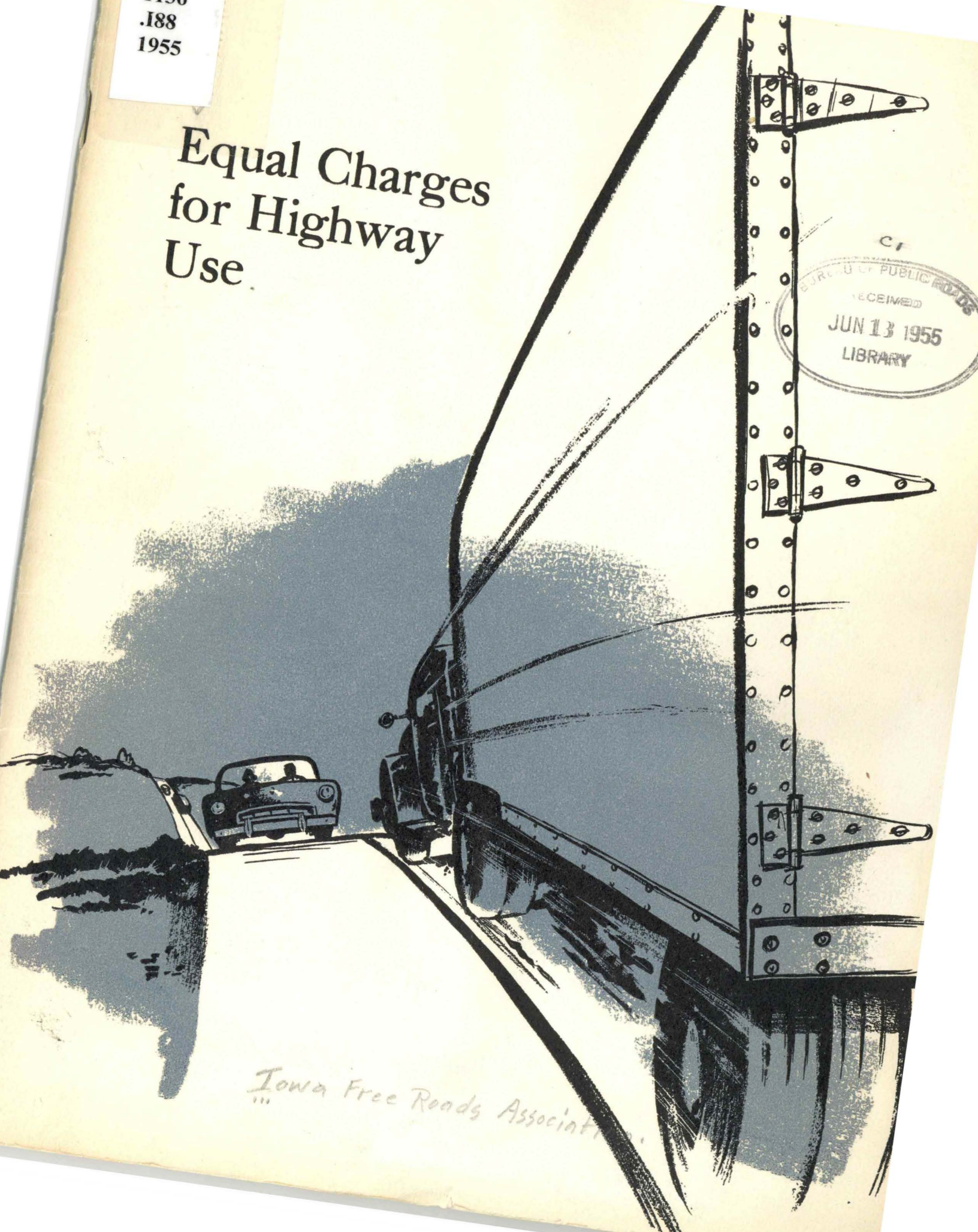
Equal Charges for Highway Use



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Index

Preface

IT IS generally recognized that the United States is on the eve of an unprecedented road-building era of tremendous proportions and it is reasonable to assume that Iowa will keep pace with her neighbors in providing improved highways and streets. The aggregate cost of highways needed throughout the country has been estimated at more than one hundred billion dollars to be financed almost entirely by charges against highway users. Any approach to the problems of highway finance must rest upon the sound proposition that charges against highway users must be equalized in accordance with benefits received.

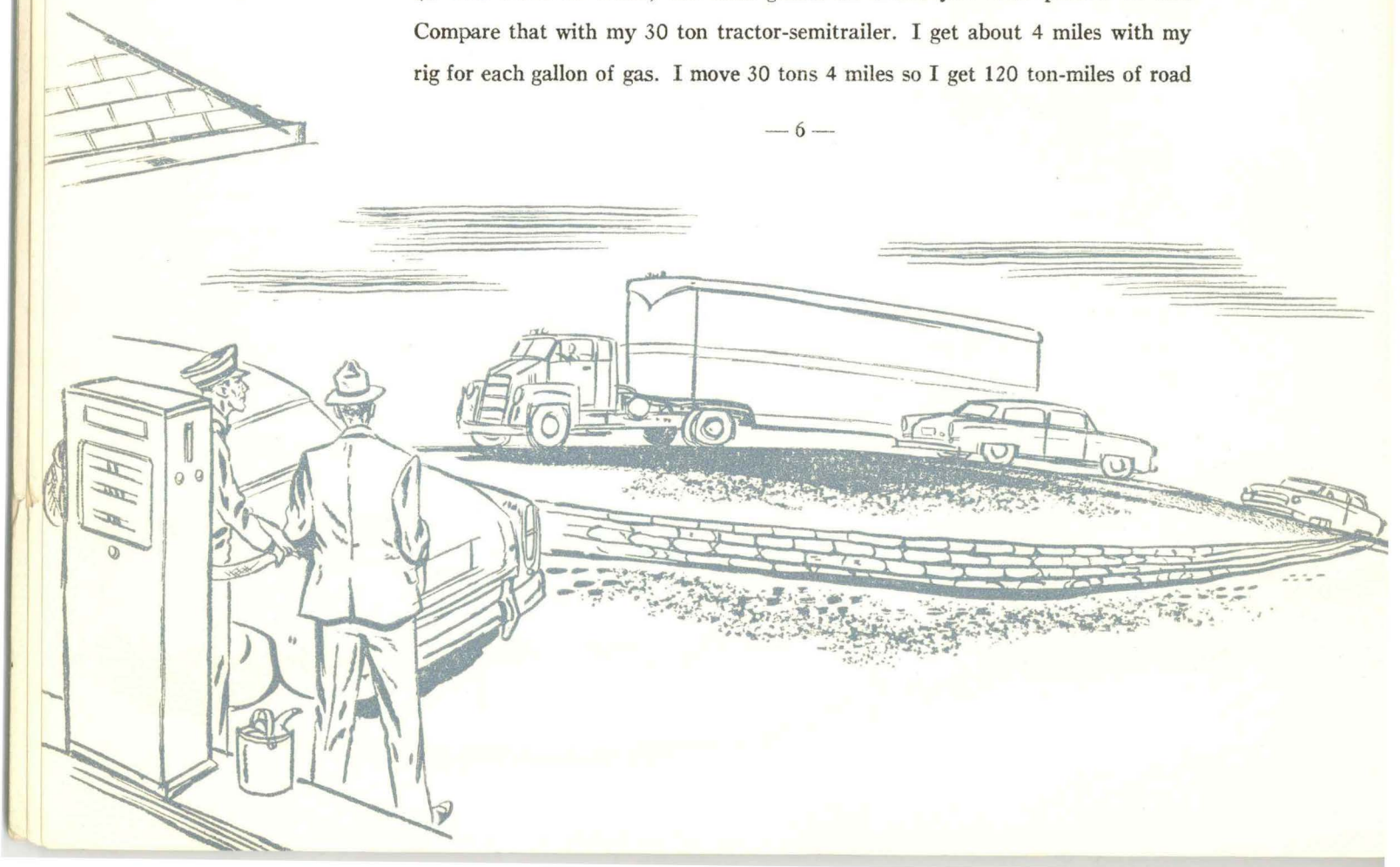
This study is one of a series to be presented by the Iowa Free Roads Association regarding various highway financing proposals. It is offered for public consideration as a possible means of equalizing the road tax burden as a possible method of increasing road revenue. Certainly the fundamental principles of road tax equality here explained in some detail should be thoroughly understood by the people of the State of Iowa.

Equal Charges for Highway Use

Tax equality is a fundamental principle of good old-fashioned American justice. This is especially true when it comes to paying for highways. When we speak of user charges for highways we like to think that everyone pays about the same for what he gets in the way of road use. Take the gas tax, for example, I buy ten gallons for my car and you buy five. I pay twice as much tax on my ten gallons as you pay on your five. And that's fair enough because I can drive twice as many miles on my fuel, other things being equal.

But that's the trouble. Other things are NOT equal when you compare automobiles with big trucks and the relative amount of road use each gets for the gas tax paid. The bigger and heavier the vehicle the less gas it consumes per ton of weight moved.

Let's take a simple comparison. The gas tax rate is 5c in Iowa. Let's assume that your car weighs about two tons (the national average is 1.9 tons) and that you get about 15 miles for each gallon of gas consumed. You get 30 ton-miles (2 tons times 15 miles) for each gallon on which you have paid a 5c tax. Compare that with my 30 ton tractor-semitrailer. I get about 4 miles with my rig for each gallon of gas. I move 30 tons 4 miles so I get 120 ton-miles of road



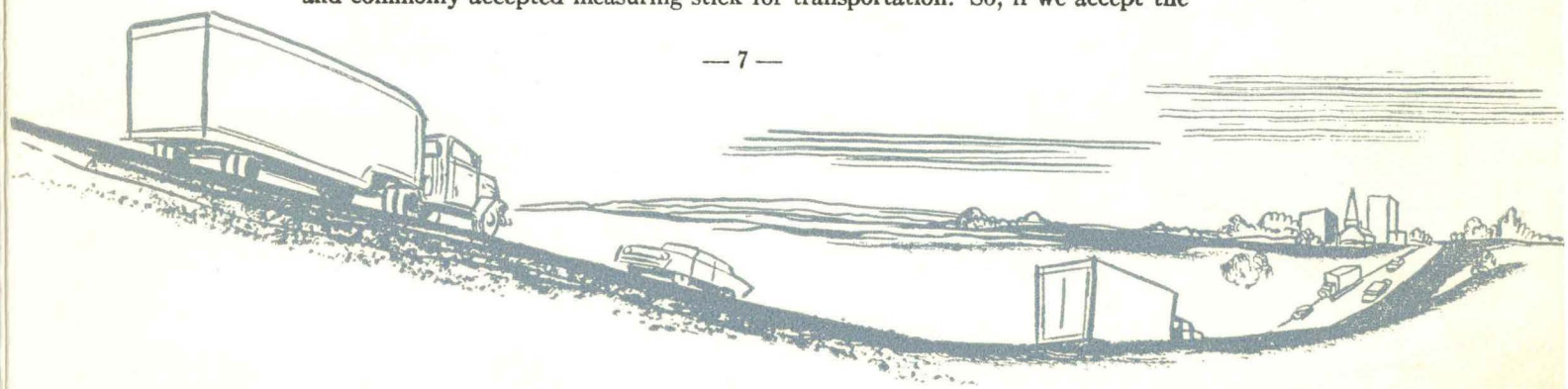
use (30 tons times 4 miles per gallon). For my nickle in gas tax I thus get 120 ton-miles while you get only 30 for yours. For you to get 120 ton-miles of road use with your car you would have to buy 4 gallons of gas (and pay 20c gas tax) while I get the same 120 ton-miles of road use from the nickle tax I pay on only one gallon. You pay four times as much in gas tax as compensation for road use as I pay on my heavy outfit.

Let's put it another way. We each buy a gallon of gas and the state gets a dime in tax revenue. In burning that fuel you get 30 ton-miles and I get 120 ton-miles, making 150 ton-miles for both of us together. The state gets 10c for 150 ton-miles of road use or 1 penny for each 15 ton-miles. If you and I each paid the state the same amount of tax per ton-mile of road use you would pay 2c, at 15 ton-miles per penny, and I would pay 8c at the same identical rate. I should pay 8c and you should pay 2c but each of us actually pays the same —5c. So, the way it works out, you pay 3c *more* than you should while I pay 3c *less* than I should. More than half of your gas tax goes to pay for the road use I get.

Someone may argue that you get 15 miles of movement while I get only four. But it's a cinch bet that I'll do much more road damage in traveling my four miles than you will in traveling your 15. And what's more, it costs a great deal more money to make the roads and bridges strong enough to accommodate my 30 ton rig than it would cost to make them strong enough for your car.

Even if the difference in the cost of road construction and road repair is disregarded and we figure the road cost for trucks and for automobiles as the same, surely trucks should pay no *less* for the privilege of road use than is collected from automobiles.

But someone may say that you should not compare the charges against the two types of vehicles on the basis of ton-miles of road use. Let's look at that one for a moment. *Go up to a trucker and ask him how much he'll charge you to haul some hay. He'll ask you two questions: "How much does it weigh?" and "How far does it go?" He charges for his use of the roads on the weight and distance, or tons and miles, the freight is to move. Why shouldn't he pay for his use of the roads on the same basis?* The ton-mile is a proper, practical, and commonly accepted measuring stick for transportation. So, if we accept the



ton-mile as the measuring stick, as of course we must if we want to be fair, we must face the proposition that *fuel tax does not equalize road use charges as between automobiles and heavy trucks.*

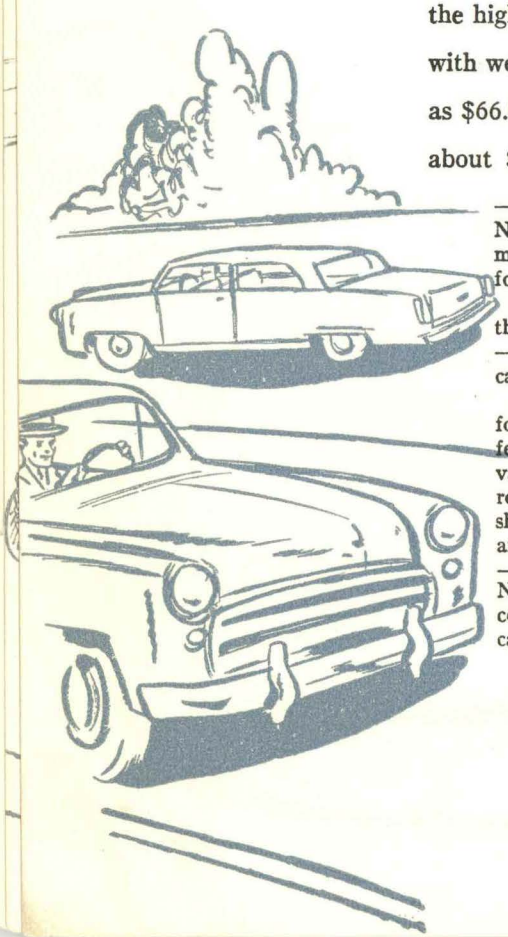
What then would be done to put all road users on an even keel? What kind of charges should be levied to make it all even-steven?

The American Automobile Association has given us the right answer.

In addition to fuel tax, two kinds of other charges are necessary—first, a flat annual charge, usually in the form of a registration fee, to make up for differences between automobile and truck weight, and, second, a variable charge, sometimes called a "third structure tax", to even up for the wide differences in mileage between the average automobile on the one hand and, on the other, the many different kinds of trucks used for many different purposes (Note 1).

What Does the Passenger Car Pay?

In Iowa the passenger car owner pays both a registration fee and a fuel tax. The registration fee is a flat annual charge and carries with it the right to use the highways for one year. The Iowa registration fee for passenger cars varies with weight, value and age ranging in amount from as low as $10.00 to as high as $66.00 or more. However, the *average* passenger car registration fee paid is about $22.50 per year. (Note 2). ***The average passenger car travels about***



NOTE 1: Policy adopted by the American Automobile Association at its 51st annual meeting, September 9-11, 1953, Los Angeles, California, with respect to special taxes for heavy trucks:

Heavy trucks require more expensive highways to carry their loads. It is equitable that heavy trucks pay for the added highway costs which their loads make necessary —or at least a major share of such increased costs. Studies in some jurisdictions indicate that the heavier trucks are not paying their fair share of highway costs.

The American Automobile Association believes that a third form of tax is necessary for the equitable taxation of the heavier commercial vehicles. The vehicle registration fee and the motor fuel tax alone cannot provide an equitable total road tax for the various kinds and combinations of commercial vehicles and their varying use of roads. The recommended third form of tax for these heavier commercial vehicles should include proper consideration of the factors of weight and distance traveled, and give due consideration to the costs of administration and collection.

NOTE 2: The average was obtained through dividing the $20,525,000. Total amount collected as passenger car registration fees in 1953 by the total number of passenger cars—911,044—registered that year to get an average of $22.52 per car.

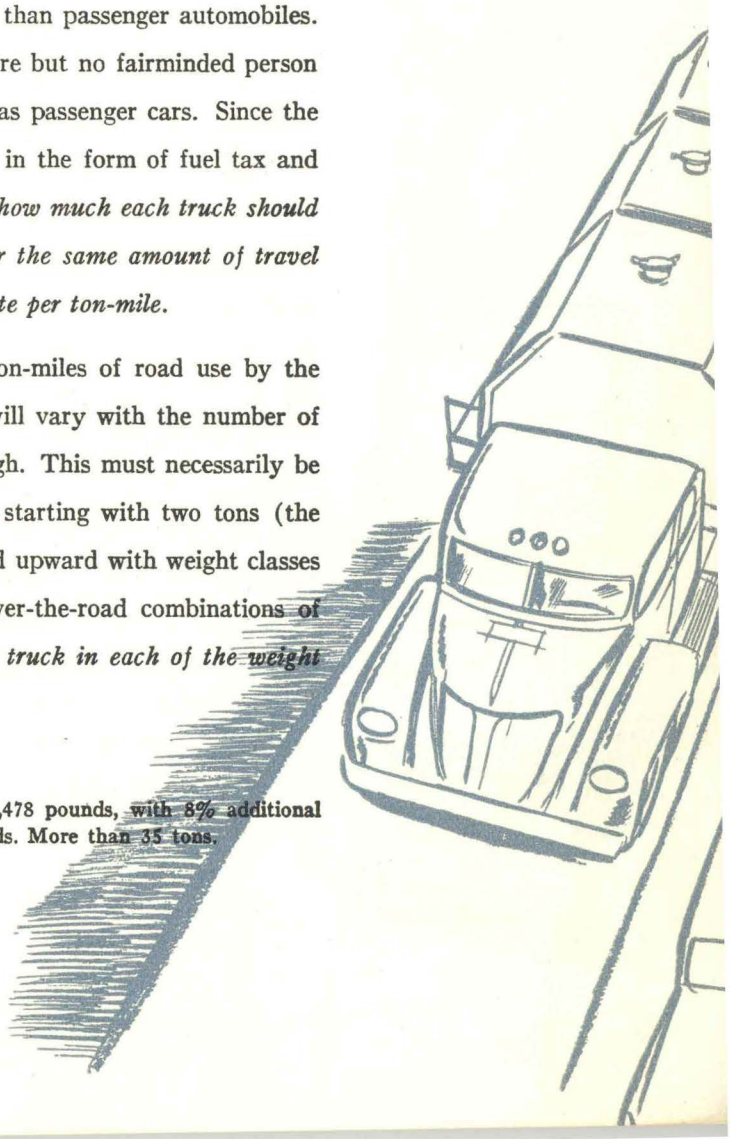
10,000 miles per year. With the payment of that $22.50 fee the owner gets the privilege of road use for one year. He thus buys 10,000 miles, or 20,000 ton-miles, of road use.

In traveling that 10,000 miles the average passenger car consumes 666 gallons of gas at 15 miles per gallon. With the fuel tax rate at 5c per gallon, he pays $33.30 for the whole year as gas tax. This gas tax, added to his $22.50 registration fee, makes $55.80 the average passenger car in Iowa pays each year. In exchange for that payment he gets 10,000 miles of travel with 2 tons of weight, or 20,000 ton-miles of road use. That makes 2.79 *mills* for each ton-mile, or $2.79 for each thousand ton-miles.

How Much Should Be Paid by Trucks?

In determining how much should be paid by trucks it is reasonable to start with the proposition that trucks should pay *no less* than passenger automobiles. There are many reasons why trucks should pay more but no fairminded person can deny that trucks should pay at least *as much* as passenger cars. Since the average passenger car pays 2.79 *mills* per ton-mile in the form of fuel tax and registration fee for 10,000 miles of travel, *let's see how much each truck should pay in the form of fuel tax and registration fee for the same amount of travel (10,000 miles) if it is to pay at exactly the same rate per ton-mile.*

To get the answer we must first compute the ton-miles of road use by the truck in traveling 10,000 miles. This, of course, will vary with the number of tons the truck or combination in question may weigh. This must necessarily be computed for trucks in the various weight classes starting with two tons (the weight of the average passenger car) and graduated upward with weight classes in one-ton steps up to and including the giant over-the-road combinations of 35 tons (Note). *When the total ton-miles of each truck in each of the weight*



NOTE: Iowa permits gross vehicle weights as high as 65,478 pounds, with 8% additional as "tolerance" for a maximum legal weight of 70,716 pounds. More than 35 tons.

classes, traveling 10,000 miles, is computed, that total must be multiplied by 2.79 mills (the amount paid per ton-mile of road use by the average passenger car) in order to find the total amount, in dollars, that the various trucks should pay if they are to pay for their first 10,000 miles of road use at exactly the same rate per ton-mile as is charged the average automobile in the form of registration fees and gasoline taxes.

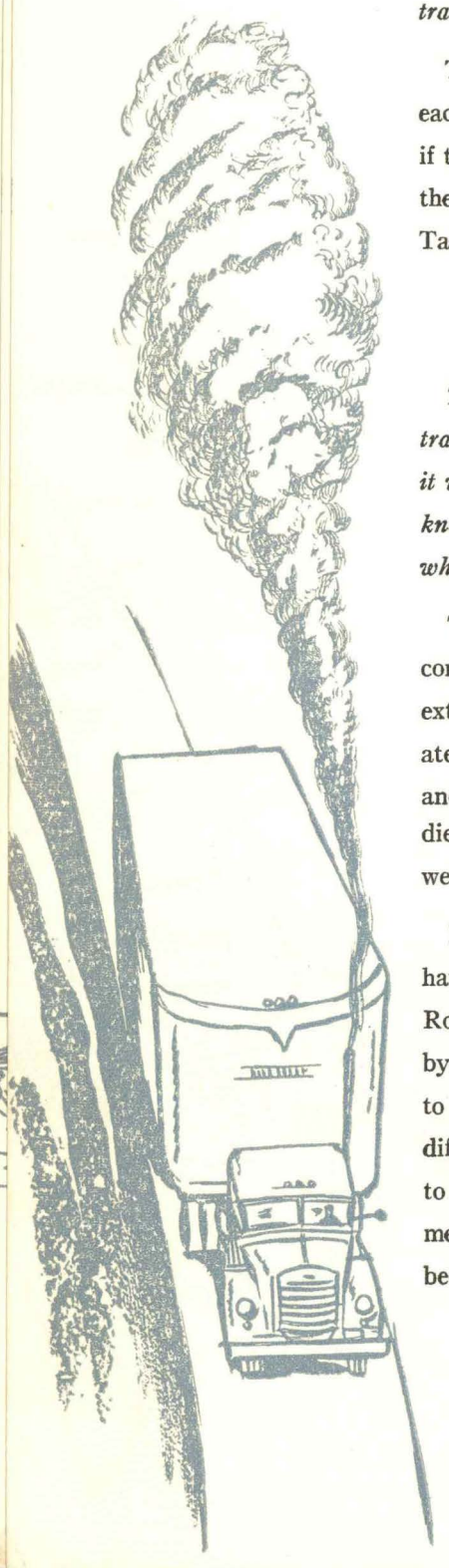


Table No. 1 shows, by weight classes, the total ton-miles or road use by each truck in traveling its first 10,000 miles and the *total* amount it should pay if the same amount per ton-mile is paid by that truck as is now assessed against the average passenger car in the form of registration fees and gas taxes. (See Table in Pocket)

Credit for Fuel Consumed

Table No. 1 shows the total amount which should be paid by each truck in traveling its first 10,000 miles but it does not take into account the amount it would necessarily pay in fuel tax while doing so. Fuel tax payments must be known in order to allow the amount so paid as a credit against the total amount which should be paid by each truck.

There are many factors which influence to some degree the amount of fuel consumed. Even with trucks exactly alike fuel consumption will vary to some extent with the number and steepness of the hills over which a vehicle is operated, the condition of its motor, the speed of operation, the skill of the driver, and other factors. It is also clear that there is a substantial difference between diesel and gasoline motors in the quantity of fuel consumed for each ton of gross weight moved, with the diesel motor consuming substantially less.

Data as to fuel consumed by the *average* vehicle in various weight classes have been published by the United States Bureau of Public Roads ("Public Roads", April, 1953). These data pertain to vehicles and combinations powered by gasoline motors in five different weight classes ranging from 4,700 pounds to 50,000 pounds and for combinations powered by diesel motors in three different weight classes ranging from 50,000 pounds to 72,000 pounds. In order to obtain fair estimates of fuel consumption by vehicles in weight classes intermediate to those used in the Bureau of Public Roads study, these data have been plotted on the graph.

Figure No. 1 (See Table in Pocket)

This graph shows the rate of change in fuel consumption with increase in weight. Estimates for consumption by vehicles in intermediate weight classes are drawn from that chart. From the above estimates of the miles per gallon obtained by vehicles in the various weight classes it is easy to determine the total amount of fuel consumed, and fuel tax paid thereon, by the average vehicle in each of such classes in traveling its first 10,000 miles in any one year.

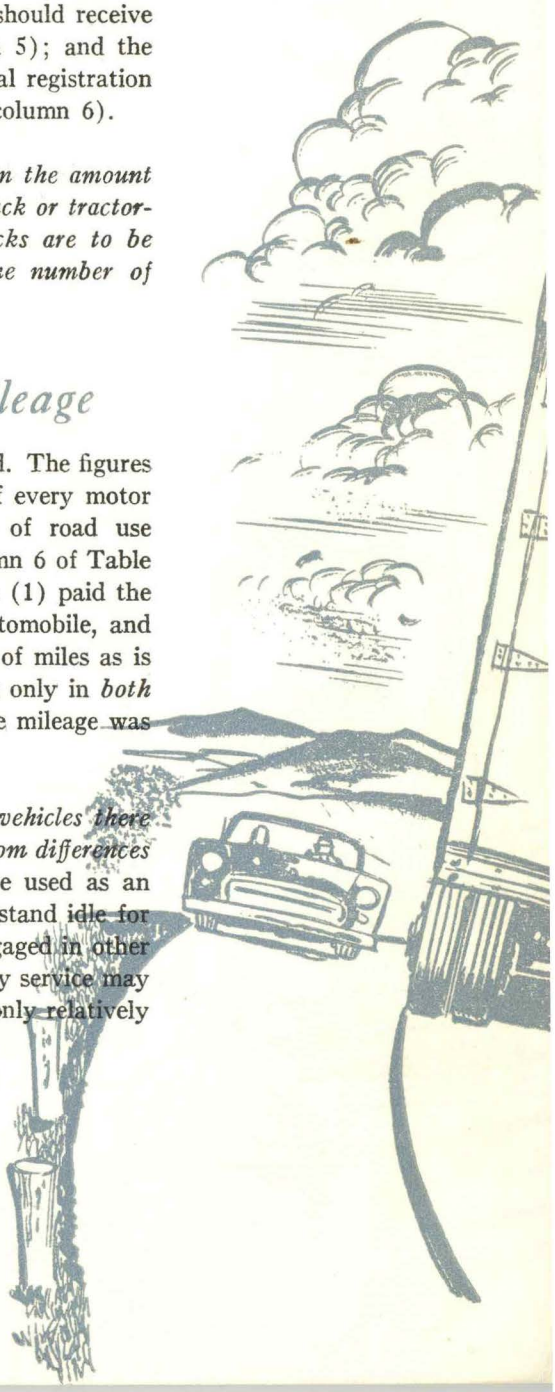
Table No. 2, shows by weight classes in column 2 the total amount that should be paid by each vehicle for traveling its first 10,000 miles, if its road use charges are to be equalized with those paid by the passenger car, as taken from Table No. 1: the miles it gets per gallon of fuel consumed (column 3); the gallons used in traveling 10,000 miles (column 4); the credit it should receive for tax paid on fuel consumed in traveling such mileage (column 5); and the net remainder which must be collected in the form of a flat annual registration fee or other charge in order to equalize with the passenger car (column 6).

Thus it may be seen from the figures shown in the last column the amount of money in addition to fuel tax which should be paid by each truck or tractor-semitrailer combination in the several weight classes if the trucks are to be charged the same per ton-mile as the automobiles for the same number of vehicle miles of road use.

The Effect of Differences in Mileage

The last words in the preceding paragraph need to be emphasized. The figures shown are based upon the simple proposition that every owner of every motor vehicle—automobile, bus, truck or trailer—buys 10,000 miles of road use each year when he pays his registration fee. The amounts in column 6 of Table No. 2 are those which should be paid if the owner of every truck (1) paid the same tax per ton-mile of operation as is paid by the average automobile, and (2) if the truck in question were operated only the same number of miles as is traveled by the average automobile. Those figures would equalize only in *both* conditions were met, that is, if the tax rate was the same *and* the mileage was the same.

However, experience has shown that in the use of commercial vehicles there are very wide differences in annual mileage per vehicle resulting from differences in the purposes for which they are used. Many farm trucks are used as an incidental tool to the conduct of a farming operation. They may stand idle for a large portion of the time while the owner and his helpers are engaged in other pursuits. Likewise, local cartage trucks engaged in performing dray service may stand idle at shippers' docks while being unloaded and then move only relatively



short distances between loading or unloading points. The same is true of many vehicles engaged in hauling heavy machinery or those used as a chassis for the movement of corn shellers, portable mills, drilling equipment or other utensils where the transportation involved is only an incident to some other endeavor.

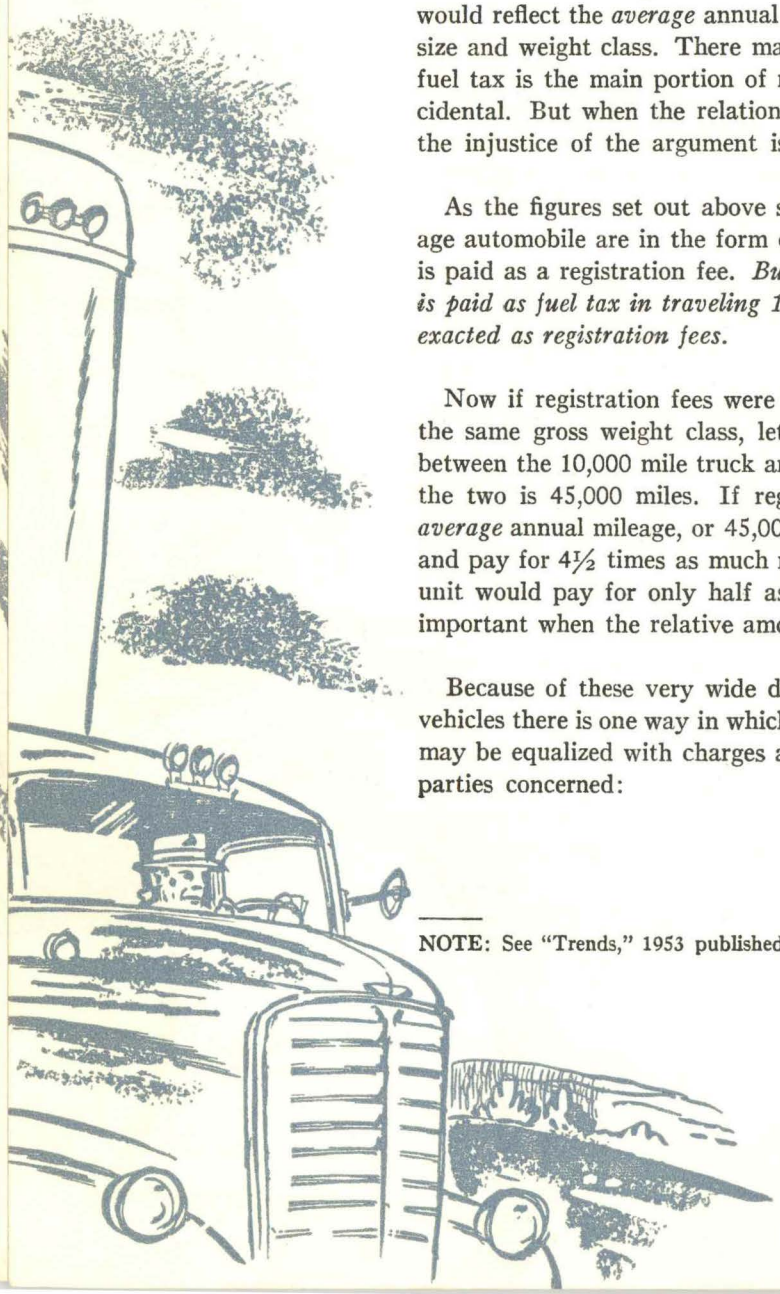
Conversely, there are many commercial vehicles, particularly those in the higher weight classes, engaged in operation which result in annual mileages of astounding magnitude. *Take, for example, the large, over-the-road tractor-semitrailer combinations engaged in interstate transportation.* Figures published by the American Trucking Associations, Inc. (Note) show that the *average* annual mileage of such combinations ranges as high as 85,903 miles. Obviously one truck which travels over the highways eight times as many miles as another of the same weight and size should pay eight times as much. This must be so if road use charges are to be in proportion to the extent of road use.

It is sometimes argued that registration fees should be fixed in amounts which would reflect the *average* annual mileage of all commercial vehicles of the same size and weight class. There may be some excuse for that kind of logic where fuel tax is the main portion of road use payment and registration fees are incidental. But when the relationship of these two kinds of charges is reversed the injustice of the argument is readily apparent.

As the figures set out above show, 60% of the total payments by the average automobile are in the form of gas tax ($33.30), while only 40% ($22.50) is paid as a registration fee. *But with the 30 ton truck only 12% or $100.00, is paid as fuel tax in traveling 10,000 miles, while 88%, or $723.05, should be exacted as registration fees.*

Now if registration fees were fixed on the average mileage of all vehicles in the same gross weight class, let's see what would happen to the relationship between the 10,000 mile truck and the 80,000 mile truck. The average between the two is 45,000 miles. If registration fees were fixed on the basis of the *average* annual mileage, or 45,000 miles, the first unit would be required to buy and pay for 4½ times as much road use as it actually obtained and the second unit would pay for only half as much as it actually obtained. This becomes important when the relative amounts run into substantial figures.

Because of these very wide differences in the annual mileage of commercial vehicles there is one way in which road use charges against all trucks and trailers may be equalized with charges against passenger cars which does justice to all parties concerned:



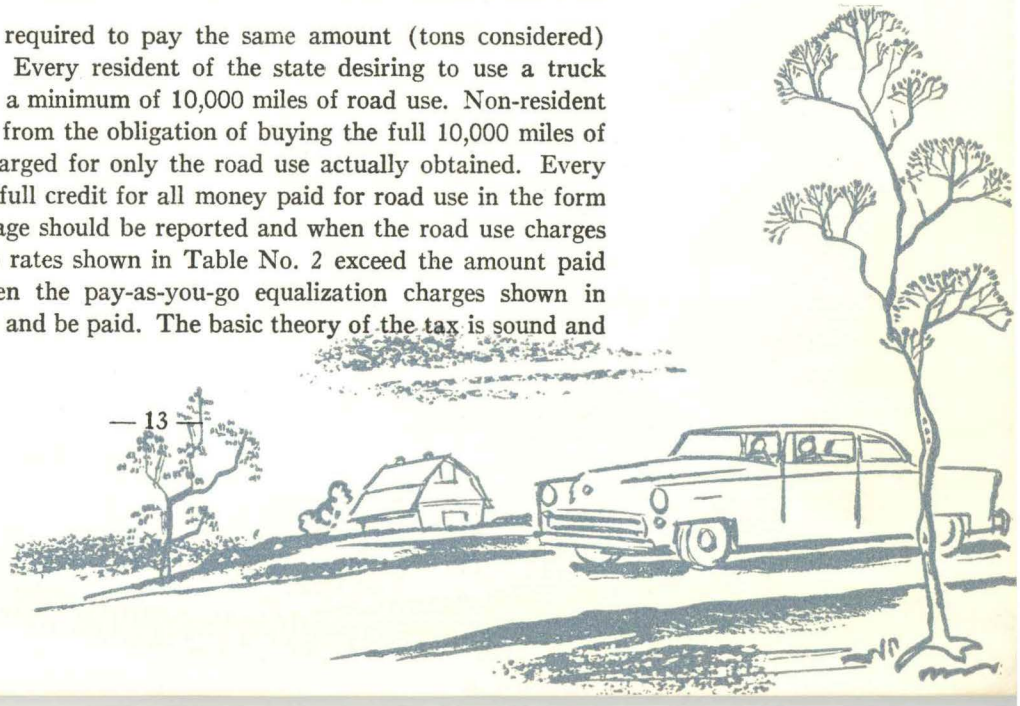
NOTE: See "Trends," 1953 published by American Trucking Associations, Inc.

Owners of commercial motor vehicles should be required to buy the same amount of mileage (10,000 miles) as is bought by the average automobile and to pay for that mileage at exactly the same rate per ton-mile as is paid by the average automobile. All mileage by commercial vehicles beyond that basic 10,000 miles should be paid for as equalization tax in proportion to the extent of road use (mileage) at the same rate per ton-mile as is paid by the average passenger car. The first 10,000 miles would be paid for in advance by all types of vehicles through payment of the registration fee. ***Additional mileage by heavy commercial vehicles beyond the base 10,000 miles should be paid for as used in the form of equalization charges with weight as the base and mileage as the measure.***

Under such a system the farm truck and city delivery truck would pay their proper shares and would not be required to pay for mileage they did not use, while the long-haul truck with high mileage would pay in direct proportion to the road use it gets. That use charge would not apply until mileage during any one year exceeds the base 10,000 miles. The amount to be paid per ton-mile could readily be taken into account in fixing the truck rate per vehicle mile after full allowance for fuel consumed in moving that mile.

Let's see how that would work out. In Table No. 3 the proper charges are computed and set up from the figures established in the preceding tables. In the second column is shown the *total* amount per *vehicle* mile which should be paid, calculated at 2.79 *mills* per ton-mile. In the next column is shown the fuel tax credit which should be allowed with the fuel tax at 5c per gallon, as shown above in Figure No. 1. The remainder shown in the last column is the amount per *vehicle* mile which should be paid by each truck or combination for each mile it travels beyond the first 10,000 miles if the commercial vehicle is to pay for the privilege of road use no more and no less than is assessed against the passenger automobile.

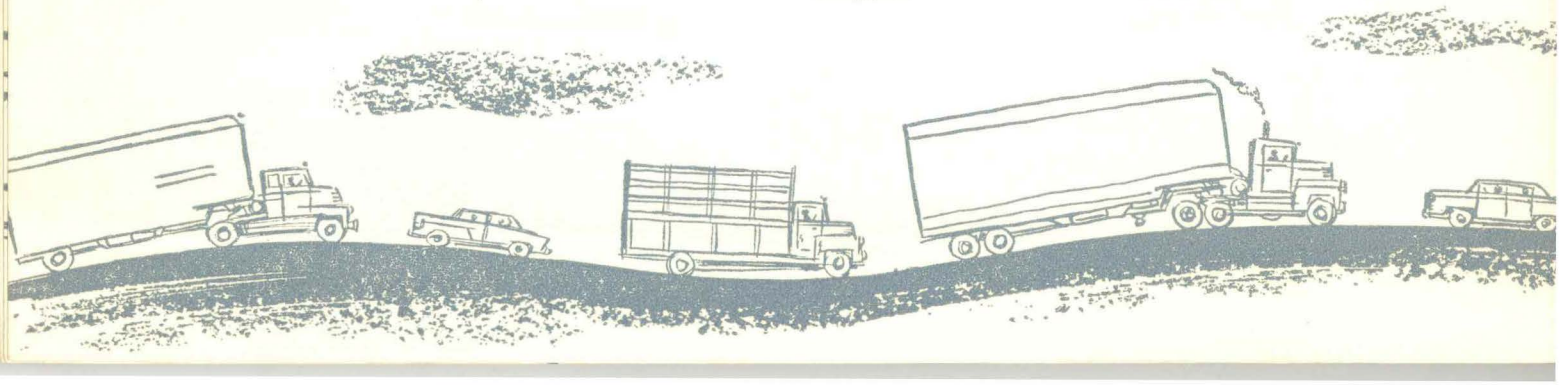
Every truck would be required to pay the same amount (tons considered) for every mile it travels. Every resident of the state desiring to use a truck should be required to buy a minimum of 10,000 miles of road use. Non-resident vehicles could be excused from the obligation of buying the full 10,000 miles of road use and could be charged for only the road use actually obtained. Every vehicle would be allowed full credit for all money paid for road use in the form of registration fees. Mileage should be reported and when the road use charges on a given vehicle, at the rates shown in Table No. 2 exceed the amount paid as a registration fee, then the pay-as-you-go equalization charges shown in Table No. 3 would accrue and be paid. The basic theory of the tax is sound and simple and fair.



Existing Iowa Taxing System

Having determined the kind of taxing system, the amount of registration fees and the rate of mileage tax which would equalize the highway cost burden between automobiles and trucks, let's take a look at the system we have now in Iowa. Let's see whether or not our existing registration fees and gas taxes levy charges against trucks equal to those levied against the average automobile. Such a comparison is made in table No. 4. In that table the first column shows motor vehicles by weight classes; column number 2 shows the tax per mile which should be paid by each truck or combination in addition to fuel tax to charge the truck the same as is now charged the average automobile. (These amounts are taken from column 4 of table number 3.) Column shows the amount of registration fee required under present Iowa law for motor trucks. It should be noted that in 1953 there were no straight trucks registered for gross weights greater than 48,000 pounds. Column number 4 shows the registration fees required under present Iowa law for tractor-semitrailer combinations.

The law fixes the registration fee for truck tractors at $30.00 less than for trucks of the same weight. However the registration fee for semitrailers must be combined with the registration fee for truck tractors to get the total registration fees paid by truck tractor-semitrailer combinations. For semitrailers operated in combinations with gross weights ranging up to 24,000 pounds the semitrailer fee is $30.00 and for those in combinations weighing more than 24,000 pounds the semitrailer fee is $60.00. Thus the total registration fees for combinations of more than 24,000 pounds gross weight is uniformly $30.00 higher than fees for straight trucks. Column number 5 shows the number of miles paid for by straight trucks through payment of the registration fee. This is found by dividing the amount paid, as shown in column 3, by the rate per vehicle mile, as shown in column 2. Column number 6 shows the number of miles paid for by tractor-semitrailer combinations through payment of registration fees. This figure is found in the same way, by dividing the amount paid (column 4) by the rate per mile (column 2). Thus it may be seen that under existing law a 28,000 pound truck pays for 10,141 miles of highway use at 3.106 cents per mile. When that vehicle has paid the registration fee required by the law and has paid gasoline tax on fuel consumed, it has paid for road use at exactly the same rate as is charged the average automobile when the truck has traveled only 10,141 miles. For each mile it travels beyond 10,141 miles it pays nothing



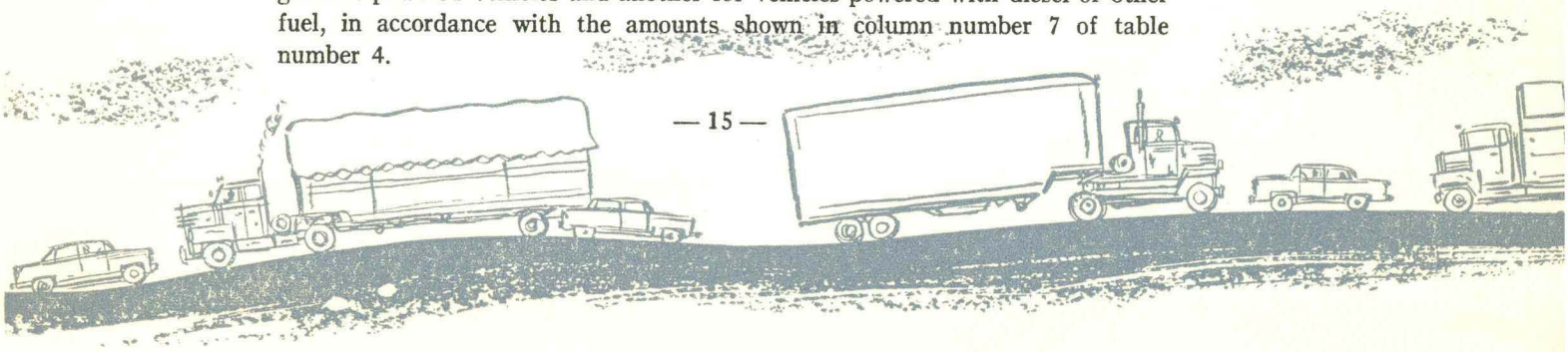
more than the tax on the gas it consumes in traveling that mile. Column 7 shows the fuel tax it pays on each mile (taken from column 3 of table number 3). Column 8 then shows the additional amount it should pay, over and above fuel tax, if it is to be taxed at the same rate as the average automobile. (This figure is the same as shown in column number 2 of the same table). Column 9 then shows in dollars and cents the amount it should pay for each 1000 miles of travel beyond 10,141 miles.

It will be noted that there is an abrupt change in rates between combinations in the 48,000 to 50,000 pound class and those in the next class, 50,000 to 52,000 pounds. This occurs because calculations for all combinations of greater gross weight than 50,000 pounds are based upon fuel consumption by tractors powered by diesel motors. *Diesels consume less fuel than gasoline motors, thus paying less gas tax so their aggregate payments are less when registration fees and fuel tax are combined.*

It is interesting to note that under existing registration fees vehicles powered with gasoline motors pay for about 11,000 miles of road use and those powered with diesel motors pay for about 10,000 miles of road use when charges for such road use are computed at exactly the same rate per ton-mile as are now paid by the average automobile. *Table number 4 also shows clearly that for additional mileage, when such vehicles pay only fuel tax, they pay from one-sixth to one-fourth as much as they should pay if road use charges against trucks and tractor-semitrailer combinations are to be equalized with those paid by the average automobile.*

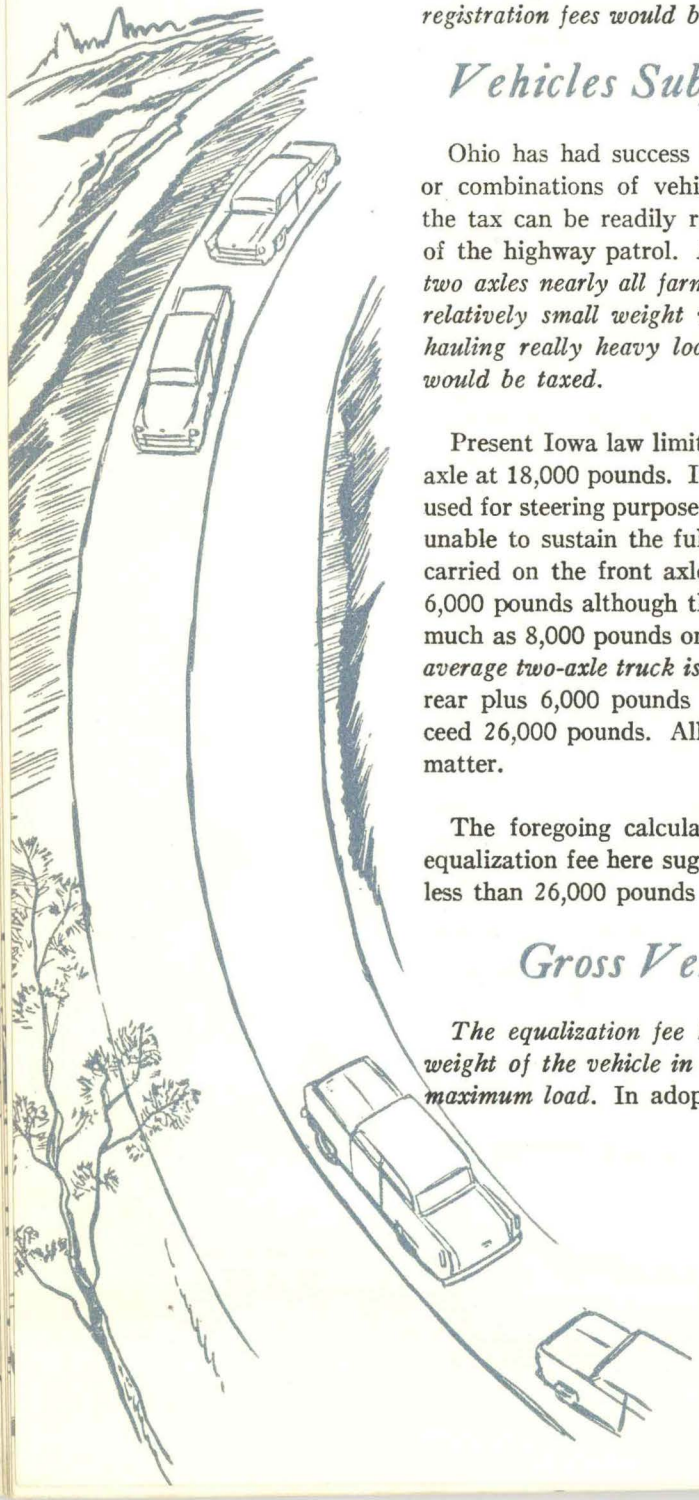
How Road Use Charges Could Be Equalized in Iowa

Road use charges against automobiles and those against trucks and tractor-trailer combinations could be equalized in Iowa by the imposition of a supplemental equalization tax. *Existing registration fees and fuel tax rates could be left as they are. The act could carry the simple pronouncement that all vehicles and combinations of vehicles having more than two axles and with maximum gross weight of more than 26,000 pounds are taxed for each mile of road use at the rate of 2.79 mills per gross ton-mile.* The act could then provide a mileage credit for all vehicles for which an Iowa registration fee has been paid amounting to 11,000 miles in any one year for vehicles powered with gasoline and 10,000 miles in any one year for vehicles powered with diesel or any other fuel. The act could provide a further credit to all vehicles for fuel consumed at amounts per mile set forth in two scales printed in the act, one for gasoline-powered vehicles and another for vehicles powered with diesel or other fuel, in accordance with the amounts shown in column number 7 of table number 4.



Owners of vehicles subject to the tax could be required to report mileage quarterly and excused from payment until the mileage credit had been used. At the time of registration the per mile tax against each vehicle could be computed and fixed by multiplying the declared gross weight in tons by the per ton mile rate of 3.79 mills less fuel tax credit per mile as shown in the scale set forth in the act. Computations could be simplified by fixing the net vehicle mile rate at the nearest ¼ cent. Thus a given truck or combination could be designated as a 2 cent truck or a 3½ cent combination, etc.

Existing road revenues would not be jeopardized because fuel tax rates and registration fees would be left at present rates.



Vehicles Subject to the Equalization Tax

Ohio has had success in applying its supplemental charges to only vehicles or combinations of vehicles having more than two axles. Units subject to the tax can be readily recognized by the average citizens as well as members of the highway patrol. *By not applying the tax to trucks with no more than two axles nearly all farm trucks, city delivery or pick-up trucks and others of relatively small weight would be exempt while the extra axled combinations hauling really heavy loads and obtaining a commercial use of the highways would be taxed.*

Present Iowa law limits the maximum load which may be placed on any one axle at 18,000 pounds. It should also be observed that wheels of the front axle, used for steering purposes, must be equipped with only a single tire and are thus unable to sustain the full 18,000 pounds permitted by law. The heaviest load carried on the front axle of the average two-axle truck does not often exceed 6,000 pounds although the axles may be so spaced and sprung as to impose as much as 8,000 pounds on the front axle. *Thus the heaviest gross weight of the average two-axle truck is generally not to exceed 24,000 pounds* (18,000 pounds rear plus 6,000 pounds front). Gross weights of two-axle trucks seldom exceed 26,000 pounds. All these vehicles might well be exempted as a practical matter.

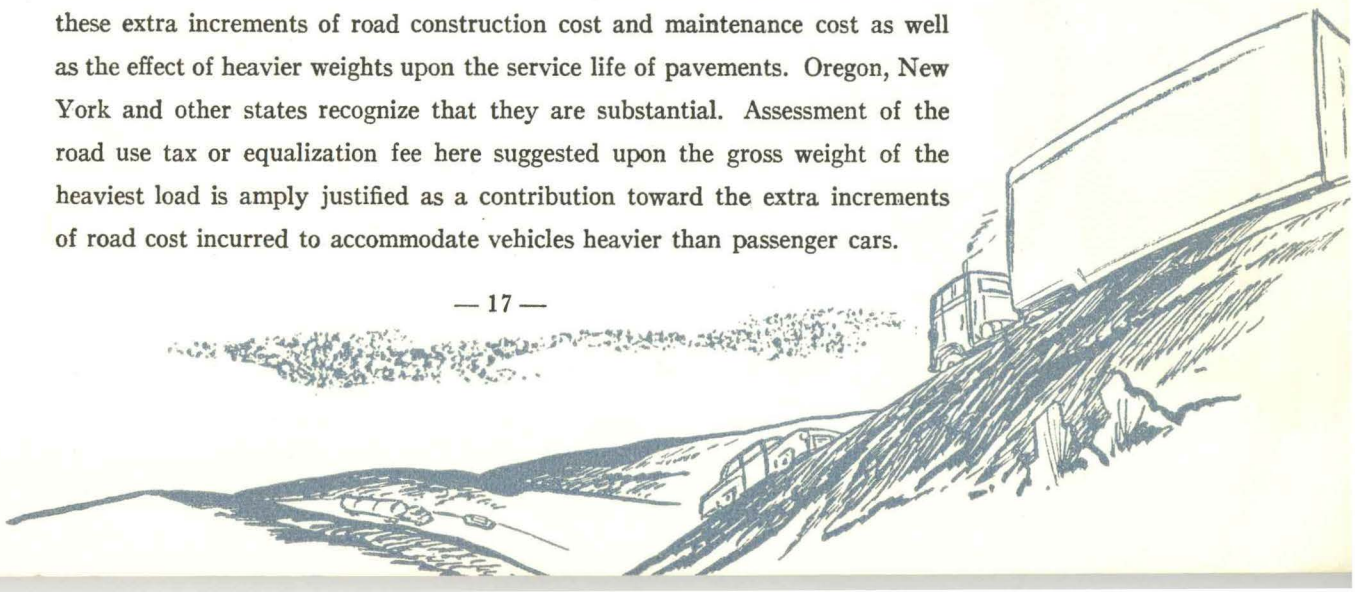
The foregoing calculations have been made with the assumption that the equalization fee here suggested would not be imposed upon two-axle vehicles of less than 26,000 pounds declared gross weight.

Gross Vehicle Weight As the Base

The equalization fee here suggested should be made to apply to the gross weight of the vehicle in question, that is, to the weight of the vehicle plus its maximum load. In adopting the weight-distance tax in Oregon the legislature

accepted the proposition that the tax charge was related to road cost and that roads and bridges must be built strong enough to withstand the maximum weight of the loaded vehicle. They observed that pavement strength could not be reduced with reductions in vehicle weight. Practical administrative problems also dictate gross weight as the standard. Under a graduated scale of registration fees vehicles must be registered at a declared gross weight. To assure registration in proper weight classes and payment of the full registration fee due, vehicles must be weighed at frequent and unpredicted intervals. Those found with gross weights in excess of weights paid for are penalized and required to pay whatever additional tax may be due. When the base of the tax is maximum gross weight this procedure is effective and results in administrative efficiency. If, however, the base of the tax was unladen weight plus average pay load, or something else, it would be impossible for a patrol officer to determine when he weighed a truck on the highway whether the weight shown on the scales was lawful or unlawful because he would have no means of determining its effect on the average gross weight of the vehicle.

There is another reason for using maximum gross weight as the base of the proposed tax. It should be borne in mind that the per ton-mile charge contemplated in the proposal is no less and no more than the per ton-mile rate assessed against the passenger car. The entire plan is proposed as a measure of relative road *use*. It does not take into account the influence of weight or width or power upon the design and *cost* of roads acquired to accommodate the vehicles of differing weights and sizes. Even spokesmen for the trucking industry agree that vehicles of greater weight and size than the automobile require increments of road cost in addition to those which would be required for roads to accommodate only the passenger car. They also agree that such heavier weights require extra outlays for the maintenance and repair of the roads and bridges and shorten their service lives. It is difficult to measure these extra increments of road construction cost and maintenance cost as well as the effect of heavier weights upon the service life of pavements. Oregon, New York and other states recognize that they are substantial. Assessment of the road use tax or equalization fee here suggested upon the gross weight of the heaviest load is amply justified as a contribution toward the extra increments of road cost incurred to accommodate vehicles heavier than passenger cars.

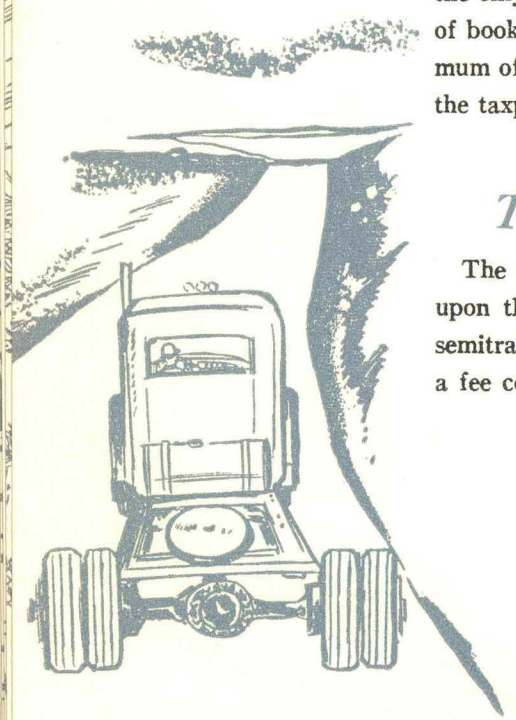


Alternative Credit for Empty Mileage

If, however, extra increments of road cost are to be disregarded and road use charges are to be based strictly on the amount of road use, there is a practical way to make proper allowance for empty or partially loaded mileage. As is now required by Iowa law registration should be made and license plates issued on the basis of maximum gross vehicle weight to permit efficient administration and enforcement. Supplemental mileage payments should also be made on the basis of such registered gross weight with provision for refund or credit after due proof of empty or partially empty mileage. Generally speaking, the unladen weight of the vehicle is one-half of the loaded weight and at least one-half of vehicle mileage is loaded. Hence the maximum allowance or discount should not exceed 25%. With tank trucks, for example, engaged in a one-way haul and required to return empty, the average laden weight is probably not to exceed 75% of the maximum weight. To take care of such situations the administrative body might be authorized to establish, after proper showing in accordance with rules it may lay down, for individual carriers or limited classes of carriers, a standard discount or refund in percentage terms as an allowance for empty or partially empty mileage. Registration and reporting of the mileage and tax should be on the basis of the full laden weight, however, with such allowance computed and deducted from the total or refunded as equities may require.

Mileage Records

With the rate per vehicle mile initially established at the time of registration the only variable which must be measured and reported is mileage. A minimum of bookkeeping would thus be required of those subject to the tax and a minimum of effort would be required to check or audit the reports and operations of the taxpayer.



Tax Applicable to the Truck Tractor

The tax in question should be applied only to power units, although based upon the gross weight of such units plus the maximum loaded weight of the semitrailers or trailers they pull. There is little reason for anything other than a fee covering the cost of identification to be assessed against a semitrailer or

full trailer *provided* its weight is taken into account in computing the tax of the power unit. It should be borne in mind that the tax is one levied for road use. A semitrailer or a full trailer cannot be used as a unit of transportation unless it is pulled by a power unit. When it is standing idle at a shipper's dock it is not engaging in road use although its tractor may be engaged at the same moment in pulling another semitrailer. On the other hand, the utility of a truck tractor is measured by the load in the semitrailer it pulls and its amount of road use is measured by the weight of the entire combination plus its load. For these reasons the use tax here discussed should be applied against only the truck tractor (or the full truck in the event it is used to pull a full trailer) and the mileage of only the power unit recorded and reported.

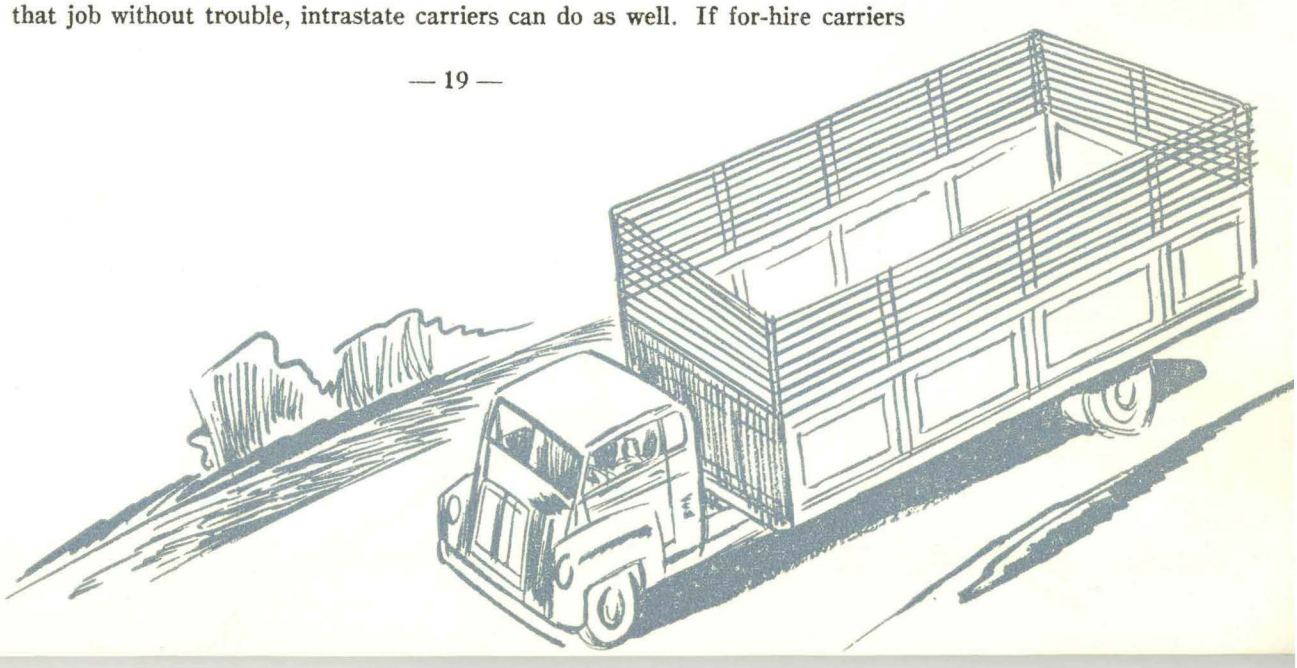
Administration

It will, of course, be argued that the tax is impractical and burdensome. But such arguments just will not stand close examination.

As stated above, after the tax rate per vehicle is fixed at the time of registration, the only obligation of the truck operator is to keep track of and report the mileage and pay the tax at such monthly or quarterly intervals as the law might require.

Is that a burden?

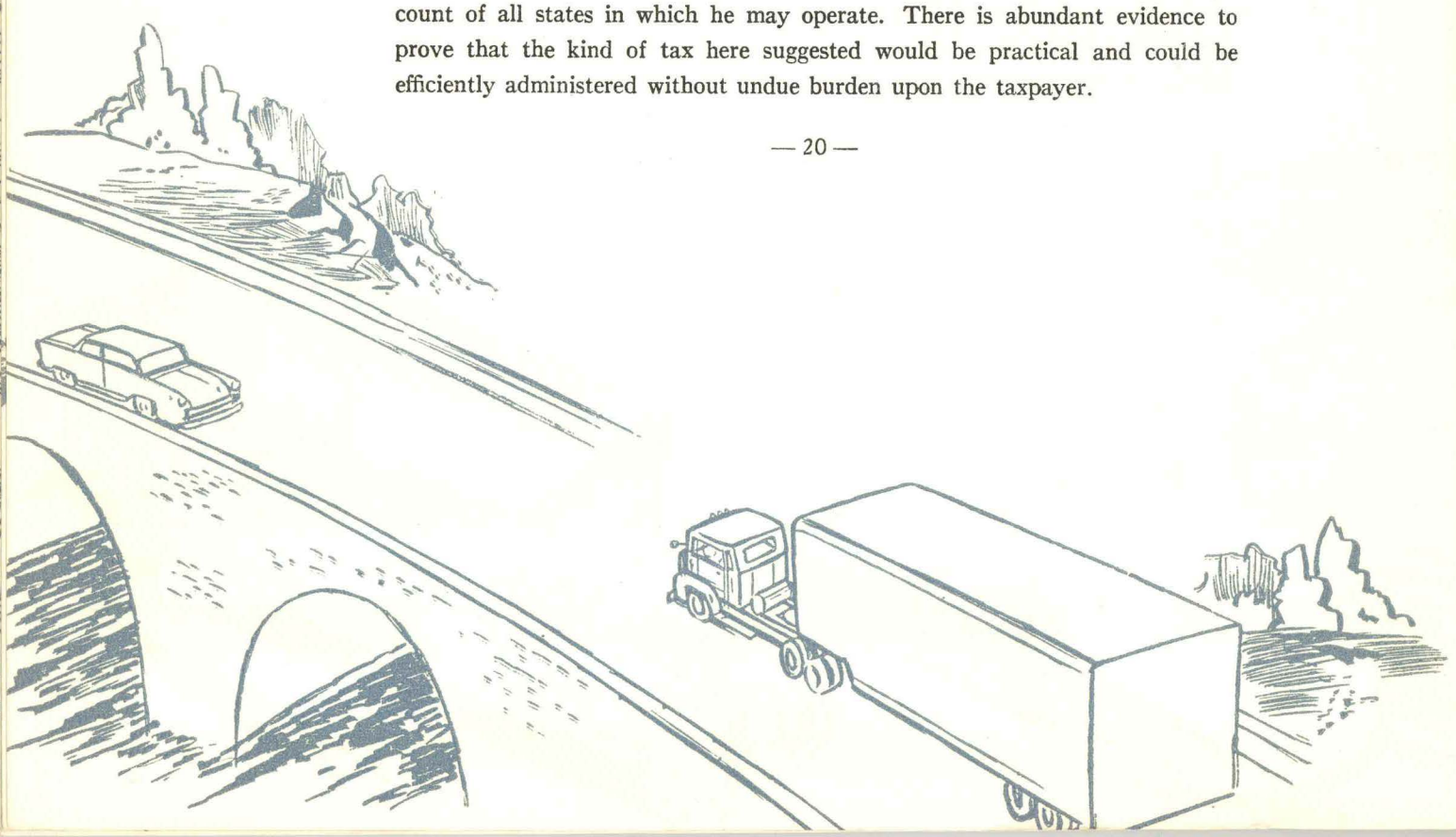
Let's begin with the realization that interstate motor carriers subject to regulation by the Interstate Commerce Commission are required *now,* by rules of that Commission, to keep track of not only the vehicle miles traveled but of the net tons carried in doing so. The same data reported to that Commission could be used in mailing reports to the proper state authorities. The carriers now make such reports to the ICC every three months and there is no complaint about the inconvenience or expense of doing so. If interstate carriers can do that job without trouble, intrastate carriers can do as well. If for-hire carriers



of freight can do that job, chain stores and others who haul their own freight can also do as well. Simple records can be kept—simple forms can be filled in and mailed with remittances as the money from road use is earned.

It may be argued that the law cannot be adequately enforced and that so many truck owners subject to the law would be dishonest in reporting their tax obligations that the law would fall of its own weight. Such arguments were made against the sales tax and the income tax and other taxes of a somewhat similar character. *But, in the administration of those laws it has been learned that a surprisingly high percentage of the people are honest and will pay their taxes rather than incur the bother or risk of tax evasion.* It must also be observed that in the past 20 years tax officials have learned how to administer and enforce tax laws and they do so with satisfactory over-all efficiency. The State of Oregon, with a truck tax law of the same general character but more complicated than the proposal here discussed, proved from surveys by disinterested groups that its truck tax collections were 95.6% efficient and that the whole act was administered at a total cost of 4.38% of the amount involved.

The State of Ohio in the administration of its extra axle-mile tax has found that the law can be administered for less than 4% of the proceeds. The National Association of Tax Administrators, in recommending the adoption of a road use tax on interstate carriers which would be measured by mileage, contemplates a system of joint audits similar to arrangements now in effect as to many other kinds of tax charges. Under this system an auditor for one state makes one simple check of the records at the home office of the motor carrier for the account of all states in which he may operate. There is abundant evidence to prove that the kind of tax here suggested would be practical and could be efficiently administered without undue burden upon the taxpayer.



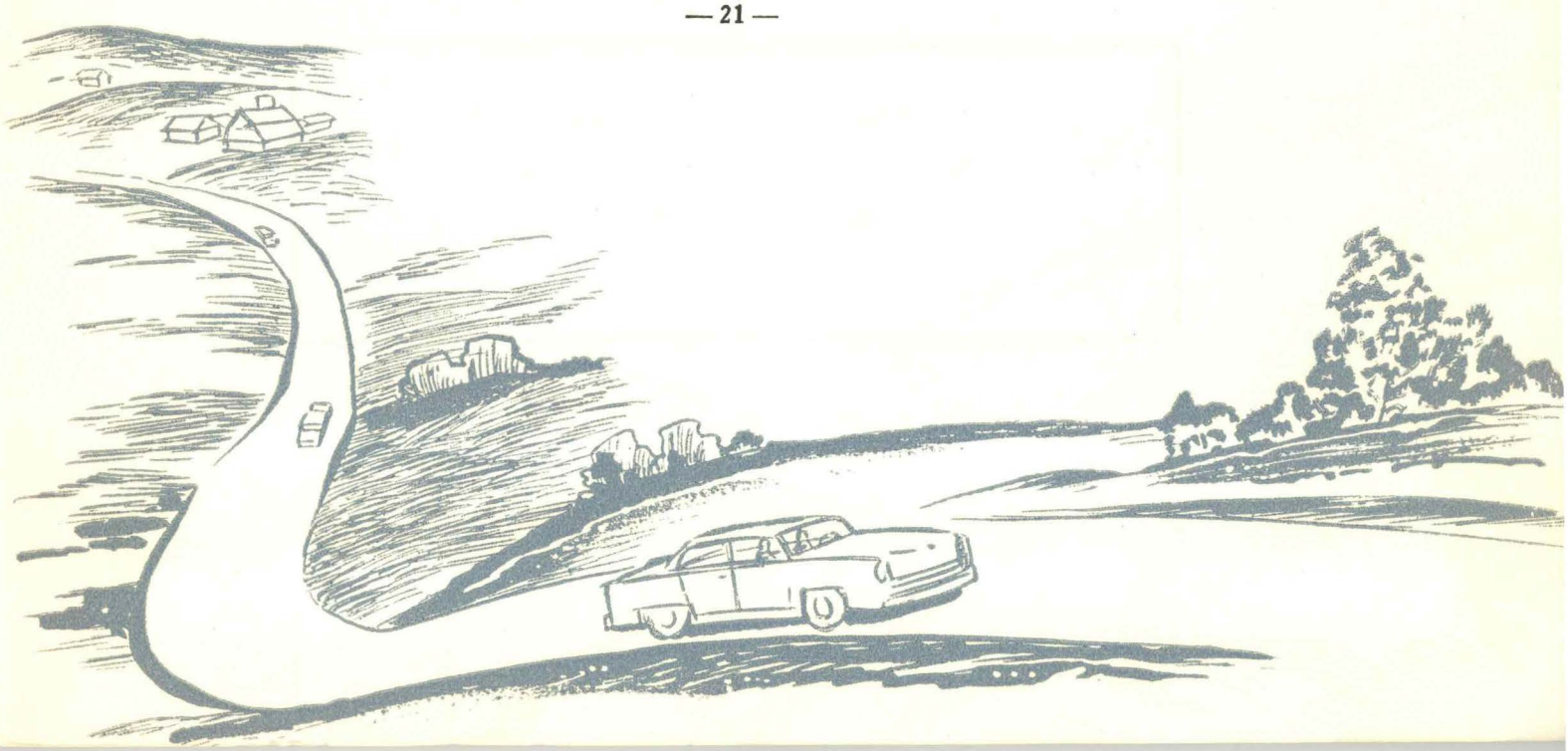
Road Use Fees from All Road Users

The equalization fee here suggested should be assessed against residents and non-residents alike. One who lives in Illinois and uses Iowa highways gets just as much value from that use as does an Iowa citizen. Non-residents might properly be exempted from buying 11,000 miles of road use over Iowa roads and paying in advance for that amount of use. However, they could and should be charged for the use of Iowa roads, at exactly the same rate per mile, as is assessed against Iowa citizens.

On the other hand, it is reasonable to expect residents of this state who own extra axle rigs to buy 11,000 miles of use of Iowa roads and pay for that use in advance by payment of registration fees as a stand-by charge for the use of the road system. When you go to the movies you pay for the whole show. If you don't care to sit through the whole performance you are free to leave but you do not expect a refund. Iowa might properly adopt that same policy in charging its own citizens a minimum use fee.

The system here proposed would automatically take care of that situation. By charging everyone the same rate per mile of road use, resident and nonresident are treated alike. By allowing credit for registration only if registration fees are paid the nonresident would receive no such credit unless he elects to register his vehicle and pay his fee.

The equalization charges for road use would be for use of the roads of this state only. Iowa has no right to collect money either as mileage taxes or registration fees for the use of the roads of another state. Neither have other states the right or power to charge vehicles money for the use of Iowa roads.



Substantial sums have been wasted in the past by excessively liberal policies in exempting nonresident commercial vehicles from road-use payments. In the first year of its operation Ohio issued permits for some 99,000 vehicles subject to its extra axle mile tax. Of this number more than 66,000 or two-thirds were for nonresident vehicles. Iowa is much like Ohio in the fact that it, too, is largely a bridge state. Tremendous volumes of traffic by extra axled vehicles pass through Iowa both originating and terminating outside the state.

Border Line Exemption

For administrative convenience from outside the state traveling not more than 10 miles into the state might properly be exempted on the inbound and outbound portions of such trips. Nonresident vehicles making only occasional or infrequent trips into or through the state might well be given the option of buying trip permits for amounts about equal to or slightly in excess of the mileage tax which would accrue. This concession could be made to save them the trouble of qualifying their vehicles under the act.

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Des Moines, Iowa

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TABLE NO. 1

	1 Gross Weight (lbs.)	2 Ton-Miles of Road Use for First 10,000 Miles	3. Payments Required for First 10,000 Miles at 2.79 Mills per Gross Ton-Mile
	4,000	20,000	55.80
	4,001- 6,000	25,000	69.75
	6,001- 8,000	35,000	97.65
	8,001-10,000	45,000	125.55
	10,001-12,000	55,000	153.45
	12,001-14,000	65,000	181.35
	14,001-16,000	75,000	209.25
	16,001-18,000	85,000	237.15
	18,001-20,000	95,000	265.05
	20,001-22,000	105,000	292.95
	22,001-24,000	115,000	320.85
	24,001-26,000	125,000	348.75
3 Axle	26,001-28,000	135,000	376.65
3 Axle	28,001-30,000	145,000	404.55
3 Axle	30,001-32,000	155,000	432.45
3 Axle Combination	32,001-34,000	165,000	460.35
3 Axle Combination	34,001-36,000	175,000	488.25
3 Axle Combination	36,001-38,000	185,000	516.15
	38,001-40,000	195,000	544.05
	40,001-42,000	205,000	571.95
4 Axle Combination	42,001-44,000	215,000	599.85
4 Axle Combination	44,001-46,000	225,000	627.75
4 Axle Combination	46,001-48,000	235,000	655.65
4 Axle Combination	48,001-50,000	245,000	683.55
4 Axle Combination	50,001-52,000	255,000	711.45
	52,001-54,000	265,000	739.35
	54,001-56,000	275,000	767.25
	56,001-58,000	285,000	795.15
5 Axle Combination	58,001-60,000	295,000	823.05
5 Axle Combination	60,001-62,000	305,000	850.95
5 Axle Combination	62,001-64,000	315,000	878.85
5 Axle Combination	64,001-66,000	325,000	906.75
5 Axle Combination	66,001-68,000	335,000	934.65
5 Axle Combination	68,001-70,000	345,000	962.55
5 Axle Combination	70,001-72,000	355,000	990.45

TABLE NO. 2

1 Gross Weight (lbs.)	2 Payments Required For First 10,000 Miles at 2.79 Mills per Gross Ton-Mile (From Table No. 1)	3 Average Miles Per Gallon	4 Gallons Required for 10,000 Miles	5 Fuel Tax Credit at 5c per Gallon	6 Remainder Required to Equalize
4,000	$ 55.80	15.00	666	$ 33.30	22.50
4,001- 6,000	69.75	14.25	702	35.10	34.65
6,001- 8,000	97.65	12.75	784	39.20	58.45
8,001-10,000	125.55	11.50	870	43.50	92.05
10,001-12,000	153.45	10.00	1,000	50.00	103.45
12,001-14,000	181.35	9.00	1,111	55.55	125.80
14,001-16,000	209.25	8.25	1,212	60.60	148.65
16,001-18,000	237.15	7.50	1,332	66.60	170.55
18,001-20,000	265.05	6.75	1,481	74.05	191.00
20,001-22,000	292.95	6.50	1,538	76.90	216.05
22,001-24,000	320.85	6.25	1,600	80.00	240.85
24,001-26,000	348.75	6.00	1,666	83.30	265.45
26,001-28,000	376.65	6.00	1,666	83.30	293.35
28,001-30,000	404.55	5.75	1,740	87.00	317.55
30,001-32,000	432.45	5.75	1,740	87.00	345.45
32,001-34,000	460.35	5.50	1,818	90.90	369.45
34,001-36,000	488.25	5.50	1,818	90.90	397.35
36,001-38,000	516.15	5.25	1,905	95.25	420.90
38,001-40,000	544.05	5.00	2,000	100.00	444.05
40,001-42,000	571.95	4.75	2,105	105.25	466.70
42,001-44,000	599.85	4.75	2,105	105.25	494.60
44,001-46,000	627.75	4.50	2,222	111.10	516.65
46,001-48,000	655.65	4.25	2,353	117.65	538.00
48,001-50,000	683.55	4.00	2,500	125.00	588.55
50,001-52,000 (diesel)	711.45	6.00	1,666	83.30	628.15
52,001-54,000 "	739.35	5.75	1,740	87.00	652.35
54,001-56,000 "	767.25	5.50	1,818	90.90	676.35
56,001-58,000 "	795.15	5.25	1,905	95.25	699.90
58,001-60,000 "	823.05	5.00	2,000	100.00	723.05
60,001-62,000 "	850.95	5.00	2,000	100.00	750.05
62,001-64,000 "	878.85	4.75	2,105	105.25	773.60
64,001-66,000 "	906.75	4.50	2,222	111.10	795.65
66,001-68,000 "	934.65	4.50	2,222	111.10	823.55
68,001-70,000 "	962.55	4.25	2,353	117.65	844.90
70,001-72,000 "	990.45	4.25	2,353	117.65	872.80

For all combinations of more than 72,000 pounds Gross weight $872.80 plus $27.90 for each ton or fraction thereof above 72,000 pounds.

TABLE NO. 3

1 Gross Weight (lbs.)		2 Additional Tax per Mile over the first 10,000 miles (cents)	3 Fuel Tax Credit at 5c per gallon (cents)	4 Net tax per mile (cents)
26,001-28,000		3.906	0.8	3.106
28,001-30,000		4.185	0.9	3.285
30,001-32,000		4.464	0.9	3.564
32,001-34,000		4.743	0.9	3.843
34,001-36,000		5.022	0.9	4.122
36,001-38,000		5.301	1.0	4.301
38,001-40,000		5.580	1.0	4.580
40,001-42,000		5.859	1.1	4.759
42,001-44,000		6.138	1.1	5.038
44,001-46,000		6.417	1.1	5.317
46,001-48,000		6.696	1.2	5.496
48,001-50,000		6.975	1.3	5.675
50,001-52,000	(diesel)	7.254	0.8	6.454
52,001-54,000	"	7.533	0.9	6.633
54,001-56,000	"	7.812	0.9	6.912
56,001-58,000	"	8.091	1.0	7.091
58,001-60,000	"	8.370	1.0	7.370
60,001-62,000	"	8.649	1.0	7.649
62,001-64,000	"	8.928	1.1	7.828
64,001-66,000	"	9.207	1.1	8.107
66,001-68,000	"	9.486	1.1	8.386
68,001-70,000	"	9.765	1.2	8.565
70,001-72,000	"	10.044	1.2	8.844

TABLE NO. 4

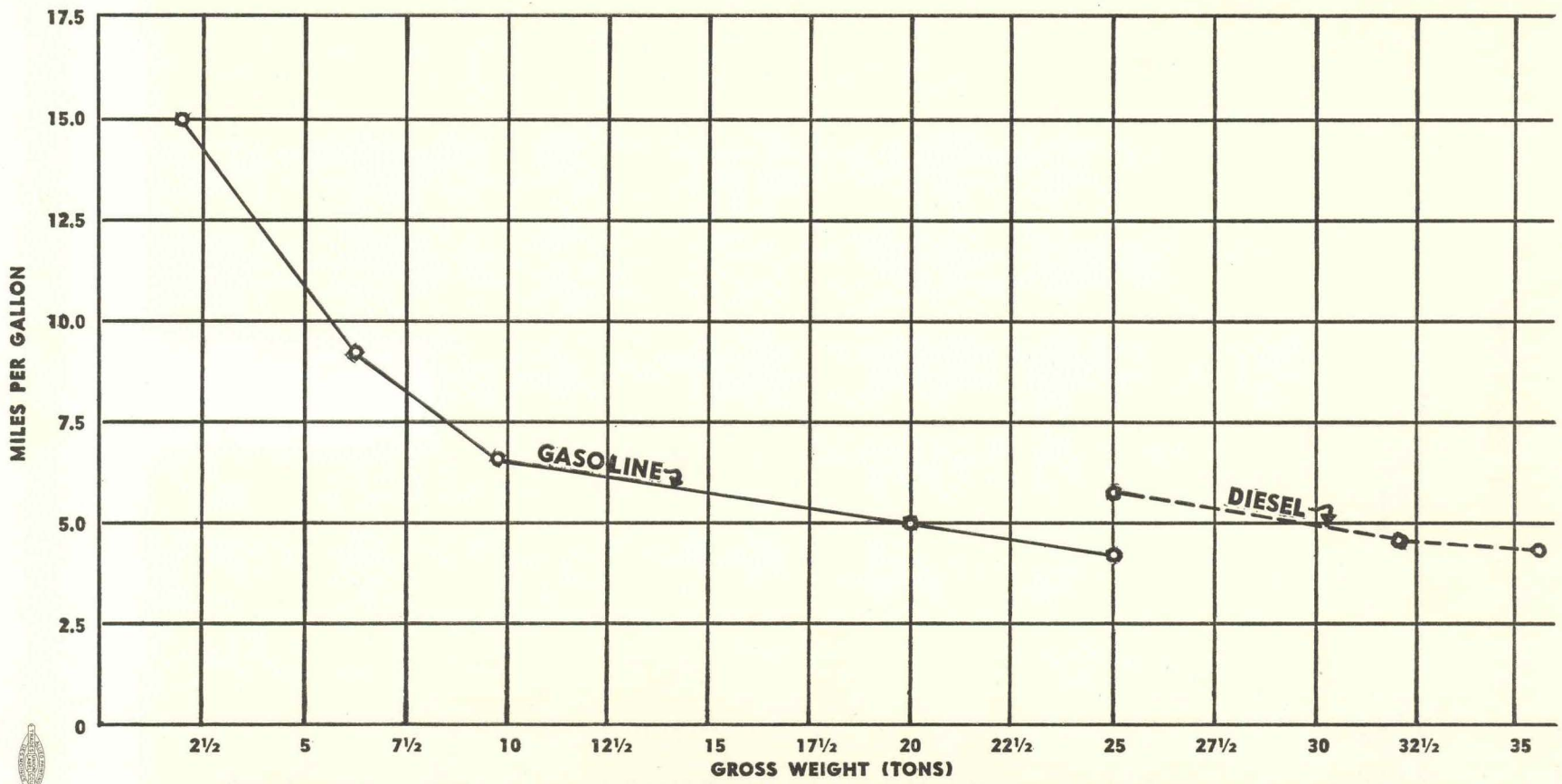
Showing by weight classes (Column 1) the amount per mile in addition to fuel tax, required to equalize truck charges with payments made by the average automobile (Column 2); the amount paid now as registration fees by trucks (Column 3) and by truck tractors combined with semitrailers (Column 4); the number of miles thus paid for at such equalization rate by trucks (Column 5) and by combinations (Column 6); the tax paid on fuel consumed per mile (Column 7); the difference or deficiency required to equalize on each mile beyond the miles in columns 5 and 6 (Column 8 which is the same as Column 2); and the deficiency in dollars for each 1000 miles beyond the mileage in columns 5 and 6 (Column 9).

1 Weight Classes (Pounds)	2 Amount Per mile Required to Equalize (Cents)	3 Registration Fee Truck (Dollars)	4 Registration Fee Combination (Dollars)	5 Miles Paid For Truck	6 Miles Paid For Combination	7 Fuel Tax Credit Per Mile (Cents)	8 Deficiency Per Mile (Cents)	9 Deficiency Per 1,000 Miles (Dollars)
26,001-28,000	3.106	$ 315	$ 345	10,142	11,107	0.8	3.106	$ 31.06
28,001-30,000	3.285	340	370	10,350	11,263	0.9	3.285	32.85
30,001-32,000	3.564	365	395	10,241	11,083	0.9	3.564	35.64
32,001-34,000	3.843	390	420	10,148	10,929	0.9	3.843	38.43
34,001-36,000	4.122	415	445	10,068	10,796	0.9	4.122	41.22
36,001-38,000	4.301	440	470	10,230	10,928	1.0	4.301	43.01
38,001-40,000	4.580	465	495	10,153	10,808	1.0	4.580	45.80
40,001-42,001	4.759	490	520	10,296	10,927	1.1	4.759	47.59
42,001-44,000	5.038	515	545	10,222	10,818	1.1	5.038	50.38
44,001-46,000	5.317	540	570	10,156	10,720	1.1	5.317	53.17
46,001-48,000	5.496	565	595	10,280	10,826	1.2	5.496	54.96
48,001-50,000	5.675		620		10,925	1.3	5.675	56.75
50,001-52,000 (diesel)	6.454		645		9,994	0.8	6.454	64.54
52,001-54,000 "	6.633		670		10,101	0.9	6.633	66.33
54,001-56,000 "	6.912		695		10,055	0.9	6.912	69.12
56,001-58,000 "	7.091		720		10,154	1.0	7.091	70.91
58,001-60,000 "	7.370		745		10,108	1.0	7.370	73.70
60,001-62,000 "	7.649		770		10,067	1.0	7.649	76.49
62,001-64,000 "	7.828		795		10,156	1.1	7.828	78.28
64,001-66,000 "	8.107		820		10,115	1.1	8.107	81.07
66,001-68,000 "	8.386		845		10,076	1.1	8.386	83.86
68,001-70,000 "	8.565		870		10,158	1.2	8.565	85.65
70,001-72,000 "	8.844		895		10,120	1.2	8.844	88.44

(No trucks of more than 48,000 registered.)

FIGURE NO. 1

MOTOR FUEL CONSUMPTION BY TRUCKS AND COMBINATIONS OF VARIOUS GROSS WEIGHTS



NOTE: POINTS INDICATED BY CIRCLES ARE FROM DATA IN APRIL, 1953 ISSUE OF "PUBLIC ROADS", AN OFFICIAL PUBLICATION OF THE UNITED STATES BUREAU OF PUBLIC ROADS