

42. You consider that is a very satisfactory test?—Yes.
43. *Mr. Poole.*] Would you say that the braking appliances on the Auckland service, when in good repair, were obsolete?—Well, for braking fast traffic on the steep grades in Auckland I am of opinion that they are obsolete. I would not say the whole of the brakes, because the hand-brake is good enough; but the track brake is not a sufficient brake for the work.
44. With the installation of the air brake, properly in order, with the other brake attachments, do you think those cars would be safe then, and satisfactory, running subject to the time-table they had?—No.
45. You do not think the air brake would fill the bill?—It would not. The air brake is really a more convenient means of applying the ordinary wheel-brake, and the wheel-brake is not a sufficient brake on a steep hill or if you wish to pull a car up suddenly.
46. Would it not mean a tremendous cost, making structural alterations for the installation of the magnetic system for cars that had been constructed for other appliances?—The principal item of cost would be the purchase of the brake itself; but they would require to renew the whole of their controllers. The present controllers are not adapted for the magnetic brake.
47. *Mr. Herdman.*] Regarding the management of the tramways in Wellington, Christchurch, and Dunedin, so far as the public are concerned, are you satisfied, from your knowledge of the management of those systems, that the safety of the public is properly guarded?—I am of opinion that it is—that the authorities are doing their best to safeguard the public interest.
48. I suppose it would be difficult for you to suggest anything else they could do to more adequately safeguard the public interest?—I cannot think of anything just at present.
49. Then we may take it that those systems, managed by those municipalities, are working satisfactorily?—Yes.
50. You are familiar with the Order in Council that is issued?—Yes.
51. May I ask if the same form of Order in Council is issued in the case of each of those cities?—Well, in its general principles it is, but there are considerable differences in detail. The Auckland City Order was the first one that was issued in the Dominion for electric tramways on a large scale, and there were a great many deficiencies in it. Those have been added to from time to time in subsequent Orders as they were found to be advisable.
52. From your knowledge of the provisions of the Order in Council you no doubt remember that the local authority is liable to punishment if it does not work its system so as to safeguard the interest of the public and the convenience of the public?—Yes, there is that provision in the Order.
53. Regarding the Auckland system, the Order in Council was issued to the Auckland City Council, and they delegated their powers to the company?—Yes.
54. The principal dispute, so far as we have been able to learn from the evidence, is in regard to the brakes. Am I to understand from the evidence you have given that you do not believe in the air brake?—The Christenson air brake, which is the one in use in Christchurch and also largely in Sydney, is a method of applying the brake to the wheels only. There is another form of air brake which applies the brake to the rail. That is also a pneumatic brake. They are for two different purposes.
55. I understand you believe in the pneumatic brake?—No, the magnetic brake as a track brake; but it requires supplementing by a wheel-brake.
56. You mean that if you had a wheel-brake plus a magnetic brake, then the system of braking would be perfect, or adequate?—It would be quite sufficient.
57. The evidence as given before us by the servants of the company seems to indicate that the men employed by the company in Auckland are in favour of the air brake with the present track brake?—They are in favour of the air brake because it is so much easier to apply it than the ordinary hand-brake, but it makes little improvement on the rapidity with which you can stop a car.
58. There have been negotiations between the Public Works Department and the company as to what is the most suitable brake to put on the cars?—We have merely asked the company to submit brakes for approval.
59. And has the Department approved of any yet?—No. They submitted the air brake.
60. And has the Public Works Department advised the company that it does not approve of the air brake?—Yes.
61. When?—I think the District Engineer in Auckland informed the company that the brake was not approved of.
62. When?—Within the last two months, I think.
63. *Mr. Myers.*] And since then the company has ordered the Freund brake?—I have been informed so by the manager.
64. The question of what is the best brake is a very vexed question, is it not?—Yes.
65. And different engineers hold different views on that question?—Well, I do not know about different engineers, but I think the patentees or owners hold different views more than engineers.
66. But do not tramway engineers also hold different views upon the question?—I suppose I must answer that in the affirmative.
67. I know you are an engineer of old standing, but have you gone in specially for tramway engineering?—Not specially. I have gone in principally for railway engineering.
68. And, except for the experience of the New Zealand electrical tramways, you have not had any outside experience?—No.
69. Well, if Mr. Walklate, who is a gentleman of twenty years' experience in tramway engineering, and all the motormen, say that they think the air brake in lieu of the hand-brake, plus the track brake, would be sufficient, you dispute that?—I should most decidedly dispute that.