

### 3. Country Roads and Bridges.

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#### EARLY AUTHORITIES.

The first road construction authority in the area now forming the State of Victoria, was the Government of the Colony of New South Wales. That was before Victoria was separated from the parent colony, which separation was consummated in 1851 following the passage in the previous year of an Imperial Act, 13th and 14th *Victoria* Cap. 59, which provided that the Port Phillip District should be a separate Colony under the title of the Colony of Victoria.

Prior to Separation, and also before the establishment of local government institutions in the Port Phillip District, such road construction as had been carried out was done by the Government. In 1840, however, an Act was passed, 4th *Victoria* No. 12, which provided for the election of Trusts, the collection of tolls, and the levying of rates of up to sixpence per acre on lands within three miles of roads maintained by the Trusts.

Under this Act, a Trust, the first in the Port Phillip District, was constituted at Heidelberg.

In 1842, another Imperial Act was passed, 5th and 6th *Victoria* Cap. 76, which was an Act to enable the Government of New South Wales and Van Diemen's Land to establish, *inter alia*, district councils with power to strike rates, collect tolls, and to appoint district surveyors, who were required to pass an examination before a competent tribunal. In the same year a New South Wales Act, 6th *Victoria*, No. 7, provided for the incorporation of the Town of Melbourne. A few years later, October, 1849, a similar Act provided for the incorporation of the Town of Geelong. Thus it is that the Cities of Geelong and Melbourne owe their existence to legislation passed by the Legislative Council of New South Wales, all other municipalities in the State being constituted under legislation passed by the Parliament of Victoria.

The system of local Government provided for in the 1842 Act, Cap. 76, proved unsatisfactory, and a legislative committee was appointed by the New South Wales Government "to consider the question of the construction and maintenance of the roads and bridges of the Colony," i.e., the territory now forming the States of New South Wales, Victoria and Queensland. This was in the year 1847. It is interesting to note that this Commission recommended that "local trusts" should be constituted in lieu of the "District Councils" which had proved a failure and that their responsibility was to be the maintenance and repair of "district" roads and bridges, leaving the main trunk roads to be constructed and maintained by the Central Government.

This is the earliest record we have of a recognition of the principle that the local governing bodies should deal only with district roads, and that the construction and

maintenance of the main trunk roads was to be a responsibility of the State. At this period, 1847 to 1850, the agitation for the separation of Victoria from New South Wales was at its height; consequently it can be readily understood that very little was done in the direction of developing either local government or road legislation for a territory that it was recognized would in the near future have a Parliament of its own.

It has been mentioned that the constitution of "local districts" under district councils, Act 76, was not a success. Very few districts had been constituted, and fewer still district councils had been elected at the time of the actual separation in 1851.

#### FIRST VICTORIAN LEGISLATION.

The Legislative Council—the first form of government established for the new colony of Victoria—soon recognized the necessity for a better system of local government. The discovery of gold in the interior of the colony had been announced, the gold fever was at its height, and a tremendous increase in population and settlement was taking place.

A committee of the Legislative Council was, therefore, appointed in 1852 to enquire into and report upon the condition of the roads and bridges. The report which was furnished in 1853 is a most interesting document in the light of subsequent legislation affecting the road problem in Victoria. It revealed the dreadful conditions of the roads with the teeming traffic to and from the gold fields, the absence of bridges, the loss of human life, and the great cost of transport. The report recommended that the main roads should be dealt with separately from the purely local roads, that the former should be made by means of grants from the public revenues of the colony, and that *when they were completed* toll gates should be erected and the tolls expended in keeping the roads in repair. It also recommended the appointment of a "Central Road Board" to have exclusive power with regard to existing main roads and bridges thereon and all other roads in the colony until District Roads Boards were established, and to control the distribution of all funds for roads arising from grants and tolls. It recommended further the establishment of District Road Boards to be entrusted with the making, maintenance and improvement of parish and cross roads subject to the general plan of the Central Board.

This report, it is interesting to note, formed the basis of the first Roads Act of the legislature of Victoria, which was passed in 1853, *Victoria* No. 40, and was the genesis of our local government system as we know it to-day, exclusive of that relating to the Cities of Melbourne and Geelong. It is also important to note that the origin of our local Government system as applied to our rural districts

was due to the road problem of the day. This Roads Act of 1853 remained in force for ten years. Under it the Central Road Board and District Road Boards were established. Of course there were then no Shire or Borough Councils.

This Act was repealed in 1863 by an Act called the *Road Districts and Shire Act, Victoria No. 176*. Under this Act the Central Road Board was abolished. The constitution of Shires was authorised, and the Road Districts and Shires were made "bodies corporate." All roads within a shire or road district were placed under the control of the Council of the Shire or the Board of a Road District, as the case may be. All other roads outside a Road District or a Shire, remained the responsibility of the Central Government. To provide the necessary revenue, both Shires and District Road Boards were empowered to levy rates and tolls.

As the number of shires increased the District Road Boards decreased, the former gradually absorbing the latter, until the year 1869, when District Road Boards were abolished by the *Shire Statute, Victoria No. 358*.

The legislation above referred to, it will be noted, relates to rural areas as distinct from urban areas. But there was also an Act passed in 1854 by the Victorian Parliament, called the *Municipal Institutions Act, Victoria No. 15*, under which was created "Urban Municipal" districts. Under this Act, Boroughs including towns and cities were created. This Act, with subsequent amendments, became the *Boroughs Statute of 1869, Victoria No. 359*.

#### LOCAL GOVERNMENT ACT, 1874.

Up to this period, 1869, it will be noted that boroughs, including cities and towns, were created under legislation distinct from that relating to shires, and they remained under separate legislation until 1874, when both the *Shires Statute* and *Boroughs Statute* were repealed by the first *Local Government Act of 1874, Victoria No. 506*.

So far as the road question is concerned, this *Local Government Act of 1874* is important because it placed our local governing bodies other than Melbourne and Geelong, under the same legislation, and definitely placed the responsibility for the care and management of all public highways on the municipal councils, subject to such financial assistance as the finances of the State from year to year would allow in the form of endowment or special grants provided in the yearly Appropriation Act. Under this Act of 1874 the power to levy tolls was retained, but it was abolished three years later by *Act Victoria No. 567*.

#### THE COUNTRY ROADS BOARD.

This system remained in force until the year 1912, when the *Country Roads Act, Victoria No. 2415*, was passed, which provided for the appointment of a Board of three members, and an appropriation of two million pounds of loan money for the construction of a system of main roads, and also made provision for the maintenance of such roads by increasing the taxation on motor vehicles.

After a period of 38 years of disintegrated municipal control of our main roads, the State recognized that it should share with the municipalities the responsibility for financing the construction and maintenance of our principal traffic bearing and developmental roads to meet

the growing demands of traffic and the development of the State.

The change-over from purely municipal control to that at present existing was obtained only after years of agitation. For a long time the municipalities had felt that the road problem was beyond their capacity and financial resources. Representations were made to the Government year after year, but without success, and it was not until the year 1910 that the question of relief to the municipalities took definite shape in a report to the Minister of Public Works by Mr. Wm. Davidson, Inspector-General of Public Works, dated 10th May of that year, in which he recommended the appointment of a Board on the lines subsequently adopted.

Although the agitation for a better and more definite and permanent system of State financial assistance for roads had extended over many years, no Government had seriously considered the question, and Mr. Davidson's report is interesting from the fact that it is the first official document in which the appointment of a Roads Board is recommended to act in co-operation with the municipal authorities.

The *Country Roads Act of 1912 No. 2415*, was followed six years later by the *Developmental Roads Acts, Nos. 2944 and 2985*. These acts were designed to deal with the construction only of a secondary system of roads of somewhat lesser importance from a traffic point of view than the main roads, but really of more importance from the point of view of the development and settlement of rural areas.

In 1925 further legislation dealing with the main arterial roads, particularly those of an interstate character was enacted under the designation of the *Highways and Vehicles Act No. 3379*. This legislation placed the responsibility for the maintenance of certain arterial roads to be named state highways under the Country Roads Board without any contribution from the local authorities.

The principal classes of roads on which the Board's funds are expended may be summarised as follows:—

*Main Roads* are roads which, in the opinion of the Board, are of sufficient importance to come within that category, the principal points to be considered being (a) whether the roads are main arterial roads carrying extensive traffic between centres of population, or from one district to another; (b) whether they are subject to considerable traffic from rural districts to the rail system; and (c) whether they are developmental in character, i.e., whether their construction would be likely to lead to increased settlement or increased production.

*Developmental Roads* are roads (not being main roads or State Highways) which in the opinion of the Board are of sufficient importance and will serve to develop any area of land by providing access to a railway station or main road leading to a railway station.

*State Highways* are roads which, in the opinion of the Board, are of sufficient importance to be so declared.

The methods of financing the several classes of works undertaken are as set out hereunder:—

#### *Main Roads.*

*Construction.*—Half the cost is paid by the municipal councils over a period of 31½ years at a fixed rate of 6% per annum to cover interest and sinking fund. The total expenditure from the inception of the Board up to 30/6/1934, was £4,714,000.

*Maintenance.*—One third of the cost of maintenance work is paid by the councils in the financial year following that in which that work was carried out. The total expenditure under this head to 30/6/1934 was £7,370,000.

*Developmental Roads.*

*Construction.*—No portion of the principal is paid by the councils, but payment is made towards interest at rates varying from 1% to 3% per annum over 31½ years. Total expenditure to 30/6/1934—£6,315,000.

*Maintenance.*—The full cost of maintenance is borne by the councils.

*State Highways.*

*Construction.*—Half the cost is paid by the councils over a period of 31½ years as in the case of main roads. There has, however, been no expenditure under this head except from Federal grant.

*Maintenance and Reconstruction.*—No portion of the cost is borne by the councils. Expenditure up to 30/6/1934—£3,600,000.

*Federal-Aid Roads.*—Under the *Federal Aid Roads Act*, passed by the Federal Parliament, provision was made for an amount of £20,000,000 to be set aside for road construction purposes throughout the Commonwealth for a period of 10 years. This amount was allotted to the various States on a population and area basis, Victoria's share being £360,000 per annum. This came into operation in Victoria in December, 1926. These funds were originally allotted on condition that an amount equivalent to 15s. in the pound be provided by the State, but this condition has since been withdrawn.

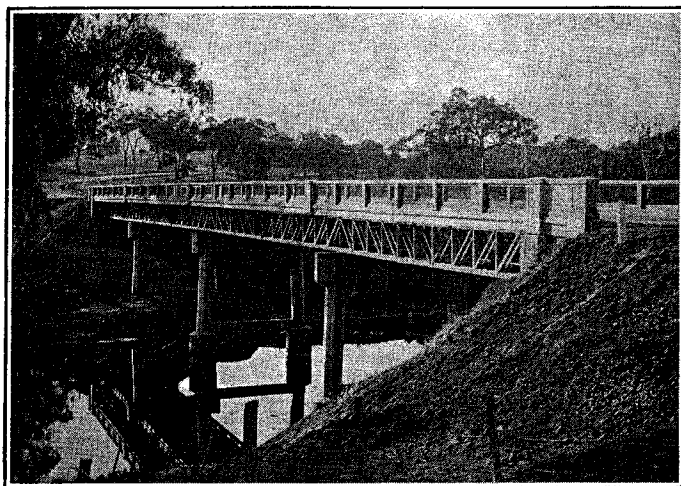
As from the 1st July, 1931, the agreement was amended by eliminating reference to the fixed amount of £2,000,000 to be distributed annually and by providing for the proceeds of a customs duty of 2½d. per gallon on imported petrol and an excise duty of 1½d. per gallon on petrol refined in Australia, to be distributed in the same proportions as those laid down in the original agreement. That proportion in the case of Victoria is £360/2,000ths. These funds are also available for maintenance. The total expenditure from the source, up to 30/6/1934 is £2,588,820.

The works carried out by the Board have so far been almost entirely in rural areas. The climatic conditions in this State are generally temperate, and the traffic in rural areas comparatively light, and these factors have led to the general adoption of what are usually termed "low cost" types of road pavement. In the construction of the road formation, however, both in hill and plain country, the Board has always insisted that the ultimate standard of the road must be kept in mind, and for this reason high standards of grade and alignment have been adhered to, consistent with the ultimate traffic expected in each particular locality. In the construction of the pavements, however, stage construction has been adopted, the initial pavement being frequently merely light loaming, or surfacing with gravel, fine crushed rock, limestone, granitic sand or similar fine grained materials which can be procured locally.

The Board has done a considerable amount of developmental work both in the field and in the laboratory, in an endeavour to utilize, as far as possible, local sources of material for pavement construction. The results have been highly satisfactory, as in practically all cases the anticipated life of the first stage has been much exceeded, and the strengthening allowed for in the initial planning has seldom been required within the estimated period. The result has been that practically the whole of the main roads in the State, or developmental roads carrying any quantity

of traffic, have an all weather surface, thus very considerably reducing transport costs and making markets accessible to primary producers. As an instance of the effectiveness of this work, it might be pointed out that the valuations of the land in the Gippsland Shires in 1913 was £32,000,000 and in 1924 this had risen to £64,000,000. During this period practically the only developmental work undertaken in this large area was road construction.

For arterial roads carrying, for Victoria, a considerable volume of traffic, it has been found that the light type of fine-grained pavement, mentioned above, can be surface sealed with a bituminous seal coat if the correct type of



*Sunday Creek Bridge (1930). One of the first Welded Steel Bridges constructed by the Board.*

primer is chosen. These surface sealed roads have been found capable of carrying the heaviest traffic that is imposed on any rural roads in the State system, and evidence of sections laid in outer urban areas as experimental sections, and observations of work done overseas, indicate that this type of construction will be adequate for rural payments in Victoria for some years to come, even making liberal allowance for growth of traffic.

In bridge construction the Board has adopted the principle of designing each part of the structure for the duty it will be called upon to bear. For instance, it is seldom that any bridge is constructed entirely either of timber, concrete or steel. As an instance of this type of design, the Board has built many bridges with timber substructure, concrete wing and abutment sheeting, rolled steel joists for the main girders, and timber decking. Experimental work, observation of old bridges, and information supplied by the Forests Products Branch of the Bureau of Science and Industry have led to the development of details in timber bridge work that should considerably lengthen the life of the structures. In concrete and steel design conventional methods have generally been followed, although the Board can probably claim to be one of the earliest bodies using welded steel construction as a routine method for both plate girders and trusses. The McKillop bridge over the Snowy River was, it is believed, at the time of construction the largest all-welded steel highway bridge in the world, its length being 750 feet.