description applies to the whole of the route as far as the gorge. Good curves could be got of about 8 chains. It runs moderately straight, and I think, on survey, good curves could be laid out in it. Over Tarndale and down the Acheron and Clarence almost any curves could be got. Over the Hossack Saddle and down to the Lottery the curves again would be limited to about 8 chains, and these curves could be got without any unusually heavy work. I do not think there would be any obstruction to railway traffic on account of the snow or climate. Most of the work would be on the side-cuttings, which are not very difficult to clear of snow, and if the engine ran twice a day the cuttings would never be blocked. No snow-sheds would be necessary. I made very careful inquiries about the depth of snow, and from what I could learn the average depth was 2 feet, and it did not remain any length of time. In some severe winters the snow has been known to be much deeper—as deep as 6 feet. This was the depth of snow in 1867, an unusually severe winter. About the Hossack and Hanmer some heavy earthworks would be required on the line, but not anywhere else. The cuttings would be heavy in the Wairau Gorge, but the distance is very short, and it would be almost the only place where rock cuttings of any extent would require to be carried out. The bridges are very light throughout the line, and there are no large rivers to cross.

871. Taking the whole line, what is your opinion as to its expense? Would it be an expensive line?—I do not think it would be so expensive as the Rimutaka line.

872. Can you form an idea of what this line would cost?—About £8,000 per mile along the whole line, including the portion between Bellgrove and Tophouse. That would include rolling-stock and everything necessary for starting the railway. As a hill line it would bear comparison with the best of the hill lines in New Zealand. The summit level is 3,230 feet, with a cutting of about 30 feet. The highest level is at the Tarndale Saddle. I think the one rise would have an advantage over a line with a number of hills in it, because the heavier bank engines could be kept in one place instead of at several. There is a steady grade down in each direction, except the one short reverse grade at the Hossack Saddle, and I think the haulage would not be increased. The grades are very light, and not much heavier than on ordinary flat lines in New Zealand.

873. Do you consider the line to be a fairly practicable line?—I believe it is perfectly practicable, and quite easy of construction. There are fewer difficulties in crossing the central range than any I have crossed. It is an advantage to have long leading valleys as you get terraces. There is very little bush.

874. *The Chairman.*] You prefer the deviation by the River Hanmer to that by the Lottery, because it would be a greater convenience to the people in the neighbourhood?—Yes.

875. Where are the people who would be convenienced?—The whole of the Hanmer Plains are occupied. There are very few people in the Waiau Township. I think there are as many people on the Hanmer Plains as in the Waiau Township. The line should be in such a position as to join the West Coast line in the most favourable position.

876. *Mr. Fulton.*] What length would the suspension bridge be at the Waiau, and what would be the cost of it?—About 200 feet, and the cost would be £3,000.

877. *Mr. Fell.*] Will you now take the East Coast line, marked yellow on the map. Will you go through this line, starting from Waipara?—This line goes up the flat valley of the Omihi and across the saddle. From there the grade is descending to the Hurunui. It is about twenty-three miles. The construction of that part is fairly easy. The principal difficulty is in getting to the Hurunui River. A bridge would be required at the Hurunui. There is another saddle by which this difficulty could be avoided. It leads into the Waikari, which falls into the Hurunui. Over the Hurunui a bridge would be required, 6 chains in length, but it would be quite easy of construction. The principal difficulty is getting down to it from the high ground. There is no difficulty from the Hurunui to the Waiau River, where a bridge about a quarter of a mile long would have to be constructed. The bed of the river consists of small shingle. Not much timber comes down the river. After crossing this river the only difficulty is the descent from Hawkeswood into the Conway. I did not take the grade there; it is rather short. The Conway River would require a bridge some 10 chains long. The line crosses the Conway River, and follows the northern bank down for some three or four miles to the Conway Hills Station. After that the line crosses a number of hills, which seem to run down in spurs to the coast, and can only be crossed transversely. There are a number of very deep gullies to bridge, from 100 to 150 feet deep. There would be three or four tunnels, amounting in all to about 157 chains. There does not seem to be any way of avoiding this broken ground. The hills all end in cliffs on the beach, and I know of no other means of avoiding them. This bad portion of the line is about seven miles long. After reaching the Orari River the line is graded uniformly down to the sea. From this river to the Kahautara the line follows the sea beach. There are cliffs for most of the way along the beach, and many of the points have to be tunnelled through. In many places the line goes so close along the sea beach that the survey pegs are washed away. The line could not be made without the protection of a sea-wall. There would be seven tunnels required on this piece of sea-beach road—one about 30 chains long. From the Kahautara to the Hapuka—the junction of the Greenhills line—there are no special difficulties.

878. Will you describe the Greenhills line?—Starting from the Waiau Township, this line runs up the Mason and Wandell Rivers, and follows up the Mason to the saddle of the Campbell River. There is one bad grade on this piece of the line—1 in 37—for two miles in length. From Campbell's Saddle there is a choice of two routes to reach the Conway—either by going over the Whale's Back near where the present road crosses it, or following partly down the Campbell Creek, and partly grading down round the Whale's Back, until the grade would reach the Conway. I have taken the grade on this part of the line from Mr. Foy's figures. His steepest grade down the Campbell portion of the line is 1 in 25; the steepest grade down the Whale's Back is 1 in 7. Neither of these lines could be worked without special appliances. The Conway River is a very difficult one to bridge, being some 5 chains wide and 150 feet deep, and it carries a cliffy character all the way down. It is composed mostly of limestone rock. From the Conway River the dividing ridge between it and the Charwell has to be crossed. I do not know very much about the grades there. Between the Conway and Charwell Rivers there will be a short tunnel; good grades can be got. The Charwell is another deep and difficult river