

ECONOMY TO THE PUBLIC OF GOOD HIGHWAY MAINTENANCE.

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In a discussion of the economy to the public of good highway maintenance it is inevitable that some figures be quoted. That it costs less to propel a vehicle of any kind over a good road than over a poor one is an elemental truth. It is so self-evident that any man will admit it without argument and then proceed to forget about it, or ignore it, or act as if he never heard or thought of it. He admits the truth but is likely to resist its application. It is to the latter phase of the matter that special attention will be given by the present speaker. The first figures given will show the economy to the public in maintaining a good highway as compared with a fair one or a poor one.

Probably every man here operates a motor vehicle. All have observed that gas and oil go further on good roads than on bad and the same is true of tires. Just a few days ago a bus owner gave me some interesting figures on tire performance on concrete and gravel roads. He operates a bus line from Indianapolis to Richmond and another between Indianapolis and Bloomington. On the Richmond line he operates units made up of a 2½-ton G. M. C. truck chassis with heavy bus body. On the Bloomington line he uses Studebaker 7-passenger touring cars. He uses the same size and make of cord tires on the rear wheels of the touring car as on the rear wheels of the truck. On the Richmond run, which is entirely over concrete roads, these tires are good for 28,000 miles. On the Bloomington run, which is all gravel, he never gets over 12,000 miles. Here is a case where all other factors affecting tire deterioration have been eliminated because of the rapidity of the wear due to intensive service and the concrete road is giving more than double the tire mileage of a first class gravel road. I have had other figures on the saving of tires by hard surfaced roads which are in close agreement with those here given.

When it comes to saving in gasoline, tests have shown that with gasoline at 24c a gallon, the cost of gasoline per ton mile on a dirt road is 1.71c, on gravel is 1.15c and on concrete 0.77c. Another way to state the comparison involving gasoline consumption on these three types of road is that concrete gives 31 ton-miles per gallon, gravel 21 ton-miles and dirt 14 ton-miles.

At a time when road building is going forward more rapidly than ever before in the world's history it may seem strange to many to speak of highway development as lagging, but that it

is lagging behind the development of the agency that called it into being, namely, the motor vehicle, can easily be shown. There is small danger that we will build modern highways too fast, but there is real danger that the present rate will not be sustained unless the people are made to realize that it is cheaper to have good roads than poor ones.

Mr. Thomas H. MacDonald, Chief of the U. S. Bureau of Public Roads, whose great ability more than out-matches the duties of his high office, recently formulated this fundamental principle: "Lack of a complete trunk line highway system is a greater economic cost to the public than the cost of constructing it." He also said: "Until a state has completed the backbone of its trunk line system with suitable paved or surfaced highways, the rate of construction should be independent of the source of the revenue or the method of payment for the work. For the use of the principal highways is so extensive that the people pay for adequate highways whether they have them or not, and they pay less if they have them than if they have them not." This is, undoubtedly, true but the general public has not thought of the matter in this light.

That we are not now spending anything like as much on rural highways, per motor vehicle in operation, as we did in the year 1904, is a matter of record. In 1904 there were, in the entire country barely 58,000 motor vehicles and these were nearly all passenger cars. In 1914 this figure had increased to 1,711,399; in 1919 it was 7,530,105 and in 1923 reached approximately 14,000,000 motor vehicles. Now compare the rural highway expenditures for the same years: 1904, \$59,527,000; 1914, \$240,264,000; 1919, \$389,456,000; 1923, \$800,000,000. Thus it will be seen that the rural highway expenditure per motor vehicle in operation in 1904 was \$1,026; in 1914, \$140; in 1919, \$52 and in 1923, \$57. This expenditure in 1923 was only 5 per cent of what it was in 1904.

The 14,000,000 motor vehicles in operation at the end of 1923 represented a purely voluntary investment by the American people of at least ten billion dollars. The cost of operating these vehicles in 1923, on the basis of an average mileage of 4,000 at 10c per mile, was \$5,600,000,000. Now if we can save just 1c per vehicle, per mile, by improving our roads, and this can be done, we would save \$560,000,000 each year, on the number of cars in use in 1923. Of course this saving will increase as the number of cars increases. Even this figure, capitalized at 4½ per cent would justify an investment of \$12,500,000,000.

It is always good business to spend money to save it. The railways have often spent large sums of money to rectify line and grade, for example, in order to save on operating expenses. Every motor vehicle owner is in the transportation business:

the business of transporting himself, if nothing else. He can be made to see that his annual investment in transportation will grow progressively less from year to year as the roads he uses are improved.

The people of Indiana have been deliberately, systematically and persistently misled and mis-educated with respect to motor vehicle license fees. For years these fees were far too low; so low as to keep the State Highway Department poor and unable to keep up with its Federal Aid. The new law brings these fees up to where they are in other states and will, if held valid, enable Indiana to move forward with her program of highway improvement. It should be evident to everybody that since Indiana cannot bond for State highways we must finance these highways largely out of motor vehicle license and gasoline fees. The State Highway system should be the first concern of all of us for we are, first of all, citizens of Indiana and only secondarily are we county, township, or city officials, educators or business men. We should test every proposal of highway finance first by this criterion: "will it rob the State Highway Department?" If so, the proposal, however excellent otherwise, needs modification in this particular.

And, finally, maintain means "to carry on without interruption." That is what we must do in this highway movement for it is false economy to save money on roads and put it into vehicle operating expenses. The people must be made to see this is not a fad, or even a matter of convenience and comfort, but is a clean-cut business proposition.