

HOUSE No. 125

REPORT OF THE MASSACHUSETTS HIGHWAY COMMISSION UNDER SECTION 6, CHAPTER 18 OF THE REVISED LAWS,

BEING A SUMMARY OF THE RECOMMENDATIONS AND SUGGESTIONS CONTAINED IN ITS REPORT REQUIRING LEGISLATIVE ACTION.

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts in General Court Assembled.

In accordance with the provisions of section 6, chapter 18 of the Revised Laws, the Massachusetts Highway Commission herewith submits a summary of the recommendations and suggestions contained in its sixteenth annual report which require legislative action, to wit:—

HIGHWAYS.

The commission has suggested that legislation is necessary to make certain the location and boundaries of the State highways, and the right of the commission to lay out a State highway inside the limits of a wider way, when the whole of said way is not necessary for the State highway. That part of its report relating thereto is as follows:—

Several questions have arisen lately which involve the location and width of location of State highways, and the authority of the commission to lay out State highways upon lines differing from those of the existing ways has been questioned.

Acting upon the general understanding which the commission has had of the intent of the Legislature, that State highways

were to be constructed with particular reference to their use as highways for the transportation of goods and for their use by vehicles generally, the commission has, in some cases, laid out the State highways at lesser widths of location than the existing ways, so as not to burden the Commonwealth with unnecessary expense of maintenance, and so as to minimize its liabilities for damages.

This is particularly true in some of the towns where the highways were laid out very wide by the town or county authorities, and where all that was needed for the State highway was sufficient width for the travelled way, gutters, etc. In such cases a considerable width has been left on each side of the State highway which is still within the limits of the way laid out by the town or county, which width is needed in some instances for village street purposes, for parks, etc.

In other cases it has been impossible, without great and unnecessary expense, to determine the exact location and boundaries of existing highways. Many of them were laid out one or two hundred years ago, and the records are lost or incomplete.

The commission has, therefore, established its own lines by actual surveys on the ground, and has put in its monuments determining for all time the location of the State highways. The question has been raised this year as to whether such a lay-out and location operated as a discontinuance of the highway between the lines of the State highway and the wall or fence. The old lines are often irregular, and in many cases awkward-shaped pieces of land are left between the State highway lines and the wall or fence.

It has seemed to the commission desirable to include in its lay-outs only as much land as is needed for State highway purposes, for reasons stated above. In many instances, however, the municipalities may have use for the remainder of the land which is not needed for the State highway, and the commission would, therefore, respectfully suggest that it may be desirable to amend the existing law so as to make its meaning clear, and, if necessary, to ratify and confirm the lay-outs already made.

THE USE BY CITIES AND TOWNS OF MATERIALS TO SUPPRESS DUST.

The commission has recommended that cities and towns be authorized to use various dust-laying materials, such as calcium chloride, tar and oil products, etc., and to assess the whole or some part of the cost of the same upon the abutters. That part of its report relating thereto is as follows:—

The commission would respectfully call attention to the fact that a question has been raised as to whether cities and towns had any authority under the existing law to use anything except water upon highways, under chapter 26 of the Revised Laws, sections 25 to 27, and under chapter 25, section 22; and whether, if any other substance were used, any part of the expense could be assessed on the abutters.

As many substances can be used upon roads which will lay dust much better than water, and preserve road surfaces temporarily, and possibly for considerable periods of time, the commission would respectfully suggest that it might be wise to enact some provision of law that would enable the various municipalities to use oil, tar, calcium chloride or other dust-laying materials; to authorize such use, and to provide that the whole or a part of the expense may be assessed upon the abutters when any way is treated with said materials.

A special act of this character was passed last year (chapter 623 of the Acts of the year 1908), authorizing the city of New Bedford to use oil or any other substance, and assess the cost in the above manner.

MAINTENANCE.

The commission has stated that a much larger amount of money than has been available in past years will be necessary to resurface many of the present highways this year. That part of its report relating thereto is as follows:—

The estimates just received from these same division engineers show that \$684,800 is necessary in the year 1909 to resurface the State highways and put them back into reasonably good

condition, of which \$366,400 is due to automobile travel. This plainly shows how expensive it is to allow our highways to go without the repairs which are necessary.

It must be remembered that this estimate includes only resurfacing and surface treatment, and makes no provision for ordinary repairs.

The estimates for 1909, made by the engineers of the commission, were prepared carefully and with a complete knowledge of the conditions. The total has seemed to the commission to be somewhat high, but no essential error has been found, and the commission sees no way of materially reducing the estimate.

The advent of the automobile has doubled the expense of maintaining the State highways.

The annual estimate of the amount of money that would be needed for State highways in 1909, which was made out and sent in to the Auditor, named \$250,000 in addition to the net amount available from the automobile fees.

This estimate was made before the estimates mentioned above came in from the division engineers, and was based upon the estimates sent in last year. From the estimates for 1909 it is evident that a much larger sum of money will be necessary, or it will be impossible to maintain the State highways properly. The question is, Shall these highways be preserved, and how is the necessary money to be obtained?

The commission has suggested in the past that, as automobiles do great damage to the roads, a larger registration fee should be charged. This subject is treated at length under its proper heading.

AUTOMOBILES. — GRADED FEES.

The commission has recommended a graded fee for automobiles based upon horse power, as the most equitable means of securing a part of the money necessary for resurfacing State highways, and also to provide money to pay for a part of the damage which automobiles do to the highways. That part of its report relating thereto is as follows: —

It is now well recognized everywhere, not only in this country, but abroad, that automobiles, especially at any speed much in

excess of 15 miles an hour, do a tremendous damage to the roads, largely in excess of that done by any other class of vehicles. This is especially true at high speeds.

Experiments conducted by the authorities in Washington have demonstrated that this damage is largely due to the shearing or tractive force which is exercised by the back wheels, especially at high speeds, in order to propel the cars, and overcome not only the weight of the cars and the grade and resistance of the road surface, but also to overcome the resistance of the air, which becomes a serious factor at high speeds, as an automobile presents about 9 square feet of surface, and as the air resistance increases substantially as the cube of the speed.

The commission has felt, and has recommended in the past, that motor vehicles should be required to pay a registration fee based upon horse power, or upon some other basis, taking into consideration the value of the car, its speed, weight, power, etc.; and that the money so collected should, after paying the necessary expenses of examination, investigations, etc., be applicable to the repair and maintenance of State highways.

The only other way in which the State highways of Massachusetts can be preserved until the time when some method of construction can be adopted and applied that will prevent this extensive damage, is to absolutely prohibit any speed greater than 15 miles an hour, or 20 at the outside, and to have the law universally enforced. All experiments show that it is the high speeds that cause the damage.

In presenting a uniform law, the commission drafted a provision for the collection of a fee graded upon horse power. The proposed law provides that the commission shall determine the horse power; and this, of course, would be done upon some arbitrary and uniform formula that could be easily made by the commission or by experts selected by it.

The commission recommends the careful consideration of the advisability of adopting some such method of obtaining adequate fees from automobile owners, and thereby securing the money necessary to keep the main highways of Massachusetts in reasonably good condition. The amount that would probably be raised by a graded fee, also the relative cost of such a fee as compared with tire cost and with the cost of liability insurance

which is now carried by the owners of most automobiles, will be found in Appendix J.

Roughly speaking, unless the expense of administration increases, this graded fee, if adopted, would raise about \$225,000 that could be applied to the maintenance and reconstruction of State highways, as against about \$80,000 which is available under the present law.

As a very large sum of money, probably from \$300 to \$400 per mile per year, will be necessary in order to maintain and preserve the State highways, it seems fair that a part of the necessary money should be collected from the owners of automobiles who not only use the roads, but do an amount of damage that is greater than the amount of money that will be raised by the suggested graded fee.

The commission, therefore, recommends this matter to the careful consideration of the Legislature.

PARKER RIVER BRIDGE.

The commission reports that it will present, later, a plan for a new bridge over Parker River, when such a plan has been agreed upon, and recommends an act providing for the construction of a new bridge over said river. That part of its report relating thereto is as follows:—

Chapter 531 of the Acts of the year 1906 directs the commission to report to the Legislature when public convenience and safety require the reconstruction of the bridge across the Parker River in the town of Newbury. In the opinion of the commission, the time has now arrived when the old bridge, built early in the last century, must be replaced by a modern structure.

Under this act the commission will soon give a public hearing to all parties interested, at which certain preliminary plans and estimates, prepared under the direction of the Board, will be presented, and after the hearing the Board will present to the Legislature of 1909 the plan which it decides upon, together with its estimates and recommendations concerning the proposed new structure.

The commission respectfully represents that some action must be taken looking to the early construction of a new bridge at this point. The old bridge is in a worse condition than was realized when it was included within the State highway system. It is now unsafe, and, although constantly watched, and temporary repairs made, a serious accident may happen, the responsibility for which will rest on the Commonwealth. One accident has already occurred for which the Commonwealth was held to be liable.

UNIFORM LAW.

The commission will present to the Legislature, as required by chapter 127 of the Resolves of 1908, a draft of a codification of the automobile laws; but it recommends the adoption of many of the provisions which are contained in the proposed uniform law (drafted at the request of Governor Guild for adoption by the six New England States), which it will present, together with the proposed codification.

The commission respectfully calls attention to the many provisions which are set forth at length in the codification and uniform law, and the reasons therefor, which will be presented later to the Legislature. That part of its report relating thereto is as follows:—

Under the Resolves of 1908, chapter 127, the commission was directed to prepare and present a codification of the laws relating to motor vehicles and the operation thereof. This has been done, and it will be presented to the Legislature in a separate report.

At the conference of the Governors of the New England States, held in Boston, November 23 and 24, one of the subjects under consideration, and one which was very favorably considered, was the formulation and adoption of a uniform law governing the operation of motor vehicles and the conduct of the operators thereof, throughout the New England States. The commission was requested by Governor Guild, acting upon the request of the Governors of the other New England States, to prepare a uniform law for all of the New England States,

embodying therein the provisions of the law of each State which seemed most desirable.

The commission drafted such a uniform law, and formulated a few of the reasons why the various provisions included therein were selected. The proposed uniform law was presented to Governor Guild and was by him forwarded to the Governors of all the New England States, with the idea that the draft would be looked over, and that such changes as might be suggested and approved should be adopted by all of the New England States. In this draft there were many provisions new to our law, but based upon the approved provisions of the laws of the other States.

In making the codification for Massachusetts, the commission did not feel at liberty, however, to insert all of these provisions, because they constitute, in some instances, very material changes from the present law, although, in the opinion of the commission, the changes are desirable.

The commission recommends, therefore, that in considering the laws to be adopted at the coming session of the Legislature, governing the operation of motor vehicles and the conduct of the operators thereof, the Legislature consider not only the codification which will be presented, but also the proposed uniform law, a draft of which will be submitted to the Legislature, together with the codification, or in a separate report.

INVESTIGATORS.

The commission has recommended that the present provision of law which authorizes it to appoint only four examiners and investigators (section 2, chapter 648, Acts of 1908) should be amplified or stricken out, so that additional officers may be appointed from time to time as they are needed. That part of its report having special reference thereto is as follows:—

The commission was authorized by the Legislature of last year to appoint investigators and examiners, not exceeding four in number. This law took effect in July, 1908, and two officers were appointed at about that time. Before this law took effect, the commission had appointed two examiners, who examined all applicants for chauffeurs' licenses.

With 3,290 examinations during the year and with the large number of accidents and complaints which have to be investigated, it is very evident that four investigators and examiners will not be sufficient to properly do all of the work that ought to be done.

The Safe Roads Automobile Association, a voluntary association of automobile owners, has probably investigated as many cases as the commission; and we are informed that the association intends to give up its investigator on Jan. 1, 1909, because the State has now some investigators of its own.

It is extremely probable, therefore, that the commission ought to appoint more investigators and examiners, and this would be absolutely necessary at once if the commission were to examine applicants for private operators' licenses, as there were 5,865 persons who applied for such licenses last year.

It seems desirable, in many respects, that all persons should be thoroughly examined before receiving licenses to operate automobiles; and if the Legislature decides to adopt the system that is now in vogue in Rhode Island and Connecticut and many of the other States, of having licenses expire yearly and having court convictions endorsed on the licenses, the commission can examine any applicant for the renewal of his license when there is any reason to suspect that he is not a competent operator.

Examinations have been held in Boston and in ten other cities of the Commonwealth regularly every week or fortnight, and special examinations have been held in four other places.

The number of people applying for examination has greatly increased during the year, nearly twice as many people applying for examination in 1908 as in 1907, in the same months.

During the year there were 3,290 examinations; 527 of the applicants required a second examination; 79, a third; 15, a fourth; 2, a fifth; and 1, a sixth; making a total of 624 applicants who were re-examined.

The percentage of failures was much larger in 1908 than in 1907. In 1907 over 12 per cent. failed on the first examination, and in 1908 over 27 per cent. failed.

In 1907 over 8 per cent. were finally rejected and received no license, and in 1908 over 10 per cent. This conclusively shows the necessity for examinations.

The commission would therefore recommend that the limitation contained in section 2, chapter 648 of the Acts of the year 1908, which only authorized the commission to appoint four investigators and examiners, be stricken out.

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