

The cost of the Christchurch Station is £320,000, and it will take five years to complete. The cost of the Addington marshalling-yard is £100,000, and it will take three years to complete. For plans see Appendices Nos. 6 and 7.

Lyttelton Tunnel.

A double line through the tunnel is urgently required, the existing track being entirely inadequate as a means of communication between Christchurch and its port. Smoke in a single-track tunnel one mile and a half long is at times most objectionable. The tunnel can be widened to permit of a second track without impeding traffic during the operation.

The work will cost £125,000, and take four years to complete. It should be put in hand as soon as possible.

Lyttelton Yard.

This yard cannot cope with the volume of business now passing through the port. It is short of siding-room, but, above all, it is badly planned. It is impossible to shunt any two adjacent wharves at the same time through lack of independent shunting-necks. The plan proposed gives the necessary accommodation in addition to room for expansion, and will allow of the necessary number of engines working without interfering with one another. The plan further provides for an up-to-date passenger-station for the ferry steamers on the Gladstone Pier. This is the only place in Lyttelton Harbour where a station can be placed alongside the ships. The plan has the approval of the Harbour Board.

The cost of the work will be £100,000, and it will take four years to complete.

For plan see Appendix No. 8.

Electrification, Lyttelton-Christchurch Line.

In studying the conditions at Lyttelton and Christchurch I have given careful consideration to the proposal to electrify the line. The advocates of electrification of the Lyttelton-Christchurch line have an exaggerated idea as to the benefits to be derived from the substitution of electrical haulage for steam between these two points, especially those out-and-out enthusiasts who press for electrification in preference to duplication. The substitution of electricity for steam haulage over the single line would merely cure the smoke nuisance. The congestion and delay to traffic caused by the disabilities of the single line would remain uncured.

It is obvious that what is immediately required is an up and down track to facilitate the means of traffic-working between Christchurch and its watergate. The present single line cannot cope with the business when shipping is brisk.

It remains to be seen to what extent there will be any annoyance from smoke when the double tunnel is completed. It is difficult to imagine it will be a serious matter, bearing in mind that the tunnel is not on a steep gradient, and that if necessary a fan can be erected to keep the tunnel clear of an excessive quantity of smoke.

I have had practical experience of the substitution of electrical power for steam on a working railway, and am an advocate of electrification under suitable circumstances. Electrification is most desirable in the case of railways serving densely populated suburban areas where stations are numerous and close together, and where practically a continuous passenger service is required; the rapid acceleration of electrical multiple-unit passenger trains enabling a quicker and more frequent service to be given. But the circumstances of Christchurch do not warrant the expenditure, the passenger business can easily be dealt with under steam haulage. The line is not densely populated, and the goods traffic can be as well, if not better, handled by steam. The double line is necessary between Lyttelton and Christchurch, but electrification under the circumstances would be an extravagance.

New Stations.

Items are included in the loan for new stations at Palmerston North, Hastings, and Timaru, the local business in each case having overtaken the accommodation, necessitating the stations and yards being enlarged and remodelled to meet requirements. Palmerston North will cost £40,000, and take two years to complete; Hastings £40,000, three years to complete; and Timaru £40,000, three years to complete.

Ashburton Station requires remodelling, but this will be undertaken out of "Additions-to-open-lines" vote. The completion of the Invercargill goods-shed and yard will be carried out under the same fund, as well as improvements at Avondale, New Lynn, Onehunga, Ngaruawahia, Mamaku, Ohakune, Taihape, New Plymouth, Wanganui, East Town, Makerua, Pukerua, Paremata, Porirua, Johnsonville, Khandallah, Woodville, Petone, Orari, Waipara, Springfield, Sutherland's, Otekaike, Port Chalmers, Hillside, Heriot, Winton, Picton, and a number of other stations in various parts of the railway system where the expenditure involved is not excessive.

LOAN FOR NEW WORKS, IMPROVEMENTS, ETC.

The improvements to the working railways referred to in this report entail a total estimated expenditure of £3,250,000, spread over a period of five years, the rate of expenditure being as under:—

	£
First year after loan authorized	434,200
Second year	839,200
Third year	968,200
Fourth year	609,200
Fifth year	399,200
Total	<u>£3,250,000</u>