

HEAVY TRAFFIC ON ROADS AND ITS REGULATION.

THE following paper, dealing with the problems attending heavy traffic, relates particularly to questions of weights of loads and their distribution on the axles. These are questions that should be receiving more attention in Canada. The Province of Ontario has before it at present the Henry bill, introduced at the last session of the Legislature. This bill, which was summarized in *The Canadian Engineer* for April 15th, 1915, provides for a regulation of vehicle loading that will undoubtedly save the Ontario Government and municipalities a good deal of money in road maintenance and repair charges. The following paragraphs, from a paper by Mr. E. J. Elford at the recent National Road Conference in London, throws considerable light on the broad subject. Undoubtedly there is little wisdom in building roads that are not suited to the traffic requirements, or of neglecting to regulate the traffic on good roads after they are built.

The author submits that the question is one which should be looked at as a business proposition, that the main consideration should be, not whether traffic of the description referred to is advantageous, damaging, beneficial or costly to local interests, but whether, and if so to what extent, it is, in the broadest sense, "good business" for the nation, either directly or indirectly.

It is generally agreed that for good or ill, and whether we like it or not, mechanical highway traffic has come to stay, and although it is possible by legislation, and by that obstructive inertia which is often one of the most useful weapons of highway and other public authorities, to retard its development and limit its scope to a serious extent, it has already acquired too much vitality to be easily killed.

As a road engineer the author has had his share of the annoyance and discouragement of seeing good macadam roads spoiled in a very short time by heavy motor traffic, and he has much sympathy with those who are burdened with the responsibility of miles of macadam roads which have in recent years become subject to this class of traffic, and who are without the funds necessary to provide suitable surfaces, and in many cases sufficient foundations, to meet the new conditions.

It is not surprising that under such circumstances many should be found who hold strong views as to the desirability of applying stringent restrictions to this class of traffic. In many cases the localities upon which fall the cost of maintaining roads to carry an ever-increasing volume of such traffic reap absolutely no direct benefit, and there is grave danger that unless the burden can be eased considerably, the feeling of resentment which arises from the existing unfair conditions may bring about results which may seriously cripple important industries and impede national progress. The effect of such a result upon national interests would no doubt far outweigh the cost of providing roads suitable and sufficient for modern traffic.

The author cannot, however, agree with those who demand that all roads should be made suitable for all traffic, as this would be extravagant and unnecessary, but in his view such roads as are reasonably necessary to enable the industries of the nation to be carried on with a high standard of efficiency should be provided. He submits, however, that the nation should find the additional funds required to provide what is necessary in the national interests.

It is obvious that the latter proposition involves some measure of control of mechanical traffic, but if such control is based upon a broad, business-like view of the question, it should occasion no obstruction to industry or hardship to individual commercial interests. Much of the present trouble arises from the unreasonable use of roads and lack of proper regulating powers. For instance, it is obviously not in the national interest that a contractor, in the hope of saving \$100 by using motor lorries in the place of horse-drawn vehicles for carting the materials required for a contract, should be allowed to do \$5,000 worth of damage to a road quite adequate for ordinary traffic, and which, apart from this one job, is unlikely to be required to again carry mechanical traffic of sufficient weight or volume to cause any appreciable damage. Again, it is not in the national interest that heavy motor traffic should be allowed to ruin residential roads when other roads capable of carrying this class of traffic have been provided and can be used without serious inconvenience.

It is well known that in many localities heavy motors have, without warning, adopted a route over roads unfit for such traffic, which roads have, in consequence, been quickly cut to pieces and, after the highway authority has reconstructed them at great cost, the traffic has been transferred to an entirely new route, where the process has been repeated. Other examples of unreasonable wear could be given, but the foregoing are sufficient to indicate the importance of devising some means by which the use of highways by heavy motor traffic may be properly regulated.

In addition to regulations of this character it is also desirable that the existing regulations as to the construction, loading, and speed of heavy motors should be revised. The author suggests that the regulations relating to vehicles are by no means so important as those relating to the user of the highways by such vehicles, and he is of opinion that the most satisfactory solution of the problem will be found in the direction of the provision of sufficient suitable roads to meet the reasonable requirements of the traffic and by so regulating the user of roads by heavy motors as to prevent undue damage. In these circumstances it may be found desirable, in the national interests, to reduce rather than increase the stringency of the existing regulations relating to heavy motor cars, and to regulate the vehicles themselves to such an extent only as may be required for public safety, and to prevent unnecessary damage to reasonably good roads.

Mr. Elford suggests the constitution of a Central Government Department to enter upon a very extensive system of road reconstruction to conform with the unavoidable heavy traffic. Having regard to the advantages which would accrue to owners and users of heavy motors of all kinds by the reduction of tractive effort required, decreased wear and tear of vehicles, etc., as a result of the provision of good substantial roads with clean, smooth surfaces, it would not be unreasonable that they should be called upon to bear directly some proportion of the cost of the necessary road improvements, and the author suggests that this might be secured by a graduated tax on each vehicle.

Regulations as to Vehicles.—The question of regulations in reference to the construction, speed, and loading of heavy motors is of considerable importance if it is assumed that a large proportion of the roads of the country necessary for heavy motor traffic are to remain indefinitely in their present condition with surfaces of ordinary macadam and similar low-grade material. On