

*Mileage.*—New lines opened for traffic:—

On the Whangarei Section—						M. ch.
Extension from Whakapara to Waiotū ...	...	...	...	...	...	3 26
On the Auckland Section—						
Extension from Paeroa to Thames ...	...	...	...	...	...	19 20
On the Hurunui-Bluff Section—						
Extension of Otago Central Railway from Kokonga to Ranfurly ...	...	...	...	...	...	11 13
Total						...
						...
						33 59

Total mileage of railways open for traffic on 31st March, 1899, was 2,084 miles 27 chains.

*Permanent-way.*—Speaking generally, the railway-lines have been kept up in fair condition, and are in many respects showing improvement.

*Rail Renewals.*—There have been about 47 miles of permanent-way relaid. During the year the removal of the original 40 lb. way from the main line on the Hurunui-Bluff Section and the relaying with standard rails was completed. Similar work in the North Island has been pushed on.

The rate of renewals over the past four years shows an increase over the previous four years; but the rate of renewal must be further accelerated to keep pace with the increasing traffic.

Another element has lately come into prominence, and that is the rusting of steel rails in certain limited localities. This is due to climatic and other causes, and in some places is advancing at a comparatively rapid rate, so much so as to demand special provision being made to meet it. When iron rails were more generally used this trouble was not experienced.

*Sleeper Renewals.*—New sleepers to the number of 331,301 have been laid in the track during the year. Of this amount 282,326 are due to ordinary renewals, and 48,975 are additional sleepers laid to raise the track to a higher standard of stability. This represents the closer sleepers under the forty-seven miles of track relaid, and sixty miles more of existing track reinforced by re-spacing of sleepers. In this manner 107 miles have been raised to a higher standard. Speaking generally, the re-spacing implies the placing of eleven sleepers under a 24 ft. rail-length instead of nine, which was the previous practice, with the object of giving better bearing to the rail; other rail-lengths are sleepers in proportion.

*Ballasting.*—There has been more ballasting done than in any other previous year on record. There is still a great deal more to be done, and this will be undertaken as engines and wagons are available.

*Floods, Slips, &c.*—A flood in the Kaihu River damaged the south abutment of one of the bridges, which required protection with stone pitching.

A heavy flood in January last did some damage on the Thames line.

The breastwork at Te Aro Station, Wellington, was considerably undermined by action of the sea. This has been reinstated and strengthened.

Slips on the Wellington line have been frequent during the year, but only on one or two occasions has traffic been suspended in consequence.

Temporary protective works have been carried out to prevent scouring by the Hutt River, and similarly in the Pakuratahi.

Two slips on the Wellington line have been drained by tunnels.

In the Christchurch district the foreshore protective work at Timaru has been further extended. The Waimakariri River has widened its bed considerably at Stewart's Gully, near Kaiapoi, and the protective works there have been extended to meet this. The heaviest flood recorded for twenty years occurred in February last in the Rangatata River. The protective works there stood well. The Rakaia River also had a heavier flood than has been known since 1887, but no damage was done.

In the Dunedin district the stone protective works have been extended and strengthened at the Upper Waitaki Bridge.

In the Invercargill district a rock-slip occurred near Lumsden, requiring a considerable amount of work to reduce the batters. Protective works were built to check encroachment of the Oreti River at Josephville, and similarly at the Oreti Bridge, on the Mararoa Branch.

On the Nelson Section the protective works on the Wai-iti River suffered some damage during a severe flood, and have been repaired and extended.

On the Picton Section floods have been unusually severe, and occasioned some slips near Picton, and washouts at Para, Tuamarina, and Blenheim. New flood-openings have been provided.

*Bridges.*—Whangarei Section: Several bridges have been renewed in ironbark, and otherwise strengthened.

Auckland Section: The bridge-work on this section has been chiefly directed to increasing the strength of bridges, in view of the use of heavier locomotives.

Wanganui District: The reconstruction of the Rangitikei Bridge has progressed as far as the supply of material has allowed. Iron cylinders for four new spans of 120 ft. have been sunk, braced, and filled with concrete. The original 120 ft. span has been lifted 4 ft. to the new level. Iron lower chords for the new spans are practically complete, and most of the ironwork provided. As soon as the timber, which has been some time under order, is delivered the bridge will be rapidly completed. The cylinders were supplied under contract with Messrs. Luke and Sons, of Wellington. The Whenuakura Bridge has been completely rebuilt to a stronger type.

The Patea Viaduct has been superseded by a deviation of the line in solid cutting and filling, and a short bridge constructed for the waterway.

Three 60 ft. bridges in the Taranaki District have been rebuilt.

Napier District: The bridges between Woodville and Waipukurau were strengthened to allow of the running of N Class engines. The iron viaduct at Makotuku was completed under contract with Messrs. J. and A. Anderson, of Christchurch, and a commencement has been made with a