

At the time of construction, the grade through the tunnel, which is shown as level on the section of the survey (if I remember aright), can be reduced to a grade of, say, 1 in 50 or 60, which will bring the western end of the tunnel some 200 feet lower down towards the stream, whereby the steep grade at the western approach can be somewhat improved, and the line brought into better ground altogether for material required to form the road bed.

I think it must be conceded that the engineering difficulties at the Hope Saddle, with its one mile of tunnel, and length of only two or three miles of steep grade, to be worked by special machinery by the introduction of a third rail, will compare most favourably with the works constructed at the crossing of the Rimutaka Range, in the North Island, more especially when it is remembered that a crossing is hereby effected over the Southern Alps, or highest range of hills in the colony.

If we enter into a comparison between the cost of a tunnel and that of twenty, or even sixteen, miles of extra line of railway, the result is so much in favour of the former that a question can scarcely be raised upon the subject. The cost of the tunnel would be, say, £50,000 or £60,000, or, even at the highest calculation, £100,000, which would be equal, in regard to cost of construction, to about one-half of the extra distance, with the additional advantage in favour of the tunnel of its having no repairs or maintenance to provide for, as would be the case in this extra distance as against revenue, and with many other collateral advantages that would have to be taken into consideration in a case of this nature.

Along the valley of the Tutaekuri River care and judgment will have to be exercised in the location of the line; but, from the junction of the Tutaekuri with the Ahaura, the line is as good, and far better in many places, than the generality of the lines constructed in different parts of this country.

No question can be raised as to the claims, as far as population, industrial pursuits, geographical position, and the prospective importance (in every respect), which Greymouth possesses to be the proper terminus of the intercoastal line on the West Coast of the Middle Island.

At present there is but six or seven miles of a railway completed, and it will be almost unnecessary to assert that, for commercial purposes, with its abundance of coal, and that of the finest quality, at its present terminus, the course of this line, as its first instalments eastwards, cannot be overrated; and, when the harbour is improved by means of its protective works to insure a safe and certain egress and regress thereto, it will then become almost equal in importance to some of the best in the colony.

Therefore the extension of this line eastwards to connect with the more northern districts of Canterbury is an undertaking the benefits of which to the inhabitants of both coasts appears to me to speak for itself in language that cannot be gainsaid; for a free and constant exchange of their respective productions must of necessity produce a reciprocal benefit, and a trade thus secured as a source of revenue to the line may be depended upon, and almost sufficient in itself to support a line of railway, independent of any extraneous aid.

At this place I beg to draw your attention to the sketch map, by which it will be readily seen that it is the narrowest, or as narrow, as that of any other part of the South Island, and consequently the shortest distance across from coast to coast.

An intercoastal line through this part of the Island would undoubtedly, in the course of time, bring many tourists, men of business, and even invalids seeking a restoration to health, from the Australian Colonies, by which means an important auxiliary to the revenue of a through traffic would unquestionably result.

This line, if constructed, would also benefit—taking Greymouth as a central point—the inhabitants of the whole length of seaboard from below Hokitika to Reefton, which includes not only the most populous but the only part of the West Coast of the South Island that can ever be considered as being able to contribute towards the support of an intercoastal line of railway; and, in my opinion, it would do away with the necessity, at all events for some time, of the construction of any further railway works along the seaboard north or south of Greymouth.

The necessity for a line of communication between the East and West Coasts has shown itself for many years past. Hence the construction of the coach road from Christchurch to Greymouth and Hokitika, which must have involved an enormous outlay of money in its first construction, independent of the heavy annual cost for repairs, sufficient, I should imagine, in its totality, to go a great way towards the building of a railway. The time must of necessity soon come when this line will have to be constructed, as the number of inhabitants in the northern districts of Canterbury are fast increasing, and thousands of acres of land are about to be surveyed, with the express object of being laid out into lots for *bonâ fide* settlers.

If it be true that the trade on the West Coast has of late years deteriorated, nothing could possibly resuscitate its fallen condition so much as a connection with Canterbury by means of a line of railway, for doubtless industries would then spring up that the most far-seeing person could not at present imagine.

The only difficulty that may be considered in the construction of this line is the cost of tunnelling at the Hope Saddle, but the merits of the line, regarded in so many other respects, as a project does, in my opinion, far outweigh this consideration.

I would therefore earnestly recommend that a minute examination, to insure for it the best possible location, should be made, as I consider the work warrants much labour and even expense, and that it has so far grown into importance as to have become a commercial necessity. This consideration would lead to the advisability of surveying the only remaining portion of the line—namely, from the Waikari Plains, *viâ* Lake Sumner, to the junction of the Hope and Kiwi Rivers, a distance of forty miles, and which I strongly urge upon the Government to carry out. And these remarks remind me of referring to the necessity of a proper consideration being given to the location of the station at Waikari, so that the extensions of the line northwards, and more particularly westward, should not be forgotten.