

REPORT

of the
② *Motor Traffic*
① New Jersey Commission

Created by Joint Resolution No. 2, P. L. 1920,
for the purpose of investigating vehicular
traffic and to prepare a

MOTOR VEHICLE AND TRAFFIC ACT

to the

Governor of New Jersey

and the

Legislature of the Session of 1921



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REPORT.

To the Legislature of the State of New Jersey:

Gentlemen: Pursuant to Joint Resolution No. 2, providing for the appointment of a Motor Vehicle Traffic Commission to investigate the subject matter of traffic, advise and prepare a uniform vehicle law and suggesting license fees for all types of vehicles using the public highways, which Joint Resolution was approved on April 26, 1920, the following report is respectfully submitted.

The Governor of New Jersey on June 16, 1920, appointed as members of said Commission: the Commissioner of Motor Vehicles, the State Highway Engineer; Hon. Thomas H. Brown, Senator from Middlesex County; Hon. Henry Grah Hershfield, Assemblyman from Passaic County; and Mr. Horace A. Bonnell of Newark, representing the New Jersey Automotive Trade Association.

Owing to the serious illness of the State Highway Engineer, W. G. Thompson, and his subsequent retirement from office, the Commission was not able to organize until Mr. Thompson's successor was named. Immediately upon the selection of Mr. Thomas J. Wasser of Hudson County as State Highway Engineer, the Commission perfected an organization in the City of Paterson, on Thursday, August 5, 1920, electing the Commissioner of Motor Vehicles as Chairman of the Commission, and Assemblyman Hershfield as Secretary and appointing Miss M. Agnes Smith as assistant secretary and stenographer to the Commission.

In order to invite suggestions as to necessary changes in the Motor Vehicle and the Traffic Acts having particular reference as to the justification for increase in registration fees and how these increases should be distributed, a form of questionnaire was prepared and addressed to the County Boards of Freeholders, County Engineers, Chambers of Commerce, and Boards of Trade, Municipal Governing Bodies, Prosecutors of the Pleas and Automobile Clubs throughout the State.

The responses to the questionnaire were not as numerous as the Commission had hoped. However, many splendid suggestions were received which have been helpful to the Commission in determining the conclusions herein set forth.

The Commission conceived the idea that the fundamental reason for the passage of the Resolution was based upon a desire to increase the revenues of the Motor Vehicle Department to the point where these revenues could successfully maintain the highways of the State which have been subjected to the heavy haulage to which the motor vehicle has adapted itself. Our first thought, therefore, was to consider how these increases should be brought about.

In 1920, the Motor Vehicle Department issued 23,612 registrations for commercial motor vehicles equipped in whole or in part with solid tires. The registered gross weight of these vehicles indicates that seventy-five per cent. of them have a registered gross weight of six tons or less; that is to say, the weight of the vehicle, plus the maximum carrying capacity as shown by the registration certificate, is less than twelve thousand pounds.

The number of registered commercial vehicles in New Jersey during the year 1920 are as follows:

<i>Gross Weight.</i>	<i>Number Registered.</i>	<i>Gross Weight.</i>	<i>Number Registered.</i>
2,000 pounds,	5	17,000 pounds,	566
3,000 pounds,	58	18,000 pounds,	412
4,000 pounds,	461	19,000 pounds,	339
5,000 pounds,	4,197	20,000 pounds,	585
6,000 pounds,	2,841	21,000 pounds,	837
7,000 pounds,	1,482	22,000 pounds,	683
8,000 pounds,	1,492	23,000 pounds,	316
9,000 pounds,	1,968	24,000 pounds,	186
10,000 pounds,	1,868	25,000 pounds,	114
11,000 pounds,	1,466	26,000 pounds,	63
12,000 pounds,	1,101	27,000 pounds,	88
13,000 pounds,	565	28,000 pounds,	37
14,000 pounds,	385	29,000 pounds,	8
15,000 pounds,	702	30,000 pounds,	36
16,000 pounds,	751		

The commercial vehicle fees for last year amounted to \$654,283.50.

The damage done to the modern highway pavement by commercial vehicles and high powered, fast traveling automobiles is very difficult to estimate. These vehicles are usually blamed for the entire damage done, yet, in most cases, they are only indirectly responsible for the damage thus caused. When a truck breaks through our pavement, it is assumed immediately that this type of vehicle will soon ruin all similar types of pavements and should not be used. Such conclusions are certainly erroneously formed and are not based on the facts in the case. If the trucks were the only causes producing such failures, a given pavement would not fail at irregular intervals or in spots, for, as a general rule, surface pavements are fairly uniform in composition and thickness. Also, the wear and tear on a given pavement by the auto traffic does not vary sufficiently to account for the local failures; consequently, the causes that made the pavement fail in one spot or locality and not in others must be foreign to the surface pavement or vehicle.

It is usually found that such failures are confined to localities where the pavement foundation is not properly drained or of the right character. At the time the original pavements were constructed in these localities, the traffic conditions did not require the stability in the foundation that is today imperative, if the surface pavements are not to be prematurely ruined. In many cases, the desired stability could not be secured unless an elaborate drainage system were installed. Such systems are usually very costly and it is questionable whether the installation of such a system would have been justified at that time for there are no ingredients in macadam pavements injured by ground waters. Such a pavement fulfilled the requirements quite satisfactorily until the advent of the self propelled vehicle. Experience has shown that this type of pavement can be maintained at a fairly low cost under modern traffic conditions if it is not subjected to heavy commercial motor or large touring car traffic. The macadam foundations of these pavements do not possess the stability required of the former type of vehicle, but, on the other hand, the

touring cars remove the binding material in the macadam pavement after which it soon ravel and goes to pieces.

There is little doubt that New Jersey has a considerable mileage of improved roads which could be economically maintained and would not have to be re-built if the traffic were limited to the lighter type of self-propelled vehicles. The fact that the traffic on our highways at present cannot be so limited means that a large mileage of pavement will have to be re-built or reconstructed to meet the traffic conditions demanded by trucks and large touring cars regardless of whether these stretches of pavements have or have not developed serious failures to date. The demand for this type of traffic is the chief reason why these roads will have to be reconstructed and they should bear the larger part of the cost of the reconstruction of these pavements.

On the other hand, it must be admitted that failures in certain types of pavement would have developed regardless of the type of vehicle being used, yet these failures, in many cases, would not have appeared as soon or at the time they did had the pavement not been subjected to heavily loaded vehicles, for the heavy loads passing over an improperly drained foundation accelerates the rate of decomposition of the adjacent pavement surface. This is particularly true of bituminous pavements, yet the life of a granitic block pavement is even shortened very much by any movement in the foundation or supporting cushion. As soon as the life of the binding material in a surface pavement is destroyed, a pavement failure is the result, regardless of what type of traffic is passing over the pavement. Consequently, the trucks may cause a failure in a pavement at the end of the second or third year that would not have appeared under other types of traffic before five years.

It must be borne in mind that modern pavements are not worn out by auto traffic. If these pavements could be held together until they wear out, they would last from twenty to twenty-five years. They usually decompose, then ravel, and go to pieces. There are plenty of pavements in this State that are five to eight years old, which are carrying a heavy motor traffic yet show little, if any, effects of such traffic. They were properly constructed on stable foundations. On the other hand, we have numerous

examples of the same type of surface pavement that have been ruined during the same period of service by auto traffic. If all our highways were of the former type, we would not have any serious truck problems to solve.

The fact appears to be quite well established that most of the so-called pavement failures caused by auto traffic occur on roads that were either not properly constructed or never intended for this type of traffic. These statements are not made with an object to shield the trucks or belittle the damage they do, for there is no disputing the fact that heavily loaded trucks do a tremendous damage to some of our highways even if they are not entirely responsible for the failures. The only object here is to locate the real cause of these failures in order that they may be corrected and future failures prevented. If the trucks are not the real cause, an increase in the license fees of these vehicles would not necessarily stop the failures.

No doubt the autoist is not responsible for the type of roads constructed before the advent of the automobile, yet this vehicle is the chief factor in determining the type of pavements being constructed today. Since it is this type of traffic that requires our highways to be so constructed that they have well drained foundations and first class surface pavements, there appears to be no real good reason why the larger part of the cost of reconstruction and maintenance of these highways should not be borne by those agencies that require this type of pavement. However, in adjusting the fees that such vehicles should be taxed, it should be constantly borne in mind that trucks in many cases only accelerate the production of a pavement failure, and, therefore, should only be compelled to pay sufficient additional tax over that paid by the touring cars to compensate for the additional premature failures thus produced.

In placing restrictions upon the modern commercial vehicle, the fact should also not be lost sight of that these vehicles are a modern necessity and that it would be a step backwards to prevent their use, also as a rule the heavier the load on long hauls, the lower the cost. Consequently, if the five and six ton vehicles are eliminated from using our highways, it means that the price of the commodities carried by these vehicles will be increased.

The additional cost of such commodities necessarily will not be paid by those responsible for this increased cost, yet it will have to be eventually paid by the public who in the end also foot the bill for the construction and maintenance of the highways. Consequently, the plan to follow from an economical standpoint would appear to be to permit the use of these vehicles and eliminate in our present highway system those stretches of pavement which were not properly constructed or never intended for this type of traffic. However, this does not necessarily mean that trucks should be permitted to go on constantly increasing their carrying capacity, for this State, in addition to most others, now has a large mileage of modern, improved highways that were properly constructed and drained yet were not designed to carry a twenty or twenty-five ton load.

If the stretches of pavement in this State were eliminated which are not properly drained or were never constructed to withstand the present day type of traffic, our truck traffic problem would be reduced very much. The agency that required elimination of such stretches of pavement is practically the self-propelled vehicle. Consequently, this type of traffic should be made to pay the larger part of the cost of the reconstruction of such stretches of pavement. The real problem appears to be to so assess these vehicles that each will pay its fair and proportionate share of the damage done by such vehicles, also the expense that will be incurred to eliminate the undesirable stretches of pavement in this State that are not adapted to this type of traffic.

Under the present motor vehicle law, commercial motor vehicles equipped exclusively with pneumatic tires have been paying a registration fee similar to that paid for a light type passenger car, without regard to the carrying capacity of such commercial motor vehicle; and last year there were sixteen thousand such vehicles registered in New Jersey. Your Commission feels that this distinction should be eliminated and all commercial motor vehicles should be registered on the basis of the weight of same, plus the maximum carrying capacity.

OVERLOADING OF TRUCKS.

The State Highway Commission, acting on the recommendation of the Motor Vehicle Department, has recently completed the installation of five scales of forty thousand pounds weighing capacity, which scales are conveniently located throughout the State, and the use of which is to be devoted principally in the weighing of commercial motor vehicles. There is no doubt in the minds of your Commission, that one of the most flagrant abuses noted on our highways today is that of the overloading of trucks. This overloading not only is responsible for great damage to the roads, because of the fact that it means the hauling of a load upon the tires inadequate to sustain the same; but in addition, takes from the State the fee which the State would be entitled to if the truck user were required to pay for the load which his equipment will permit; and we believe therefore that the weighing of trucks will increase the revenues derived from the registration of these types of vehicles many thousands of dollars annually, as well as to remove from our highways the vehicle which, because of its overloaded condition, is causing so much damage.

PASSENGER VEHICLES.

Two hundred and four thousand one hundred and twenty-five passenger vehicles were registered in New Jersey last year, yielding a revenue of \$1,634,251.50.

Recognizing the unfairness of the present method of registering passenger vehicles in New Jersey, the Commission has given serious consideration to the question of determining the most equitable way to register passenger vehicles according to horse power, weight, etc.

In addition, it was suggested that there be added a direct mileage tax on the amount of gasoline consumed, but this phase offers serious objection, for the reason that New Jersey is the gateway between the two greatest States in the Union lacking the isolation which makes the gas tax of Oregon satisfactory and

as the result of our proximity with New York and Pennsylvania, if a gas tax obtained in this State, the majority of automobilists would purchase their gas outside of the State to the great handicap of gasoline retailers doing business in this State.

The next thought that occurred to the Commission respecting passenger vehicle registration was that of determining the piston displacement in cubic inches of all passenger vehicles. The mathematical problems involved, however, are so intricate, that aside from comparative purposes, this method of registration does not for the moment appear feasible.

It was next suggested that the registration for passenger vehicles be based upon the horse power rating of the vehicle, plus the weight and carrying capacity of the same; but this method would invite such an abuse of the law that the State would undoubtedly lost many thousands of dollars in revenue.

The law of New York State which rests the registration fee for passenger vehicles upon the basis of horse power rating, plus market value of the machine, is likewise unsatisfactory, because of the fluctuation in the price of cars as evidenced in the price lists maintained by trade associations and manufacturers.

Our conclusions, therefore, as to the most equitable and practical way for the registration of passenger vehicles is to base such registration on the horse power rating of the vehicle as determined by the formula adopted by the Commissioner of Motor Vehicles with a maximum fee of forty cents per horse power or major fraction thereof, up to thirty horse power, and fifty cents per horse power or major fraction thereof of thirty horse power and over, the latter fee being arrived at because of the additional damage done to the roads by the heavier types of passenger vehicles that now have a horse power rating in excess of thirty and because of the fact that they are heavier and more powerful.

OMNIBUSES.

The recommendations of the Commission respecting the registration of vehicles used for the transportation of passengers for hire are formulated after the law of the State of New York. The Traffic Act of New Jersey forbids the overloading of a vehicle

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to the point where the driver thereof is denied a free and unobstructed view of the highway, and there has been no way yet devised where this practice could be abated, and so, eliminating from the provisions of the definition of the term "omnibus" those vehicles now used in the transportation of school children in the sparsely settled communities, we desire to recommend that all common carriers be registered upon the basis of the seating capacity of the vehicle, and have placed a minimum fee for such registration at fifteen dollars, which is the fee now paid for a livery license under our present law and which form of license, if these recommendations are concurred in by the Legislature, will necessarily be abolished.

The omnibus fees, as classified in the act which accompanies this report, are not in excess of what would be paid by omnibus owners if their vehicles were placed in the commercial classification.

CONCLUSIONS.

We recommend the passage of a law that will make it impossible to transfer the registration of a motor vehicle from one owner to another and requiring that upon the transfer of ownership or the destruction of any motor vehicle, the registration for the same shall expire; and in the event of the sale of the motor vehicle, requiring that the original owner remove the registration plates therefrom immediately, but permitting the original owner to transfer such registration subsequently to another machine owned by himself, upon making the proper application therefor to the Commissioner of Motor Vehicles and the payment of a transfer fee of one dollar, plus any additional fee by virtue of change in classification of horse power. This law will correct an abuse of long standing and will net the State approximately one hundred and thirty-five thousand dollars (\$135,000) of additional revenue annually.

The increases which we propose for the registration of commercial motor vehicles will net approximately (\$400,000) four hundred thousand dollars annually, without considering any increase in commercial registrations, and this schedule of increases is based upon the following table:

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No. of trucks registered 1920. Solid tired.	Pounds assessed.	Suggested fees.	Present fees.	Revenue.
	1,000	\$10.00		
5,	2,000	12.00	\$9.00	\$60.00
58,	3,000	15.00	12.00	870.00
461,	4,000	20.00	15.00	9,220.00
4,197,	5,000	24.00	17.00	100,728.00
2,841,	6,000	27.00	19.00	76,707.00
1,482,	7,000	30.00	21.00	44,460.00
1,492,	8,000	33.00	23.00	49,236.00
1,968,	9,000	36.00	25.00	70,848.00
1,868,	10,000	38.00	27.00	70,984.00
1,466,	11,000	40.00	29.00	58,640.00
1,101,	12,000	42.00	31.00	46,242.00
565,	13,000	44.00	33.00	24,860.00
385,	14,000	46.00	35.00	17,710.00
702,	15,000	48.00	37.00	33,696.00
751,	16,000	50.00	39.00	37,550.00
566,	17,000	52.00	41.00	29,432.00
412,	18,000	54.00	43.00	22,248.00
339,	19,000	56.00	45.00	18,984.00
585,	20,000	58.00	47.00	33,930.00
837,	21,000	60.00	49.00	50,220.00
683,	22,000	62.00	51.00	42,346.00
316,	23,000	64.00	53.00	20,224.00
186,	24,000	66.00	55.00	12,276.00
114,	25,000	68.00	57.00	7,752.00
63,	26,000	70.00	59.00	4,410.00
88,	27,000	72.00	61.00	6,336.00
37,	28,000	74.00	63.00	2,738.00
8,	29,000	76.00	65.00	608.00
36,	30,000	78.00	67.00	2,808.00
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23,612,				\$896,127.00

This estimated increase of \$400,000 on commercial vehicles is predicated, first, on the elimination of the distinction which now obtains in the matter of tire equipment—this item alone resulting

in an increase of approximately \$160,000—as between the fees which this type of vehicle equipped in whole or in part with pneumatic tires now pays because of its passenger car classification rating and what it will pay when classified as a commercial vehicle; and secondly, upon the principle that the proposed increase in fees as shown in the above schedule should attach itself to the vehicles of twelve thousand pounds or less, which experience teaches are the ones doing the greater damage to our roads and are more frequently overloaded.

It will be noted that these increases are for the major portion in excess of forty per cent. and embrace over seventy-five per cent. of the total number of commercial motor vehicles registered in New Jersey today.

With passenger vehicles registered on the basis of forty cents per horse power or major fraction thereof up to thirty horse power, and fifty cents per horse power or major fraction thereof of thirty horse power and over, we estimate that an additional revenue will accrue to the State of nearly \$500,000.00 annually, all of which will provide additional receipts for the Motor Vehicle Department in excess of one million dollars per annum, exclusive of the increased number of all classes of vehicles which have been registered annually since 1906; and with the average growth of the Department, reflecting itself in the development of the automotive industry, the fees herein recommended should net a gross revenue to the Motor Vehicle Department in 1922 in excess of five millions of dollars.

The essential changes in the Motor Vehicle Act which we recommend in addition to the fees are as follows:

Increasing the minimum age of drivers to seventeen years;

A prohibition against the burning or other method of destruction of automobiles;

Making it a felony to steal a motor vehicle or to purchase a motor vehicle knowing the same to have been stolen;

Limiting the candle power of head lamp bulbs to twenty-four and confining the beam of light to a height of not more than three and one-half feet from the highway;

A law making it mandatory for every public garage to keep a record of the cars left there for storage or repairs and reporting

to the police departments and the Department of Motor Vehicles every such car upon which the manufacturer or motor number has been removed or defaced;

Making it a misdemeanor to give a false statement to the Motor Vehicle Department or an erroneous address when applying for registration or license;

Transferring the prohibition against intoxicated driving from the Disorderly Persons Act to the Motor Vehicle Act, and providing for the revocation of the license of any one convicted of driving while under the influence of intoxicating liquor, for a period of one year for the first offense and five years for any subsequent offense;

Increasing the number of special inspectors from seventy-five to two hundred;

A provision against tampering or setting in motion a motor vehicle while the same is standing and without the permission of the owner;

Prohibiting any person from leaving any motor vehicle with its engine running stationary on the highway and unoccupied by a person able to control the same, without setting the hand brake in such a manner as to prevent such vehicle from moving;

Giving to police officers the right to exceed the speed limit while on duty in the enforcement of the law, and likewise privileging them the right to examine the registration certificate of the car or the license of the operator;

An amendment to the Traffic Act recommending the placing of a rear red light on bicycles;

An amendment to the Traffic Act requiring that all fines recovered for penalties thereof be remitted to the Commissioner and by him turned over to the State Treasurer;

The repeal of subdivision twelve of section two of the Traffic Act, which permits a motor vehicle passing a motor bus or trackless trolley to pass the same on the right. This section as at present written in the law is in conflict with both the Motor Vehicle and Traffic Acts;

The repeal of that portion of the Motor Vehicle Act that deals with the issuance of blanket licenses to taxicab companies from without the State, operating in New Jersey;

Incorporating in the section of the Motor Vehicle Act relating to speed, the word "reckless", in order that reckless driving may be more clearly defined;

The exemption from registration fee of Government, State, and municipality owned vehicles, and vehicles belonging to the American Red Cross or other humane society;

The incorporation of a more rigid section dealing with the brake equipment of motor vehicles, and providing drastic penalty for violation thereof;

Confining the use of dealers' plates to demonstrating purposes, and in addition to such use limiting the personal use thereof to the dealer solely, and permitting such dealer to purchase plates to be used by him in the transportation of vehicles from the factory to his place of business;

A prohibition to be incorporated in the Traffic Act against the parking of automobiles in or upon private driveways;

A fee for non-resident transportation companies engaged in inter-state hauling, who shall pay in addition to the registration fees herein recommended an additional tax of one hundred dollars per vehicle owned by such transportation companies and registered in the State, for vehicles having a gross weighing capacity in excess of twelve thousand pounds;

A drastic penalty for the overloading of trucks and requiring that such overload be removed from the vehicle before the same shall proceed;

Permitting municipalities to use more than one truck but not exceeding three trailers for the collection of garbage, ashes, and street repairs where such collection is made solely over roads maintained by such municipality;

The Commission has not referred to the great danger now prevalent on our roads because of the failure of many drivers of horse drawn vehicles to have their vehicles properly lighted at night. Chapter 211 of the Laws of 1920 is an Act "requiring lighted lamps on certain vehicles in certain cases", and makes it mandatory for every vehicle drawn by horse, horses, or other beasts to carry a lamp showing a white light that will be seen from a point at least two hundred feet from the direction toward which the vehicle is proceeding, and showing a red light in the

rear for a distance of at least two hundred feet from the direction from which the vehicle is proceeding, and believes that no additional legislation is necessary in dealing with this problem. Its lack of enforcement alone is responsible for so many of the accidents now occurring as the results of the improper lighting of horse drawn vehicles.

The responsibility for this enforcement clearly rests with the municipal authorities.

FINAL.

Our investigation shows that in many of the States where a higher registration fee is collected than is now paid in New Jersey, these States exempt from any State, county or municipal taxation such vehicles registered therein.

We refrain from any recommendation having to do with the annulment of the personalty tax assessment, for the reason that such change in our taxation system can only be brought about by constitutional amendment; but we desire to point out the inadequate manner in which personalty assessments of motor vehicles are now arrived at; and believe that some system should be devised whereby motor vehicles, if personally assessed, should be assessed by the Motor Vehicle Department at the time the registration is issued. In that manner all cars alike throughout the State would be registered upon a uniform basis upon the sound principle of values embodied in the dealers' second hand or insurance lists.

The State could thereupon allocate back to the taxing districts a proportionate amount of the tax so collected, which return would give to such districts at least as much as they now receive from this assessment, and would permit the State to retain a sum of nearly three-quarters of a million of dollars. This manner of taxation would moreover make certain the collection of tax and protect the municipalities from the losses which they now sustain by reason of the removal of the car or owner from the taxing district after the taxable situs and before the tax is collected.

We believe that advertising signs on or adjacent to the highway should be taxed on the basis of the square foot, and that

proper restrictions affecting the erection of these signs should be vested with the State Highway Commission, to the end that no such sign can be erected where it will interfere with any view lines. The placing of advertising signs on or adjacent to the highway should have the approval of the State Highway Commission.

The Commission has not had the opportunity of preparing legislation dealing with the registration of horse drawn vehicles, but believes that the horse drawn vehicle should be registered and pay a commensurate fee to the State and the drivers should be licensed.

Respectfully submitted,

W. L. DILL, *Chairman.*

T. J. WASSER,

H. A. BONNELL,

THOMAS BROWN.