

of greatest net economic advantage; the need remains for a much greater degree of co-ordination between the various forms of transport. It is not disputed that under the present system the railways, for instance, may, if they desire, use the licensing system to challenge the existence of motor-services which are in competition with them, and if it is proved that such competition is undesirable in the public interest the motor-services may be curtailed or rearranged. Against the elimination or regulation of uneconomic competition, by one form of transport or another, there can be, if it be in the public interest, no reasonable objection. But although a given railway service may be uneconomic, and while there may be a balance of net economic advantage to the whole community if it were curtailed or eliminated in favour of another form of service, there is no power under the Transport Licensing Act to bring about any adjustment found to be necessary.

This lack of unification in the regulatory control is common to all forms of transport, and is an insuperable obstacle to the more complete co-ordination necessary to provide a full and reasonable solution to the Dominion's transport problems, and so, among other things, to lighten our heavy burden of transport-costs. Without it the existing wasteful competition between the different kinds of transport must continue, each kind of transport being ready to prove that the solution of the transport problem lies in its securing all the traffic. Under these conditions the general transport problem may well cease to be a first consideration to the various interests involved, being submerged by controversy between rival forms of transport. It is eminently desirable that the solution of the Dominion's transport difficulties should rest upon a system of co-ordination which will show no predisposition in favour of any particular kind of transport, and will be guided by a policy aimed to secure not business for any individual transport agency, but the provision of transport in the cheapest and most efficient manner possible.

The time has arrived when it is desirable seriously to consider the institution of some means by which all phases of transport may be surveyed at the hands of an independent body with power to advise upon co-ordination and other aspects of the general problem which so far have remained untouched.

Other countries are concentrating attention on the co-ordination of their transport facilities. In Victoria the Transport Regulation Board, a special body set up to investigate all aspects of the problem, recently found that the doctrine of *laissez faire* cannot be applied to transport, and that properly designed and administered regulation of all transport is essential. The Board also found that the machinery of transport regulation should be designed to afford the public, in the absence of competition, the benefits in railway service that would come from competition, and recommended that the co-ordinating transport authority be empowered to specify the standard of service that should be provided by the railways in any case where road competition is to be withdrawn or restrained by the action of the authority.

In the United States of America a recent national investigation into the transport problem directed attention to the fact that efficient co-ordination and the movement of traffic by the cheapest possible agency, or combination of agencies, cannot possibly be realized under an unco-ordinated regulatory system, and that only under a unified system of regulation which will place all transportation agencies upon a basis of economic parity will a unification of transportation that means anything from an economic point of view be possible.

The conclusions of a general character arrived at after investigation by other countries faced with problems similar to our own may be accepted as applying with equal force to the Dominion. It appears inevitable that within New Zealand there should be some independent body to which the community and the transport industry, as well as Parliament, may look for advice, after examination by that body of all relevant factors placed before it. Moreover, through some such agency it should be possible to facilitate the introduction of co-ordination between competing services.

7. OVERSEA MECHANICAL TRANSPORT COUNCIL.

It is pleasing to record continuous success with the Oversea Mechanical Transport Directing Committee's "all-wheeled-tractor-trailer unit" which was designed to carry a pay-load of 15 tons over unmetalled roads.

The first of the two experimental units of this capacity has a petrol engine of 106 horse-power, and the second one is equipped with a compression ignition (Diesel) engine of 130 horse-power, and, although each complete unit has twenty-four pneumatic-tired wheels in contact with the roadway, it does not require any more space for a complete turn on full lock than does a 2-ton motor-truck, while the unit pressure on the road for each axle is no more than that of a laden 30-cwt. lorry.

After successful preliminary trials in England (5,000 miles), the first unit was shipped to the Gold Coast, West Africa, for tests on rough earth roads, and up to the 10th June last it had proved easy to drive and to manœuvre, and no troubles had been experienced with any of the experimental features during the 3,076 miles then run of the proposed 10,000-miles test under commercial conditions.

The second unit, like the first, carries a pay-load of 3 tons, and each trailer takes a 6-ton load, but the former unit, as would be expected, incorporates improvements and changes in design that the experience with "No. 1 unit" has suggested—for example, the travelling speed, under favourable conditions, has been increased from 20 to 28 miles per hour, and the improved "tracking" of the trailers now leaves little to be desired under any conditions of service (even including running in reverse with one trailer attached); provision has been made for manual steering of the rear-most trailer when backing with two trailers.

During recent trials in England "No. 2 unit," with both trailers fully laden, climbed a slope of 1 in 6½, and the designers state that a grade of 1 in 6 may be negotiated, or it may be started from rest on a hill of 1 in 8. The tractor alone is able to climb a grade of 1 in 2½, or, under favourable conditions, even steeper slopes. An interesting description of this vehicle, with illustrations, drawings, and technical data, appears in the 21st July, 1933, issue of *The Engineer*—28 Essex Street, London W.C. 2.