the year 1910 was strong, as there was an excess of assets of £262,938. The following table gives particulars of assets and liabilities as at the 31st December, 1910:—

NEW SOUTH WALES.—ASSETS AND LIABILITIES OF SHIRES, 1910.

Assets.	Liabilities.
<i>General Fund—</i>	<i>General Fund—</i>
Outstanding rates ... £27,726	Temporary loans £11,147
Stores and materials 9,129	Sundry creditors 24,449
Bank balance 130,671	Due on contracts 971
Sundry debtors 9,056	Due to trust fund 48
Land 7,929	Other 20
Buildings 28,323	<i>Special and Local Funds</i> 8,135
Plant and property 68,823	
Furniture 12,971	Total 44,770
Other 172	Excess of assets 262,938
<i>Special and Local Funds</i> 12,908	
Total 307,708	Total 307,708

4. **Municipalities.**—Including the City of Sydney there are 190 municipalities in New South Wales; of these forty are in the suburbs of Sydney and twelve in the district of Newcastle and suburbs. Since the 1st January, 1908, under the Local Government Act 1906, municipalities must levy a general rate on the unimproved capital value of all ratable land, and may levy additional general, special, local, or loan rates on either the unimproved or improved capital value. Municipal rates are therefore no longer charged on the annual value; the only rates based on that value are those charged by the Metropolitan and Hunter River Water Supply and Sewerage Boards.

(i.) *Capital Value, Area, Population, and Rates Levied, 1902 to 1910.* The following table shows the improved capital value, the area, population, number of buildings, and amount of rates levied in municipalities for each year from 1902 to 1910 inclusive:—

NEW SOUTH WALES.—MUNICIPALITIES, IMPROVED CAPITAL VALUE AREA, POPULATION, NUMBER OF BUILDINGS, AND TOTAL RATES LEVIED, 1902 to 1910.

Year ended February.*	Sydney and Suburbs.					Country.				
	Improved Capital Value.	Area.	Population.	Number of Dwellings.	Total Rates Levied.	Improved Capital Value.	Area.	Population.	Number of Dwellings.	Total Rates Levied.
	£	Acres.	No.	No.	£	£	Acres.	No.	No.	£
1902 ...	90,060,600	†	†487,900	†94,907	333,065	37,936,300	1,711,312	†372,218	74,012	131,570
1903 ...	93,413,300	†	516,180	99,125	377,016	36,606,500	1,711,312	379,430	79,141	174,900
1904 ...	96,171,600	†	514,750	102,061	382,509	38,046,700	1,719,612	386,610	79,712	178,249
1905 ...	98,857,900	†	512,500	105,336	396,268	38,355,800	1,719,612	391,370	81,506	188,929
1906 ...	101,090,900	†	523,530	107,922	404,332	39,223,700	1,719,692	396,820	83,075	191,480
1907 ...	102,037,900	†	550,760	110,430	412,093	39,417,000	1,719,692	401,140	84,094	194,754
1908 ...	103,328,200	95,259	577,180	117,955	426,792	41,668,300	1,824,638	433,470	83,511	208,631
1908 ...	105,641,359	95,259	592,100	120,655	527,926	44,659,776	1,822,821	444,800	84,150	286,329
1909 ...	108,120,427	95,319	605,900	123,860	631,589	44,716,888	1,822,821	456,280	85,341	299,306
1910 ...	111,318,074	95,259	†629,503	†	647,762	45,824,999	1,822,821	†421,714	†	310,849

* Prior to 1908 the municipal year ended on the first Monday in February, since when the municipal year closes on 31st December. † Census, March, 1901. ‡ Not available. § Figures for last Census.

The following table gives a comparison of the unimproved and improved values for the years 1907 to 1910 inclusive:—

NEW SOUTH WALES.—MUNICIPALITIES, IMPROVED AND UNIMPROVED CAPITAL VALUES, 1907 to 1910.

Year.	Sydney.	Suburbs.	Metropolis.	Country.	Total.
UNIMPROVED VALUE.					
1907 ...	£ 20,207,812	£ 19,583,598	£ 39,791,410	£ 14,875,612	£ 54,667,022.
1908 ...	20,207,812	23,799,856	44,007,668	20,104,983	64,112,651
1909 ...	19,970,365	23,486,535	43,456,900	19,798,286	63,255,186.
1910 ...	19,952,793	23,823,398	43,776,191	19,753,131	63,529,322
IMPROVED VALUE.					
1907 ...	45,749,800	57,578,400	103,328,200	41,668,300	144,996,500
1908 ...	49,060,600	56,441,828	105,502,428	44,784,238	150,286,666
1909 ...	50,948,240	57,172,187	108,120,427	44,716,888	152,837,315
1910 ...	52,142,200	59,175,874	111,318,074	45,824,999	157,143,073

(ii.) *Revenue.* The Local Government Act 1906 prescribed that there should be a general fund in each local government area (municipality and shire), and also special funds for specified purposes. The regulations under the Act prescribed the system of accounts to be kept. This system differs materially from the old "cash" system of receipts (cash actually received) and disbursements (cash actually expended).

Prior to 1908 the municipal year ended on the first Monday in February; now it ends on the 31st December. In all statements of municipal accounts for the year 1908, therefore, the period referred to is from the 4th February to the 31st December, except in the City of Sydney, which does not come under the provisions of the Act of 1906 and where the accounts are kept for the calendar year. The first complete year for which financial particulars are available for the municipalities is the year 1909, and details for that year will be found in our previous issue. Particulars of revenue for the year 1910 are given in the following table:—

NEW SOUTH WALES.—MUNICIPALITIES, REVENUE, 1910.

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
General fund	578,116†	419,063	320,003	739,066†
Trading accounts		6,565	85,252	91,817†
Special and local funds		26,261	170,354	196,615†
Loan funds		48,489	47,909	96,398†
Gross revenue	578,116†	500,378	623,518	1,702,012
Deduct transfers* ... ..	...	47,061	47,599	94,660
Net revenue	578,116†	453,317	575,919	1,607,352

* Transfers from various funds to loan funds for principal, interest, and capital expenditure. † The city of Sydney accounts are kept on a cash basis, i.e., they shew actual receipts and disbursements; the accounts of municipalities operating under the Local Government Act shew total revenue and expenditure for the year. Items of receipts and disbursements for the city of Sydney cannot be allocated to the different headings shewn for municipalities. † Exclusive of Sydney.

(iii.) *Expenditure.* Reference has already been made to the system of accounts prescribed by the Local Government Act 1906 (see paragraph ii. hereof). The following table gives particulars of expenditure of municipalities for the year 1910:—

NEW SOUTH WALES.—MUNICIPALITIES, EXPENDITURE, 1910.

Particulars.	Sydney.	Suburbs.	Country.	Total.
	£	£	£	£
General fund	578,985†	425,185	322,518	747,703†
Trading accounts		7,894	84,552	92,446†
Special and local funds		31,057	163,207	194,264†
Loan funds		38,792	42,883	81,675†
Gross expenditure	578,985†	502,928	613,160	1,695,073
Deduct transfers* ... ..	...	47,061	47,599	94,660
Net expenditure	578,985†	455,867	565,561	1,600,413

* Transfers from various funds for principal and interest on loans. † See note † to preceding table. † See note † to preceding table.

(iv.) *Assets and Liabilities.* The financial position of the municipalities as at the 31st December, 1910, is shewn by the following statement of assets and liabilities of the various funds :—

NEW SOUTH WALES.—MUNICIPALITIES, ASSETS AND LIABILITIES, 1910.

Particulars.	Sydney.	Suburbs.	Country.	Total.
<i>Assets—</i>	£	£	£	£
General fund	4,318,028†	230,689	404,260	634,949†
Trading accounts		1,764	58,302	60,066†
Special and local funds...		14,303	1,086,078	1,100,381†
Loan funds		165,224	437,007	602,231†
Total	4,318,028†	411,980	1,985,647	6,715,655
<i>Liabilities—</i>				
General fund	3,794,063†	54,047	51,611	105,658†
Trading accounts		3,325	25,639	28,964†
Special and local funds...		9,893	1,021,291	1,031,184†
Loan funds		780,397	616,376	1,396,773†
Total	3,794,063†	847,662	1,714,917	6,356,642

† See note † to first table on preceding page. ‡ See note ‡ to first table on preceding page.

5. Sydney Metropolitan Board of Water Supply and Sewerage.—Prior to the year 1888 the main water supply and sewerage systems of Sydney and suburbs were under the control of the City Corporation, while several of the suburban councils had constructed local systems. For some years, however, it had been recognised that owing to the great increase in the population and size of the metropolitan area the water supply was inadequate and the sewerage system antiquated and inefficient. In 1867 a Royal Commission was appointed to enquire into and report upon various schemes for supplying water to the city and suburbs, and in 1869 a report was sent in recommending the adoption of what is known as the "Upper Nepean Scheme." Another commission was appointed in 1875 to investigate different proposed sewerage systems, and two years later a report was presented containing certain recommendations which form the basis of the present system. After considerable discussion and further investigation an Act was passed in 1880 authorising the schemes recommended by the two commissions being carried out. In the year 1888 the works had so far progressed that the Government, with the object of placing the administration of both water supply and sewerage systems throughout the county of Cumberland under the control of an independent body, passed an Act authorising the establishment of the Metropolitan Board of Water Supply and Sewerage. This Board consists of seven members, three of whom are appointed by the Government, two by the City Council, and two by the suburban and country municipalities in the county of Cumberland. The Board is under the general supervision of the Minister for Works—a provision considered necessary since the loan expenditure of the Board forms part of the public debt of the State.

6. Metropolitan Water Supply.—In the year 1850 authority was given by the Legislative Council to the City Corporation to construct water and sewerage works. Under this authority a water supply scheme was adopted and carried out, at a cost of nearly £1,750,000, by which the waters of the streams draining into Botany Bay were intercepted and pumped into three reservoirs. This system has now been superseded by the "Upper

Nepean Scheme" referred to above, the management of which was transferred to the Metropolitan Board of Water Supply and Sewerage in May, 1888.

(i.) *The Cataract and Prospect Dams.* A work of great importance and magnitude in connection with the Sydney water supply—the Cataract Dam—was completed in 1908. Prior to the construction of this dam, the system had been weak in the matter of storage, the only reservoir of any importance being that at Prospect, which was formed by the construction of an earthen dam completed in 1890, and which contains a supply available by gravitation of 5,527,000,000 gallons of water. The Prospect reservoir was supplied from the unstored waters of the Nepean, Cataract, and Cordeaux rivers by means of tunnels and conduits capable of carrying 150,000,000 gallons a day; the combined catchment area of the three rivers extends to an area of 354 square miles, and is favourably situated with regard to the coastal rainfall. The whole of this area has been acquired by the Crown, and every precaution is exercised to guard against pollution of the supply. It was found, however, in 1902—almost the driest year on record—that the Prospect reservoir was insufficient for the needs of the increasing population of Sydney and suburbs during a dry period. The Government, therefore, decided to construct additional reservoirs on the rivers forming the sources of supply, in which would be stored as much of the flood water from the available catchment area of 354 square miles as would be necessary to meet the constantly increasing requirements of the metropolis.

The first of this series of reservoirs is the Cataract dam, of which the catchment area above the impounding dam is about fifty square miles. The water released from this reservoir flows down the bed of the Cataract River to a diversion weir at Broughton's Pass, where it enters the previously existing tunnel, and is conveyed thence by a system of open canals to the Prospect reservoir. In traversing the steep and rocky bed of Cataract River the water is thoroughly aerated. The total distance travelled by the water from Cataract to Sydney *via* Prospect is 66½ miles, of which 21½ miles represent the distance from Prospect to Sydney.

The principal dimensions of the Cataract and Prospect dams are given below:—

SYDNEY WATER SUPPLY.—CATARACT AND PROSPECT DAMS.

Dam.	Height above Foundation.	Width at Top.	Thickness at Bottom.	Length.	Area of Reservoir.	Capacity of Reservoir.
	Feet.	Feet.	Feet.	Feet.	Acres.	Gallons.
Cataract ...	192	16½	150	811	2,104	20,743,200,000
Prospect ...	85½	30	523	7,300	1,266½	11,029,200,000*

* Of which 5,527,000,000 gallons are available by gravitation.

The present population of Sydney and suburbs supplied with water from these works is estimated at 696,185. The winter consumption of water ranges from twenty-five to twenty-seven million gallons a day, while the summer consumption and evaporation together approximate to thirty-six million gallons a day. As the combined available capacity of the Cataract and Prospect reservoirs without pumping amounts to about 26,000,000,000 gallons, the storage available represents a supply for about 840 days without rainfall.

(ii.) *Aqueducts and Mains.* The water is drawn off from the Prospect reservoir through a valve tower by cast-iron pipes and thence proceeds by canal, five miles in length, to the Pipe Head Basin, situated 16½ miles from Sydney. It is then conveyed for a further distance of five miles by two wrought-iron pipes, each six feet in diameter to Potts' Hill reservoir, which has a capacity of 100,000,000 gallons, covers twenty-four and a half acres, and is designed to tide the city over any interruption of supply from Prospect, and to prevent fluctuation of pressure. A by-pass is laid along the floor of the reservoir to enable both six-foot mains to deliver water to Sydney direct. At Potts' Hill the water passes through a screening tank constructed of copper-gauze screens, and thence proceeds towards the city in two 48-inch cast-iron mains. The first laid main is

48-inch as far as Pet rsham, whence it bifurcates, one branch (48-inch) leading to Peter-sham reservoir, the other (42-inch) to Crown Street reservoir, where the main pumping station is situated. The duplicate 48-inch main, completed in 1893, continues of the same diameter direct to Crown Street. The main pumping plant situated at Crown Street reservoir consists of three pairs of compound high-duty pumping engines and one electrically-driven centrifugal pumping unit. The first set is capable of raising 500,000 gallons per hour to the Centennial Park reservoir, a height of 104 feet above the pumps, at which place a new covered reservoir, of a capacity of 18,500,000 gallons, has been constructed for the purpose of ensuring a larger bulk of water within the city limits; the second set is capable of raising 210,000 gallons per hour to the Woollahra reservoir, a height of 140 feet, and also of raising 200,000 gallons per hour to Waverley, a height of 220 feet above the pumps; while the third set is capable of raising 100,000 gallons per hour to the Waverley tanks. The centrifugal plant raises 2400 and 4650 gallons per minute to Waverley and Woollahra respectively.

(iii.) *Northern Sydney.* A pumping station at Ryde has been erected for the supply of the suburbs on the north side of the harbour. The station receives its supply through a 32-inch steel main from the Pipe Head Basin, discharging into a reservoir, from which the water is pumped to a 1,000,000-gallon tank at Ryde, 234 feet above high-water mark, and by a continuation of the same main into two other tanks at Chatswood, at an elevation of 370 feet above high-water mark, and having a joint capacity of 3,000,000 gallons. Water is also pumped at this station direct to Pymble at 567 feet elevation and to Wahroonga at 717 feet, and to Hermitage reservoirs Nos. 1 and 2 at 302 feet elevation, having a capacity of 3,000,000 gallons. The Beecroft-Pennant Hills district is supplied from Wahroonga reservoir. A 9-inch main extends over the Gladesville and Iron Cove bridges to supply the heights of Balmain, but it is now being superseded by an 18-inch main from the Hermitage reservoir.

(iv.) *Storage Reservoirs.* In connection with the water supply there are in all thirty-two service reservoirs, with a total maximum capacity of 51,716,000 gallons.

(v.) *Revenue, Expenditure, and Capital Cost of Sydney Waterworks.* The following table gives particulars as to the revenue, expenditure, and capital cost of the metropolitan waterworks for each financial year from 1902 to 1911.

**SYDNEY WATERWORKS—REVENUE, EXPENDITURE, AND CAPITAL COST,
1902 to 1911.**

Year Ended 30th June.	Revenue.	Working Expenses.	Capital Cost exclusive of Items on which Interest is not charged.	Percent- age of Working Expenses to Revenue.	Percent- age of Revenue to Capital Cost.	Interest Payable on Capital Cost.	Net Profit after pay- ing Work- ing Expens- es and Interest.
	£	£	£	%	%	£	£
1902 ...	223,201	57,360	4,423,203	25.69	5.04	162,262	3,579
1903 ...	220,745	71,139	4,489,560	22.22	4.31	159,773	—10,167*
1904 ...	222,827	58,929	4,544,656	26.44	4.90	163,314	584
1905 ...	251,503	66,015	4,434,991	26.24	5.67	156,372	29,116
1906 ...	270,263	64,487	4,674,341	23.86	5.78	164,216	41,560
1907 ...	275,591†	67,593	4,902,463	24.52	5.62	176,170	31,828
1908 ...	283,410	75,016	5,009,012	26.47	5.66	183,033	25,361
1909 ...	267,519‡	80,282	5,146,303	30.01	5.19	185,591	1,646
1910 ...	284,943§	93,027	5,286,917	32.64	5.38	184,486	7,430
1911 ...	299,442	99,355	5,420,813	33.18	5.52	192,486	7,601

* Represents a loss. † Rate reduced from 8d. to 7d. from 1st January, 1907. ‡ Rate reduced from 7d. to 6d. from 1st July, 1908, and water-meter rents abolished. § Meter rentals reimposed from 1st July, 1909, and meterage charge reduced from 1s. to 11d. per 1000 gallons.

(vi.) *Quantity of Water, Number of Houses, and Population Supplied, 1902 to 1911*
The following table gives various particulars shewing the increase in the supply of water in Sydney and suburbs from 1902 to 1911:—

**SYDNEY WATERWORKS.—NUMBER OF GALLONS, HOUSES AND POPULATION
SUPPLIED, 1902 to 1911.**

Year Ended 30th June.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year.	Aver. Daily Supply.		Mains Laid.
					Per House.	Per Head of Estimated Population	
	No.	No.	1000 Gallons.	1000 Gallons.	Gallons.	Gallons.	Miles.
1902	101,966	509,000	21,906	7,995,822	205	43.03	44
1903	104,681	523,000	16,896	6,166,991	162	32.30	30
1904	109,191	546,000	18,690	6,840,549	171	34.23	14
1905	112,343	561,715	21,713	7,925,184	195	38.65	36
1906	116,202	581,010	22,393	8,173,555	192	38.54	60
1907	120,782	603,910	22,913	8,263,104	189	37.92	56
1908	124,083	620,400	24,567	8,967,135	197	39.50	48
1909	128,444	642,220	25,911	9,457,660	201	40.34	71
1910	133,788	668,940	26,903	9,819,657	201	40.21	100
1911	139,237	696,185	29,006	10,587,433	208	41.55	102

(vii.) *Other Water Supply Systems under the Metropolitan Board.* In addition to the main metropolitan water supply system there are certain other systems within the County of Cumberland managed by the Metropolitan Board. (a) The Richmond waterworks are entirely unconnected with the Sydney supply. The system consists of a small pumping station on the left bank of the Hawkesbury River, just below the confluence of the Grose and Nepean, a 6-inch supply main, four miles in length, and five and one-eighth miles of 8-inch and 4-inch reticulation mains. (b) The Wollongong waterworks are also unconnected with the Sydney supply. The source of supply is the Cordeaux River and the catchment area is 2400 acres in extent. The total capacity of the reservoir is 173,000,000 gallons and the total length of the main about nineteen miles, exclusive of the extension to Port Kembla and Unanderra. The town, of which the estimated population on 31st December, 1909, was 4400, is reticulated with 4-inch and 3-inch pipes. (c) The Manly waterworks are supplied by a special catchment area of about 1300 acres, and are also connected with the metropolitan system by a 10-inch main from Mosman, crossing Middle Harbour, with ball and socket pipes. There are two horizontal compound duplex pumps, each having a capacity of 1,000,000 gallons in seventeen hours. (d) The water-supply for the districts of Campbelltown, Camden and Narellan, and Liverpool is not drawn from the main Sydney supply through Potts' Hill, but is received by gravitation from the upper canal at Prospect.

7. Metropolitan Sewerage System.—The system which is now under the control of the Metropolitan Board of Water Supply and Sewerage comprises the old and new systems. The old system was initiated by the City Commissioners in 1853, and continued by their successors, the present City Council, since their incorporation in 1857. The old system was designed on the principles of what is known as the "combined system," and comprises four main outfalls, with subsidiary sewers along the principal streets; these, in turn, receive the reticulation sewers of the minor thoroughfares. The four main outfalls discharged directly into the harbour, and the consequent pollution of the water and menace to public health led to the appointment of a commission to enquire into the best means of diverting the sewage from the harbour, and of disposing of it when thus diverted. The new intercepting system is the outcome of the labours of that commission. At the time of the transfer, in 1889, of the original sewerage works to the Metropolitan Board, there were 70½ miles of old city sewers in existence. The new system adopted is on the lines of the partially "separate system," and intercepts all sewage from the gravitation zone—i.e., from above a contour line about forty feet above high-water mark, while the sewage from the low level areas—i.e., from below that contour line is eventually pumped into the gravitation sewers. The system consists of three main outfalls, viz.:—(a) The northern outfall, discharging into the Pacific Ocean at Ben Buckler Point, near Bondi, and taking all sewage previously discharged into the harbour.

(b) The southern outfall, discharging into the sewage farm at Webb's Grant, and providing for the remainder of the city and southern suburbs. (c) The western outfall, discharging into the Rockdale end of the sewage farm and providing for the western suburbs. Another branch outfall has been constructed at Coogee, which discharges into the ocean and serves the districts of Randwick, Kensington and Coogee. On the northern side of the city extensive works have been completed. Septic tanks, into which main sewers discharge, have been constructed at Long Bay (Middle Harbour), Chatswood, and near Balmoral beach. At Manly an ocean outfall has been provided for the main sewer, and in the borough of North Sydney septic tanks were built in 1899 to deal with the sewage, while at Middle Harbour, Mosman, and Manly ample provision has been made for the sanitation of the districts.

(i.) *Revenue, Expenditure, and Capital Cost of Sydney Sewerage Systems.* The following table gives particulars as to the revenue, expenditure, and capital cost of the metropolitan sewerage systems during each year from 1902 to 1911:—

SYDNEY SEWERAGE SYSTEMS.—REVENUE, EXPENDITURE, AND CAPITAL COST, 1902 to 1911.

Year ended the 30th June.	Revenue.	Working Expenses.	Capital Cost, exclusive of Items on which Interest is not Charged.	Percentage of Expenditure to Revenue.	Percentage of Revenue on Capital Cost.	Interest Payable on Capital Cost.	Profit or Loss after Payment of Working Expenses and Interest.
	£	£	£	%	%	£	£
1902 ...	135,441	45,884	3,182,302	33.87	4.25	111,035	* —21,478
1903 ...	145,666	46,747	3,365,155	32.09	4.32	117,496	—18,577
1904 ...	156,274	44,458	3,562,741	28.44	4.38	124,819	—13,003
1905 ...	213,937	54,313	3,774,264	25.38	5.66	134,563	25,061
1906 ...	220,629	55,368	3,828,495	25.09	5.76	134,527	30,734
1907 ...	217,864†	62,141	3,922,514	28.52	5.55	140,980	14,743
1908 ...	216,258	64,020	4,053,591	29.60	5.33	148,142	4,096
1909 ...	214,212†	68,575	4,225,239	32.01	5.06	151,317	—5,680
1910 ...	223,131	70,851	4,351,381	31.75	5.12	151,943	337
1911 ...	234,208	79,636	4,496,290	34.00	5.20	159,070	—4,498

* Represents a loss. † Rate reduced from 11d. to 10d. from 1st January, 1907. ‡ Rate reduced from 10d. to 9½d. from 1st July, 1908.

(ii.) *Number of Houses Drained, Population, and Length of Sewers in Sydney Metropolitan Sewerage Systems.* The following table gives particulars as to the number of houses drained, the population, and the length of sewers within the Sydney metropolitan area for each year from 1902 to 1911:—

SYDNEY SEWERAGE SYSTEM.—NUMBER OF HOUSES DRAINED, POPULATION, AND LENGTH OF SEWERS, 1902 to 1911.

Year ended the 30th June.	Number of Houses Drained.	Estimated Population Served.	Total Length of Sewers.	Total Length of Storm-water Drains.	Ventilating Shafts Erected.	Sewers Ventilated.
	No.	No.	Miles.	Miles.	Feet.	Miles.
1902 ...	82,644	413,000	550.40	25.91	236,855	552.0
1903 ...	78,620	400,000	588.38	27.37	239,767	595.0
1904 ...	82,215	410,000	610.73	37.27	252,977	614.0
1905 ...	85,958	430,000	630.42	38.76	256,535	621.7
1906 ...	88,881	444,405	656.84	44.71	264,255	636.0
1907 ...	91,940	456,670	684.38	44.82	281,885	654.0
1908 ...	96,384	481,920	724.37	46.94	286,000	684.0
1909 ...	99,442	497,210	760.16	47.30	299,910	714.0
1910 ...	102,896	514,480	793.55	47.82	344,820	756.0
1911 ...	108,012	540,060	825.20	48.85	376,900	795.0

8. The Hunter District Water Supply and Sewerage Board.—The waterworks of the Lower Hunter were constructed by the Government under the provisions of the Country Towns Water Supply and Sewerage Act of 1880. In 1892 a special Act was passed establishing an independent Board to control the water-supply works. This Board consists of seven members, of whom three are nominated by the Governor, one elected by the Newcastle Municipal Council, two by the adjacent municipalities, and one by the municipalities of East and West Maitland and Morpeth. The following municipalities and incorporated areas are within the area of the Board's jurisdiction:—

Newcastle Division.—Adamstown, Argenton, Ash Island, Boolaroo, Carrington, Hamilton, Hexham, Holmesville, Lambton, Merewether, Minmi, Newcastle, Plattsburg, Wallsend, Waratah, and Wickham.

Maitland Division.—Abermain, Aberdare, Bolwarra, Cessnock, East Greta, Heddon Greta, Hinton, Homeville, Kurri Kurri, Lorn, East and West Maitland, Morpeth, Oakhampton, Pelaw Main, Rutherford, Stanford Merthyr, Telarah, and Weston.

(i.) *Description of Waterworks.* The water supply is pumped up from the Hunter River about a mile and a half up stream from West Maitland, the engines being situated above flood level on a hill about forty-four chains from the river. At the pumping station there is a settling tank of 1,390,500 gallons capacity, six filter beds, a clear water tank holding 589,500 gallons, and a storage reservoir of 172,408,100 gallons capacity. The filtered water is pumped from the clear water tank into two summit reservoirs, one of which is connected by a 10-inch cast-iron main $4\frac{1}{2}$ miles in length, and supplies East and West Maitland, Morpeth, and Maitland, while the other is fed by two rising mains, one riveted steel pipe $20\frac{3}{4}$ in. diameter, and a 15-inch cast-iron main, $5\frac{1}{2}$ miles long, and supplies the other districts under the control of the Board. In seven of these districts reservoirs having a total capacity of nearly 4,000,000 gallons are supplied by gravitation. On the hill at Newcastle there is also a high-level iron tank with a capacity of 20,000 gallons, which is supplied by a small pumping engine on the roof of the Newcastle reservoir. The total length of water mains is $384\frac{1}{4}$ miles.

(ii.) *Water Supply, Capital Cost, Revenue, and Expenditure.* By the Act of 1892 referred to above and an Amending Act of 1894 the capital debt of the Board was to be liquidated by annual instalments distributed over 100 years with interest at $3\frac{1}{2}$ per cent. By a further amending Act of 1897 the repayment of expenditure on permanent works was abrogated, and the annual instalments were to be paid in liquidation of the cost of renewable works to be fixed by the Government from year to year. The capital debt of the Board to the Government at 30th June, 1911, was in respect of water supply £477,204, and £170,151 in respect of sewerage. In the subjoined table particulars are given as to the revenue and expenditure, and also as to the number of houses and population supplied for each financial year from 1902 to 1911 inclusive:—

PARTICULARS OF THE HUNTER DISTRICT WATER SUPPLY, 1902 to 1911.

Year ended 30th June.	Revenue.	Working Expenses (including Interest).	Houses Supplied.	Estimated Population Served.	Supply.	
					Daily Average.	Total.
	£	£	No.	No.	1000 Gallons.	1000 Gallons.
1902	29,558	32,109	9,875	49,400	1,119	408,508
1903	31,102	32,217	10,522	52,600	1,113	406,172
1904	31,360	32,361	11,100	55,500	1,093	399,954
1905	34,486	33,714	12,167	60,800	1,266	461,936
1906	40,801	34,801	12,968	64,800	1,479	539,655
1907	41,776	38,886	13,569	67,845	1,479	539,965
1908	45,695	39,615	14,457	72,285	1,654	603,755
1909	43,395	41,184	15,679	78,395	1,766	644,689
1910	46,767	43,126*	16,446	82,230	1,650	602,497
1911	45,711	45,020	17,164	85,820	1,850	675,214

* Inclusive of an instalment of £10,675 to the sinking fund for reconstruction of renewable works.

The average daily consumption of water for all purposes per inhabitant was 21.55 gallons during the year 1911, as against 20.07 gallons during the previous year.

(iii.) *Sewerage Works.* Considerable progress has been made by the Department of Public Works with the construction of the sewerage works for Newcastle and suburbs. The scheme is designed on the separate system, and will deal with the sewage partly by gravitation and partly by pumping. The works within the first two completed sections were transferred to the Board in 1907, those within the third section in March, 1910, and those within the fourth section in February, 1912. Up to the 30th June, 1911, about 30 miles of sewers, connecting with 1465 separate properties, were under the control of the Board. For the financial year 1910-11 the revenue was £8974 and the expenditure £9584, the latter amount including a £1039 instalment to the Sinking Fund for the reconstruction of renewable works.

9. Water Supply and Sewerage in Country Towns.—With the object of assisting municipalities to construct systems of water supply and sewerage, the Country Towns Water Supply and Sewerage Act of 1880 was passed, but has since been amended by the Acts of 1887, 1894 and 1905. Under these Acts the amount for carrying out the works is advanced by the State, and the municipality has the option of undertaking the construction of the works, failing which the Government undertakes the duty. Municipalities which avail themselves of the provisions of the Act are empowered (in addition to levying ordinary municipal rates) to levy a special rate for each service, based (at the option of the councils) upon either the improved or unimproved capital value of the lands so liable for rating, such rate not to exceed a maximum of 10 per cent. upon the assessed value of the lands and tenements so taxed. The original Act, as amended in 1894 and in 1905, provides that the sum advanced, with interest at 4 per cent. per annum, must be repaid by a maximum number of 100 yearly repayments, and also provides for the issue of licenses to workmen, for the recovery of rates and for making by-laws for the assessment of lands and other purpose.

(i.) *Waterworks.* Up to the 30th June, 1910, forty-eight country municipalities had availed themselves of the privileges of the Act as regards waterworks, all of which at that date had been completed and handed over by the Government. The total amount expended on these works was £854,949, and the total of the sums payable annually for a period of 100 years was £31,755, including interest at the rate of $3\frac{1}{2}$ per cent., the first repayments having become due at various dates ranging from the end of the year 1893 to the end of 1908. In the calculation of these repayments the interest on the expenditure has been added, and any payments by the councils, as well as sums remitted under the authority of the Act, have been deducted. A number of other municipalities have constructed works out of their own resources.

(ii.) *Sewerage Works.* Only eleven municipal councils have taken advantage of the Act providing for the construction of sewerage works in country towns. On the 30th June, 1910, the capital debt of these systems was £124,115, the amount payable annually to the Government being £4669. Other sewerage systems are in existence in several places, but with few exceptions the operations have been on a small scale.

10. Board of Fire Commissioners of New South Wales.—Reference has been made in the section of this book dealing with the subject of *Private Finance* (see page 875) to the constitution of the Board of Fire Commissioners of New South Wales, which has now superseded the Metropolitan and all other Fire Brigade Boards in that State.

(i.) *Receipts and Disbursements of Board of Fire Commissioners of New South Wales for 1910 and 1911.* The subjoined table shews the actual receipts and disbursements of the Board, for the years 1910 and 1911 inclusive:—

**NEW SOUTH WALES BOARD OF FIRE COMMISSIONERS.—RECEIPTS AND
DISBURSEMENTS FOR SYDNEY FIRE DISTRICT, 1910 and 1911.**

Year.	Receipts.						Disbursements.
	From Government.	From Municipalities.	From Fire Insurance Companies.	From Firms.	From other Sources.	Total.	
	£	£	£	£	£	£	£
1910 ...	21,624	21,624	21,181	442	607	65,478	58,168
1911 ...	21,643	21,643	21,198	444	1,145	66,073	60,667

With reference to the preceding table, under the "Fire Brigades Act 1909," by which the New South Wales Board of Fire Commissioners was constituted and which came into operation on 1st January, 1910, insurance companies do not now, as formerly, return the amount of their risks, but give in lieu thereof the amount of premiums received, which forms the basis of their contribution towards the revenue of the Board. The Board, with consent of the Minister, is empowered to divide the State into fire districts and to make annually an estimate of the amount it proposes to expend therein during the following year, but such estimate must be made so that the amount of contribution levied against such fire districts shall not exceed $\frac{1}{4}$ d. in the £ on the unimproved capital value of all ratable land within each district. Every insurance company pays annually to the funds of the Board a percentage contribution, to be fixed by the Board on the total amount of premiums (excluding the reinsurance proportion thereof) which each company receives out of each fire district, within each of which uniform percentages prevail. By this Act also firms which effect insurances with companies not registered in New South Wales are likewise required to make contributions on account of the premiums paid to such companies, which is the first instance of this class of insurer being compelled to share the expense of local advantages, which had hitherto been available free of cost. The Sydney fire district includes the City of Sydney and suburbs, comprising a total area of 152½ square miles.

11. Sydney Harbour Trust.—The establishment of this Trust was the direct outcome of the outbreak of bubonic plague in the port of Sydney in the early part of the year 1900. It was proved that this disease was due to the introduction of plague-stricken rats in vessels arriving from ports in which the disease had made its appearance. As a consequence the whole of the foreshores of the harbour, together with certain adjoining wharves, stores, dwelling houses, and other properties, were vested in a body of trustees. The Trust was established by an Act which came into force on the 11th February, 1901. Under this Act an independent body of three Commissioners was created for the purpose of administering the affairs of the harbour and of fostering its interests, each commissioner being entitled to hold office for seven years, subject to certain conditions. This Board of Commissioners is invested with the exclusive control of the port and shipping, lighthouses, beacons, buoys, wharves, and docks (with the exception of wharves and docks constructed on land which has been alienated from the Crown), in Sydney Harbour, and is empowered to levy certain tolls, dues, rates, rents, and charges, and to resume or purchase lands and buildings. Prior to the establishment of the Trust, the extensive foreshores of the port offered opportunities to private individuals of acquiring water frontages, which enabled them to participate in the revenue to be derived from the wharfage and tonnage rates as prescribed by the various Acts. This alienation of the water frontages was in return for comparatively small payments. In effect, this deprived the Crown of an annual revenue which, under other circumstances, might have been applied to the maintenance of the port. One of the greatest changes made by the Sydney Harbour Trust Act was the alteration of the basis upon which wharfage is charged, so that goods which do not use the wharf, but are lightered overside, are subject to wharfage. The Act embodied the wharfage schedule appended to the Wharfage and

Tonnage Rates Act of 1880, by which the inward rates were fixed at one shilling and eightpence per ton, and the outward at tenpence; but it did not provide for any reduced rate for transshipment goods arriving from overseas as had previously been allowed, although it gave the Commissioners power to make or to recommend certain exemptions and to increase the inward wharfage to three shillings per ton measurement, or to four shillings per ton dead-weight. During the year 1901 the Commissioners recommended the Government to increase the inward rates to two shillings and sixpence per ton and to abolish outward wharfage, and these recommendations were duly endorsed by the Executive Council. Liberal concessions were also made with regard to transshipment goods arriving from overseas. All goods produced or manufactured within the State of New South Wales were exempt from wharfage rates until the Sydney Harbour Rates Act 1904 was passed. Under this Act a schedule of wharfage charges was provided for, a small charge of fivepence per ton being imposed on all goods transhipped; important amendments were also made in the old tonnage rates charges (which had been in existence since 1880), with the result that many vessels which previously escaped payment have now to pay a fair charge for the use made of the wharfage accommodation provided by the Trust. Considerable improvements have been made by the Commissioners in the wharfage accommodation of the port and in the sanitary condition of the area vested in the Trust by the construction of new jetties, sheds, offices, and waiting rooms; by dredging and by preventing the pollution of the waters of the port; by opening up new roads; and by taking means to prevent rats and other vermin from finding a harbourage in the produce stores and in the vicinity of the wharves.

(i.) *Revenue, Expenditure, and Capital Cost.* The subjoined table gives particulars of the revenue and expenditure of the Trust, and also shows the total capital debt for properties, etc., vested in the Commissioners, the amount of interest payable on the debt, and the balance of revenue after deducting expenditure, interest, and the amount of the Commissioners' salaries:—

SYDNEY HARBOUR TRUST.—REVENUE, EXPENDITURE, CAPITAL DEBT, INTEREST AND BALANCE, 1901 to 1911.

Year ended the 30th June—	Revenue.				Expenditure.	Total Capital Debt.	Interest.†	Balance
	Wharfage & Harbour Rates.	Tonnage Rates & Berthing Charges	From Other Sources.	Total.				
1901* ...	42,784	3,208	12,324	58,316	11,275	4,692,782	55,554	— 8,518
1902 ...	127,199	9,824	82,683	219,706	75,692	4,806,534	169,874	—25,860
1903 ...	147,653	3,762	104,730	256,145	86,172	4,950,299	173,112	— 3,139
1904 ...	117,214	5,715	138,748	261,677	83,765	5,030,209	177,906	6
1905 ...	111,891	7,076	134,614	253,581	76,776	5,074,422	180,966	— 4,161
1906 ...	143,625	8,759	118,305	270,689	80,027	5,112,417	178,779	11,883
1907 ...	163,597	11,344	123,001	297,942	82,669	5,137,646	184,074	31,199
1908 ...	183,045	12,525	131,955	327,525	90,782	5,227,360	189,265	47,478
1909 ...	183,753	11,539	139,076	334,368	103,882	5,338,108	191,532	38,954
1910 ...	183,094	11,563	142,390	337,047	142,763†	5,482,060	191,246	3,038
1911 ...	212,061	15,536	146,158	373,755	143,181†	5,627,756	200,845	29,729

* For the period from 11th February to the 30th June, 1901. † The rate of interest charged each year is the average rate on the total capital debt of the State, which varies. — Represents a loss. ‡ Including expenditure for the renewal, replacement or reconstruction of wharves or buildings, viz., £34,970 in 1910, and £23,650 in 1911.

The revenue for the year 1910-11 shows an increase of £36,708 on that for the previous year, and is the highest attained since the formation of the Trust. The corresponding increase in expenditure was £11,738, exclusive of expenditure on renewals, etc., which was incurred chiefly on account of extra requirements for dredging, and sundry other items.

(ii.) *Dredging and Towing.* The subjoined statement gives particulars of the dredging and towing done by the dredges and tug boats owned by the Trust:—

**SYDNEY HARBOUR TRUST.—PARTICULARS OF DREDGING AND TOWING,
1905 to 1911.**

Year.	Dredging.			Towing Dredged Material.		
	Tons Dredged.	Total Expenditure.	Expenditure per Ton.	Miles run Towing.	Total Expenditure in Towing.	Expenditure per Mile Towing.
	Tons.	£	Pence.	Miles.	£	Pence.
1905	490,045	8,808	4.31	46,542	5,378	27.73
1906	489,610	8,311	4.08	39,301	5,207	31.78
1907	482,474	8,087	4.02	45,617	5,392	28.37
1908	504,760	8,915	4.24	45,485	6,940	36.62
1909	434,504	13,066	7.22	38,699	6,634	41.14
1910	448,650	11,495	6.15	33,048	5,519	40.08
1911	1,675,945	19,058	2.72	38,372	5,442	34.04

§ 3. Victoria.

1. **Development of Types of Local Authorities.**—In Victoria there are now two types of municipal institutions, (a) boroughs, including cities and towns, and (b) shires, and although they are now dealt with by the same Act, their origin was distinct, and in the early days of their development they were provided for by independent enactments. Melbourne and Geelong, the latter of which was for many years the second largest town in the State, having been incorporated under special statutes prior to the establishment of a general system of local government, are not subject to the provisions of the Local Government Acts except in a few comparatively unimportant details. Melbourne was incorporated as a town in 1842, and as a city in 1947; Geelong was incorporated as a town in 1849, and proclaimed a city on 14th December, 1910.

(i.) *Institution of Road Districts.* The Imperial Act of 1842, under which the Governor of New South Wales was authorised to form districts for the purpose of self-government, has already been referred to. This Act was succeeded by the Act of 1850, which separated the district of Port Phillip from New South Wales, and provided that the proclamation of districts (under the Act of 1842) which had not been followed by an election of councillors should be void, and where councillors had been elected the Letters Patent forming such districts could be revoked by petition. For the future such districts were only to be incorporated upon petition of the inhabitants to the Governor, who was authorised to establish elective district councils, with power to frame by-laws for making and maintaining roads and bridges, establishing schools, and levying local tolls and rates. The necessity for a more comprehensive scheme of local government soon became apparent, owing to the increase of settlement on the land which followed the excitement of the gold rush, and in 1852 two committees of the Legislative Council were appointed, one to enquire into the operations of district councils which had been established, the other to report generally upon the condition of the roads and bridges in the State, and as to how the funds for their construction and maintenance could be best expended. The report of the latter committee was of considerable value, because it formed the basis of the first Victorian Act which provided a scheme for the local government of country districts, namely, the Roads Act of 1853. Under this Act a distinction was made between main roads and parish or cross roads. The Governor was authorised to declare any part of the colony to be a road district; main roads were placed under the care of a central Road Board with an Inspector-General and staff, while parish roads were to be made and maintained by the district councils, which were empowered to levy rates for the purpose.

(ii.) *Establishment of Shires and Extinction of Road Districts.* The Act of 1853 continued in force for ten years, when it was repealed, its provisions as amended

being re-enacted by the Road Districts and Shires Act 1863. By this Act the central Road Board was abolished, and the establishment of shires and shire councils was authorised. Any district having an area of not less than 100 square miles and a revenue from general rates of not less than £1000 might be incorporated as a shire, the duties and powers of which were the same as those of the districts, but additional privileges, such as power to raise loans and to grant licenses, were conferred upon the shires. Provision was also made for the regulation of the proceedings of shire councils, the preparation of voters' lists, elections, accounts, revenue, rates, auditors, and other matters, and these provisions have been substantially continued in later Acts. The result of the Act of 1863 was that the road districts were gradually developed into or were absorbed by the shires, and the next important measure which was passed, the Shires Statute Act of 1869, recognised only the latter, and with respect to shires retained the principal features of the preceding Act.

(iii.) *Constitution of Urban Municipal Districts and Boroughs.* In the meantime suburban districts and country towns were growing up, and in the year 1854 an Act was passed for the establishment of municipal boroughs in Victoria. Provision was made whereby any district having an area of not more than nine square miles, no part of which was more than six miles from any other part, and having a population of not less than 300, might, on petition, be constituted a municipal district. This Act, which thus originated those municipalities now known as boroughs (including cities and towns), was amended and repealed by the Municipal Institutions Consolidating and Amendment Act 1863, which re-enacted the principal features of the previous Act. These features are practically the same as those which now prevail with regard to boroughs. The Act of 1863 was in turn amended from time to time, and the law relating to boroughs was consolidated in 1869 by the Boroughs Statute Act.

(iv.) *Legislation applying to all Types of Municipalities.* Both the Shires Statute Act and the Boroughs Statute Act of 1869 were repealed and their provisions amended and consolidated by the Local Government Act 1874, which, after further improvements and extensions, was in turn consolidated by the Local Government Act 1890, which was itself amended from time to time. In 1899 a select committee of the Legislative Assembly was appointed to enquire into and to report upon the working of the Act of 1890 and to suggest amendments required in the law relating to local government. This committee was subsequently constituted a Royal Commission, and in 1902 issued a report to which was appended the draft bill which became the Local Government Act 1903, the provisions of which now regulate the working of municipalities in the State.

2. Local Government Systems now in Operation.—Local government is now administered under the Act of 1903 throughout the whole of the State, with the exception of about 6000 square miles in the mountainous parts of the county of Wonnangatta, and the whole of French Island.

(i.) *Constitution of Municipalities.* Provision is made for the continuation of municipalities established under previous Acts and for the constitution of new ones.

- (a) *Shires.* Any part of the State containing ratable property yielding, upon a rate not exceeding one shilling in the pound, a sum of £1500 may be constituted a shire upon petition of at least fifty inhabitants.
- (b) *Boroughs.* Any part of the State, not exceeding in area nine square miles, and having no point distant more than six miles from any other point, and containing a population of not less than 500 and ratable property yielding, upon a rate not exceeding one shilling in the pound, a sum of £300, may be constituted a borough upon petition of at least 250 resident householders. Any borough having during the preceding financial year a revenue of £10,000 may be declared a town, or having a revenue of £20,000 may be declared a city upon petition under the common seal of such borough. Provision is

also made for severing any part of a municipality and annexing the same to an adjoining municipality: for dividing municipalities into any number of subdivisions not exceeding eight; and for uniting two or more boroughs which form one continuous area so as to form one borough.

- (c) *Townships.* Upon petition signed by not less than twenty-five ratepayers resident in any portion not exceeding three square miles in extent of any shire and distant more than ten miles from the boundaries of the city of Melbourne, the Governor may, with the consent of the municipal council, proclaim such portion a township.

(ii.) *The Municipal Council.* It is provided by the Act of 1903 that, in the case of existing municipalities, the council shall consist of the number of members assigned to it at the commencement of the Act, but, when the number of members is determined under the Act, such number shall be, in case the district is not subdivided, some multiple of three, not less than six nor more than twenty-four, and, in case such district is subdivided, the number produced by the return of three councillors for every subdivision. Every person liable to be rated in respect of property in the municipal district of the ratable value of £20 at the least is qualified to hold the office of councillor in any municipality, provided that no female, nor any undischarged bankrupt, nor a person attainted of treason or convicted of felony shall be so qualified. Other persons may also be disqualified on the ground of interest. Provision is made for the retirement of one-third of the councillors annually in rotation, and for the election and privileges of the chairman, who is styled the mayor of a borough or the president of a shire.

(iii.) *The Municipal Electorate.* Every person who on the 10th June in any year has attained the age of twenty-one years, and is liable to be rated in respect of property within a municipal district, in respect of which all rates made before the 10th March of the year have been paid, is entitled to be enrolled as a voter, but no person may be enrolled in respect of property rated under £5 a year, unless there is a house on the property, and he resides there. The occupier and the owner of any ratable property may not be both enrolled in respect thereof, the former having the right to be enrolled instead of the latter. Corporations liable to be rated may appoint not more than three persons to be enrolled in their place. Joint occupiers and owners, not exceeding three, are each entitled to be enrolled, and in case more than three persons are rated in respect of any property, those whose names stand first in order upon the rate last made or upon the last valuation and return are so entitled. Plurality of votes is allowed on the scale shewn in the following statement:—

VICTORIA.—PROPERTY QUALIFICATIONS FOR ENROLMENT AS MUNICIPAL VOTER.

Number of Votes.	Annual Ratable Value of Property.	
	Boroughs (including Cities and Towns).	Shires.
1	Under £50.	Under £25.
2	From £50 to £100.	From £25 to £75.
3	£100 and upwards.	£75 and upwards.

Voters' lists are prepared annually by collectors appointed for the purpose; provision made for the revision of the lists, for the time and place of holding elections, for the

nomination of candidates, for the application of the Voting by Post Act 1900; for the appointment of officers, and for the meetings and proceedings of councils.

(iv.) *Powers and Functions of Councils.* Municipal councils are empowered to make by-laws for a great number and variety of purposes, of which the most important are as follows:—The control and regulation of roads and streets, buildings, wharves, and public places, of nuisances, passenger vehicles, carters, boatmen, and porters; the regulation and maintenance of water supply, sewerage, drainage, and lighting; the establishment and control of fairs and public sales, labour marts and offices; the preservation and management of commons and public reserves; the regulation of traffic and hoardings; the public health and the prevention of contagious or infectious diseases, and generally for maintaining the good rule and government of the municipality. Councils are authorised to undertake the supply of light, heat, or motive power for public or private purposes; they may construct and maintain tanks, dams, and reservoirs, and may provide public baths, markets, weighbridges, pounds, abattoirs, places of public recreation, and charitable institutions. One of the principal functions of the councils is to construct and maintain public highways, streets, bridges, ferries, and jetties within their respective localities. At the request of the council the provisions of the Act as to the maximum weight which it is permissible to carry on vehicles on any public road within the municipality, may be made to apply by proclamation.

(v.) *Ratable Property.* All land, including buildings and improvements thereon, within a municipality is ratable property, except the following:—Crown lands unoccupied or used for public purposes; land used exclusively for commons, mines, public worship, mechanics' institutes, public libraries, cemeteries, free primary schools, and charitable purposes; land vested in, in the occupation of, held in trust for, or under the control of any municipality, local governing body, or commissioners under the Rates Act; land vested in the Railway Commissioners, in the Minister of Public Instruction, in the Board of Land and Works, in the Commissioners of the Melbourne Harbour Trust, and in the Melbourne and Metropolitan Board of Works. The valuation of all property is computed at its net annual value, that is to say, at the rent at which the same might reasonably be expected to let from year to year, free of all usual tenants' rates, taxes, and cost of insurance, but no ratable property may be computed as of an annual value of less than 5 per cent. upon the fair capital value of the fee-simple thereof.

(vi.) *Rates.* The municipal councils are empowered to levy rates, which, together with grants and subsidies received from the Government, license fees, market dues, rents, tolls, and sanitary charges, form their chief sources of income. The rates which may be levied are of three kinds, namely—general, extra, and separate rates.

(a) *General Rates* are levied at least once in every year, and must not exceed two shillings and sixpence in the pound of the net annual value, nor be less than sixpence in the pound of such value. Every general rate must be made for one year or half a year, or such other period less than a year, but not less than three months, as the council thinks fit, and must be levied on the occupier of the property rated, or if there be no occupier, or if the occupier be the Crown or the Minister of Public Instruction, or a public or local body, then upon the owner of the property.

(b) *Extra Rates* may be levied in any municipal district which is subdivided equally in respect of all the ratable property within any one or more of the subdivisions, but cannot be levied except in accordance with the requisition of not less than two-thirds of the councillors returned by such sub-division. The amount of general and extra rates levied in any year must not exceed two shillings and sixpence in the pound of the net annual value.

- (c) *Separate Rates* may be levied where it appears to the council that any works or undertakings authorised by the Act are for the special benefit of any particular portion of the municipal district, but may be made only upon petition signed by a majority of the occupiers and by at least one-third of the owners of the properties affected, and must be confirmed by order of the Governor-in-Council. Separate rates may be levied equally on all properties affected, or may be differential according to the benefits to be received by different properties, and the amount of the rate must be such as will, in the opinion of the council, suffice to provide for the payment of interest and periodical repayments of, or sinking fund for, the money borrowed on the security of such rate.

(vii.) *Borrowing Powers.* The council of every municipality may borrow money upon the credit of such municipality by the sale of debentures, either for the purpose of liquidating previous loans or for the purpose of constructing certain specified permanent works or undertakings, such as the construction, alteration, or enlargement of streets, roads, bridges, ferries, sewers, and drains; the construction and purchase of waterworks, electric light or gas works, abattoirs, markets, baths, pleasure grounds, libraries, museums, and places of public resort and recreation; the establishment of hospitals, asylums, and other buildings for charitable purposes; the destruction and disposal of refuse, and the purchase of land or any easement, term, right, or privilege in, over, or affecting land. The amount of money so borrowed at any time for permanent works must not exceed ten times the average income of the municipality for the three preceding years, and the amount borrowed in the case of any municipality already indebted must not exceed the difference obtained by subtracting from ten times such average income the balance remaining unpaid of any previous loans. The question as to whether any loan for the purpose of permanent works shall be incurred must be submitted to a poll of the ratepayers upon demand signed by any twenty persons whose names are inscribed on the municipal roll. The council of any municipality may, in addition to the borrowing powers mentioned above, borrow money for permanent works or undertakings on the security of its income, but not upon the credit of the municipality, by the issue of debentures or by a mortgage over such income. The amount of money so borrowed must not at any time exceed five times the average income of the municipality for the three preceding years. The income referred to does not include moneys derived from general, separate, or extra rates, special improvement charges, publicans' licenses, or endowment from the consolidated revenue fund. Temporary advances by way of overdraft of the current account may also be obtained, but must not at any time exceed one-half the prior year's revenue.

(viii.) *Endowment.* Under the Local Government Act 1874 an annual endowment of £310,000 was provided for the municipalities. This amount ceased to be payable in 1879, but a subsidy, amounting to £310,000, was voted by Parliament annually, and was increased year by year, until £450,000 was granted in 1889-90 and 1890-91. The Local Government Act 1891 authorised the payment of an annual endowment of £450,000, but this amount was reduced year by year to £50,000 in 1902, but was increased to £75,000 for the year 1906-7, and to £100,000 from the 1st July, 1907. For the purpose of distributing the endowment, the shires are classified. Under the Municipal Endowment and Reclassification of Shires Act 1907, a new classification was adopted under which the amount of the endowment is to be allocated. In addition to the endowment of £75,000 (increased to £100,000 from the 1st July, 1907) the municipalities received from the Government during the financial year 1910-11 a sum of £82,909 out of the Licensing Act Fund as the equivalent for (a) fees for licenses, (b) fees for the registration of brewers and spirit merchants, and (c) fines, penalties, and forfeitures incurred under the Licensing Act 1876. Under the Act of 1907 the endowment of £100,000 is payable in equal moieties in March and September of each year. No city or town is entitled to receive any part of the endowment. The distribution

amongst the boroughs and shires is based on the amount of general and extra rates received in the twelve months ending on the preceding 30th September according to the following scale:—

VICTORIA.—ENDOWMENT OF BOROUGHS AND SHIRES, 1910-11.

To every Borough or 1st Class Shire, 3s. in the £	To every 4th Class Shire, 8s. in the £
" " 2nd Class Shire 5s. " "	" 5th " 10s. " "
" " 3rd " " 6s. " "	" 6th " 12s. " "

For the three financial years commencing the 1st July, 1907, however, the amounts were definitely fixed by Act No. 2129, and for the financial year 1910-11 by Act No. 2267.

3. Boroughs and Shires.—Number, Population, and Value of Ratable Property, 1902 to 1911.—The following table shews the number of cities, towns, boroughs, and shires, their estimated population, the number of ratepayers and dwellings, and the value of ratable property for the years 1902 to 1911 inclusive:—

VICTORIA.—PARTICULARS OF MUNICIPALITIES, 1902-11:

Financial Year.	Number of Municipalities.	Estimated Population.	Number of Ratepayers (both sexes).	Estimated Number of Dwellings.	Estimated Value of Real Property.	
					Total.	Annual.
CITIES, TOWNS, AND BOROUGH.						
1902	60	*647,397	157,820	*134,465	£ 77,289,493	£ 5,223,282
1903	60	632,607	155,262	140,248	92,099,451	5,308,546
1904	60	652,658	158,691	142,352	93,376,880	5,366,477
1905	60	657,815	159,953	143,667	94,533,732	5,498,471
1906	†60	684,358	169,536	149,649	99,354,665	5,664,425
1907	60	695,192	171,909	151,833	100,801,295	5,779,231
1908	60	708,672	176,420	153,629	103,666,178	5,944,691
1909	60	719,293	178,928	156,099	106,149,960	6,080,447
1910	60	731,050	183,419	159,478	108,863,963	6,232,091
1911	60	*738,870	187,562	162,489	114,113,507	6,508,544
SHIRES.						
1902	148	*551,523	147,671	*118,538	£ 107,812,500	£ 5,661,805
1903	148	557,285	150,724	118,996	111,803,468	5,880,386
1904	148	556,350	152,204	121,643	115,766,850	6,071,353
1905	148	552,414	153,908	121,335	116,336,442	6,244,799
1906	†146	541,242	149,350	118,339	117,260,959	6,130,718
1907	146	565,739	151,869	120,114	121,797,646	6,395,094
1908	146	573,715	152,973	121,465	129,059,488	6,694,209
1909	146	581,866	155,492	123,459	136,538,811	7,043,511
1910	146	588,156	159,410	124,739	143,142,655	7,332,397
1911	146	*571,694	163,916	126,951	150,970,220	7,716,815

* Census figures. † The shires of Coburg and Camberwell were constituted boroughs, and North Melbourne and Flemington were joined to City of Melbourne in 1905.

4. Municipal Assets and Liabilities, 1905 to 1910.—The assets of municipalities may be classified under three heads—(a) the municipal fund, (b) the loan fund, and (c) property; the liabilities under two heads—(a) the municipal fund, and (b) the loan fund. The following table shews the amount of municipal assets and liabilities for each financial year from 1905 to 1910 inclusive:—

VICTORIA.—MUNICIPAL ASSETS AND LIABILITIES, 1905 to 1910.

Items.	1905.	1906.	1907.	1908.	1909.	1910.
ASSETS.						
	£	£	£	£	£	£
MUNICIPAL FUND—						
Uncollected rates	119,028	124,174	112,435	116,223	114,598	110,676
Other assets	168,737	184,380	196,048	182,790	267,944	350,092
LOAN FUND—						
(a) Sinking funds						
Amount at credit	701,503	740,382	772,662	796,272	812,920	834,295
Arrears due	4,459	1,341	3,616	2,806	2,827	3,286
(b) Unexpended balances ...	112,643	302,400	325,901	220,674	106,852	345,287
PROPERTY—						
Buildings, markets, etc. ...	2,530,858	2,573,017	2,697,701	2,826,394	2,992,809	3,149,476
Waterworks	234,461	221,548	223,687	220,669	207,451	202,210
Gasworks	65,760	60,510	66,269	66,638	57,399	70,687
Total	3,937,449	4,207,752	4,398,319	4,432,466	4,562,800	5,066,009
LIABILITIES.						
	£	£	£	£	£	£
MUNICIPAL FUND—						
Arrears due sinking funds ...	4,459	1,341	3,616	2,806	2,827	3,286
Overdue interest	16,637	16,951	17,060	18,535	15,639	15,750
Bank overdrafts	90,660	89,370	94,825	122,453	120,705	133,237
Temporary Government advances	4,018	694	...	...	...	...
Other liabilities	139,717	175,964	179,342	194,283	233,359	*293,089
LOAN FUNDS—						
Loans outstanding	4,186,602	4,375,116	4,442,713	4,437,673	4,416,103	4,767,138
Due on loan contracts	27,438	2,256	39,726	88,056	49,452	45,089
Total	4,469,531	4,661,692	4,777,282	4,863,836	4,838,085	5,257,589

* Including £98,187 due on current contracts.

5. Revenue and Expenditure of Municipalities, 1905 to 1910.—The following table shews the revenue from various sources, and the expenditure under various heads, of municipalities during each year from 1905 to 1910 inclusive:—

VICTORIA.—REVENUE AND EXPENDITURE OF MUNICIPALITIES, 1905 to 1910.

Items.	1905.	1906.	1907.	1908.	1909.	1910.
SOURCES OF REVENUE.						
	£	£	£	£	£	£
Taxation ... { Rates	802,253	836,024	887,580	902,741	946,956	999,799
Licenses	112,475	106,621	106,742	106,758	101,682	102,066
Dog fees	16,022	16,257	17,455	17,628	18,751	19,296
Market and weighbridge dues	55,259	56,939	57,190	57,386	68,014	65,739
Government endowments and grants ...	90,572	95,090	117,304	172,648	175,601	187,323
Contributions for streets, etc	22,755	18,597	30,816	34,246	35,173	47,532
Sanitary charges	55,731	56,052	56,918	58,072	59,966	62,720
Rents	60,344	63,242	66,601	67,387	69,842	77,958
Other sources	129,810	139,470	163,825	208,403	195,831	207,181
Total	1,345,221	1,388,292	1,504,431	1,625,269	1,671,816	1,769,614
HEADS OF EXPENDITURE.						
	£	£	£	£	£	£
Salaries, etc	136,066	141,438	147,933	152,302	158,436	163,435
Sanitary work, street cleaning, etc. ...	131,378	135,466	134,632	142,769	150,964	159,571
Lighting	69,915	72,571	76,217	79,832	82,354	83,972
Fire brigades' contributions	16,061	17,431	17,144	20,724	22,051	23,223
Public works { Construction	198,275	217,346	266,658	313,607	288,869	335,446
Maintenance	378,859	403,791	441,335	474,188	490,341	548,583
Formation of private streets, etc. ...	23,676	19,627	28,296	32,718	37,898	32,163
Redemption of loans	55,866	49,483	54,998	60,568	58,263	46,439
Interest on loans	186,439	188,111	196,965	198,632	201,199	206,355
Charities	13,185	13,637	13,401	14,666	15,241	15,589
Other expenditure	134,023	118,748	156,894	187,830	173,154	170,840
Total	1,343,743	1,377,649	1,534,473	1,677,836	1,678,760	1,785,616

6. The Melbourne and Metropolitan Board of Works.—This Board was established by an Act which came into force on 20th December, 1890, and entered upon its duties on 18th March, 1891. The Board consists of forty members, one of whom is a chairman elected every four years by the other members, the retiring chairman being eligible for re-election. Nine members are elected by the Melbourne City Council, four by the South Melbourne Council, three by the Prahran, two each by the Fitzroy, Richmond, St. Kilda, and Collingwood, and one each by the other suburban municipal councils returning a representative. Thirteen of the members retire annually in the month of February, but are eligible for re-election if they remain members of their respective councils. The district over which the Board exercises control consists of twelve cities, seven towns, and one borough, twoshires, and parts of two others, or twenty-four municipalities in all, comprising a total area of 109,009 acres, and containing an estimated population on the 31st December, 1911, of 594,250 (including those supplied with water outside the Board's area). The waterworks for the supply of Melbourne and suburbs were originally carried out by the Government, which had for that purpose contracted loans amounting to £2,389,934; these works were vested in the Board in 1891. The primary object of the creation of the Board was not, however, to take over these works, but was to supply the long called for and pressing want of a sewerage system for the metropolis. The plans and estimates of the cost of the metropolitan sewerage were originally prepared by an expert civil engineer from England, and were furnished to the Board on its creation. The plan recommended by the designer and selected by the Board's engineer-in-chief was estimated to cost £5,030,000, but this plan was modified by the engineer-in-chief, with the concurrence and assistance of the Board, so as to reduce the estimated cost to £3,451,000. The original plan and estimate contemplated only the construction of the main and branch sewers by the Board, but as Parliament had added the duty of constructing sewers in streets, right-of-ways and branches therefrom the original estimate has necessarily been exceeded. To carry out its work the Board is authorised to borrow £8,750,000, exclusive of the loans contracted by the Government for the purpose of waterworks and taken over by the Board. The liability on Government loans on the 30th June, 1911, was £1,688,663, and for loans raised by the Board was £8,981,000. The Board is still empowered to borrow £470,271 before reaching the limit of its borrowing powers.

(i.) *Total Cost of Water Supply and Sewerage, 1853 to 1910-11.* The subjoined table shows the total cost of construction and maintenance of water supply and sewerage from 1853 to 1911.

MELBOURNE AND METROPOLITAN BOARD OF WORKS.—TOTAL COST OF CONSTRUCTION AND MAINTENANCE OF WATER SUPPLY AND SEWERAGE, 1853 to 1911.

Period.	Water Supply.		Sewerage.			Total
	Con- struction.	Main- tenance.	Con- struction.	Main- tenance.	Working Expenses.	
	£	£	£	£	£	£
1853 to 1890-1 ...	3,378,246	149,622	...	...	...	3,527,868
1890-1 to 1899-1900	322,627	146,678	3,026,162	*20,411	*21,286	3,537,164
1900-1 ...	14,330	18,445	280,973	13,287	11,240	338,275
1901-2 ...	16,053	20,786	302,460	10,906	13,430	363,635
1902-3 ...	10,412	21,480	311,615	12,047	14,495	370,049
1903-4 ...	8,649	20,765	293,602	12,696	13,860	349,572
1904-5 ...	1,391	16,105	425,137	4,750	21,929	469,312
1905-6 ...	16,562	15,539	340,386	5,242	23,338	401,067
1906-7 ...	25,119	17,731	277,820	4,652	21,180	346,502
1907-8 ...	33,058	23,004	262,148	4,075	31,149	353,434
1908-9 ...	65,108	22,163	220,900	3,962	31,806	343,939
1909-10 ...	29,962	22,999	283,827	4,589	33,495	374,872
1910-11 ...	92,731	23,474	242,731	5,103	41,800	405,839
Total ...	4,014,248	518,791	6,267,761	101,720	279,008	11,181,528

* From the 30th June, 1897, to the 30th June, 1900.

(ii.) *Revenue and Expenditure of Melbourne and Metropolitan Board of Works.* The following table shews the actual receipts and expenditure, and also the loan receipts and expenditure of the Board during each year from 1902-3 to 1910-11 inclusive:—

MELBOURNE AND METROPOLITAN BOARD OF WORKS.—REVENUE AND EXPENDITURE DURING EACH YEAR, 1902-3 to 1910-11.

Particulars.	1902-3.	1903-4.	1904-5.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.	1910-11.
ORDINARY RECEIPTS.									
Water supply ...	£ 179,885	£ 167,036	£ 181,890	£ 186,179	£ 214,834	£ 229,674	£ 241,790	£ 248,356	£ 253,002
Sewerage ...	148,641	161,030	171,448	192,518	216,236	226,609	242,296	253,756	267,444
Live stock—Met. farm	35,568	28,970	38,559	42,078	47,349	39,132	22,153	31,289	35,016
In-terest { Water supply	17	19	...	...	20	129	15	138	830
{ Sewerage ...	18,605	25,037	26,988	23,785	20,635	16,562	15,929	10,229	8,995
Total ...	382,716	382,092	418,885	444,560	499,074	512,106	522,183	543,768	565,287

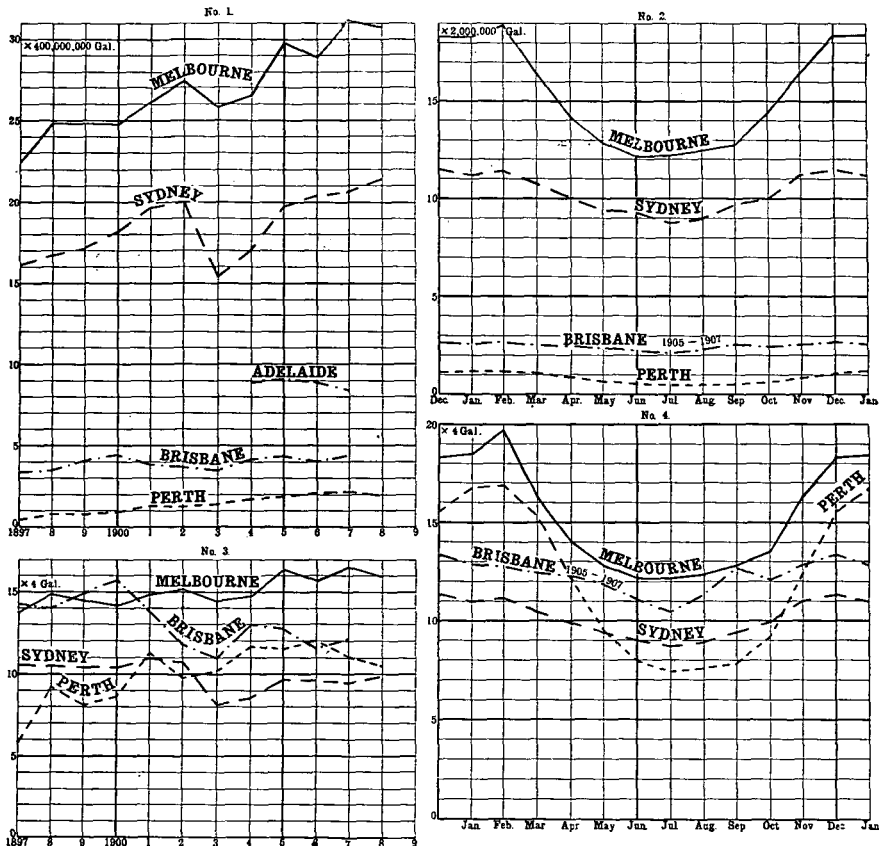
ORDINARY EXPENDITURE.									
General management	33,933	32,513	31,081	31,484	31,095	33,267	33,984	34,863	35,779
Live stock—Met. farm	25,718	23,345	23,985	29,050	47,276	41,536	20,316	17,900	19,336
Main-tenance { Water supply	22,980	21,990	20,035	20,079	21,523	25,018	24,643	24,944	25,016
{ Sewerage ...	26,590	26,655	26,833	25,765	53,214	35,588	38,016	42,921	45,665
In-terest { Water supply	102,959	104,114	101,939	102,081	101,628	101,044	102,297	101,578	105,760
{ New offices ...	...	...	932	932	932	...	...	...	...
{ Sewerage ...	206,964	226,861	239,929	257,059	263,410	270,130	280,647	286,655	293,608
Total ...	419,144	435,478	444,854	469,450	499,078	506,583	499,903	508,861	525,164

LOAN RECEIPTS.									
Water supply ...	2,855	2,103	1,583	1,937	2,492	6,725	2,435	5,272	4,788
Sewerage ...	87,664	88,164	96,588	84,020	79,088	72,415	67,771	61,509	56,313
Proceeds of loans	722,641	950,927	189,696	346,519	395,065	307,500	429,595	257,853	291,310
Miscellaneous ...	215	152	3,508	16,204	12,332	14,865	15,246	9,104	9,238
Total ...	813,375	1,041,346	291,375	448,680	488,997	401,505	515,047	333,758	361,649

LOAN EXPENDITURE.									
Water sup. construct'n	12,925	10,457	8,990	16,045	26,023	40,183	67,271	35,984	98,145
Sewerage construction	409,232	395,104	472,384	414,310	336,799	309,194	272,508	331,214	286,035
Expenses in floating & redemption of loans	25,773	528,561	7,360	67,533	160,163	34	229,189	2,677	2,936
Miscellaneous ...	19,050	20,116	3,417	12,780	8,670	16,655	24,961	18,002	26,288
Total ...	466,980	954,238	492,151	510,668	531,655	368,066	593,929	387,877	413,404

7. Melbourne Metropolitan Water Supply.—From the year 1835 to 1857 the inhabitants of Melbourne depended for their water supply entirely upon rainwater caught in tanks, or upon water carts filled from the River Yarra above the falls. In 1848 the city

GRAPHS SHEWING CONSUMPTION OF WATER IN METROPOLITAN AREAS.—
MELBOURNE, SYDNEY, AND PERTH, 1897 TO 1908, AND BRISBANE, 1905 TO 1907



EXPLANATION OF GRAPHS.—No. 1.—Total annual consumption of water in metropolitan area 1897 to period shown on graph. In the Adelaide water districts there are no governing meters; the quantities shown are as recorded by gaugings taken at the reservoirs and include evaporation and absorption. The base of each small rectangle represents an interval of one year, and the vertical height represents 400,000,000 gallons.

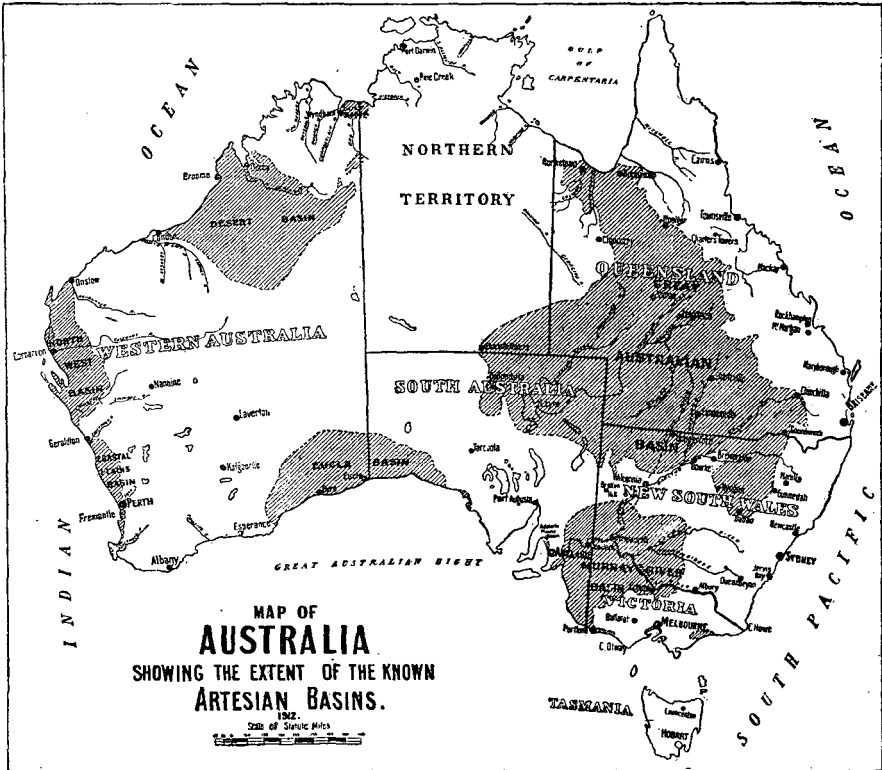
No. 2.—Average daily consumption of water in metropolitan area during each month of the year. (Mean of period 1897 to 1908.) The base of each small rectangle represents an interval of one month, and the vertical height represents 2,000,000 gallons.

No. 3.—Average daily consumption of water per head of population in metropolitan area, 1897 to 1908. The base of each small rectangle represents an interval of one year, and the vertical height represents 4 gallons.

No. 4.—Average daily consumption of water per head of population in metropolitan area during each month of the year. (Mean of period 1897 to 1908.) The base of each small rectangle represents an interval of one month, and the vertical height represents 4 gallons.

The information, while not quite up to date, covers the latest available period and gives, it is believed, a very fair approximation of the present conditions.

MAP SHEWING THE POSITION AND EXTENT OF THE "AUSTRALIAN
ARTESIAN BASINS."



This map was prepared by the Interstate Conference on Artesian Water, held in Sydney during May, 1912. It contains the latest facts relative to the various artesian basins of the Australian continent. Of these basins the most important is the Great Australian Basin, which extends over 570,000 square miles, viz.:—About 376,000 square miles in Queensland, 90,000 square miles in South Australia, 83,000 square miles in New South Wales, and 20,000 square miles in the Northern Territory. The Murray River Basin extends over South-Western New South Wales, North-Western Victoria, and South-Eastern South Australia. The Western Australian Basins fall naturally within five groups, viz.:—The Eucla Basin, the Coastal Plains Basin, the North-West Basin, the Desert Basin, and the Gulf Basin. (See also pages 583 to 589.)

council appointed a committee to enquire into and report generally upon the water supply and sewerage of the city. This committee recommended that a comprehensive system of sewerage should be carried out, and a rate levied for that purpose; the stringent enforcement of provisions as to slaughtering stock and as to the removal of refuse; that the space between Melbourne and the beach be cleared so as to allow the free access of pure sea air; that a Building Act should be passed and that the streets should henceforth be formed of a uniform width. Most of these recommendations were carried out. A Building Act was passed in 1849, and the filthy lanes in the city were remade and drained. In 1845 the first proposal was made to supply the city with water, by means of a water-wheel to be worked by the Yarra Falls. Five years later a small steam engine was erected to pump water into a tank situated in Flinders Street, from which water was drawn by carts, and in 1851 an elaborate report was issued by the city surveyor, recommending a plan for the city water supply, which was soon afterwards adopted. The source from which it was proposed to conserve the water for the supply of Melbourne consisted of several creeks and springs which flow from Mount Disappointment, about thirty-two miles north of the metropolis, and which, when united, form the Plenty River; this scheme was adopted, and has resulted in the Yan Yean Reservoir scheme. In 1853 the duty of supplying water to the metropolis was transferred from the city council to the Commissioners of Sewers and Water Supply, and towards the end of the same year the work of construction of the Yan Yean system was commenced. On the 31st December, 1857, the first water was turned on by Major-General McArthur, acting for the Governor, Sir Henry Barkly, K.C.B.

(i.) *Development of System, 1857 to 1911.* The following statement shews the development which has taken place in the water supply system of Melbourne during the fifty-four years since its inception:—

MELBOURNE WATER SUPPLY SYSTEM, 1857 to 1911.

Year.	Served Population.*	Capital Cost.	Charge per 1000 Gallons.	Rate in £	Mains & Pipes, Mileage of—	Supply in Gallons, Averagedaily.
		£				
1857 ...	95,442	748,974	10/- and 6/-	1/-	104	3,250,000
1911 ...	594,250	4,014,248	1/-	7d.	1,376½	32,974,008

* On the 31st December.

(ii.) *Description of Water Supply Systems.* The water supply of Melbourne consists of two main systems—the Yan Yean and the Maroondah.

(a) *The Yan Yean System* is the main source of supply. It commences by collecting the water from the Silvery and Wallaby Creek valleys, to the north of Mount Disappointment 2700 feet high, which forms one of the prominent heights of the main Dividing Range in Victoria. The waters of the Silvery Creek are brought by means of an aqueduct a little over eight miles long, constructed at a cost of £59,603, to a weir at the head of the Wallaby Creek aqueduct, which carries the combined waters of the two creeks for a distance of five and a quarter miles, and discharges over the crest of the Dividing Range at a height of 1694 feet above sea level, and then drops a height of 133 feet in 683 feet into Jack's Creek, one of the branches of the Plenty River. The Wallaby Creek aqueduct was constructed at a cost of £69,712. Its carrying capacity is 33,000,000 gallons a day, while the average daily flow of the combined Silvery and Wallaby Creeks is 12,000,000 gallons. From its drop into Jack's Creek the water follows the natural bed of the stream for about three miles to the Tourourrong

reservoir, which is a small reservoir of about thirty-six acres in extent, having a capacity of 60,000,000 gallons. From Tourourrong the Clear Water Channel carries the water for a distance of four and three-quarter miles to the old Plenty inlet channel of the Yan Yean reservoir. This channel is 13 feet 6 inches wide and 4 feet 6 inches deep, the section being a quadrant of a circle of 4 feet 9 inches radius, with one to one side slopes. The fall of this channel is 7 feet 6 inches to the mile, with a carrying capacity of 12,000,000 gallons per day. The cost of the Tourourrong reservoir and this channel was £77,952. In it there are waterfalls, the highest of which is 17 feet. The water from the old Plenty channel enters the Yan Yean reservoir through a spur, forming its western bank, by means of a tunnel 1000 feet long. The Yan Yean reservoir, which is twenty-two miles from the city, is formed by the construction of an earthen bank 49 chains long, 30 feet high, 20 feet wide on top, with a slope next the water of three to one, and an outside slope of two to one. The bywash is 5 feet below the top of the embankment, at a level of 602 feet above low-water mark in Hobson's Bay. The reservoir, when full, covers an area of 1560 acres, with a maximum depth of 26 feet, and an average depth of 18 feet. Its total capacity is 6,400,000,000 gallons, of which 5,400,000,000 gallons are available for consumption. From the Yan Yean reservoir to the Pipe Head dam at Morang, a distance of seven miles, an open aqueduct capable of delivering 33,000,000 gallons a day has been constructed. From the Morang reservoir, the bywash of which is 485 feet above sea level, a 30-inch cast-iron main, 27-inch cast-iron and a 30-inch wrought-iron main carry the water a distance of seven miles to the storage reservoir within the metropolitan area, at Preston. The No. 1 Preston reservoir is constructed partly in excavation and partly in bank; it is 20 feet deep, and holds 16,000,000 gallons. The bywash is 328 feet above the sea level, and the cost to 30th June, 1911, including scour main was £23,318. A second reservoir of 25,000,000 gallons capacity was built during 1908-9, the walls being of reinforced concrete with earth backing. These are the main distributing reservoirs of the central city supply.

- (b) *Maroondah System.* The water for this system is obtained from the Maroondah River, a tributary of the Yarra. The waters of the Graceburn are picked up by a small weir 686 feet above sea level, and carried for a distance of three-quarters of a mile in a concrete-lined channel to a well near the main road leading from Healesville to Marysville. From this well an 18-inch wrought-iron pipe, one and a quarter miles long, leads the water to the main Maroondah aqueduct. The creeks contributing to the flow in the Maroondah aqueduct, in addition to the Graceburn, are the Coranderrk, Donnelly's and Sawpit Creeks. In each case the water is conveyed by pipes into the main aqueduct from diversion weirs on the creeks. A temporary weir of Portland cement concrete has been constructed across the Maroondah River, from which point the water is led in an aqueduct forty-one miles long to the Preston reservoir, where it joins the water from the Yan Yean system. The channel, owing to recent improvements, is now capable of delivering 30,000,000 gallons daily, the cross section being a quadrant of three feet ten inches radius with one to one slopes and a fall of one foot to the mile. The valleys are crossed by wrought-iron syphons, and with the exception of the Plenty River, which is crossed on a wrought-iron girder bridge, all the syphons are laid under the beds of streams. Each syphon is provided with a scour pipe large enough to take the full flow of the aqueduct, enabling the water to

be directed down any of the natural watercourses when it becomes necessary to empty any length of the aqueduct for cleansing purposes. The total cost of the Maroondah system to 30th June, 1911, was £773,765.

(c) *High Level System.* Besides the Yan Yean and Maroondah systems, the high levels of the eastern suburbs of Melbourne are provided for by a direct main from the Yan Yean reservoir. This main is thirty-two inches in diameter, constructed of wrought-iron plates from $\frac{1}{4}$ inch to $\frac{7}{8}$ inch thick, 20 $\frac{1}{2}$ miles long, and cost to the 30th June, 1911, £199,576. The discharge is about 9,000,000 gallons per day. There is a storage reservoir of 9,000,000 gallons capacity at Surrey Hills, the by-wash of which is 480 feet above sea-level.

(d) *O'Shanassy Supply.* The O'Shanassy River is a tributary of the Yarra. It is proposed to divert the waters of this river, and to construct an open aqueduct and pipe line of an aggregate length of about 48 $\frac{1}{2}$ miles, delivering water by way of Mitcham. The watershed of the O'Shanassy River, containing 32,650 acres, has been excised from the permanent forests area and a crown grant was issued to the Board on the 28th January, 1910.

(iii.) *Catchment Areas, Reservoirs, and Aqueducts.* (a) *Drainage Areas.* The whole of the catchment areas are absolutely free from population or cultivation. The Government pursued the policy of gradually purchasing all private rights over the various watersheds, which policy the Board has carried on and completed; the original owners have been bought out, while the township of Fernshaw, in the Maroondah system, was entirely purchased and obliterated. The present drainage areas from which the water is delivered cover the following:—

	Silver and Wallaby Creeks.	Plenty River and Jack's Ck.	Yan Yean Reservoir Catchment.	Maroondah Catchment.	Total.
Area in acres	12,000	12,000	5,000	40,000	69,000

All the water is delivered by gravitation, no pumping being required in any portion of the area supplied.

(b) *Storage Reservoirs.* In connection with distribution there are eight service reservoirs having a total capacity of 73,000,000 gallons. From the Preston reservoirs, which form the main distributing point, a number of service mains lead into the reticulation system of the metropolis. The total daily quantity of water which can be sent into Melbourne is as follows:—

MELBOURNE WATER SUPPLY.—CATCHMENT AREA, 1911.

System	...	Yan Yean.	Maroondah.	High Level Main	Total Supply.
Gallons per day	...	33,000,000	30,000,000	9,000,000	72,000,000

(c) *Aqueducts.* Up to the 30th June, 1911, 203 miles 5 $\frac{1}{4}$ chains of 12 inch to 54 inch mains and 1092 miles 44 $\frac{1}{2}$ chains of reticulation mains, below 12 inch, had been laid, in addition to which there were 80 miles 72 $\frac{3}{4}$ chains of aqueducts and syphons, or a total length of aqueducts, mains, and reticulation pipes of 1376 miles 42 $\frac{1}{2}$ chains.

(v.) *Quantity of Water, Number of Houses, and Population Supplied.* The following table gives various particulars shewing the increase in the supply of water in Melbourne and suburbs from 1902 to 1911 inclusive:—

MELBOURNE WATERWORKS.—NUMBER OF HOUSES, POPULATION, AND WATER SUPPLIED, 1902 to 1911.

Year Ended 30th June.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply.	Total Supply for the Year ended 30th June.	Average Daily Supply.		Rate Levied.	Assessments of Tenements Served by Metropolitan Water Supply.
					Per House.	Per Head of Estimated Population.		
	No.	No.	,000 Gallons.	,000 Gallons.	Gallons.	Gallons.		£
1902 ...	105,051	498,030	30,038	10,963,945	285.9	60.3	6d. in the £	3,650,573
1903 ...	106,176	502,120	28,469	10,391,163	268.1	56.7		3,830,872
1904 ...	107,701	503,560	28,997	10,612,929	269.2	57.6		4,004,543
1905 ...	109,393	507,960	32,657	11,919,957	298.5	64.3		4,061,258
1906 ...	111,494	515,080	31,680	11,563,244	284.1	61.5		4,060,890
1907 ...	114,049	524,770	34,157	12,467,384	299.5	65.1	7d. in the £	4,301,213
1908 ...	116,781	536,540	33,626	12,307,201	287.9	62.1		4,484,868
1909 ...	119,650	549,690	31,829	11,617,524	266.0	57.9		4,672,324
1910 ...	123,227	565,010	34,508	12,595,571	280.0	61.1		4,789,265
1911 ...	128,036	581,500	32,974	12,028,440	257.5	55.7		5,045,848

(vi.) *Total Cost of Construction, Revenue, Expenditure and Net Profits, 1854 to 1911.* The following table shews the total cost of construction, the revenue, expenditure, and net profits up to the 30th June, 1901, and for each financial year from 1902 to 1911 inclusive:—

MELBOURNE WATERWORKS.—CONSTRUCTION, COST, REVENUE, EXPENDITURE, AND NET PROFITS, 1854 to 1911.

Year Ended the 30th June.	Capital Cost. ¹	Annual Revenue. ²	Annual Expenditure on Maintenance and Management. ³	Percentage of Expenditure to Revenue.	Interest.*	Net Profit after Payment of Expenditure and Interest.
	£	£	£	%	£	£
Total to 1901	3,715,203	4,835,242	788,346	...	2,042,856	2,004,040
1902 ...	16,053	171,889	40,156	23.36	102,670	29,063
1903 ...	10,412	169,295	40,257	23.78	102,942	26,096
1904 ...	8,649	165,457	37,374	22.59	104,096	23,987
1905 ...	1,391	184,529	31,761	17.21	102,465	50,303
1906 ...	16,562	182,926	28,016	15.31	102,548	52,362
1907 ...	25,119	211,059	30,573	14.49	102,075	78,411
1908 ...	33,058	233,549	41,656	17.83	100,915	90,978
1909 ...	65,108	235,238	41,776	17.76	102,281	91,181
1910 ...	29,962	248,189	43,147	17.38	101,440	103,602
1911 ...	92,731	243,744	44,290	18.17	104,930	94,524
Total ...	4,014,248	6,881,117	1,167,352	...	3,069,218	2,644,547

1. Works commenced in 1853. 2. Revenue commences in 1854. 3. Returns for expenditure commence in 1859. 4. First interest paid in 1856.

5. Melbourne Sewerage.—As stated above, the chief object of the creation of the Melbourne and Metropolitan Board was to carry out an efficient system of sewerage. Old Melbourne used to be a city of cesspits, and it was not until the latter sixties that these were abolished, filled up, and the movable pan system gradually adopted throughout the whole metropolitan area with night removal. The cost of removal in 1894 was about £90,000, equal to a capital expenditure of £1,750,000. This objectionable system has been displaced by the water carriage system throughout a large portion of the metropolis, and in other parts the work of reticulation is now proceeding. The sewerage system is designed to carry off all water used in water closets, lavatories, baths, and urinals,

together with all chamber slops and water used in cooking, washing clothes and floors, and from sinks in kitchens and sculleries, drainage from stables and cow houses, together with all liquid refuse, which in the opinion of the Board will not prejudicially affect the sewers, the machinery, or the sewage farm. Rainfall from the streets flows into the river and is not taken into the sewers, which are designed to provide for 30 cubic feet per head per day from the assumed future population, calculated on the basis of a population of 1,000,000 people ultimately settled on the areas now capable of being connected with the pumping station.

(i.) *Description of Sewerage Systems.* The whole of the sewage of the metropolis is being gradually collected by means of two principal main sewers and a subsidiary main leading to the pumping station at Spotswood.

The two main sewers are (a) *North Yarra System.*—The North Yarra sewer, which commences with Heidelberg (part of) and thence takes up East Kew, Preston, Coburg, Northcote, Brunswick, the Clifton Hill part of Collingwood, also Fitzroy and the North Carlton, North Melbourne, and Flemington and Kensington parts of Melbourne, together with Essendon and Footscray. (b) *South Yarra System.*—The Hobson's Bay main which starts with Moorabbin (part of), picking up Brighton, Caulfield, Malvern, St. Kilda, Camberwell, a small part of Nunawading, besides the remaining part of Kew, also Hawthorn, Prahran, South Melbourne, Port Melbourne, Richmond, the remaining part of Collingwood, also East Melbourne and other remaining parts of Melbourne. (c) The Subsidiary main, which takes in Williamstown and joins the Hobson's Bay main before it enters the pumping station.

On 30th June, 1911, the sewerage system had been practically completed in the following districts, viz.:—Port Melbourne, South Melbourne, Melbourne (except very small portions in Flemington and Kensington), Richmond, Prahran, Collingwood, Fitzroy, and very nearly the whole of St. Kilda, whilst the thickly populated portions of Brighton, Caulfield, Malvern, Camberwell, Kew, Hawthorn, Brunswick, Northcote, Essendon, Footscray, Williamstown, Coburg, Preston and Moorabbin had also been dealt with; also a small portion of Nunawading.

During the past twelve months a great deal of progress has been made in the work at Moorabbin, Coburg, Preston, Brighton, Kew, Malvern, Brunswick, Northcote, Essendon and Williamstown. Reticulation work is steadily extending outwards, while reticulation extensions of varying importance to provide for new buildings or fresh subdivisions are being carried out in various parts of the Metropolitan Area.

In all, 120 $\frac{3}{8}$ miles of main and branch sewers and 1157 $\frac{1}{4}$ miles of reticulation sewers have been completed. There were also 1757 miles of house connections drains laid (7 $\frac{3}{16}$ miles of cast iron and 1749 $\frac{9}{16}$ miles of vitrified stoneware pipes), under the supervision of the Board, or a total altogether of 3034 $\frac{1}{2}$ miles of mains, branches, reticulation sewers and house connections connected with the Spotswood Pumping Station.

The whole system was so far advanced on the 30th June, 1911, that on that date the sewage from 118,440 tenements could be collected. Of these, 112,293 tenements were connected, together with 44 public conveniences and 70 public urinals, 127,468 water closets, 91,679 baths, 69,314 sinks, 63,264 sets of wash troughs, 30,267 lavatories, 12,784 stables, 7572 urinals, 5175 polluted areas and paved yards, 1769 cellars, 932 slop hoppers, 290 latrines, and 254 dairies.

When collected at Spotswood the sewage is raised 125 feet to the head of the outfall sewer, through 2 $\frac{3}{4}$ miles of 6-foot and 4-foot wrought-iron rising mains, from whence it gravitates to the farm in a partly-open and partly-closed channel 15 $\frac{3}{4}$ miles long, eleven feet in diameter, and having a grade of two feet to the mile.

(ii.) *Metropolitan Sewage Farm.* The farm contains 8847 acres, situated on the western side of the Werribee River. The price paid for the land was £17 10s. per acre (including compensation for severance). The cost of the farm to the 30th June, 1911,

was £461,074. About 29,332,627 gallons of sewage had to be disposed of every twenty-four hours during the year in irrigating the fields. It is spread over properly-prepared and sown blocks of land by a series of mains and lateral carriers. The effluent, after filtering through the land, is discharged into Port Phillip Bay in a clear and transparent condition, all the sewage held in suspension being left in the soil. The main supply channels for carrying the sewage on to the fields are about ten chains apart, and a good system of open drains to carry off the surplus water is provided. Many of these drainage channels are ten feet to twelve feet wide at the top and seven feet deep, and through them the water drained off from the subsoil is constantly flowing to the bay. The prepared and sown blocks on the farm are laid down with grass and lucerne, on which sheep are depastured. During the financial year 1910-11, 22,313 sheep were bought, at a cost of £11,677, other expenses amounting to £3968. During the same period the total receipts from the sale of wool, skins, and 32,474 sheep amounted to £31,284. The profit on sheep for the year amounted to £9302. Number of cattle bought 943, costing £3347, other expenses being £672. Total receipts for sale of hides and 703 cattle amounted to £3732; the profit for the year was £1614.

(iii.) *House Connections.* The work of house connections with the sewerage system is carried out under a carefully prepared by-law. Under the Amending Act of 1897, after a property has been declared to be a sewered property, the owner has several options. (a) He may submit a plan of his house connections for approval, and on approval being given, may agree to carry out the work within one month. (b) He may submit a plan, for which, if approved of, he may ask for an estimate of the cost of carrying out. This the Board is bound to supply, and then the owner may either carry out the work himself or ask the Board to carry out the work, which it must do for the estimated price, whether the work costs less or more. (c) On default of the owner the Board may carry out the work, and at the request of the owner accept payment by forty quarterly instalments, bearing interest on such portion as from time to time remains unpaid at the rate of 5 per cent.

(iv.) *Number of Houses Connected, Capital Cost, Revenue and Expenditure, 1902 to 1911.* The following table gives particulars as to the number of houses connected to the sewerage system, the total capital cost, and the receipts and disbursements during each year from 1902 to 1911 inclusive:—

**MELBOURNE SEWERAGE WORKS.—TENEMENTS CONNECTED, CAPITAL COST,
RECEIPTS AND DISBURSEMENTS, 1902 to 1911.**

Year ended the 30th June.	Number of Houses Connected.	Capital Cost.	Receipts.*			Mainten- ance and Working Expenses.
			From Rates.	From other Sources.*	Total.	
	No.	£	£	£	£	£
1902	47,172	3,609,596	119,222	5,474	124,696	24,396
1903	55,929	3,921,208	141,994	6,647	148,641	26,590
1904	64,487	4,214,812	154,857	6,174	161,031	26,696
1905	71,689	4,639,949	165,500	5,948	171,448	26,906
1906	79,597	4,980,335	185,803	6,715	192,518	28,828
1907	87,853	5,258,156	209,805	6,431	216,236	33,296
1908	94,067	5,520,303	221,953	4,656	226,609	35,939
1909	99,955	5,741,203	233,595	8,701	242,296	38,016
1910	105,993	6,025,030	241,853	11,903	253,756	42,921
1911	112,293	6,267,761	255,972	11,472	267,444	45,665

* Excluding revenue from sale of sheep and from interest.

9. **Water Supply in Country Towns and Districts.**—By the Water Act 1905, which came into operation on the 1st May, 1906, the control and management of all Irrigation Trusts, with one exception, and of a number of waterworks and water supply districts were centralised, and their works and property vested in the State Rivers and Water Supply Commission. The powers and duties of this Commission were extended by the Water Act 1909, the whole of the Water Supply Department being now merged in the Commission. Further information with regard to this Commission and to the works and districts under its control are given in the section in this book dealing with Water Conservation and Irrigation. There are, however, in different parts of Victoria a number of other waterworks which are concerned chiefly with domestic supply, and which are controlled by local authorities, *i.e.*, by Waterworks Trusts or by municipal corporations. These works are constructed out of moneys either granted or lent by the State Government. The following table gives particulars as to the waterworks under the control of Trusts and municipal corporations for each financial year from 1904 to 1911 inclusive :—

VICTORIA.—COUNTRY WATERWORKS UNDER TRUSTS AND MUNICIPAL CORPORATIONS, 1904 to 1911.

Year.	Waterworks Trusts.						Municipal Corporations.*				
	Number of Trusts.	Capital Cost.	Capital Indebtedness.	Interest Outstanding.	Receipts.	Expenditure.	Number of Corporations.	Capital Cost.	Capital Indebtedness.	Interest Outstanding.	
	No.	£	£	£	£	£	No.	£	£	£	
1904...	73	1,051,424	775,701	18,520	†	†	24	675,161	479,815	2,133	
1905...	74	1,068,985	786,505	19,520	71,654	71,976	23	669,438	471,938	8,107	
1906...	78	1,367,565	905,336	17,029	89,063	86,764	23	669,684	466,395	2,586	
1907...	84	1,406,510	933,033	22,351	93,247	88,671	23	674,366	468,462	9,786	
1908...	87	1,429,836	950,293	20,512	72,952	69,291	23	675,966	465,778	9,750	
1909...	83	952,486	731,276	16,130	85,054	88,190	23	676,358	461,881	9,834	
1910...	86	960,719	769,442	14,727	†	†	25	686,356	457,981	10,718	
1911...	87	1,017,396	819,698	15,047	†	†	21	651,489	421,273	2,662	

* Particulars as to the receipts and expenditure in respect of waterworks under the control of municipal corporations are not available. † Returns not available.

Under the provisions of the Local Government Act 1903, municipal councils are authorised to construct and maintain tanks, dams, and reservoirs, and must maintain existing works for the gratuitous supply of water. They are also empowered to accept the management and control of new waterworks within their respective localities, and may, with the consent of the Governor, construct or purchase new works within or without their locality. Councils are also authorised to enter into contracts for the supply of water for any period not exceeding ten years with the owners of any waterworks. Every municipality may levy a special water rate for water supplied, or for the purpose of constructing waterworks or paying the interest on any loan contracted by the council for such purpose, but the amount of the rate must not exceed in any year the sum of two shillings in the pound, provided that a minimum sum of ten shillings may be fixed by the council to be paid in respect of any property at which water is supplied.

(i.) *Geelong Waterworks Trust.*—(a) *Constitution.* Constituted under The Geelong Municipal Waterworks Act 1907, with borrowing powers up to £300,000, and further increased by Act No. 2322, 1911, to £350,000. Reconstituted under Geelong Waterworks and Sewerage Act, 1910, with power to borrow an additional £250,000 for the purpose of installing a sewerage system for Geelong and suburbs.

(b) *Water Supply.* The available storage capacity of the reservoirs is 1353 million gallons, and the Trust is authorised to supply water to (a) City of Geelong; (b) the suburbs thereof, and all places within a radius of five miles of the Geelong Post Office; and (c) any place within ten miles on either side of the main pipe from Stoney Creek to Geelong.

(c) *Sewerage.* The sewerage scheme provides for a main outfall sewer 4 ft. 3 in. x 3 ft. 3 in. to the ocean at Black Rock—a distance of about nine miles. The scheme will embrace an area of 8081 acres, including the City of Geelong, Boroughs of Newtown and Chilwell, and Geelong West, and the suburban areas situated in Corio and South Barwon Shires.

10. **Fire Brigades.**—Under the Fire Brigades Act of 1890 a metropolitan fire district and nine country fire districts were established, the former being placed under the control of a Metropolitan Fire Brigades Board, and the latter under the control of a Country Fire Brigades Board.

(i.) *Metropolitan Fire Brigades Board.* The metropolitan fire district originally comprised the area included in the several municipalities within a radius of ten miles from the Melbourne General Post Office, but this area has since been extended in certain directions so as to include the greater part of the Shire of Moorabbin and also the township of Mordialloc. The Board is composed of nine members, of whom three are appointed by the Governor-in-Council, three by the municipal councils, and three by the insurance companies. On the 31st December, 1911, the Board had under its control 50 stations, 213 permanent men, 152 auxiliary firemen, 26 special service firemen, 10 steam fire engines, 5 gasolene engines, 2 chemical engines (1 motor), 2 petrol motor fire engines, 106,882 feet of hose, and 197 fire-alarm circuits having 705 street fire-alarms, of which 618 contained telephones. The total length of wire in use outside stations for fire alarms and telephones is about 400 miles.

(ii.) *The Country Fire Brigades Board.* This Board consists of nine members, of whom three are appointed by the Governor-in-Council, two are elected by the municipal councils of the districts where there are brigades registered under the Board, two by the fire insurance companies, and two by the registered fire brigades. At the end of the year 1911 there were ninety-four municipal councils and fifty-five insurance companies included in the operations of the Act. All the brigades are volunteer brigades, but in the large towns permanent station-keepers and watchmen are employed. There were 115 registered brigades and 2146 registered firemen at the end of the year 1911. At the same date the plant consisted chiefly of 5 steam engines, 63 manual engines, 11 horse brakes, 61 apparatus carriages, 3 fire escapes, about 260 hose reels, and 150,000 feet of canvas hose.

(iii.) *Financial Operations of both Boards.* The following table gives particulars as to the financial operations of both Boards during each year from 1905 to 1910 inclusive:—

VICTORIA.—REVENUE AND EXPENDITURE OF METROPOLITAN AND COUNTRY FIRE BRIGADES BOARDS, 1905 to 1910.

Particulars.	1905.	1906.	1907.	1908.	1909.	1910.
ORDINARY RECEIPTS.						
Contributions	£ 49,083	£ 50,937	£ 51,934	£ 65,591	£ 64,347	£ 56,993
Receipts for services	754	551	1,336	2,833	2,908	3,106
Interest and sundries	3,442	3,080	3,116	2,562	1,649	2,884
Total	53,279	54,568	56,386	70,986	68,904	62,983

VICTORIA —REVENUE AND EXPENDITURE OF METROPOLITAN AND
COUNTRY FIRE BRIGADES BOARDS, 1905 TO 1910—(continued).

Particulars.	1905.	1906.	1907.	1908.	1909.	1910.
ORDINARY EXPENDITURE.						
Salaries	24,793	25,316	27,411	30,062	35,325	37,913
Fire expenses	2,990	3,041	3,201	3,080	3,107	504
Horses, quarters, etc.	10,930	9,596	9,986	12,894	11,636	5,144
Plant—Purchase and repairs	4,589	6,560	5,783	9,478	6,343	2,955
Interest	6,103	5,752	5,803	5,822	5,781	5,775
Sinking fund	2,250	2,250	2,895	2,895	2,250	2,000
Miscellaneous	2,108	4,310	2,884	5,610	5,072	8,704
Total	53,763	56,825	57,963	69,841	69,514	62,995
LOAN EXPENDITURE—						
Purchase of land, erection of buildings, etc.	405	3,250	2,623	244	3,203	72

11. **The Melbourne Harbour Trust.**—This Trust was constituted under an Act passed in 1876, as a result of public agitation and demands extending over a period of thirty-four years, to the effect that the cost of landing goods should be reduced, and the delays in receiving goods should be abolished. Both demands arose from the fact that vessels of a draught greater than twelve feet had to discharge in the bay into lighters.

(i.) *Constitution of the Trust.* The Harbour Trust Act was drafted on the lines of similar institutions in Great Britain, such as the Thames Conservancy, the Mersey Harbour Board and the Clyde Trust. Under the Act of 1876, as amended in 1883, the number of Commissioners is fixed at seventeen, nominated or elected as follows:—Five were nominated by the Governor-in-Council, three elected by merchants, three by ship-owners, two were elected by the City Council, and one each by the ratepayers of South Melbourne, Port Melbourne, Williamstown, and Footscray. The sum of £1700 per annum was set aside for the remuneration of the Commissioners.

(ii.) *Works Undertaken by Trust in the River and in the Port.* In 1879 a report dealing with various propositions for the improvement of the port and harbour was issued by Sir John Coode, an English engineer, who had been engaged by the Commissioners for the purpose. This report, which recommended (i.) the cutting of a new channel through the flats to the south of Fishermen's Bend, (ii.) the construction of a dock, and (iii.) the widening and deepening of the channel in the river, was adopted by the Commissioners, who were empowered in 1883 to borrow the amount of £1,000,000 for the purpose of carrying out the necessary works. In 1890 a Consolidating Act was passed, and the borrowing powers of the Trust were increased to £2,000,000. The river was widened from Queen's Bridge to the bay to about 300 feet, while the depth has been gradually increased until at the present time it is twenty-six feet at low water. Five and-a-quarter miles of wharves carrying sheds which measure a total length of 12,870 feet, and cover an area of 614,180 square feet, have been constructed along the river and at the Victoria Dock, Melbourne.

(a) *The Coode Canal.* In 1886 the canal across the flats below Fishermen's Bend was completed at a cost of £96,000. The length of the canal is 2602 yards, the distance from Queen's Bridge to the river entrance being thereby reduced from seven miles to five and three-quarter miles, and the navigation being greatly facilitated. At the present time this channel, which is called the Coode Canal, is being widened 100 feet, which will make its total width 408 feet, and its width at low water 366 feet. The work of widening the canal is still in progress.

(b) *The Victoria Dock.* This dock, four miles up the river and opened in 1892, has an area of ninety-six acres and a depth of twenty-six feet at low water. The entrance to the dock is 160 feet wide. There are 8800 feet of wharfage, and the total cost, including wharves, sheds, and approaches thereto, was £416,038. The sheds have a total length of 3460 feet, and cover an area of 283,380 square feet.

(iii.) *Works in the Bay.* Prior to 1889 all the mail steamers and vessels of heavy draught had to lie at anchor in the bay, and there discharge into lighters. One of the first works undertaken by the Commissioners was to make the railway piers at Williams-town available to these vessels. This work was completed at a cost of £256,160. In 1893 a channel over 8000 feet long and 600 feet wide was constructed, running in a southerly direction from Port Melbourne Railway Pier and having a navigable depth of thirty feet o.l.w. The cost of this work was £218,379.

(iv.) *Dredging.* The total quantity of material raised by the dredging and excavation done in the improvement of the river and bay amounts to about 42 million cubic yards.

During the ten years ending 31st December, 1911, the average cost of dredging per cubic yard was 2.73 pence and the cost of towing and depositing 3.91 pence, not allowing for depreciation of plant. The Trust has expended £225,458 in reclaiming land within its jurisdiction. The amount of material raised annually is now about 1,200,000 cubic yards.

(v.) *Financial Operations.* The revenue of the Trust is obtained from wharfages, and quayage rates, rents and license fees from lands and ferries, and other license fees. One-fifth of the revenue of the Trust is paid to the consolidated revenue of Victoria. The following table gives particulars of the revenue and expenditure of the Trust from 1906 to 1911 inclusive:—

MELBOURNE HARBOUR TRUST.—REVENUE AND EXPENDITURE, 1906 to 1911.

Particulars.				1906.	1907.	1908.	1909.	1910.	1911.
REVENUE.									
				£	£	£	£	£	£
Rates and rents	...	...	...	254,142	257,787	272,409	259,641	316,787	332,732
Interest	...	...	...	2,987	2,949	3,662	90	410	2,039
Recoups	...	...	...	2,535	5,542	1,068	3,082	2,138	4,654
Total				259,664	266,278	277,139	262,813	319,335	339,425

MELBOURNE HARBOUR TRUST.—REVENUE AND EXPENDITURE—(contd.)

Particulars.	1906.	1907.	1908.	1909.	1910.	1911.
EXPENDITURE.						
	£	£	£	£	£	£
Wharfage refunds	796	783	1,161	997	1,618	1,097
Consolidated revenue of Victoria	51,204	51,565	53,869	51,612	62,604	65,413
Maintenance and management	52,519	53,741	70,224	54,962	56,794	58,987
Interest on loans	86,530	86,375	81,413	72,517	69,409	69,366
Dredging (construction) ...	7,182	8,163	9,162	16,368	25,200	31,932
Wharf " "	1,021	12,345	4,942	5,146	6,308	22,656
Other Harbour improvements ...	...	4,999	4,522	7,724	9,880	787
Plant account ... ..	...	11,310	13,753	11,887	860	21,935
Redemption of loans expenses ...	...	...	603	1,794	...	...
Total	199,252	229,281	239,649	223,007	232,673	272,173
PROFIT.						
Profit	60,412	36,997	37,490	39,806	86,662	67,252

§ 4. Queensland.

1. **Development of Local Government Systems.**—The first step in the direction of local government in Queensland was the incorporation of Brisbane as a municipality by proclamation on the 6th September, 1859, about three months prior to the separation of that State from New South Wales. The provisions of the Municipalities Act, which was passed in the mother colony in 1858, and which has already been referred to, applied to settlement in the Moreton Bay district, and were amended by an Act of the Queensland Government in 1861. Three years later the provisions of these two Acts were amended and consolidated, and authority was given for the incorporation as a municipality of any city or town, or of any rural district, on petition to the Governor signed by at least 100 resident householders. The duties and powers of the councils were extended and additional privileges were conferred under this Act.

(i.) *Inauguration of General System of Local Government.* Various amendments were made in the law from time to time, without, however, altering the main features of the Act of 1864, until the year 1878, when the Local Government Act was passed, amplifying the powers of municipalities, and providing for the incorporation of rural areas as shires. The provisions of this Act, which were adopted from the then new Local Government Act of Victoria, were found to be unsuited to the requirements of a large and sparsely populated country like Queensland, and were not applied to any new area. The Act was therefore only of practical value to a few of the existing municipalities. In 1879 the Divisional Boards Act was passed. This Act was intended to provide for local government outside the boundaries of municipalities, and was applied simultaneously by the Executive to about 660,000 square miles of territory, which was divided, by proclamation, into seventy-two divisions, some of them of immense area and carrying only a very small population. The Act provided to any division a free grant equal to one shilling in the pound of the annual value, and also for endowment to the amount of £2 for every £1 of rates collected for a period of five years. In case of the failure of the people of any division to elect the first members of their Board, the appointments were made by the Governor-in-Council. On the 30th April, 1880, a Gazette was issued first announcing the personnel of the elected Boards, and then appointing the members of the nominated Boards.

In 1881 and 1887 the Divisional Boards Act was amended, and by a further amending Act, passed in 1890, the rates thenceforward were to be charged on the unimproved capital value of the land, and this system has since been retained. In 1896 a commission was appointed to enquire into the working of the Local Government Acts and to recommend amendments which might be considered desirable; a report subsequently sent in by this commission recommended that increased powers of local government should be granted in certain matters, and to the report was appended a draft bill which, with certain alterations and curtailments, became the Local Authorities Act of 1902, the provisions of which, together with the amendments in 1903 and 1905, now regulate generally the working of local government within the State.

(ii.) *The Local Authorities Act 1902 and 1910.* Considered generally, these Acts comprise the Local Government Act 1878, and amending Acts, together with the Divisional Boards Act of 1887, the Valuation and Rating Act of 1890, and the Local Authorities (Joint Action) Act of 1886. They do not, however, comprise all the statutes relating to the powers and duties of local authorities, for certain Acts, such as the Tramways Acts and the Health Acts, while conferring powers upon these bodies, deal also with other subjects, and are in the nature of general Acts upon these subjects. The Act of 1902 contains a number of provisions enlarging the powers of local bodies and rendering their duties more explicit; thus the jurisdiction of councils with respect to roads, bridges, wharves, ferries, and reserves is amplified, and provision is inserted for putting under their control, when circumstances warrant it, such public lands as cemeteries, commons, foreshores, and the like. They have enlarged powers as to traffic, the eradication of noxious weeds, the reclamation of lands, the destruction and prevention of pests, the construction of buildings, the prevention of fires, and the control of places of public resort and amusement. They are empowered to establish works for lighting, etc., and to construct tramways in districts and under circumstances to which the existing Tramways Acts are not readily applicable. The proper execution of all these matters requires additional rating, and provision is made therefor in the Act.

2. Systems of Local Government now in Operation.—The principal features of previous enactments as to the division of the State into local areas are retained in the Acts of 1902 and 1910, but such areas are in future to be of two classes—(a) towns and (b) shires. All municipalities formerly constituted as boroughs become towns, except Brisbane, Rockhampton, and Townsville, which are declared to be cities, and all shires and divisions become shires. The Governor-in-Council may, after giving notice in the *Gazette*, constitute, unite, divide, or abolish areas for the purpose of forming new areas, and may by proclamation constitute a town a city.

(i.) *The Municipal Council.* All local areas are governed by councils, the members of which are called aldermen in the case of towns and councillors in the case of shires. *Town councils* are composed of either seven, nine, or eleven members, as declared by Order-in-Council, but if the town has wards three members are assigned to each ward. *Shire councils* are composed of five, seven, or nine members, as declared by Order-in-Council, but if the shire is divided the number cannot be more than three for each division, and need not be the same for every division.

(ii.) *Qualification of Aldermen and Councillors.* Every male ratepayer of the age of twenty-one years, if a natural-born or naturalised subject, is qualified to be elected as a member of a council, unless he is an uncertificated insolvent, is undergoing imprisonment, is (subject to certain exceptions) financially interested in any contract with the council, or is insane. Provision is made for the election of the mayor or chairman, and for the retirement of members by rotation. The first council of a newly constituted town is elected, but that of a newly constituted shire is appointed by the Governor-in-Council, unless otherwise directed by the order constituting the shire.

(iii.) *Qualification of Voters.* Generally every person of either sex of the age of twenty-one, who is a natural-born or naturalised subject, and is rated as an occupier or owner of ratable land, is entitled to vote. The number of votes depends upon the value of the land in the following scale:—

QUEENSLAND MUNICIPALITIES.—PLURALITY OF VOTES.

Value of land	...	Less than £500.	From £500 to £1000.	£1000 and upwards.
Number of votes	...	1	2	3

In case of joint owners or occupiers, each is to be considered the owner or occupier of land of a value equal to that of the whole divided by the number of owners or occupiers not exceeding three. If more than three persons are joint owners or occupiers, those whose names stand first on the rate book or valuation or return are to be taken. Companies may nominate their secretaries, managers, or directors for the purpose of voting.

(iv.) *Powers and Duties of Councils.* Generally the council is charged with the construction, maintenance, and management of all roads, streets, bridges, culverts, ferries, wharves, jetties, and other necessary public works, and is invested with powers to acquire land and buildings in connection with a variety of public works and for a number of public purposes. The council also has general power to make by-laws with a view to the good government of the local area under its management. Authority is given to the councils to establish markets and weighbridges and to fix dues for the use of the same; to undertake the manufacture or supply of light or hydraulic or other power; to destroy noxious weeds; and to control the erection of new buildings and the repair of dangerous or neglected ones. The council may also make by-laws with respect to a multitude of matters mentioned with great particularity in a schedule to the Act, and may also exercise various powers conferred by a number of Acts, set forth in the second schedule, such as the Tramways Act 1882, the Water Authorities Act 1891, the Electric Light and Power Act 1896, and the Health Act 1900.

(v.) *Valuation.* All land is ratable except the following:—Crown land unoccupied or used for public purposes; land in the occupation of the Crown, but this does not include lands rented in towns by the Crown; land used for public purposes; commons; cemeteries; and land not exceeding in area fifty acres and used exclusively for public worship, educational purposes, an orphanage, or library. Generally the value is estimated at the fair average value of unimproved land of the same quality held in fee-simple in the same neighbourhood. In the case of land held under gold-mining lease, or under lease from the Crown, the value is deemed to be a sum equal to twenty times the annual rent.

(vi.) *Rates* are levied on the unimproved capital value, and are of two kinds, general and special. *The general rate* must not be greater than sixpence in the pound, nor less than a half-penny, while *special rates* must not exceed threepence in the pound, but this provision does not include separate rates, special water rates, loan rates, cleaning rates, or tramway rates. Special rates may be levied for the purpose of constructing and maintaining permanent works, while separate rates may be declared for defraying expenses incurred in the execution of a work for the special benefit of any particular part of the area. A special rate may also be levied for the administration of the Health Acts.

(vii.) *Loans.* Money may be borrowed by local authorities either from the central Government, from outside sources by means of debentures, or by way of overdraft of current account. (a) *Government Loans.* The total amount that may be advanced by the Treasury, inclusive of sums owing, may not exceed a sum equal to five times the then ordinary annual revenue of the local authority, except in the case of loans for reproductive undertakings, for which special arrangements may be made by application to the Governor-in-Council. Notice of a proposed loan must be published, and, if demand be made by any ratepayers, having in the aggregate twenty votes, a poll must be taken to decide whether the money shall be borrowed or not. (b) *Debentures.* A local authority

may apply to the Governor-in-Council for permission to borrow money by the sale of debentures, but application must only be made after a resolution for borrowing the money has been adopted and confirmed, and after an opportunity has been given for the taking of a poll on the question, and (if a poll has been taken) when the result is in favour of the loan. (c) *Temporary Loans* from banks may be made by way of overdraft of the current account, but no such overdraft may exceed the ordinary revenue of the local authority in the year then last past.

(viii.) *Tramways.* Any ratepayers, having not less than one-third of all the votes of the ratepayers within any particular area, may by petition request the local authority to apply to the Governor-in-Council for the constitution of such area as a "tramway area." After an opportunity for taking a poll on the question has been given, and when the result is in favour of the tramway, the petition may be granted by the Governor, who may authorise the issue of a Government loan for the purpose of constructing or for purchasing the tramway. The total amount advanced for the purpose must not exceed £3000 for every mile constructed. As regards the repayment of tramway loans, the local authority may levy a tramway rate, and the provisions of the Local Works Loans Acts 1880 to 1889 are incorporated. Up to the end of the year 1910 tramways had been constructed under these provisions in seven shires, their total length being 208½ miles, 44 miles of which have since been taken over by the Government. In some cases these lines are run by the Queensland Railway Commissioner on behalf of the constructing authority. Particulars as to the working of tramways run by local authorities are given in the section in this book on "Roads and Railways." (See pp. 740-1 hereinbefore.)

3. Area, Population, Number of Dwellings, Rates, Assets and Liabilities of Cities, Towns, and Shires, 1906 to 1910.—The following table gives particulars of the area, population, number of inhabited tenements, assets and liabilities of cities and towns and of shires, for each year from 1906 to 1910 :—

QUEENSLAND.—PARTICULARS OF CITIES AND TOWNS AND SHIRES, 1906 to 1910.

Year.	Municipality.	Area.	Population.	Number of Inhabited Dwellings.	Capital Value.	Assets.	Liabilities.		
							Government Loans.	Other.	Total.
		Square Miles.	No.	No	£	£	£	£	£
1906	Cities and Towns	354	227,106	43,457	13,980,737	1,292,040	330,515	656,569	987,084
	Shires ...	669,901	306,212	68,211	29,197,898	254,363	113,550	45,199	158,749
	Total	670,255	533,318	111,668	43,178,545	1,546,403	444,065	701,768	1,145,833
1907	Cities and Towns	354	231,861	43,864	13,840,010	1,296,743	325,685	637,196	962,881
	Shires ...	669,901	318,336	66,984	29,977,860	259,519	100,951	44,525	145,476
	Total	670,255	550,197	110,848	43,817,870	1,556,262	426,636	681,721	1,108,357
1908	Cities and Towns	354	236,388	45,430	13,745,293	1,372,525	279,194	745,300	1,024,494
	Shires ...	669,901	333,619	70,294	31,279,792	277,086	111,754	52,908	164,662
	Total	670,255	570,007	115,724	45,025,085	1,649,611	390,948	798,208	1,189,156
1909	Cities and Towns	384½	241,795	45,365	13,637,273	1,366,435	253,391	815,540	1,068,931
	Shires ...	669,870½	344,752	73,480	33,677,538	301,976	111,740	53,643	165,383
	Total	670,255	586,547	118,845	47,314,811	1,668,411	365,131	869,183	1,234,314
1910	Cities and Towns	364½	247,435	44,804	13,774,440	1,406,521	242,924	767,481	1,010,405
	Shires ...	669,890	358,085	76,803	36,023,390	331,362	116,456	50,882	167,338
	Total	670,254½	605,520	121,607	49,797,830	1,737,903	359,380	818,363	1,177,743

4. **Receipts and Expenditure of Cities, Towns, and Shires, 1906 to 1910.**—The following table shows the receipts and expenditure (including loan moneys) of cities and towns and of shires, as well as the total receipts and expenditure of all municipalities, for each year from 1906 to 1910:—

**QUEENSLAND.—REVENUE AND EXPENDITURE OF CITIES, TOWNS, AND SHIRES,
1906 to 1910.**

Year.	Municipality.	Receipts.				Expenditure.					
		From Government.	From Rates.	From other Sources.	Total.	On Public Works.	Loan Redemption.	Office Expenses and Salaries.	Other Ex-penses*.	Total.*	
		£	£	£	£	£	£	£	£	£	
1906	(Cities and Towns	4,699	217,168	62,571	284,438	161,149	28,143	24,006	72,541	285,839	
	Shires ...	6,915	170,617	20,818	198,350	131,571	23,211	33,359	27,580	215,721	
	Total ...	11,614	387,785	83,389	482,788	292,720	51,354	57,365	100,121	501,560	
1907	(Cities and Towns	10,824	226,948	52,037	289,809	173,887	13,651	24,303	73,198	285,039	
	Shires ...	5,813	187,397	26,249	219,459	141,252	12,594	34,311	31,500	219,657	
	Total ...	16,637	414,345	78,286	509,268	315,139	26,245	58,614	104,698	504,696	
1908	(Cities and Towns	11,352	233,622	57,550	302,524	196,754	17,596	25,014	71,788	311,152	
	Shires ...	23,646	202,722	30,146	256,514	187,346	12,281	33,810	37,251	270,688	
	Total ...	34,998	436,344	87,696	559,038	384,100	29,877	58,824	109,039	581,840	
1909	(Cities and Towns	6,891	247,433	66,138	320,462	146,721	17,459	24,668	142,249	331,097	
	Shires ...	16,648	222,536	32,235	271,419	152,700	13,332	37,585	51,194	254,811	
	Total ...	23,539	469,969	98,373	591,881	299,421	30,791	62,253	193,443	585,908	
1910	(Cities and Towns	16,775	278,300	68,296	363,371	222,203	18,581	25,891	92,188	358,863	
	Shires ...	23,285	253,398	37,295	313,978	209,466	12,147	39,092	44,405	305,110	
	Total ...	40,060	531,698	105,591	677,349	431,669	30,728	64,983	136,593	663,973	

* Including interest on loans.

5. **The Metropolitan Water and Sewerage Board.**—This Board was constituted by the Metropolitan Water and Sewerage Act 1909, which divested the then existing Water Board of its powers and duties and vested them in an extended form in the new Board. The Act further empowers the Board to carry out a sewerage and drainage system, and relieves the Local Authorities of their responsibilities in that matter. The district of the new Board will comprise the cities of Brisbane and South Brisbane, the towns of Hamilton, Ithaca, Toowong, and Windsor, and the shires of Balmoral (except division 3), Coorparoo, Enoggera (except division 3), Sherwood (except division 1), Stephens, Taringa, and Toombul.

The Board consists of nine members, viz., the president and eight elected colleagues.

(i.) *Brisbane Water Supply.* The supply is derived from the upper reaches of the Brisbane River, and from two storage reservoirs, known respectively as the Enoggera and the Gold Creek reservoirs. For some years after the constitution of Brisbane as a municipality in 1859, the city supply was drawn from a chain of water-holes and sold to the residents. This scheme was later superseded by another under which water-carriers were licensed. Later, again, the Board of Water Supply was constituted, and the

construction of the Enoggera reservoir by the damming of Enoggera Creek was commenced in 1864 and completed in August, 1866. This was followed in 1885 by the construction of the Gold Creek reservoir, which provided an improved service and better water. In April, 1892, the works at Mount Crosby, at the head of the Brisbane River, were completed. At these works the water is pumped to a reservoir 455 feet above Brisbane high-water mark, whence it is delivered to the city by gravitation. Works for increasing and purifying the water supply of Brisbane are to be carried out in the near future.

(ii.) *The Brisbane River Supply.* This is the principal source of supply, about 60 per cent. of the water used being taken from it. The catchment area above the pumping station is about 4000 square miles. The Mount Crosby service reservoir, into which the water is pumped from the river, is built in cement concrete, and is 267 feet long, 100 feet wide, and 15 feet deep from high-water line, which is 455 feet above high-water mark at Brisbane. The capacity is about 2,500,000 gallons. The outlet pipe is thirty-four inches in diameter, and leads through the valve-house to the gravitation main to Brisbane, $17\frac{3}{4}$ miles long and twenty-four inches in diameter. At Kenmore, eleven miles from Mount Crosby, a junction is effected between this 24-inch main and the 16-inch main from Gold Creek.

(iii.) *The Enoggera Reservoir.* The Enoggera works are the oldest now in use, and are distant from Brisbane about eight miles by road. The catchment area is nearly thirteen square miles in extent, and the reservoir, which is formed by an earthen dam, holds 1,000,000,000 gallons, of which 600,000,000 are available by gravitation. The greatest length of the reservoir is 2600 yards, and its greatest breadth 700 yards. There are two lines of pipes from the reservoir to Brisbane—sixteen inches and twelve inches in diameter. The total carrying capacity of these pipes is about 2,600,000 gallons a day.

(iv.) *The Gold Creek Reservoir.* This reservoir is situated in the upper waters of Gold Creek, a branch of Moggil Creek, distant from Brisbane by road about thirteen miles. The supply is drawn from a catchment area adjoining that of Enoggera, and comprising an area of nearly four square miles. The total capacity is about 406,000,000 gallons, of which 400,000,000 gallons are available. The diameter of the service main is sixteen inches, the distance from the valve house to Brisbane being $12\frac{1}{2}$ miles. The greatest length of the reservoir is 1650 yards, and its greatest breadth 682 yards.

(v.) *Service Reservoirs.* (a) *Highgate Hill Reservoir.* This reservoir was constructed in 1889 to supply parts of South Brisbane. Its capacity is 2,176,000 gallons. To fill this reservoir, and in order to ensure a good water supply to the south side generally, an inverted syphon, sixteen inches in diameter, was laid under the Brisbane River between Toowong and West End in 1889. The syphon is 800 feet long, and is connected with both the Mount Crosby and Gold Creek mains. (b) *Wickham Terrace Reservoirs.* Two service reservoirs are constructed on Observatory Hill, Wickham Terrace, for the supply of the lower parts of North Brisbane. They are supplied from the Enoggera reservoir through a 12-inch main, the water being aerated as it enters into the reservoirs, which together hold 570,000 gallons. (c) *Bartley's Hill Reservoir.* This reservoir was built in 1907 to increase the supply to the Hamilton, Clayfield, and Nundah districts. Its capacity is 1,367,256 gallons, top water level 250 feet above high-water spring tides. It is supplied from the Mount Crosby reservoir through a 12-inch main. All the service reservoirs are roofed over.

(vi.) *Brisbane Waterworks: Cost, Revenue, Expenditure, and Interest, 1902 to 1911.* The subjoined table gives particulars as to the cost, the revenue and expenditure, and the amount of interest and loan redemption during each year from 1902 to 1911 inclusive:—

**BRISBANE WATERWORKS.—COST, REVENUE, EXPENDITURE, INTEREST, AND
REDEMPTION OF LOANS, 1902 to 1911.**

Year.	Capital Cost.	Revenue from Rates and Sales of Water.	Working Expenses.	New Work Construction.	Interest and Redemption of Loans.
	£	£	£	£	£
1902 ...	711,178	60,917	19,305	18,168	26,716
1903 ...	727,311	62,435	18,917	17,429	26,716
1904 ...	740,618	63,338	23,888	13,244	26,716
1905 ...	751,477	65,584	25,606	10,860	26,716
1906 ...	*774,921	67,280	19,255	23,444	26,716
1907 ...	792,264	69,709	20,025	17,343	26,716
1908 ...	811,055	69,493	22,125	18,791	26,716
1909 ...	825,812	69,736	25,246	14,756	26,716
1910 ...	867,837	72,006	26,097	42,025	27,754
1911 ...	1,015,276	67,730	30,105	147,438	20,670

* The book value of the works at the end of 1907 was £569,770, the difference being amounts written off for depreciation, losses through floods, or the removal of smaller mains.

(vii.) *Brisbane Waterworks: Length of Mains, Tenements and Population Served, and Water Consumption, 1902 to 1911.* The following table shows the length of mains, the number of tenements connected, the population supplied, the total quantity of water supplied, the average daily supply, and the average daily supply per head of population supplied during each year from 1902 to 1911 inclusive:—

BRISBANE WATERWORKS.—PARTICULARS, 1902 to 1911.

Year.	Length of Reticulation Mains.	Number of Tenements Connected.	Estimated Population Supplied.	Quantity Supplied.	Average Daily Supply.	Average Daily Sup- ply per Head of Estimat'd Population.
	Miles.	No.	No.	,000 Gallons.	Gallons.	Gallons.
1902 ...	216½	17,346	86,730	1,499,674	4,108,696	47
1903 ...	229½	17,435	87,175	1,413,722	3,873,211	44
1904 ...	240½	17,814	89,070	1,686,845	4,621,493	52
1905 ...	250½	18,855	94,275	1,749,820	4,794,028	51
1906 ...	264	19,223	96,115	1,630,899	4,468,216	46½
1907 ...	280½	20,050	100,250	1,777,333	4,869,406	48½
1908 ...	296½	20,365	101,825	1,620,057	4,438,514	43½
1909 ...	308½	21,560	107,800	1,673,287	4,584,351	42½
1910 ...	317	22,830	114,150	1,776,734	4,867,766	42½
1911 ...	333½	24,153	120,765	1,870,767	5,125,390	42

The total length of the trunk mains is 52½ miles.

Particulars relating to the sewerage system of Brisbane are not available.

6. **Country Towns Water Supply, 1910.**—In addition to the city of Brisbane there were at the end of the year 1910 twenty-three towns in Queensland provided with water supply systems, constructed by municipalities chiefly from Government loans. The sub-joined statement gives particulars of all the water supply systems—exclusive of Brisbane—for the year 1910:—

QUEENSLAND.—PARTICULARS OF COUNTRY WATER SUPPLY SYSTEMS, 1910.

£			£		
Cost of construction to 31/12/10 ...	681,102		Office and salaries ...	8,732	
Rates and sales of water	71,592		Construction ...	17,057	
Other ...	5,272*		Maintenance ...	18,884	
Receipts {			Interest & redemption	29,650	
Total Receipts ...	76,864		Total ...	74,323	
Assets ...	...	557,264	Liabilities ...	...	406,553

* Including £3282 from Government loans.

7. **Fire Brigades.**—In the year 1910 there were twenty-six fire brigades organised in various towns in Queensland. The revenue of these brigades is derived chiefly from grants from the Government, from municipalities, and from the insurance companies, generally in equal proportions, and the following table gives these particulars for the year 1910:—

QUEENSLAND.—FIRE BRIGADES, 1910.

Receipts.		Amount.	Expenditure.		Amount.
		£			£
From Government	...	4,609	Salaries and wages	...	7,822
„ Local authorities	...	4,677	Building, repairs, etc....	...	450
„ Insurance companies	...	4,616	Plant, stores, clothing, etc.	...	2,607
„ Other sources	...	1,884	Other	...	3,187
Total	...	15,786	Total	...	14,066

At the end of the year 1910 the fire brigades staffs comprised 64 permanent men, 295 partly paid, and 76 volunteers. The metropolitan brigade at Brisbane and the South. Brisbane brigade protect an area of 9½ square miles; their joint staffs comprise 55 men. They have three steam engines and one motor turbine, nine hose reels, and 16,432 feet of hose. There are 48 telephone fire alarms and 40 call points.

§ 5. South Australia.

1. **Development of Local Government Systems.**—In the latter part of 1839 the first municipal law was passed in South Australia, which was thus the birthplace of municipal government in the Commonwealth. On the 31st October, 1840, the principles of self-government were practically adopted in Adelaide by the election of a mayor and council, consisting of nineteen members, and the system has since been extended throughout the settled parts of the State by the formation of district councils and municipal corporations, which are the two types of local authorities now in existence.

2. **District Councils.**—The first District Councils Act was passed in 1858, was amended in 1862, and was further amended and consolidated by the District Councils Act of 1876, which provided for the continuation of existing districts and for the establishment of new ones by proclamation on the petition of the ratepayers. The revenue of the councils consisted of rents, profits, and income from lands vested in the council or over which the council had the control and management; fines and penalties enforced under the Act; fees for licenses; and general and special rates and loans. Provision was made for the election of councillors, their number, qualification, and retirement; for the election of auditors; the meetings, powers and functions of councils; the appointment of constables; revenue and expenditure; assessment and rates; and for making by-laws for various purposes. The Act of 1876 was amended from time to time, and was finally amended and consolidated by the Act which is now in force, namely, the District Councils Act 1887, which has in turn been amended in the years 1899, 1890, 1897, 1904, and 1905. These Acts were again amended by the Local Government Act 1910.

(i.) *The District Councils Act 1887* provides for the continuation and amalgamation of existing districts and for the constitution as a new district of any part of the State containing rateable property capable of yielding upon a rate not exceeding one shilling in the pound the sum of £200. The Governor is authorised to alter the area or boundaries of any district by annexation or by subdivision. New districts are constituted upon petition to the Governor; every petition must be signed by fifty inhabitants of the part sought to be constituted, and if the proposed district comprises portion of a previously existing district, by a majority of the ratepayers of such portion.

(a) *Qualification of Councillors.* Every male ratepayer, if of full age, is qualified to be a councillor, unless he is a minister of religion, a stipendiary magistrate, an uncertificated insolvent, or is the treasurer or a paid official of the district council, or is interested in any contract, except for advertisements and printing, with the district council. The chairman is elected by the councillors from their own number.

(b) *Qualification of Electors.* Every person of either sex, if of the age of twenty-one years, whose name appears as a ratepayer in the assessment book is entitled to vote at the elections of councillors and auditors. In case of a joint tenancy or a tenancy in common, only one person is entitled to a vote for every £75 or part thereof at which the property is assessed.

(ii.) *Assessment and Rates.* Assessments are generally made at four-fifths of the gross annual rent at which the property would let for a term of seven years, or at 5 per cent. on the capital value, but in case of land within a township, not less than twenty acres in area, and not built on, used, or divided by roads, assessment is made at the rate of 2½ per cent. on the value of the fee-simple. All other township land unbuilt on is assessed at 5 per cent. on the fee-simple value, and for lands held under mining lease from the crown, the assessment may not exceed the annual rental. (a) *General Rates* may not be more than one shilling and sixpence nor less than threepence in the pound on the assessed value. (b) *Special Rates* for permanent works may also be declared, provided that the general and special rates together do not exceed two shillings and sixpence in the pound. No special rate may be declared without the consent of the ratepayers to be obtained at a meeting called for the purpose, and any six ratepayers may demand a poll to be taken on the subject. The ratepayers of any portion of a district may memorialise the council for specific works for the benefit of such portion of the district, and if the council decide to comply with the memorial a *separate rate* may be levied in respect of property in the portion defined. Lighting rates may also be declared, but must not exceed fourpence in the pound.

(iii.) *Loans.* Any council may, for the execution of any works for which a special or separate rate has been declared, borrow on the security of such rate up to ten times the amount which at the time of borrowing would result from a rate of one shilling in the pound, but if demand be made by any twenty ratepayers, the question whether or not the proposed loan be incurred must be submitted to a poll of the ratepayers. The interest payable on any such loan must not exceed 6 per cent. By an amending Act passed in the year 1904, additional borrowing powers were conferred on the councils for the purpose of carrying out permanent works subject to the conditions that the total amount borrowed must not at any time exceed three times the amount which would result from a rate of one shilling in the pound, and that the principal sum and interest must be repaid by means of a sinking fund within forty-two years.

(iv.) *Revenue and Expenditure.* The revenue of the councils consists of rents, profits and income from property vested in the council or over which the council has control; the proceeds from the sale of such property; fines and penalties imposed under the Act; fees for licenses; rates; and main road subsidies. Under the District Councils and Corporation Subsidy Act 1890 provision is made for grants out of the general revenue to district councils and corporations in lieu of fees received under the Auctioneers Act 1862 and the Licensed Victuallers Act 1880. The amount of such grant is a sum equal to five shillings in the pound on the amount collected from general rates not exceeding one shilling in the pound declared during any one year. Revenue may be expended in carrying out any authorised works; in payment of salaries and professional fees; in subscriptions to charities; in payment of councillors' travelling expenses; in promoting bills before Parliament, and generally in carrying out the purposes of the Act.

(v.) *Powers and Duties of Councils.* A council may carry out certain permanent works which are defined in the Act, and which comprise the following :—The construction of new streets and roads, sewers and drains; the construction or purchase of water-works, district offices, pounds, abattoirs, markets, baths, hospitals and other charitable institutions; the providing of libraries, museums, and places of public recreation; and the construction of tramways and machinery for the treatment of refuse. The councils are invested with wide powers to make by-laws for the more effective exercise and discharge of their powers, duties, and liabilities, particularly in respect of the following matters :—The compulsory purchase of land; manufacturing districts; the public health; the sale of food and drugs; the management of unoccupied waste lands of the Crown; drainage; piers, jetties, and wharves; weights and measures; vermin destruction; game and fisheries; streets, roads, and public places; fire brigades; impounding; and for fixing penalties for breaches of such by-laws. Upon the district councils is also imposed the duty of administering the Health Acts, the Sale of Food and Drugs Acts, the Game and Fisheries Acts, the Vermin Acts, the Bush Fires Act, the Impounding Act, the Weights and Measures Act, and the Slaughter House Act.

3. *Municipalities* were first established under the Municipal Corporations Act of 1861, which, after providing for the extension of the powers and duties of the Corporation of the City of Adelaide, authorised the Governor, on petition of a majority of not less than two-thirds of the property-owners, to constitute any town, district, or place within the province, into a municipality. This Act and its amendments were consolidated in the Municipal Corporations Act of 1880, which was amended from time to time until the year 1890, when it was repealed and its provisions consolidated by the existing Act, the Municipal Corporations Act of 1890, which was in turn amended in 1893, 1896, and 1903. These Acts were again amended by the Local Government Act 1910.

(i.) *The Municipal Corporations Act 1890.* After making provision for continuing existing corporations and by-laws the Act authorises the Governor to constitute new municipalities, or to alter the boundaries of existing ones, on petition of not less than two-fifths of the ratepayers or owners of ratable property within the land proposed to be incorporated, separated, or added; and also to rearrange, increase or diminish the number of wards of a municipality on petition of not less than one-fifth of the ratepayers therein. Each council consists of a mayor, and of two councillors for each ward, and the provisions as to their qualifications are substantially the same as in the case of district councils referred to above. All persons of full age, if British subjects and not in receipt of public relief or alms, who are either owners or occupiers of any ratable property within a municipality are entitled to vote at the election of the mayor and councillors. Provision is made for the nomination and election of the mayor, councillors, and auditors, and for regulating the meetings of the councils.

(ii.) *Functions of Municipal Councils.* All public streets and roads are vested in the council of the municipality in which they lie, but no street can be declared a public street after the passing of the Act unless it is at least forty feet wide. Full powers are given as to opening, closing, or fencing public streets, and for supervising the formation and repair of private streets and lanes. Councils are further authorised to execute works for, or to contract for the lighting, sewerage, and drainage of municipalities; to take all measures requisite for the public health; to establish public baths, fountains, and parks; to grant licenses for slaughter-houses, hide and skin markets, for the depasturing of cattle, and for the removal of sand and gravel; to control the erection or pulling down and the maintenance of buildings and hoardings; to organise fire brigades, and to order the removal of inflammable buildings. Under the Health Act 1898, every district and municipal council is constituted the Local Board of Health for its particular district, and is charged with the execution of the provisions of that Act for securing the proper hygienic and sanitary conditions in such district.

(iii.) *Assessments and Rates.* Owners and occupiers of ratable property in municipalities are assessed each year on the same basis as stated above in respect to ratable property within districts under the government of district councils. In addition to the rate authorised by the Public Health Act a *general rate*, not exceeding one shilling in the pound, may be declared; rates for lighting and for the improvement of parks and reserves may also be levied, the former being limited to fourpence and the latter to threepence in the pound. The council may also declare a rate for defraying the expense of watering streets, to be apportioned among the persons liable for the rates in respect of properties fronting such streets. *Special and separate rates* may also be levied in the same manner as by district councils, but, in the case of municipalities, the general and special rates together must not exceed two shillings in the pound.

(iv.) *Borrowing powers* of municipal corporations are substantially the same as those of district councils, and similar additional powers were given to municipalities as to districts by the Municipal Corporations Amendment Act 1903.

(v.) *Revenue, Expenditure, and Miscellaneous.* Other provisions as to the revenue and expenditure of municipalities, and their powers as regards permanent works, are the same as those in force under the Districts Councils Acts, referred to above, while very wide powers are given to municipal councils in respect of a variety of matters and things to provide by means of by-laws for the general good government of the municipalities.

4. *Finances of District Councils and Corporations, 1902 to 1910.*—The subjoined tables shew the amounts of assessments and the revenue and expenditure of district councils and of corporations for each financial year from 1902 to 1910 inclusive; the figures given are exclusive of the Main Roads Funds, particulars as to which may be found in the section of this book on "Roads and Bridges."

SOUTH AUSTRALIA.—ASSESSMENT, REVENUE, AND EXPENDITURE OF LOCAL AUTHORITIES, 1902 to 1910 (EXCLUSIVE OF MAIN ROADS FUNDS).

Year.*	Amount of Assessment (Annual Value).	Revenue.				Expenditure.	
		From Rates.	From Subsidies.	Other Sources.	Total.	On Public Works.	Total.
DISTRICT COUNCILS.							
	£	£	£	£	£	£	£
1902	1,433,036	63,193	15,735	38,198	117,126	66,355	121,210
1903	1,452,413	64,207	15,358	40,713	120,278	64,642	122,936
1904	1,488,716	70,975	14,252	39,766	124,993	70,201	123,778
1905	1,503,230	71,603	15,490	46,603	133,696	69,769	131,028
1906	1,604,979	75,253	16,845	39,987	132,085	72,067	128,605
1907	1,647,895	81,295	18,296	28,395	127,986	81,208	121,030
1908	1,801,370	84,036	23,054	27,079	134,169	89,665	128,072
1909	1,849,286	89,051	20,718	30,783	140,552	104,834	146,468
1910	2,098,282	96,550	25,483	30,058	152,091	101,979	146,593
CORPORATIONS.							
1902	1,195,991	87,961	9,113	60,531	157,605	58,651	157,523
1903	1,208,825	85,702	10,470	57,509	153,681	55,544	152,475
1904†	1,222,522	96,545	14,766	45,534	156,845	61,004	156,722
1905	1,236,578	98,632	15,127	47,267	161,026	60,720	159,863
1906	1,253,566	99,160	14,713	52,225	166,098	63,422	162,078
1907	1,254,956	100,863	14,276	39,779	154,918	88,525	161,754
1908	1,286,696	103,109	15,479	50,470	169,058	86,889	167,797
1909	1,340,755	108,480	15,828	57,837	182,145	97,118	177,897
1910	1,385,752	112,896	16,589	57,494	186,979	104,586	198,875

* Up to and including the year 1903, the financial year for Corporations ended on the 31st December, but after that date ends on the 30th November. The financial year for district councils ends on the 30th June. † For eleven months ended the 30th November, 1904.

5. Adelaide Water Supply System.—The water supply system of Adelaide is under the control of the Public Works Department. The supply is obtained partly from the catchment areas of the rivers Onkaparinga, Torrens, and Sixth Creek, and partly from springs and pumping stations. There are three storage reservoirs, situated at Happy Valley, Hope Valley, and Thorndon Park, having an aggregate capacity of 3,895,000,000 gallons, while the tanks used in connection with the springs and pumping stations have a further capacity of 4,824,000 gallons. The total capital cost up to the 30th June, 1910, was £1,802,703, the total revenue being £2,422,978 and the area served approximately 80,000 acres.

The following table gives various particulars relating to the water supply of Adelaide for the years 1905 to 1910 inclusive:—

ADELAIDE WATER SUPPLY.—LENGTH OF MAINS, REVENUE, EXPENDITURE, AND CONSUMPTION OF WATER, 1905 to 1910.

Year Ended 30th June.	Length of Mains.	Gross Revenue.	Working Expenses.	Net Revenue.	Percentage of Net Revenue on Capital Cost.	Total Consumption of Water. ¹
	Miles.	£	£	£	%	Million of Gals.
1905 ...	647	72,471	20,002	52,469	3.16	3,650
1906 ...	656½	72,976	22,298	50,678	3.02	3,550
1907 ...	667½	74,727	19,703	55,024	3.24	3,350
1908 ...	673	76,707	21,233	55,474	3.26	4,000
1909 ...	684	81,412	20,762	60,650	3.53	4,000
1910 ...	704	82,290	22,709	59,581	3.31	4,000

1. In the Adelaide Water District there are no governing meters. The quantities shown above are as recorded by gaugings taken at the reservoirs, and include evaporation and absorption.

6. Adelaide Sewerage System.—In connection with the sewerage system of Adelaide, which is also under the control of the Public Works Department, about 288 miles of sewers had been laid in the city and suburbs up to the 30th June, 1910. The sewage is disposed of on a farm and filter-beds, the latter being used only during the winter months.

The following table gives particulars relating to the Adelaide sewerage system for the years 1904 to 1910 inclusive:—

ADELAIDE SEWERAGE SYSTEM.—REVENUE AND EXPENDITURE, 1904 to 1910.

Year Ended the 30th June.	Revenue.			Expenditure.			Net Revenue.	
	Rates and Interest.	Sewage Farm. Sales of Produce, etc.	Total.	Maintenance.	Sewage Farm Working Expenses.	Total.	Total.	Percentage on Capital Cost.
	£	£	£	£	£	£	£	%
1904 ...	30,923	6,594	37,517	5,466	5,962	11,428	26,089	4.12
1905 ...	31,682	6,817	38,499	5,679	5,393	11,072	27,427	4.41
1906 ...	32,530	7,006	39,536	5,921	5,901	11,822	27,714	4.45
1907 ...	32,380	6,390	38,770	6,284	5,460	11,744	27,026	4.00
1908 ...	32,678	7,436	40,114	6,294	5,081	11,375	28,739	4.49
1909 ...	34,701	8,284	42,985	7,161	5,917	13,078	29,907	4.56
1910 ...	36,322	7,213	43,535	7,184	6,088	13,272	30,263	4.41

7. Water Supply in Country Towns.—In South Australia there is a number of country waterworks under the control of the Public Works Department. These works are partly used for irrigation purposes, and the most important of them have already been referred to in the section of this book dealing with the subject of "Irrigation." (See p. 593 *ante*.) In addition to the works mentioned in the section referred to, there

are other country districts served by reticulations extending over 311 square miles. Detailed particulars of the various works are not available. The total extent of country for which reservoir water is available is about 4250 square miles, the reservoirs holding, in the aggregate, 7,370,000,000 gallons, and the main pipe-lines reaching 2278 miles. The capital cost of the works under the waterworks branch, as distinct from the water conservation branch, which deals with isolated and remote districts, is approximately £4,095,000.

8. **Fire Brigades Board.**—The Fire Brigades of South Australia are managed by a Board consisting of six members, two being nominated by the Government, one by the Adelaide city council, one by the other metropolitan municipalities, and the other two by the contributing insurance companies. The revenue of the Board is derived by contributions of three-ninths by the Government, four-ninths by the insurance companies, and two-ninths by the city of Adelaide and the other municipalities subject to the Act: Brigades are established in the following municipalities, viz., Adelaide, Kensington and Norwood, including St. Peter's, Unley, Port Adelaide, Glenelg, Gawler, Kapunda, Moonta, Kadina, Port Pirie and Port Augusta. The strength of the brigades consists of 87 permanent firemen and 18 auxiliary firemen. The number of calls received during the year 1911 was 352, of which 30 were to fires of a serious nature.

§ 6. Western Australia.

1. **Types of Local Authorities.**—In this State there are three forms of local authorities, namely :—(i.) Municipalities, (ii.) Road Districts, and (iii.) Local Boards of Health. The first Municipalities Act was passed in 1871, but only a few districts were incorporated under it. In 1895 a more comprehensive measure, the Municipal Institutions Act, was passed, and after being amended from time to time was consolidated by the Municipal Institutions Acts 1902 and 1904. In 1906 the most recent enactment, the Municipal Corporations Act, was passed, repealing and consolidating previous enactments. The whole area of the State outside incorporated municipalities is divided into road districts, which are administered under the Roads Act 1902 and 1904. In municipalities the councils act as Health Boards for the purpose of administering the Public Health Act, while outside municipalities local Boards of Health may be formed. In 1904 another local government measure, the Water Boards Act, was passed, under which Boards may be appointed for the control of waterworks, and rates may be levied for the purpose, the maximum being fixed at two shillings in the pound of ratable value.

2. **Municipalities** are now regulated by the Municipal Corporations Act, which came into force on the 1st January, 1907. Provision is made for the continuation of existing municipalities, and the Governor is authorised to constitute new municipalities on petition signed by at least fifty property-holders of the district proposed to be incorporated; to unite adjoining municipalities on petition under their common seals; to sever any portion from a municipality on petition signed by a majority of the ratepayers, and to annex such portion to a contiguous municipality or road district.

(i.) *Municipal Councils* consist of a mayor and councillors, the number of which depends upon the population of the municipality; if the population is less than 1000 there are six councillors, if from 1000 to 5000 there are nine councillors, and if the population is over 5000 there are twelve councillors, or three for each ward. Any male ratepayer of the age of twenty-one years, if a natural born or naturalised subject, is eligible for election as mayor or councillor, except ministers of religion, uncertificated bankrupts, prisoners, and certain other persons who may be disqualified on the ground of interest.

(ii.) *Qualification of Voters.* Every ratepayer, of twenty-one years of age or over, is entitled to vote at the municipal elections. In the case of joint owners or occupiers, each owner or occupier, if not exceeding two in number, is deemed to be the owner or occupier of half the property; if more than two in number the owners or occupiers may appoint two of their number to be registered in respect of the property. Corporations and companies may also nominate two persons to be registered as voters.

(iii.) *Powers and Duties of Councils.* The councils have power to make by-laws with respect to the usual matters pertaining to municipalities, and are also invested with the control and management of all public places, streets, roads, bridges, sewers, and drains within the municipality. They may contract for the lighting of any part of the municipality for a period not exceeding three years, and may levy a lighting rate; they may construct dams or reservoirs for water supply, may establish fire brigades and baths, and may provide places of recreation, pounds, abattoirs, markets, and weighbridges.

(iv.) *Valuation of Ratable Property.* All land is ratable property except the following:—Property of the Crown used for public purposes or unoccupied; property used for religious or charitable purposes; public libraries, museums, etc.; cemeteries; any land declared by the Governor to be exempt from municipal rates. Generally the annual value of improved or occupied land is the average rent obtainable, less 20 per cent., but in no case may the annual value be less than 4 per cent. of the fee-simple value. The annual value of unimproved or unoccupied land is taken to be not less than $7\frac{1}{2}$ per cent. on the capital value. No allotment of ratable land may be valued at an annual value of less than £2 10s.

(v.) *Rates.* General rates are levied annually, but may not exceed one shilling and sixpence in the pound on the annual value. Lighting rates and special rates for the repayment of debentures and interest may also be struck, but may not exceed the maximum rate allowed in the case of general rates.

(vi.) *Borrowing Powers.* The council of a municipality may borrow money on the credit of the municipality for permanent works, or for the purpose of liquidating the principal moneys owing on account of any previous loan. Permanent works may be the construction or alteration of any street, footway, road, bridge, culvert, wharf, or jetty; the construction of sewers and drains, and works connected with sewerage and drainage; the construction or purchase of waterworks, tramways, municipal offices, pounds, abattoirs, markets, and baths; the improvement of endowment lands; providing places of public recreation; the construction of a general warehouse, or a theatre, or of refuse destructors; and the purchase of quarries or land. The amount borrowed at any time may not exceed ten times the average ordinary income of the municipality for the two years last preceding, and the amount borrowed to liquidate any loan must not exceed the balance of principal owing. A municipality may also overdraw on the amount of its current account, but the overdraft must not at any time exceed one-third of the ordinary revenue for the preceding year.

(vii.) *Government Subsidies.* Grants are made annually to municipalities by way of subsidies on the amounts of rates collected. To entitle any council to participate in the allocation of the annual Parliamentary vote the council must have levied a minimum general rate of one shilling in the pound, and must have collected not less than £300 from such rate. Newly-constituted municipalities are, during the first year of existence, dealt with apart from the provisions of the general scheme, and are allowed a subsidy of £2 for every £1 of general rate collected; in subsequent years they participate according to the general provisions. The following table shews the basis on which the municipalities are classified:—

WESTERN AUSTRALIA.—CLASSIFICATION OF MUNICIPALITIES.

Income from General Rates.	From £20,000 to £30,000.	From £10,000 to £20,000.	From £5000 to £10,000.	From £500 to £5000.	Under £500.
Class	1st	2nd	3rd	4th	5th

No subsidy is paid on income from general rates exceeding £3000.

3. **Area, Population, etc., of Municipalities.**—Returns regarding the area, population, and valuation of municipalities are defective. They are shewn in the table hereunder:—

WESTERN AUSTRALIA.—NUMBER, AREA, POPULATION, NUMBER OF DWELLINGS, AND VALUATION OF MUNICIPALITIES, 1902 to 1910.

Year ended the 31st October.	Number of Municipalities.	Area	Population.	Dwellings.			Amount Payable in respect of Rates.
				Occupied.	Unoccupied.	Total.	
	No.	Acres.	No.	No.	No.	No.	£
1902	44	68,867	¹ 96,807 ²	² 20,989	² 967	² 21,956	5
1903	44	73,338	³ 115,350	² 20,989	² 967	² 21,956	5
1904	43	77,331	² 115,182	20,961	960	21,921	5
1905	43	75,415	² 115,182	20,961	960	21,921	132,453
1906	45	81,519	⁶ 125,474	20,961	960	21,921	142,229
1907	47	89,748	136,845	⁴ 26,756	⁴ 2,050	⁴ 28,806	142,770
1908	47	90,078	135,525	29,208	2,112	31,320	144,344
1909	46	88,833	141,543	30,535	1,263	31,798	138,869
1910	42	75,716	⁷ 143,808	⁷ 31,064	⁷ 1,652	⁷ 32,716	139,835

1. Census figures, 1901. 2. Returns for thirty-nine municipalities only. 3. Rough census figures, 1903. 4. Exclusive of one municipality. 5. Not available. 6. Returns for forty-four municipalities. 7. Census figures, 1911.

Complete particulars of improved or unimproved capital values are not available. In the year 1910 the capital value of ratable property in municipalities was £20,502,266.

4. **Revenue and Expenditure of Municipalities, 1902 to 1910.**—The following table gives particulars as to the revenue and expenditure of municipalities during each year from 1902 to 1910 inclusive:—

WESTERN AUSTRALIA.—REVENUE AND EXPENDITURE OF MUNICIPALITIES, 1902 to 1910.

Year ended the 31st October	Revenue.				Expenditure.			
	From Rates.	From Govt. Grants.	From other Sources.	Total.	Works and Improvements.	Disbursements in respect of Loans.	Other Expenses.	Total.
	£	£	£	£	£	£	£	£
1902 ...	94,894	81,436	113,591	289,921	125,721	33,936	123,615	283,272
1903 ...	104,760	80,938	116,653	302,351	142,347	33,294	137,228	312,869
1904 ...	119,110	90,868	213,785	423,763	187,747	38,227	168,524	394,498
1905 ...	130,575	85,798	167,793	384,166	183,226	53,746	174,716	411,688
1906 ...	146,206	95,997	210,226	452,429	165,421	50,739	200,844	417,004
1907 ...	136,868	85,473	151,865	374,206	132,103	57,804	228,475	418,382
1908 ...	139,228	67,315	176,040	382,583	103,943	59,649	239,270	402,862
1909 ...	138,445	37,301	207,982	383,728	83,283	62,749	224,033	370,065
1910 ...	138,719	13,337	230,407	382,463	193,157	68,822	137,837	399,816

5. **Assets and Liabilities of Municipalities, 1902 to 1910.**—The following table gives particulars respecting the assets and liabilities of municipalities at the end of each financial year from 1902 to 1910 inclusive :—

**WESTERN AUSTRALIA.—ASSETS AND LIABILITIES OF MUNICIPALITIES,
1902 to 1910.**

Year ended the 31st October	Assets.					Liabilities.		
	Balance in Hand.*	Value of Property owned by Municipalities.	Accrued Sinking Funds for Redemption of Loans.	Other Assets.	Total.	Outstanding Debts and Bonds.	Other Liabilities.	Total.
	£	£	£	£	£	£	£	£
1902† ...	49,557	294,800	62,239	20,420	427,016	413,050	29,700	442,750
1903 ...	41,375	332,492	64,936	34,140	472,943	437,300	41,200	478,500
1904 ...	72,894	354,798	81,514	36,718	545,924	589,800	32,304	622,104
1905 ...	43,209	473,320	94,892	36,086	647,507	623,414	28,031	651,445
1906 ...	78,579	537,407	110,165	46,495	772,646	713,350	45,597	758,947
1907 ...	39,414	553,873	125,742	55,430	774,459	730,994	47,131	778,125
1908 ...	27,291	605,165	143,434	58,988	834,878	757,494	42,321	799,815
1909 ...	41,216	628,205	152,416	56,705	876,542	795,108	36,352	831,460
1910 ...	21,116	669,499	174,119	62,035	926,769	844,844	53,304	898,148

* Including bank balance, cash in hand, and fixed deposit.

† Exclusive of the municipality of Mount Morgans.

6. **Road Districts.**—The whole area of the State, outside incorporated municipalities, is divided into districts, the executive powers being vested in elective boards. These districts were originally formed solely for the purpose of controlling roads and bridges, but their powers and duties have been extended, so that at the present time they correspond closely to the shires of the other States of the Commonwealth. The enactments at present governing the administration of the Road Boards are the Roads Act 1911, the Parks and Reserves Act, the Cattle Trespassing Act, the Width of Tyres Act, the Cart and Carriage Licenses Act, and the Dog Act. The general powers and duties of the Boards as regards roads and bridges are described in the chapter of this book entitled "Roads and Bridges." (See page 686 *ante*.) In addition to these powers and duties the Boards have power to do everything necessary for the proper management of the property under their control, and may also construct and maintain tanks, wells, and dams, and bore for water for the purpose of supplying water along any road in the district. Subject to the provisions of the Roads Acts, the Board has also the control and management of any such public reserves, parks, commons, wells, dams, reservoirs, buildings, machines, etc., as the Governor may direct. The Board has also extensive powers for making, altering, and repealing by-laws.

7. **Boards of Health** may be established under the Public Health Act 1886, either within or outside of municipal boundaries. In the former case the Act is administered by the municipal councils, while in the latter case special Boards are elected by the ratepayers. The revenue of these Boards consists chiefly of moneys received from health rates and sanitary fees, and the largest item of expenditure is directly connected with the sanitary service. The following table shews particulars of the receipts and expenditure of the various Boards—both municipal and extra-municipal—during each year from 1902 to 1910 inclusive :—

**WESTERN AUSTRALIA.—RECEIPTS AND EXPENDITURE OF LOCAL HEALTH
BOARDS, 1902 to 1910.**

Year ended the 31st October.	Revenue.			Expenditure.		
	From Public Health Rate.	From other Sources.	Total.	On Sanitary Services.	Other Expenses.	Total.
	£	£	£	£	£	£
1902 ...	17,616	22,569	40,185	19,248	20,114	39,362
1903 ...	21,884	22,610	44,494	22,872	21,184	44,056
1904 ...	25,777	25,904	51,681	28,299	23,321	51,620
1905 ...	26,003	30,864	56,867	30,724	28,061	58,785
1906 ...	¹ 28,242	40,943	69,185	40,518	28,038	68,556
1907 ³ ...	² 33,289	35,285	68,574	39,419	31,697	71,116
1908 ...	⁵ 36,304	41,674	77,978	⁴ 43,830	⁴ 34,981	⁴ 78,811
1909 ...	⁶ 39,447	50,688	90,135	⁴ 49,502	⁴ 38,465	⁴ 87,967
1910 ⁷ ...	⁸ 37,943	⁹ 50,558	88,501	55,283	33,350	88,633

1. Including sanitary rates, £11,745. 2. Including sanitary rates, £16,564. 3. Exclusive of particulars of twenty-one boards which did not furnish returns, and of five boards which were not active during the year, all outside municipalities. Particulars for previous years are also incomplete. 4. Exclusive of expenditure of one extra-municipal board. 5. Including sanitary rates, £17,707. 6. Including sanitary rates, £16,804. 7. Exclusive of 10 boards which did not furnish returns, and 14 boards which were non-active during the year. 8. Including sanitary rates, £17,986. 9. Including sanitary fees and charges £13,341.

On the 31st October, 1910, there were forty-two Local Boards of Health within municipalities and seventy-five extra-municipal Boards.

8. The Perth Metropolitan Water Supply, Sewerage, and Drainage.—The Perth Metropolitan Water Supply Works were first opened by a private company in October, 1890. Under the provisions of the Metropolitan Waterworks Act 1896, however, the works were purchased by the Government at a cost of £220,000, and were placed under the control of a Board, the functions of which have been exercised since the year 1904 by the Minister for Works. By the Metropolitan Water Supply, Sewerage, and Drainage Act 1909, all water and sewerage works formerly vested in the Metropolitan Board were transferred to a Minister of Water Supply, Sewerage, and Drainage. This Act also provides for the administration of the transferred properties, for the constitution of water reserves, for the construction and maintenance of works, for the prevention of waste, for rates and sale of water, and for other matters.

(i.) *Water Supply.* The supply of water is derived from three sources—(i.) the Victoria reservoir, (ii.) the Mundaring reservoir, and (iii.) from six artesian bores.

(a) *The Victoria Reservoir.* This is the main source of supply. The reservoir has a capacity of 220,000,000 gallons, and has a catchment area of 10,000 acres on the Darling Ranges. The water gravitates from the Victoria reservoir to Perth through two mains which are respectively 21 inches and 12 inches in diameter, and 15½ and 17 miles in length. There are two service reservoirs—one of 2,413,000 gallons, and the other of 600,000 gallons capacity. The quantity of water drawn from this reservoir during the year ended the 30th June, 1910, was 392.7 million gallons.

(b) *The Mundaring Reservoir.* This reservoir is used as an emergency supply. It has a capacity of 4,650,000,000 gallons, but is only connected by one eight-inch main. During the financial year 1909-10, 18,891,000 gallons were drawn. This reservoir has a catchment area of 569 square miles, and was constructed in connection with the gold-fields water supply.

(c) *Artesian Bores.* There are in all six artesian bores, the flow from which augments the main supply from the Victoria reservoir. The total flow is about 360,000,000 gallons during the season, which lasts approximately for six months.

(d) *Financial Operations of Water Supply Department, 1909 to 1911.* The following table gives particulars of the financial operations of the Metropolitan Water Supply Department for each year ending the 30th June from 1909 to 1911 inclusive:—

**PERTH METROPOLITAN WATER SUPPLY DEPARTMENT.—PARTICULARS OF
FINANCIAL OPERATIONS, 1909 to 1911.**

Year ended the 30th June.	Capital Cost of Works.	Depreciation.	Net Capital Cost.	Gross Revenue.	Cost of Maintenance and Management.	Interest Earned on Gross Capital Cost.	Ratio of Working Expenses to Revenue.
	£	£	£	£	£	Per cent.	Per cent.
1909 ...	524,022	34,468	489,554	45,711	14,162	6.02	30.98
1910* ...	628,757	44,415	584,342	60,249	20,862	6.26	34.62
1911* ...	645,023	92,351†	552,672	61,723	22,081	6.15	35.77

* Perth, Fremantle, and Claremont combined. † £39,724 transferred from reserve account to depreciation to provide for estimated over valuation made at time of purchase of Perth Water Supply.

(e) *Consumption of Water, 1909 to 1911.* The following table shews the total annual supply, the average daily supply, and the average daily supply per house and per head of population during each financial year from 1909 to 1911 inclusive:—

**PERTH METROPOLITAN WATER SUPPLY DEPARTMENT.—CONSUMPTION OF
WATER, 1909 to 1911.**

Year ended the 30th June.	Total Annual Supply in ,000 Gallons.			Average Daily Supply in Gals.	Number of Houses Supplied.	Estimated Population Supplied.	Average Daily Supply in Gals.		
	From Reservoir.	From Bores.	Total.				Per House.	Per Head of Population.	
PERTH DISTRICT.									
1909	...	349,467	281,585	631,052	1,731	14,012	54,000	123	32.0
1910	...	392,715	281,104	673,819	1,846	14,512	56,000	127	33.0
1911	...	414,512	355,810	770,322	2,110	15,075	59,000	131	35.7
FREMANTLE DISTRICT.									
1909	282,785	282,785	774,753	3,971	19,000	195	40.75
1910	278,179	278,179	762,133	4,042	19,500	188	39
1911	286,461	286,461	782,085	4,150	20,000	188	39.1
CLAREMONT DISTRICT.									
1909	105,584	105,584	289,271	1,670	7,000	173	41.3
1910	101,240	101,240	277,370	1,783	7,500	156	37
1911	110,275	110,275	302,123	2,042	8,000	148	37.7

(ii.) *Sewerage and Drainage in Perth and Fremantle.* The work of providing a sewerage system for Perth and Fremantle was commenced in 1906, and has proceeded without interruption up to the present time. The method of sewage disposal adopted by both schemes is bacterial treatment by means of septic tanks. The main portion of each district is dealt with by gravitation, while the sewage from the low-lying portions along the river frontage is to be lifted to the main pipe line by means of electrically-controlled centrifugal pumps, Perth being served by three stations, and Fremantle by four. There are now over ten miles of various-sized pipes laid, ranging from 3 ft. 3 in. by 2 ft. 2 in. Monier to 6 in. stoneware. The Perth treatment works, situate at Claisebrook, on the west side of the river, consists of four septic tanks, each 100 ft. by 50 ft., with a capacity for a population of about 30,000, the effluent being syphoned across the river to four filter beds, each 100 ft. in diameter, the filtrate then being discharged into the Swan River. The results have so far been satisfactory. The Fremantle works consist of three septic tanks of sufficient capacity to serve a population of about 17,000, the effluent being discharged direct into the open sea at some distance from the main shore. House connections in Perth are making rapid progress, there being upwards of 700 premises already connected to the sewers. In Fremantle the work of connecting has just commenced. The whole of the metropolitan area, and a large portion of the surrounding districts, as well as Fremantle, are served by a system of arterial stormwater drains, of sufficient capacity to cope with the wet conditions of winter months experienced in this State. The total cost of the sewerage scheme is £150,000. The cost of the septic tanks and filters was £34,000.

9. Fremantle Harbour Trust.—Under the provisions of an Act passed in 1902 a Harbour Trust was constituted for the general administration of Fremantle harbour, and since January, 1903, the Trust has had full control of all the affairs of the harbour, and undertakes the duties of wharfingers, and the receiving, sorting, storing, delivering, and handling of all cargo, between vessels and the owners of the goods. The works, which were commenced in 1892, were designed with the object of forming a safe and commodious harbour within the mouth of the Swan River, so as to admit vessels at all states of the tide, and thus enable cargo to be loaded and discharged at the quays and goods-sheds on the river banks. Two ocean moles have been thrown out from the north and south heads, the former being 3450 feet and the latter 2040 feet long. A channel, 450 feet wide and 30 feet deep at low water, has been blasted and dredged through the rock which formerly crossed the estuary to the river, and wharves and goods-sheds have been constructed along the reclaimed foreshore on both sides of the harbour. The port possesses up-to-date electrically operated grain storage and shipping appliances, and the quays are well equipped with electric cranes and elevators, all wharves and stores being in direct communication with the State railway system. At the present time all the European mail boats, which make Fremantle the first and last port of call in Australia, are able to enter and leave the harbour in all weather and at all tides. For the year ended the 30th June, 1911, the total revenue of the Trust was £177,433, and the expenditure £54,174, shewing a gross profit of £123,259. The gross amount paid to the Treasury for the year was £96,801, being interest £51,711, sinking fund £14,774, and surplus revenue account £30,315.

10. Fire Brigades Boards.—Under the Fire Brigades Act 1898, fire brigades were established in a number of the more important centres of population in the State. These brigades were under the control of local boards, and were in some cases municipal and in others volunteer. On the 30th June, 1910, there were forty-five such Boards in existence. The figures given below shew particulars of forty-two of these Boards for the year 1909-10, three Boards having remained inactive during the year:—

WESTERN AUSTRALIA.—FIRE BRIGADES BOARDS, 1909-10.

Number of firemen	784	Value of land, buildings, & plant	£38,449
Receipts	£15,632	Expenditure... ..	£15,458

An Act to make further provision for the protection of life and property from fire was passed in 1909 and came into operation on the 1st January, 1910. It is called the District Fire Brigades Act, and divides Western Australia into two fire districts under the control of a Fire Brigades Board. The Board is constituted as follows:—two members nominated by the Government; one member nominated by the Perth City Council; one member elected by the Municipalities of Kalgoorlie, Boulder, Coolgardie, and the Kalgoorlie Road Board; one member elected by the Municipalities and Road Boards other than those above-mentioned; three members elected by the Insurance Companies; and one member elected by the Volunteer Fire Brigades. The election of the Board takes place bi-annually, and its income is provided as follows—two-eighths by the Government, three-eighths by the Municipalities and Road Boards and three-eighths by the Insurance Companies. The receipts for the year 1911 amounted to £30,087, and the expenditure to £31,649, leaving a debit balance of £1562.

The whole of the brigades throughout the State are now controlled by this Board and number fourteen purely permanent; six partly permanent and partly volunteer; and twenty-six purely volunteer brigades; making a total of forty-six. The staff includes a chief officer, deputy-chief officer, five district officers, eighty-eight permanent firemen, seventy-one auxiliary firemen, and 580 volunteer firemen.

§ 7. Tasmania.

1. **Development of Local Areas.**—In this State the city of Hobart was incorporated by special Act in the year 1852, but it was not until 1858, when the Rural Municipalities Act was passed, that a general scheme for the establishment of municipalities was extended throughout the State. This Act was amended from time to time without, however, altering its chief characteristics. In 1869 a Roads Act was passed, and after being amended at various times was consolidated in 1884. Under the provisions of these Acts parts of the State were placed under the control of Town Boards and Road Trusts. The general rate under the Municipalities Act was limited to one shilling and sixpence in the pound of annual value, while special rates could be levied in rural districts, provided that the general and special rates together did not exceed one shilling and sixpence in the pound.

2. **Acts now in Force.**—In 1906 the whole of the Acts dealing with local authorities were amended and consolidated by the Local Government Act of that year. The whole State, with the exception of the urban municipalities of Hobart and Launceston, is divided into municipal districts, and every Rural Municipality, Town Board, Main Road District, Road District, Local Health District, Fruit District, Rabbit District, School District, and Public Recreation Ground District included in any municipality established by the Act is abolished. Each district is incorporated and is under the control of a warden and councillors, who, in addition to the specific duties and powers imposed and conferred by the Act of 1906, are vested with powers and authorities under the following Acts:—The Codlin Moth Act 1888, the Rabbits Destruction Act 1889, the Public Health Act 1903, the Education Act 1885, the Roads Act 1884, the Rural Municipalities Act 1865, the Police Act 1905, the Town Boards Act 1896, the Public Recreation Grounds Act 1888, the Cemeteries Act 1865, and the Californian Thistle Act 1883. The Governor is authorised to unite, subdivide, or abolish municipalities or wards on petition, and may do so without petition if in any municipality there is at any time no council or an insufficient number of councillors to form a quorum. The Act of 1906 was amended in 1908, and again in 1911.

(i.) **Formation of Councils.** In the case of municipalities not divided into wards the council is to consist of the number of members, being a multiple of three, assigned to it by the Governor, while the councils of municipalities which are subdivided consist of

three councillors for each ward. Any resident elector is eligible to act as a councillor unless he is disqualified as being an interested person, a bankrupt or convict, or as undergoing a sentence of imprisonment, or as insane. The warden is elected by the councillors from their own body.

(ii.) *Qualification of Electors.* Both owners and occupiers of property within a municipality are allowed plurality of votes according to the following scale :—

Annual Value of } Property	Under £30.	£30 to £80.	£80 to £160.	£160 to £240.	£240 to £360	£360 and upwards.
Number of Votes	1	2	3	4	5	6

In the case of joint owners or occupiers the number of votes according to the above scale is equally divided as far as possible, and the vote or votes which cannot be so divided may be given by such one of the joint owners or occupiers as may be appointed by the others. The provisions of the Acts relating to voting by post at parliamentary elections may be made applicable to any municipal election on the petition of the council to the Governor.

(iii.) *Local Districts and Committees.* Any municipal council may by special resolution define a local district to be assigned to a local committee, and any district proclaimed under the Public Recreation Grounds Act 1888 may also be defined as a local district. A local committee may exercise any of the powers and functions conferred upon councils as may be declared to be within its province by special resolution.

(iv.) *Revenue and Rates.* The ordinary revenue of a council, which consists principally of (a) rates (other than special rates), tolls, ferry dues, market dues, fees, and other charges authorised by the Act, and (b) grants from the central Government, is carried to a general account called the municipal fund. Rates are of two kinds, namely, (a) general, and (b) special. (a) *General Road Rates*, of not less than sixpence in the pound of the annual value of the whole of the ratable property in a municipality, must be levied at least once a year, but the total amount of all such rates levied in any one year must not exceed one shilling and threepence in the £. The proceeds of general road rates are carried to a separate account and are to be applied for the purposes of constructing and maintaining roads, streets, bridges, jetties, wharves, and tramways; at least three-fifths of all sums received in respect of property situate in a particular ward from the making of such a rate must be expended within such ward for the purposes mentioned. *General Health Rates* may be levied either prospectively or retrospectively in order to defray the expenses incurred in the execution of the Public Health Act 1903. (b) *Special Rates* may be made for the purpose of defraying the cost of constructing and maintaining works for sewerage or drainage, for the manufacture of gas, electricity, hydraulic or other power; watering or lighting roads; maintaining public recreation grounds; the destruction of rabbits; any of the purposes of the Public Health Acts; and of constructing and maintaining slaughter houses, abattoirs, or other works. A *Codlin Moth Tax* may be levied as prescribed by the Codlin Moth Act 1888, and when a council undertakes the removal of house refuse from premises the expense of such work is to be paid for by a *Special Cleansing Rate*. For defraying the expenses incurred in the execution of any work for the special benefit of a particular part of a municipality, the council may also levy a special rate called a *Separate Local Rate* upon all ratable property within such part, but the question as to whether any work is or is not for the special benefit of any particular part of the municipality must be referred to the Minister, who may direct, when such rate would exceed sixpence in the pound, that the question of levying the same be left to the decision of the electors of the defined part; whenever the expense to be incurred involves more than one yearly rate, the question must be referred to the electors.

(v.) *Ratable Property.* The council is not empowered to levy any rate or charge (except for water, prevention of fire, cleansing, drainage, or sewerage, or for light or power actually supplied, or for any service actually rendered) upon—Crown property; any property used solely for religious purposes; any portion of any premises used exclusively as a public library, museum, school of arts or mines, literary or scientific institution, or any cemetery; benevolent asylums or charitable institutions; or upon any building or place vested in trustees for an agricultural or pastoral society for the purposes of a show ground. The Crown has in any such case the right to commute its liability by payment of a sum agreed upon between the council and the Treasurer.

(vi.) *Borrowing Powers.* Power is given to the council to borrow money either—

- (a) By the sale of debentures under provisions of the Local Bodies Loan Act for the purpose of permanent works and undertakings, or for the purpose of liquidating the principal sum owing on account of a previous loan; or
- (b) By way of temporary advances against rates to an amount not exceeding one-half the expected total proceeds of such rate. Temporary advances must be paid within twelve months of the date of borrowing.
- (c) Under the amending Act of 1908, councils may raise temporary loans by way of bank overdraft on the credit of the municipality to an amount not exceeding one-half of the prior year's revenue, and in addition may overdraw to the extent of deposit receipts for money due by the bank.

(vii.) *General By-laws.* The councils have wide powers to make by-laws for the general purposes of the Act, and particularly in connection with the following matters:—The trespass and agistment of animals; the erection or demolition of buildings, awnings, and temporary structures; the prevention and extinction of fires; the granting of licenses; the regulation of markets and weighbridges and the establishment of rents and fees for the use thereof; the regulation or the prohibition of the introduction of any pest or anything affected by a pest; the control of public safety and the preservation of public decency; the control and management of roads and footways; the imposition and collection of tolls upon roads and bridges, and of rates and dues upon ferries, wharves, tramways, jetties, piers, and markets under the control of the council; the regulation of various trades and callings; the control of the general traffic in public places, boats and boatmen, vehicles, steam rollers, and bicycles.

The councils are also vested with all powers which were conferred upon any of the local bodies mentioned above (see page 1032 *ante*, par. 2), and which were abolished by the Local Government Act 1906.

(viii.) *Water Districts.* Any number of municipalities, situated so as to be capable of taking advantage collectively of some common water system or catchment area, may by petition to the Governor be constituted a water district under the Act. In every case where a water district is proclaimed upon the joint petition of two or more municipal councils the management of such district is in the hands of a joint council consisting of such a number of members of each of the councils as the Governor may determine. This council is invested with borrowing and rating powers and may supply water within the district on such terms as it may fix, provided that no water may be supplied for irrigation until domestic and stock supply purposes have first been satisfied. Provision is also made in the Act for uniting municipalities for the purpose of carrying out sewerage, irrigation, or water conservation schemes for the common benefit of the municipalities, or for any other purpose authorised by the Act, such as, in the opinion of the Governor, is likely to be of permanent utility, and is best capable of being carried out by concerted action.

3. Annual Value, Revenue, and Expenditure of Municipalities.—The following table shews the annual value, total receipts, and expenditure of municipalities for the years 1908, 1909 and 1910.

**TASMANIA.—ANNUAL VALUE, REVENUE, AND EXPENDITURE OF MUNICIPALITIES,
1908, 1909, and 1910.**

Year.	Number of Municipalities.	Annual Value of Ratable Property	Revenue.				Expenditure. ²
			From Rates.	From Govt.	From other Sources. ¹	Total.	
		£	£	£	£	£	£
1908 ...	51	1,340,243	142,466	40,254	186,466	369,186	353,699
1909 ...	51	1,404,328	173,453	44,293	92,244	309,990	318,501
1910 ...	51	1,459,917	147,750	35,616	87,994	271,360	266,108

1. Including sums derived from loans. 2. Including repayments of loans.

The capital value of ratable property in 1910 was £30,924,993.

4. Total Revenue and Expenditure of Local Bodies, 1908 to 1911.—Particulars as to Road Boards and Road Trusts are given in the chapter of this book on "Roads and Bridges." In addition to the local authorities already mentioned, Marine Boards have been established at seven ports in Tasmania for the purposes of constructing and maintaining wharves and jetties and of controlling all matters relating to the shipping in the respective ports. Twenty water trusts and forty cemetery trusts have also been established in connection with municipal bodies. The subjoined statement shews the total revenue and expenditure for all local bodies, exclusive of all amounts contributed by the general Government, during each financial year from 1908 to 1911 inclusive.

**TASMANIA.—REVENUE AND EXPENDITURE OF ALL LOCAL BODIES, EXCLUSIVE
OF AMOUNTS CONTRIBUTED BY THE GENERAL GOVERNMENT, 1908 to 1911.**

Particulars	1907-8.	1908-9.	1909-10.	1910-11.
*REVENUE.				
	£	£	£	£
Marine Boards and Lighthouses ...	66,586	72,810	74,723	72,507
Municipalities ...	170,159	396,186	309,990	271,360
Road and Bridge Trusts ...	34,612	†	†	†
Cemetery Trusts ...	1,269	†	†	||894
Town Boards ...	35,506	†	†	†
Water Trusts ...	18,715	2,281§	2,325	2,267
Total ...	326,847	471,277	387,038	347,028
†EXPENDITURE.				
	£	£	£	£
Marine Boards and Lighthouses ...	77,601	69,213	82,627	68,894
Municipalities ...	171,202	353,699	318,501	266,108
Road and Bridge Trusts ...	34,153	†	†	†
Cemetery Trusts ...	1,359	†	†	||769
Town Boards ...	35,328	†	†	†
Water Trusts ...	24,171	2,334§	1,923	4,138
Total ...	343,814	425,246	403,051	339,909

* Exclusive of amounts contributed by the general Government: † Exclusive of expenditure from Government contributions. ‡ Included in municipalities under the new Local Government Act. § Receipts and expenditure of eight water trusts not included in municipalities. || Exclusive of a number of cemetery trusts incorporated in the newly organised municipalities.

5. Hobart Water Supply.—The original water supply of Hobart was obtained from a stream known as the Hobart Rivulet, flowing from Mount Wellington, the works being carried out in 1831 by the Imperial Government. These works consisted of an aqueduct and a line of cast-iron pipes, the water being distributed to several points known as "wells." By an Act of the State Parliament passed in 1860 the works were transferred to the municipality. Under this Act certain additional streams flowing from Mount Wellington were acquired as sources of supply, and a storage reservoir containing 45,000,000 gallons was constructed. The catchment area on Mount Wellington at present comprises an area of 4200 acres, the sources of supply having been extended at various times as far as the North West Bay River, fifteen miles from Hobart.

(i.) *Storage Reservoirs.* There are two storage reservoirs about $2\frac{1}{2}$ miles from the city. One contains 68,000,000 gallons and is 502 feet above sea-level, while the other contains 45,000,000 gallons and is 447 feet above sea-level. The whole of the supply is by gravitation. The water is brought from the various streams by means of stone aqueducts and cast-iron pipes to the reservoirs, and thence by four 10-inch cast-iron mains, of which three lead to the distributing reservoirs and one direct to the shipping and southern portion of the city.

(ii.) *Capital Cost, Tenements Connected, Length of Mains, Revenue and Expenditure, 1911.* The total capital cost to the end of 1911 was £218,122, but a considerable amount of reticulation work has been done out of revenue and not charged to capita account. The outstanding loans at the end of 1911 amounted to £172,175. At the same date the number of tenements supplied in the city and suburbs was 7931, the population 38,884, and the length of reticulation mains 83 miles. The revenue and expenditure for the last six years were as follows:—

HOBART WATERWORKS.—REVENUE AND EXPENDITURE, 1906 to 1911.

Particulars.	1906.	1907.	1908.	1909.	1910.	1911.
	£	£	£	£	£	£
Revenue	19,125	21,802	19,719	20,091	20,643	31,207
Expenditure	15,817	17,785	22,901	23,729	22,238	20,381

(iii.) *Proposed Extensions.* Parliamentary sanction to borrow £93,000 has been obtained for the purpose of improving the water supply of the city and suburbs of Hobart; £75,000 of this amount is to be spent on a new storage reservoir, and a contract for the construction of the dam for £56,500 has recently been let, the balance being retained for expenditure on other works connected with the scheme.

6. Hobart Sewerage System.—A scheme for the construction of a sewerage system in Hobart was adopted in 1903. The sewage is discharged into the estuary of the River Derwent. Up to the end of the year 1911 about 68 miles of sewers had been laid, and 6089 tenements (out of a total of 6580) had been connected at a cost of about £174,760. The revenue for the year was £9180. The scheme, which is intended to sewer over 2000 acres so as to serve an estimated population of about 30,000 people, is almost completed.

§ 8. Local Government Finance.

1. Introduction.—In the preceding parts of this section certain particulars have been given regarding local authorities in each individual State. It is proposed to here give in a comparable form for each State particulars regarding the financial operations of local governing bodies. The areas controlled by these bodies are variously known in the

several States as cities, towns, boroughs, shires, municipalities, municipal districts, and road districts. The particulars given in the tables in the two next paragraphs relate to financial years ending as follow:—New South Wales: for the calendar year 1910. Victoria: 30th September, 1910, except Melbourne, 31st December, and Geelong, 31st August, 1910. Queensland: Calendar year, 1910. South Australia: Corporations, 30th November, and district councils, 30th June, 1910. Western Australia: 31st October, 1910, except road districts, 30th June, 1910. Tasmania: Calendar year, 1910.

2. **Number, Revenue, Expenditure and Valuation of Local Authorities, 1910.**—The following table gives particulars of the number, revenue, expenditure, and valuation of local authorities in each State and in the Commonwealth during the year 1910. It may be noted that, excepting in Tasmania, the metropolitan water supply systems are not under municipal control; the particulars given of revenue and expenditure for the five States other than Tasmania do not, therefore, include revenue and expenditure on account of these systems.

NUMBER, REVENUE, EXPENDITURE, AND VALUATION OF LOCAL AUTHORITIES IN EACH STATE, 1910.

Particulars.	N.S.W.	Victoria.	Q'land.	S. Aust.	W. Aust.	Tas.	C'wth.
No. of local authorities† ...	324	206	164	175	147	51	1,067

RECEIPTS.

Rates—	£	£	£	£	£	£	£
General	1,200,714	999,799	383,054	160,607	149,576	95,387	2,989,137
Other*	171,900	102,066	60,654	48,479	43,258	52,363	478,720
Government grants ...	357,036	187,323	14,128	164,145	74,638	35,616	832,886
Loans† and other sources	506,028	480,426	219,513	89,069	244,107	87,994	1,627,137
Total	2,235,678	1,769,614	677,349	462,300	511,579	271,360	5,927,880

EXPENDITURE.

Works, services, etc. ...	1,601,907	1,159,735	431,669	308,287	280,290	155,245	3,937,133
Interest on loans and overdrafts	162,686	206,355	14,312	7,142	39,105	36,864	466,464
Redemptions, sinking funds, etc.	††23,621	46,439	30,728	6,398	29,710	21,104	158,000
Administration	297,301	163,435	64,983	41,694	44,819	34,586	646,818
Other	**138,695	209,652	122,291	85,897	120,338	18,309	695,172
Total	2,224,210	1,785,616	663,973	449,418	514,262	266,108	5,903,587

VALUATIONS.

Capital value of property	§153,465,234	265,088,727	§49,797,830	68,214,887	§20,502,266	30,924,993	||
Annual value of property	††2,346,399	14,225,349	||	34,084,034	§1,304,157	1,459,917	||

† Including particulars for all areas controlled by local governing bodies responsible for the construction and maintenance of roads and streets, such area being variously known in the several States as cities, towns, boroughs, shires, municipalities, road districts, etc. * Exclusive of rates for water-supply and sewerage in metropolitan and most other principal towns, such rates being collected by special boards or general Government. † Exclusive of loans in connection with extraordinary works of construction. †† Sydney only. ** Including redemptions, sinking funds, etc., for municipalities other than Sydney. § Unimproved capital value. || Not available. § Municipalities only. ** Exclusive of three municipalities.

3. **Local Government Loans, 1910.**—The following table gives particulars for each State of loans raised by local authorities during the year 1910, of loans current at the end of that year, of liability on account of interest and sinking fund, and of loans maturing during 1910 :—

PARTICULARS OF LOANS RAISED BY LOCAL AUTHORITIES, 1910.

Particulars.	N.S.W.	Victoria.	Q'land.	S.A.	W.A.	Tas.	C'wealth.
	£	£	£	£	£	£	£
Loans from General Government—							
Raised during year ...	...	...	25,932	...	15,600	17,060	58,592
Current at end of year ...	...	196,184	359,381	...	76,050	272,395	904,010
Loans from other sources—							
Raised during year ...	717,140	396,335	*	74,250	42,086	35,482	*
Current at end of year ...	4,685,008	4,570,954	*	195,465	770,394	585,583	*
Total—							
Raised during year ...	717,140	396,335	*	74,250	57,686	52,542	*
Current at end of year ...	4,685,008	4,767,138	818,364	195,465	846,444	857,978	12,170,397
Current loans, exclusive of those obtained from general Government, raised within the C'wealth	3,604,402	4,570,954	*	191,565	770,394	...	*
Annual liability on account interest	183,978	204,331	18,752	7,862	39,209	37,584	491,716
Total sinking fund at end of year	290,995	837,581	33,074	25,293	171,451	104,433	1,462,827
Amount loans maturing during year							
Redeemed ...	...	...	†	3,632	7,950	31,406	*
Renewed ...	90,837	*	*	4,200	...	400	*

* Not available. † In the case of loans from Government the periodical payments include interest and sinking funds.