

APPENDIX No. 3.

Mr. MAXWELL to the SECRETARY, Middle Island Railway Extension Commission.

SIR,—

Railway Department, Head Office, Wellington, 18th January, 1883.

I have the honour to reply to your letter of the 3rd instant, requesting an expression of opinion on the estimates of cost of working, and the revenue derivable from certain projected lines of railway furnished by Mr. C. Y. O'Connor, C.E.

As, doubtless, the data on which these estimates are based are similar for the different cases, the results exhibited are no doubt valuable for comparing the relative advantages of the routes; but, as the data in question are not supplied, it is not competent for me to offer a very definite opinion on the individual results presented.

Some of the chief elements determining the cost of working are—(1) The rate of wages; (2) the cost of materials and stores; (3) the tonnage and passengers moved, and the distances they are carried.

The chief elements determining the revenue will be—(1) The tonnage and passengers moved, and the distances they are carried; (2) the rates charged for these services.

Of the three items named under the cost of working, the third is the most uncertain to make any prediction upon, while it is also a principal factor in the group: this factor is also an element affecting the revenue. Probably the better way to form an opinion upon this important point would be to study the results found on some other existing line traversing a similarly sparsely-populated district, and to observe the districts themselves. It will evidently be to a large extent a matter of judgment whether the country traversed by the projected line is, or is not, likely to approximate to the standard in its capacity for contributing passengers and goods, either for local or through traffic.

As regards the rates, after assuming a certain traffic, before attempting to estimate the revenue it should be first determined whether they should be fixed at remunerative standards or not—in other words, whether the railway is to be run to obtain the best commercial results to the institution, or whether it should be subservient to some general policy of the country, disregarding the direct financial results.

The results of working under current rates and wages on the New Zealand railways are not yet obvious. Past results cannot be taken as a reliable guide, as the order of things prevailing now differs from that of former years.

As an extreme example affecting the uncertainty which must attend any estimate of anticipated revenue, I may show how the changes in the grain rates have fluctuated, viz: Canterbury Provincial rate per ton, 1876, 50 miles, 11s. 11d.; 100 miles, 18s. 3d. Current New Zealand railways, 50 miles, 6s. 10d.; 100 miles, 11s. In the one case a profit is realized, in the other a loss.

With examples of this kind before us, and in the absence of any fixed principles of action for working, it would be unwise for me to offer any decided views on the question of anticipated revenue.

I have, &c.,

J. P. MAXWELL,

General Manager, New Zealand Railways.

The Secretary, Middle Island Railway Extension Commission.

APPENDIX NO. 4.

Dr. HECTOR to the Hon. the CHAIRMAN, Middle Island Railway Extension Commission.

SIR,—

Colonial Museum of New Zealand, Wellington, 23rd January, 1883.

In reply to your letter of the 13th December last, asking to be informed if any geological survey has been made of the district lying between Maruia River and the upper part of the Buller River and the main range as far west as the Cannibal Gorge, I have the honour to state that a partial examination of the district in question was made by myself in 1868 and again in 1872, but that the district along the west flank of the main range is still unexplored. My observations led me to believe that a very considerable area of the distance commencing from the west side of Rotorua Lake is occupied by the same coal formation that contains valuable seams at Greymouth and Westport, and that the coal formation forms a succession of scarps facing the Spencer Range, and resting at a considerable elevation on a series of highly mineralized rocks, comprising granite, diorite, and serpentine, cutting through Upper Silurian and Devonian rocks, which conditions are throughout New Zealand highly favourable for the development of mineral lodes.

Along the base of the scarps, and between them and the west base of the Spencer (or main) Range, it appeared to me, from distant views, as if there existed a succession of low saddles, and that probably an easy line of access might be obtained that would form part of an arterial line through the Island.

The great advantage that will follow the opening-up of coal and other mineral deposits at the summit-level of such a line is very obvious, as the heavy freights would be downhill in all directions, whether to Canterbury, Cook Strait, or the West Coast.

As soon as was possible after the receipt of your letter I despatched Mr. Cox, Assistant Geologist, to make a special examination of the district in question, and have instructed him as to the above points, fully explaining to him my previous observations. I expect to receive his report about the end of February, and will at once communicate the result to you. I may state that he started on the 4th instant, and in a note dated the 18th instant he informed me, "I find the coal formation is continuous from the Hope to Hampden, and, from its strike, would appear to flank Mount Murchison. It appears again close to Rotorua, as you told me, but I did not see the seam you mentioned. I hear that coal occurs up the Matakītaki for some distance, so I think you will be thoroughly borne out in your surmises as regards its extension, and so far the boundaries you sketched in on the map are very close to the truth. Granite and syenite form the whole block between the Rotorua and Rotoiti Lakes and the Buller, between the Devil's Grip and Owen River, at least close down to the latter place; and