

at a convenient distance, no rock or stone to excavate, gravel for ballast conveniently situated?—*Mr. Weaver, C.E., Continued.*
 Provided the country is as above described, a railway of the character referred to could probably be constructed for £2,500 or £3,000 per mile, exclusive of the cost of land and stations.

42. Suppose a tramway to be formed of the same gauge as the Bluff and Invercargill Railway, would the goods carriages be conveyed along the railway, and so save reloading?—Yes. But it would probably be found in practice that carriages suitable for the tramway would be of too slight a description to bear the wear and tear of the traffic on a locomotive line, while the rolling stock of the latter would be too heavy for a tram or railway worked by horse power.

43. What would be the probable cost per mile over the same country, namely, Invercargill to Mataura, of an iron horse-tramway suitable for passengers and goods traffic?—Assuming the gauge to be 4 feet 8½ inches, the cost of a light railway to be worked by horse power over a country such as that described in a former question, would be from £1,700 to £2,000 per mile, exclusive of the cost of land.

44. Would the working expenses and wear and tear on a tramway of the above kind be much less than a railway; and if so, in what proportions?—The relative proportions of the working expenses and cost of maintenance and wear and tear of the two railways would be governed to a very great extent by the amount of traffic: that is, for a small traffic the working expenses would be very much less on a line worked by horse power, while an extensive traffic could be more economically worked by locomotives.

45. In a Province like Southland, would it be practicable to run a tramway along the main road, and so save the cost of fencing and paying compensation for land, the roads in that Province being one chain wide, and for the most part straight?—Certainly.

46. *The Chairman.*] What is the best gauge for railroads in New Zealand?—The English narrow gauge is the best, namely, 4 feet 8½ inches.

47. *Mr. Hankinson.*] What would be the cost of laying the iron rails on a railroad, the earthworks of which are formed and the ballast to be carried an average distance of fifteen miles, a locomotive being employed?—About ten shillings per yard, provided the rails and sleepers are delivered to the contractor. Platelaying costs about two shillings per yard.

TUESDAY, 3RD SEPTEMBER, 1867.

PRESENT:

Mr. McNeill,
Mr. Murison,

Mr. Hankinson,
Mr. Wood.

Mr. Stevens in the Chair.

Mr. Weaver, C.E., called in and examined.

Mr. Weaver, C.E.
3rd September, 1867.

48. *Mr. Wood.*] Have you had any practical experience in the construction of railways and other such works?—I have constructed some sixteen miles of light railway for the New South Wales Government, intended to be worked by horse power, changed before completion to a light locomotive line. I have also had considerable experience on the Great Western Railway, and in Australia on private lines, and branches of Government lines.

49. Do you think a railway of a light inexpensive kind, and worked by horses, might be suited to the wants of a thinly populated district of New Zealand?—It entirely depends on the average amount of traffic.

50. *The Chairman.*] Can a light locomotive line or a horse railway be easily converted into a line of the heavy locomotive order?—Yes; if the works are properly laid out at first in regard to curves and gradients, the conversion would be easy.

51. *Mr. McNeill.*] In considering your replies to all questions involving cost of construction, what have you assumed as the cost of labour?—Ordinary, *i.e.* not skilled labour, at six shillings per day.

52. Assuming cost of such labour to be nine shillings per day, what would be the difference in cost of construction per mile?—If ordinary, *i.e.* the lowest class of labour, was at nine shillings per day my estimates generally should be increased by fifty per cent.

53. *The Chairman.*] What would be the percentage necessary to be added to cost of construction per mile, if wages were nine shillings, instead of six shillings per day, in the following cases namely, ordinary carriage road, light locomotive line, and horse tramway, gauge referred to in previous evidence?—For an ordinary carriage road, fifty per cent.; for light locomotive line, twenty-seven per cent.; and for a horse tramway, thirty per cent. The above are of course based on approximate estimates only, and on the averages of the estimated cost of works given in previous evidence.

Dr. Knight called in and examined.

Dr. Knight.
3rd September, 1867.

54. *Mr. McNeill.*] You have previously stated that without the railway, you did not think the runholders were likely to buy?—Yes.

55. From these premises does it not appear that the cost of the railway would to a considerable extent have to be borne by the runholders?—I think not.

56. *The Chairman.*] Did the probability of increased sales of Crown Lands in any material degree actuate you in making proposals for railway extension?—It did not.