## 1908 NEW ZEALAND.

## OPUNAKE-ELTHAM AND OPUNAKE-STRATFORD RAILWAY ROUTES

(REPORT OF ENGINEERS WHO SURVEYED THE).

Return to an Order of the House of Representatives dated the 21st August, 1908.

Ordered, "That there be laid before this House a report of the Engineers who surveyed the Opunake-Eitham and Opunake-Stratford Railway routes."—(Mr. OKEY.)

## REPORT.

Public Works Department, Wellington, N.Z., 30th July, 1907.

Opunake Branch Railway.

Under-Secretary.

The country between the railway-line from Hawera to Stratford and Opunake consists of a plain sloping down from the mountain. Where the several routes cross it this slope will average perhaps 1 ft. per chain. There are a great many watercourses, as might be expected, rising on the slopes of the mountain and falling into the sea. These streams converge in their courses so that the nearer any road or line is situated to the mountain the more numerous will be the bridges and culverts required. Near the sea-coast the plain has not very much fall, and ends in cliffs. The rivers have cut down through the cliffs to sea-level, so that it is not easy to construct a line anywhere near the coast-line on account of these rather deep valleys. The same thing happens towards the mountain, where the rivers run in gorges formed by spurs rising towards the mountain from the flatter country. In between these two belts there is a belt in which the rivers have very shallow valleys, and it is across this belt that the Eltham and Te Roti routes have been surveyed. The best country is near the sea, the quality deteriorating towards the mountain. It is therefore from the coast belt that the most traffic for a railway will be derived.

Many years ago, when the country was being laid out as a settlement, a reserve for a railway was made, extending from near Eltham right through to Opunake in almost a straight line. This route is situated a little too far to the north to serve the country generally in the most efficient manner; accordingly another route about a mile and three-quarters to the south has been surveyed, which is known as the Te Roti route, as it joins the present open line at Te Roti Station. This route is the most central, it is the shortest, and it is also the cheapest, and, besides, as the bulk of the carting which will be derived along the sea-coast will be uphill, the line should be to the southward rather than to the northward, in order to shorten the carting-distance. Any produce to be carted from the country north of the line will be on a descending grade, and can therefore be carted further at the same cost.

The Te Roti route, being on all points the most suitable to serve the interests of the district, and the one most likely to receive the greatest amount of traffic, is recommended for adoption.

There is only one feature about the route that might call for amendment, and that is, the line where it joins the open line should tend to convey produce by the shortest route to the nearest main seaport, which is New Plymouth.