

During the year the Government was faced with the problem of unemployment. It was recognized by the Board that the inauguration of road-improvement schemes would assist largely in relieving the position, and it was accordingly resolved to co-operate to the fullest extent, consistent with the finances available. As a result a number of new road-improvement works have been put in hand, some of which, however, are a few years in advance of requirements.

MAINTENANCE.

The Board has continued its efforts to secure better maintenance of the main highways, and it is gratifying to be able to report further progress in this direction in spite of the ever-increasing demands of traffic. During the past year many more local authorities have obtained up-to-date plant, and the attention now given to gravel and pumice roads in the way of regular grading is much more intense than heretofore, with corresponding benefits to the travelling public. In particular, power graders of various types are being used in ever-increasing numbers.

It is interesting to compare the average cost of maintenance per mile per annum during the three years since the Board commenced its operations. The figures are—1924-25, £51·7 per mile; 1925-26, £73·2 per mile; 1926-27, £111·9 per mile. The very substantial increase during the past year has been due to several causes, the principal ones being the more favourable subsidy granted by the Board, and the increased funds provided by the local authorities. The increase in cost of maintenance during the past three years is almost an exact reflection of the increase in the number of motor-vehicles, the figures in both cases having slightly more than doubled. In the same period the Board's statutory contribution to maintenance has increased from 33 per cent. to 60 per cent.

In order to assist and educate those responsible for the maintenance of highways, the Board issued early in 1927 its first bulletin, entitled "Highway Maintenance." The publication comprises fifty-one pages, and is very amply illustrated. Copies of the bulletin were supplied free of charge to all members of County Councils and all County and Borough Engineers in the Dominion. To meet the public demand copies are available for sale at a nominal charge.

CONSTRUCTION.

Considerable progress has been made with construction work during the past year, particularly in the North Island. The Board has continued its policy of closing up unmetalled gaps in the main-highway system, although one or two schemes involving work of this nature have been temporarily retarded by the unwillingness of the local authorities to find the relatively small proportion of the cost which has been required by the Board before authorizing the commencement of operations.

Work was continued on the Waitakaruru section of the Pokeno-Waihi Main Highway, but the connection was not quite completed by the end of last construction season. A considerable amount of surfacing-work was carried out on the Mamaku Bush section of the Hamilton-Rotorua Main Highway, resulting in greatly improved conditions for the travelling public. A portion of the highway in this locality is being deviated, and when the surfacing of this deviation is complete and a topping of shingle placed on the soft rhyolite foundation all-the-year-round access will be available to the thermal district.

In the vicinity of Auckland a considerable length of concrete pavement has been laid down, and although a large number of local authorities have been concerned in the work, wonderful co-operation has been displayed in achieving the construction of a continuous length of high-class road. The result is that the motorist can now travel on practically an unbroken ribbon of concrete from the Township of Henderson, north of the City of Auckland, to the Township of Papakura, in the south, a distance of nearly 30 miles.

In the vicinity of the City of Wellington the Board has subsidized the cost of a considerable length of bituminous concrete pavement constructed by the Wellington City and Suburban Highways Board under the special local legislation passed in 1924.

In the Hawke's Bay County, adjacent to the Town of Napier, 1 mile of concrete pavement and 4 miles of bituminous concrete pavement were completed.

Several counties have proceeded with very comprehensive surfacing schemes involving the use of the cheaper forms of bituminous construction. In particular, the Counties of Horowhenua, Egmont, and Matamata have made great progress.

In the South Island bituminous construction has been limited to a few miles in the vicinity of Christchurch, Timaru, and Invercargill.

The erection of a number of important bridges has been undertaken during the year, the principal of which are the following: Waihou River Bridge at Kirikiri, 1,520 ft. in length; Selwyn River Bridge, 1,050 ft.; Waioeka River Bridge, 1,000 ft.; Manawatu River Bridge near Shannon, 720 ft.; Mokau River Bridge, 660 ft. Two of these bridges provide passages for navigation purposes—the Waihou Bridge by means of a swing span, and the Mokau Bridge by means of a lift span. The completion of the Mokau Bridge will eliminate the last ferry on the primary highway system of the Dominion.

To expedite the approval of small construction projects, power was given to the Board's representatives in the various districts to approve proposals submitted by local authorities in the case of formation, gravelling, and metalling up to an estimated cost not exceeding £1,000, and in the case of structures up to an estimated cost not exceeding £500. This step was found possible by reason of the better knowledge and appreciation of the Board's requirements displayed by local authorities.

In regard to standards of construction, the Board has continually endeavoured to improve alignment and sight distance consistent with the funds available, the improvement of grades being regarded as of secondary importance. While an endeavour is made to obtain grades not steeper than 1 in 15 on the primary highway system, nevertheless proposals have been approved for retaining grades as steep as 1 in 11 where the alignment has been good.