

APPENDICES

APPENDIX A.

GENTLEMEN,—

Chief Engineer's Office, Wellington, 7th May, 1892.

I have the honour to report on the working of the Maintenance Department of the New Zealand railways for the year ended 31st March, 1892.

Extensions.—There were two extensions of railway opened during the year—namely, 6m. 18ch. of the Catlin's River Branch, and 22m. 78ch. of the Otago Central line to Middlemarch.

The lines throughout have been maintained in good condition.

Permanent-way New Rails.—Renewals of the permanent-way have been effected of an aggregate length of 36m. 44ch. During the last ten years an aggregate length of 350 miles of 53lb. steel rails has been relaid in place of worn-out rails, chiefly of 40lb. iron.

New Sleepers.—The renewal of sleepers also shows an increase.

A comparison of numbers laid during the last four years is as below :—

		Per Mile.
In year ending 31st March, 1889	107,278	60
" " 1890	128,418	70
" " 1891	131,564	71
" " 1892	139,257	74

This shows a steady but not more rapid increase than is to be expected.

Structures.—In effecting repairs and renewals of structures it has been the practice to renew them in a more substantial manner than as originally built.

Timber culverts have been renewed in great numbers in concrete, and decayed wooden box-drains have been replaced with concrete barrel-drains.

Many cattle-stops originally built of matai timber which decayed in seven or eight years, are renewed in more permanent materials, which will be good for forty or fifty years.

In the bridge-renewals the structures are made of a more permanent character

Attention is given to simplifying structures wherever practicable, to reduce cost of repairs and the stocks of timber necessary to provide for emergencies.

Through the treacherous ground between Palmerston South and Waitati there was great trouble from slips in the cuttings and under some of the large embankments.

Extensive works have been carried out by which the water is drained out, and a great extent of unstable ground is now consolidated.

In the Christchurch and Invercargill districts the liability to flood-damages was a constantly-recurring cause of expense. This liability has been reduced by protective works. These works cost but little to maintain, and, besides protecting the railway also protect large areas of adjacent country

The expenditure of former years is, by these and other similar means, largely operating in keeping down that increase of cost of maintenance due to the increasing age of lines.

On the whole, the railways have increased in stability and durability and are becoming more substantial and in a better condition year by year to meet the increasing traffic.

The expenditure on water-services has increased by reason of having to provide for larger engines, which take water at fewer places, but require much larger supplies.

New 4,000-gallon water-tanks have been erected at Takapau and Makotuku, and windmills at Takapau and Duntroon. A new steam-pump has been erected at Dannevirke, and another at Mosgiel.

Station-buildings and dwelling-houses have required a great deal of work. They have been maintained in good condition.

The bridges on Napier line have been strengthened to provide for heavier engines.

Nine new piers were built for the Rakaia bridge, in consequence of the river scouring where old piles were not deep enough.

Floods in the Pohangina River threatened the flank of the embankment approaching the bridge on west side. The bank of the river has been protected with groins and willow plantations.

The Rangitata protective works are standing well. Additional willows have been planted.

In February last the North Canterbury rivers were flooded, and some damage was threatened on the Pahau and Waihao. Some small protective works are designed to protect these points.

The floods of February last did considerable damage on the Duntroon and Hakateramea Branch, and in the lower Taieri Valley. These damages were made good temporarily, so that traffic was restored in a few days after the floods subsided.

Extensive renewal of timber-work has been done on the Brunner suspension-bridge.

Bridge-repairs generally have been heavier than in the previous year

A great many of the older bridges are requiring extensive renewal.

Heavy repairs have been in hand on the wharves at Greymouth, Nelson, and Port Chalmers.

The coal-staiths at Westport have had necessary repairs. The gangways approaching same have been renewed and widened. The new staiths are approaching completion under contract with the Harbour Board. The alteration of the existing staiths to suit the extension is well advanced and will be ready as soon as the new work.