

It was apparently intended in the original specifications of the railway that all curves should be laid out so as to be eased if found desirable to do so. The configuration of the country traversed is such that on the present location it would be quite impracticable to provide a minimum curvature of 5 chains radius over about half the distance. From Putaruru to 19 m. (near Kopokorahi) there would be no serious difficulty in altering the railway, a slight relocation of about one mile and a half only being necessary. From 19 m. to Mokai it would be necessary to relocate the railway altogether, and the nature of the country indicates that the works would be heavy. Presumably, if such proposals were carried out the railway would be extended to Taupo. I have therefore included in the estimate subjoined the estimated cost of the Taupo extension, leaving the existing railway from the junction of the extension to Mokai to be worked as at present. Although existing Government engine, car, and wagon rolling-stock would be available for such a railway, additional rolling-stock would have to be provided, and this is included in the estimate.

I estimate the cost of the work as follows :—

	£	£
(1.) Putaruru to 19 m.	95,000	
(2.) 19 m. to Oruanui (junction with Taupo Station)	470,000	
	<hr/>	565,000
(3.) Oruanui to Taupo		335,000
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Total, Putaruru to Taupo		£900,000
(4.) Rolling-stock		60,000
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Total		<u>£960,000</u>

(Say, £1,000,000.) Detailed statement of estimate is enclosed.

3. *Estimated Cost of bringing the Railway from Putaruru to 19 m. up to the New Zealand Government Standard for Secondary Railways, the Railway from that Point to be worked as at Present.*

In addition to the estimated cost of altering the railway from Putaruru to 19 m. as stated in (2), terminal and exchange facilities would be required at Kopokorahi (19 m.). The cost may be stated thus :—

	£
Cost from Putaruru to 19 m.	95,000
Terminal, &c., facilities at Kopokorahi	5,000
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Total cost	<u>£100,000</u>

If desired to make the railway from 19 m. to Mokai suitable for passenger and general-goods traffic the cost of the works and rolling-stock required would be about £60,000.

For your information I enclose the following :—

- (1.) Detailed estimates of cost.
- (2.) Diagram showing limiting gradients on the railway between various points and percentages of curvature.
- (3.) Table showing total length of curves of various radii from $1\frac{1}{2}$ chains to $4\frac{3}{4}$ chains.
- (4.) Diagrams showing position of the Totara Timber Company's and N.Z.R. rolling-stock on curve of $1\frac{1}{2}$ chains radius and in cutting (on $1\frac{1}{2}$ -chain curve) with various clearances.

The estimates which I have prepared have been based on current rates for labour and materials, but on the assumption that the work would be spread over some time and that the utmost economy would be exercised. In the short time at my disposal for inspection the report and estimates can only be considered as a general review of the position.

I desire to take this opportunity to express my thanks to the officers of the Taupo Totara Timber Company for their kindness in giving all information desired, and placing every facility at the disposal of my officers and myself in connection with our inquiries.

I have, &c.,

F. W. MACLEAN,

Chief Engineer, New Zealand Railways.

The Chairman, Taupo Totara Timber Company Commission.

1. **ESTIMATED COST OF WORKS REQUIRED TO MAKE THE RAILWAY SUITABLE FOR PASSENGER AND GENERAL-GOODS TRAFFIC.**

Cuttings and embankments to be of minimum width of 10 ft.; existing track (rails 30 lb. per yard) to be strengthened on curves; existing curves and gradients to be retained. Bridges to be suitable strength for present loads. Structures to be provided with satisfactory clearances. Stations to be provided with shelter-sheds and conveniences, and additional stations to be provided where necessary for traffic.