

(b.) That, having regard to the following matters—The reliability, independence of traction equipment, smoothness of working, and efficiency at all attainable speeds of the pneumatic wheel-brake ; the simplicity, reliability, and complete independence of the mechanical track-brake ; the capacity of a combination of these two brakes ; the comparative ease with which an installation of such can be made : and, on the other hand, to the limit in the speed at which the magnetic brake is effective ; the want of experience of the devices now introduced to overcome this disability ; the unsuitability of the electrical equipment and undergear of the Auckland cars for the application of the magnetic brake, and the estimated excessive cost thereof ; and also to the comparatively small difference in the stopping-power of the two systems—they are of opinion that the safety and convenience of the public will be insured, the necessary relief to the motormen be given, and the vested interests fairly dealt with by the company being requested to fit on the Auckland cars an approved type of pneumatic wheel-brake, of ample cylinder-capacity, and substantial rigging, together with pneumatic sanding-gear arranged to deliver the sand under the leading wheels at each end of the cars ; and to reconstruct the existing track-brakes so that it may be possible by a strong application to transfer 45 per cent. of the weight of a loaded car to the slipper-blocks without undue stress on or deflection of any portion of the gear.

(c.) That other matters arising out of this inquiry have already been dealt with under the heading of “ General Conclusions.”

The Commissioners have also considered the working of the existing law, and the necessity or expediency of any new legislation in respect thereto. They have found that at Wellington, Christchurch, and Dunedin a high standard of upkeep and efficiency of equipment is maintained. The standard attained on the Auckland tramways is below that of the other lines, but there is evidence that a great improvement has been effected by the present officials, who appear to be desirous of using all means at their disposal to place their equipment in a more satisfactory condition. In this connection it may be stated that a pleasing feature in the work of the Commission has been the capacity, zeal, and interest in all that pertains to tramways shown by the officers of the systems visited.

In these circumstances, the Commissioners are of opinion that if further legislation, necessitating closer inspection, be introduced it is desirable that any inspector appointed should be an electrical engineer of high qualifications and extended experience of tramway-working, whose professional status should be such that his assistance would be welcomed by executive tramway engineers.

The Commissioners also consider it to be desirable for the Government to take powers to be able, if necessary, to insist on any tramway system being equipped and worked with due regard to the safety and convenience of the public.

In conclusion, they desire to acknowledge their indebtedness to the tramway authorities of the Dominion for the many facilities given for investigation, and their ready assistance in experimental work.

The Commissioners have the honour to be,

Your Excellency's most obedient servants,

ROBT. J. SCOTT, M.Inst.C.E., M.Inst.M.E., M.A.I.E.E., Chairman.
A. L. BEATTIE, M.A.R.M.M. Assocn.

30th May, 1910.
