

REPORT OF CHIEF ENGINEER OF RAILWAYS ON NEW WORKS AND IMPROVEMENTS.

AUCKLAND—WESTFIELD DEVIATION.

Quite apart from the necessity of this work to cope with the fast-growing increase of traffic, I anticipate the construction of the new line will be an economical proposition. The new line will carry for the same power three times the present traffic. Of the present goods traffic this line will carry, say, 3,000 gross tons per day inwards, and 2,700 gross tons per day outwards; and, allowing a 50-per-cent. increase in six years, will give a total of 8,000 gross tons per day in addition to the passenger services. The saving in goods and passenger services should total, say, £22,500 per annum, which will pay approximately 5 per cent. on cost of deviation, placed at £450,000. Every increase in traffic will, of course, improve the position.

AUCKLAND NEW STATION AND YARD.

The importance of this work cannot be over-emphasized. Up to 1914 the curve of annual increase averaged $7\frac{1}{2}$ per cent.; this is equivalent to a 40-per-cent. increase in five years or 100-per-cent. increase in ten years. The present goods traffic is approximately 3,500 tons per day inward and 3,200 tons per day outward (including tare of wagons not included in diagram of analysis of traffic). It will take some years to complete the work, and, allowing only an increase of 50 per cent. in, say, six years' time, the traffic will then be 10,000 gross tons per day. The saving in terminal and shunting charges is difficult to assess, but may easily reach £15,000 under present conditions, and, furthermore, may largely exceed that figure if the traffic keeps increasing in such a manner as to make the present facilities inadequate.

The yard is designed to give all facilities in the lay-out—viz, passenger-station, local goods-yard, marshalling-yard, engine-depot. In a limited time it will no doubt be found necessary to give further accommodation. To enable this to be done the marshalling-yard will then be shifted to Hobson Bay. At a still later date it may be necessary to remove the engine-depot, but by this time I anticipate electrification will be the only economical proposition. The cost of the new yard I estimate at approximately £550,000. As a set-off against this there will be the value of the land between Queen Street and Breakwater Road, probably some £250,000. A design to give a one-level station has been prepared.

PAEROA REARRANGEMENT.

A commencement with this work has already been made. The improvement and stop-banking of the Ohinemuri and Waihou Rivers has necessitated raising the railway-line over the Ohinemuri River and placing the station farther from the river. At the same time it is necessary to enlarge the yard, as it will be a junction station of considerable importance when the through line to Tauranga and eastwards is opened, and of still greater importance when the Pokeno—Paeroa deviation is constructed.

PALMERSTON NORTH YARD.

Palmerston North station-yard is one of the most important links in the North Island railway system. From its position as the central distributing-point for traffic from the Wellington, Wairarapa, Napier, Main Trunk, New Plymouth, and Foxton lines its importance will grow commensurate with the North Island traffic. The increase in through traffic requiring facilities for marshalling and sorting wagons for the various lines, and based on the increase in the North Island traffic, may be put at 100 per cent. in $12\frac{1}{2}$ years. The present yards are extremely congested, and quite inadequate for the business. On the present site improvements of any consequence cannot be made. With the proposed new yard, adequate facilities for an increasing traffic can be given, and at the same time the cost of working largely reduced. I estimate the cost at £390,000, and as a set-off there will be the value of land released at the present station-site, say £150,000. At the Palmerston North Railway Facilities Commission it was estimated at £200,000. In addition an amount of £50,000 will be required for the deviation of the Napier line from Boundary Road to Whakaranga.

WELLINGTON NEW YARD AND DEVIATION.

The work consists of—

(a.) *Reclamation*.—Sea-wall, £200,000; reclamation, £200,000; culverts, &c., £25,000: total, £425,000. We are already committed to this. The construction of sea-wall is in hand, and we have paid out some £25,000. The preliminary work in connection with reclamation is in hand.

(b.) *Station-yard*.—The amount put down for this work was originally £750,000. On going through plans and estimates I think we might reasonably reduce this to £650,000. Part of the work, such as new stores-depot, &c., is not really a charge against the new yard, and for comparative purposes might be placed against "Miscellaneous." There should be a large annual saving in working-costs by the provision of an up-to-date central yard in place of the two scattered yards at present in use. To work the present two stations costs over £80,000 per annum, and on investigation I place the saving in working in the single new yard on a conservative basis at £20,000 per annum. This capitalizes on a 5-per-cent. basis at £400,000.

(c.) *Tawa Flat Deviation*.—The Tawa Flat deviation is estimated to cost £950,000. The present gross tonnage hauled per day is—Outward, 4,000; inward, 3,800: total, 7,800 (in 1923). The