

Mr. Mackay considered it undesirable to cross to the west bank of the Waikato, and I had very little opportunity of forming an opinion as to the suitability of the country for making a railway through it; but I believe a shorter line (as shown dotted on map) could be got by keeping to the west of Lake Taupo, which would have the advantage of easier gradients than the line we followed.

#### LINES *via* WAIPA RIVER.

This line would pass through what is now an almost unknown country, and I can only speak of it at second hand from the reports of persons who travelled through it some years ago, and whose attention was not specially directed to the question of making a railway.

*Via Wanganui River (Line B).*—There appears to be no difficulty whatever in reaching the head waters of the Waipa River; and the summit dividing its waters from those of the Mokau is, from all accounts, neither high nor broken. There seems also to be a low dividing ridge between the Waipa and the Wanganui Rivers, by which a line could probably be brought on the west of Taupo and Ruapehu to Rakatipauna, and thence, as on the Waikato line, by the Turakina. This would be a much shorter line than that *via* the Waikato (Line A), but would pass over the same high summit. If the line could be carried down the Wanganui, a great reduction of the summit level would be effected. I was informed that as far southwards as Ranana (London) the Wanganui Valley is not very rough, but that from Ranana to near Wanganui it is a continuous gorge.

*Via Mokau River (Line C).*—The country lying between Mokau River and the sea consists of limestone ranges, and is very broken and mountainous: on the east of the river it is more favourable. There would seem to be a few miles from the mouth of the river which would be very difficult, but this is described as only a few hours' journey, by canoe, in length. The rest of the distance to the Waipa is described as open and pretty level. From the mouth of the Mokau to Waitara, where the system of southern railways would be joined, some serious difficulties would be met, but the line would, on the whole, be a very much better one than that *via* the Waikato. It would require about a hundred miles less of new railway, and the summit level would be much lower. The total distance between Wellington and Auckland by this line would be about thirty miles longer than by that *via* the Waikato.

*Line D.*—There is still another line by which the southern and northern railway systems may perhaps be connected, *viz.*, by a line parallel to the coast at Taranaki, and between it and the Wanganui River. It is believed that there is here a level stretch of country extending from Mount Egmont to the head waters of the Wanganui, Mokau, and Waipa, but I have no authentic information on the subject.

#### LINE *via* NAPIER.

As I heard a good deal, from the Maoris and others, of the possibility of getting a line from Rakatipauna to Napier, I requested Captain Turner to go that way and examine it, and at the same time to collect information as to the possibility of getting to the Manawatu Gorge by the Rangitikei and Pohangina Rivers. His report, enclosed, shows that a line by Napier is not practicable.

#### SUMMARY.

In conclusion, it may be stated, firstly, that a railway might be constructed *via* the Waikato and Turakina Rivers, by which the northern and southern railway systems of the North Island would be joined at a not unreasonable average cost per mile, although it would be unfavourable for working, on account of the height of the summit level and the steep gradients which would be required. Secondly, that if the country on the West Coast were open for survey, a much better line would in all probability be found either by the Mokau River or by the level country supposed to exist between the Wanganui River and the Taranaki coast. This line would require about a hundred miles less of new railway beyond that which it is intended in any case to construct, than the Waikato line, but would lengthen the distance between Wellington and Auckland by about thirty miles.

A map is attached, showing the different lines described.

I have, &c.,

JOHN CARRUTHERS,  
Engineer-in-Chief.

#### Enclosure in No. 2.

Mr. A. C. TURNER to the ENGINEER-IN-CHIEF.

SIR,—

Napier, 23rd March, 1874.

I have the honor to inform you that, in accordance with your instructions, I, on the 17th instant, proceeded to examine the country lying between the sources of the Rivers Wangaehu, Rangitikei, Taruarau, and Ngaruroro, known as the Patea District, with a view to ascertaining whether the pass between the Kaimanawa and Ruahine Ranges was practicable for a line of railway.

On reaching the valley of the Hautapu, I met Mr. Mackay, agent for the General Government, who had been delayed by floods between Tapuaharuru and Tokano, and separated from our party. He joined me, and we proceeded together to examine the country above mentioned; at the same time we also directed our attention to that portion lying to the westward of Ruahine Range, between the Rangitikei, Oroua, and Pohangina Rivers, extending to the Manawatu Gorge, in case the pass between the Rangitikei and Ngaruroro should not be feasible, so as to give choice of another route.

I shall now proceed to report on the line of country travelled over by Mr. Mackay and myself.

Shortly after leaving Rakatipauna, the valley of the Hautapu (branch of the Rangitikei) is reached. This is practicable as far as the Native settlement known as Turangarere. Thence we crossed a comparatively low watershed between the Hautapu and Moawhango branches (branches of the Rangitikei), thence following a stream flowing to the Moawhango. On arriving at Moawhango we followed it to Te Rua Puhanga settlement. The country between Rakatipauna and Te Rua Puhanga is practicable, but would be rather expensive to construct a railway over. At the first glance at the sketch map herewith enclosed, it may appear that it would be easy to follow the valley of the Moa-