

IV. MANAGEMENT.

(a.) PERMANENT-WAY AND WORKS.

The Permanent-way and Works Department is controlled by the Chief Engineer, stationed at Wellington, whose organization is shown on the accompanying chart.

Headquarters Staff.

There is an Assistant Chief Engineer at Wellington, and a headquarters staff of two Inspecting Engineers, a Land Officer, clerks, and draughtsmen.

An inspection of the several districts is made once each year by one of the Inspecting Engineers, with a view to co-ordinating the methods of work. The other Inspecting Engineer acts in the capacity of Designing Engineer. The Land Officer has charge of the arrangements in connection with the taking of land, keeping up of land-plans, leasing of land, private sidings, agreements, easements, &c.

District Engineers.

So far as the Engineering Department is concerned the system is divided into nine districts, five in the North and four in the South Island. Each of these is in the charge of a District Engineer, who has under him an Assistant District Engineer, Inspectors of Permanent-way, a Foreman of Works, and Bridge Inspectors.

The District Engineers are responsible for the maintenance of track, bridges, buildings, and all fixed structures and all new constructional work. The Foreman of Works is responsible to the District Engineer for the upkeep of structures and appliances and for any new structural or building works, while the Bridge Inspectors—under the Foreman of Works—inspect all bridges at least once in every three months, and examine and report on buildings, sanitary arrangements, appliances, &c. The Inspectors of Permanent-way attached to the District Engineer control the line gangs, relaying, ballasting, and earthworks gangs on the various sections of line.

Mileage.

The route-mileage of line for which the Chief Engineer is responsible was 3,064* as at the 31st March, 1924, with a track mileage of 3,107, consisting of 3,021 single and 86 double tracks.

The total track mileage, average single track, including sidings, maintained for the twelve months ended the 31st March, 1924, was 3,942.

Gradients and Curves.

The percentage of steep gradients on the New Zealand railways is comparatively large. Between Auckland and Wellington 6 per cent. of the track is steeper than 1 in 50, 27 per cent. is steeper than 1 in 100, and over 60 per cent. is steeper than 1 in 200. From Marton to New Plymouth there are some 12 miles of grades approximating 1 in 35, and of the total length 20 per cent. of the track has grades steeper than 1 in 50, 40 per cent. has grades steeper than 1 in 100, and over 70 per cent. has grades of 1 in 200 or steeper.

For the whole of New Zealand the average percentage of grades is as follows:—

Under 1 in 50 ..	..	..	9 per cent. of total mileage.
Under 1 in 75 ..	..	..	19 per cent. of total mileage.
Under 1 in 100 ..	..	..	25 per cent. of total mileage.
Under 1 in 200 ..	..	..	50 per cent. of total mileage.

So far as curvature is concerned, of the total mileage 6 per cent. has curves of 10 chains and under, 12 per cent. has curves of 15 chains and under, and a total of 26 per cent. of the track is curved.

* Annual Railway Report for 1924 shows 3,053 route-miles in general statement.