

# WHAT SHALL BE DONE? WITH THE HIGHWAYS

BY HOWARD H. GROSS, SPECIAL AGENT, U.S. DEPARTMENT OF AGRICULTURE

**J**UST now there is no more important question before the American public than the general improvement of the highways to the standard of twentieth century requirements. The volume of traffic over the public highways is equal to or exceeds that of all the railroads. The food products of the world pass over these roads to reach the market. Bad roads interfere with the regular distribution of these products, resulting in an erratic and inconsistent supply for a fixed and regular demand.

Bad roads have necessitated the practice of reaching the crops to market all in a heap; taking but two or three months instead of spreading this delivery over six to ten months. Scientifically, farm products should be moved from producer to consumer as they are needed for consumption, but the farmer will find the roads in the winter and spring bad and at times practically impassable, and for this very reason he hurries his grain to market as soon as harvested.

This causes congestion on the railroads and works havoc in business conditions. The "moving of the crops" requires an enormous amount of money, and a general upheaval in financial centers every fall is the result of this sudden drain.

The hurried disposition of the year's crop has necessitated the building of large storage houses in the grain centers to care for it. In Chicago the storage charge is nine cents per bushel per year; the carrying capacity of the elevators of that city alone is about 85,000,000 bushels, representing a storage charge of over \$5,000,000 per year. The passing of the food supply into the control of the grain kings means a loss to the farmer and an additional and unnecessary cost to the consumer.

The general improvement of the highways of the country is vastly more important to the people as a whole than the building of the Panama canal, the improvement of the inland waterways, or the irrigation of the semi-arid lands of the west.

Those who have traveled know that the roads throughout Europe are good; the same is true of



more forcibly how great is the burden of bad roads than anything else can possibly do.

The Clear Lake earth road leading into Springfield, Illinois, showed an average traffic for four days in March, 1906 of 65½ vehicles per day. Over the same road in June and July the average was 389 vehicles! On the same days in Peoria, 60 miles away, under the same weather conditions but over a hard road, the traffic for March was 166, and the average for June and July 153.

Observations at Champaign over an earth road showed the average for January, February and March to be 63, as against 200 for September and October. The count at Decatur over a gravel road was March and April, 240; July and August, 278. On an earth road leading into Sullivan, the count for January, February and March was 64; August and September, 316.

While delivering an address upon good roads, the writer was once interrupted by a woman who, in the favor of taxing the widow's cottage to help build the roads, he answered that he certainly would, as the annual tax would probably not exceed 10 or 15 cents, burden the people: A woman goes into a grocery store for a dozen eggs and a pound of butter. When told the prices, she protests. The grocer in defense, says: "Well, you see, madam, the roads are so bad now, very few farmers are coming to town, so butter and eggs are scarce." She pays three cents more for the eggs and four cents more for the butter, and this seven cents represents her bad road tax paid that evening. This is repeated from time to time throughout the year, not only in her case but in hundreds of others in that town and in thousands of towns throughout the length and breadth of the land. There is no doubt that the woman in question would benefit through good roads by at least ten times the amount of the tax on her cottage.

It would be interesting to take a concrete example of state aid, apply it to a typical farm in one of the central western states and see exactly what state aid means so far as taxes upon that farm are concerned. For the purpose of illustration, let us take an average farm of 160 acres in the corn belt of Illinois, and see what the effect upon the taxes on that farm would be if the state should undertake a very vigorous campaign

sum and then finally pay off the bonds will hardly be felt by the property owners of the Empire state owing to their immense list of taxable properties.

Ohio, after 40 years of building roads by the old plan of local taxation and bond issues, in which the farmer had to pay practically the whole bill, has passed a state aid law which will enable it to build three miles of improved roads where it has been building one, without any increase whatever in taxation upon farm property.

Virginia is the first southern state to join the state aid column for good roads. Kentucky is alive to the situation and is taking steps to change its constitution in order to be in a position to spread the road tax over all the property in the state.

In certain parts of the country, notably in the Mississippi valley, there is an entire misconception as to what the state aid plan of road building means. Some imagine the state would take control of the highways, build expensive roads and tax the people to pay for them; others that it is a scheme to force road building against the wishes of the farmers. Nothing could be further from the truth. The state does not in any manner, under a state aid law, interfere with the absolute local control of the highways. The voters of every township decide whether any roads shall be improved, what roads, to what extent, when it shall be done, if at all. The state has absolutely no voice in the matter. If, however, the township, by a majority vote, decides to build a road under the state aid plan, it makes application to the state for that purpose; the state engineer thereupon visits the locality, goes over the plan, and decides upon whether any roads shall be improved, and what the character of the improvement, and decides upon the conditions. He then prepares plans and specifications and when these are approved by the highway commissioners or other properly constituted local authorities, the contract is let to the lowest responsible bidder and the work is then done under the supervision of the state engineer. This insures proper construction and that means durability and low cost to maintain the road afterward.

Australia and New Zealand, countries newer than our own, less populous, and with nothing like our aggressive wealth. The fact that the rest of the world has good roads while we have bad ones is significant; it shows that the plan we have been pursuing has not been successful. In three hundred years less than eight per cent of the highways of our country have been permanently improved and at the rate we are going it would require nearly four thousand years to finish it. It would require nearly four thousand years to complete the job. So as roadbuilders the people of the United States have been a failure.

This is all the more surprising when we consider that they are conscientiously successful in every other line of human endeavor. Millions upon millions of dollars have been wasted in every state in the union upon the public roads by ill-directed and misdirected effort and with really very little to show for the expenditure. It is only within the last ten or fifteen years that any real progress has been made along the line of permanently improving the conditions.

The trouble is we have been endeavoring to unstage the snarl by pulling the wrong string. Without any reason for doing so, the farmers of the country, from Maine to California, from the very first assumed that the country roads belonged to them and it was their business to improve them, and this misconception held sway for nearly 300 years.

A few years ago a man in New Jersey made a discovery. It was that the highways are public property, as much so as the state house. This raised the question: "Why, if the highways are public property, should not the public take care of its own, why should not the state and all property therein contribute to building the roads?" Everybody is interested in them, everybody is affected through the markets by the road conditions; they are benefited by good roads and injured by bad ones. The new thought spread throughout the state and finally New Jersey led the way to better conditions by passing a law by which the state should contribute one-third the money required to improve the roads. Other states followed, increasing the proportion to one-half and in one case, Massachusetts, to three-fourths.

In many cases of the New England states farm property is only a very small portion of the total taxable property, in some cases not ten per cent, and when the cost of road improvement was distributed over all property of the state, the burden was hardly felt, and yet immense sums were raised for road purposes. Best of all, the roads were built under proper supervision, instead of leaving it to the inexperienced hands of the local path master.

Ten years ago New York state began in a small way to aid and appropriated \$50,000 to start the plan. The plan grew in favor so rapidly that within five years the state by an overwhelming vote passed a constitutional amendment providing for an issue of \$50,000,000 in bonds to help build the highways. What a record in five years from fifty thousand to fifty millions! The tax necessary to pay the interest on this enormous

Under a state aid law not a rod of road could be built unless the residents of a township decided to do so. Not a dollar of state money could be expended unless the farmers who live in the rural township voted for improvements.

If it should be alleged that state aid was a plan to compel railroads, corporations, merchants and manufacturers to help build the roads, it would not be far from the truth. Under state aid the farmers control the situation; if they decide to improve the roads the other people are obliged to help pay the bill.

In order to build roads to what extent they should be built extensively. It costs a great deal more proportionately to build a half mile of road than it does to build ten half miles. No contractor cares for a small job but for a large one competition is keen. It takes just as much time and bother to get ready to build half a mile of road as it does to build ten miles. By building in the larger quantities from 20 to 25 per cent, in cost of construction can be saved.

As roads properly built will last for a great many years they should be built as school houses and court houses are built, viz: by a bond issue; thus a township under state aid could build 10, 15 or 20 miles of roads in one year, have the roads to use, and spread the payment of the same over say 10 or 20 years. If this is done and the state aid plan prevails, there will be very little, if any, increase in taxation.

Few people have any idea to what extent bad roads interfere with travel and how they affect the business of the merchant in the country town. The Illinois highway commission has gathered some very valuable data upon the effect of road and weather conditions upon highway traffic. Observations were made at 72 well distributed points in the state and an actual count was made by the vehicles passing upon different days throughout each month of the year, covering all kinds of weather and road conditions.

The report shows that traffic over stone or gravel roads was fairly uniform throughout the year, while upon the earth roads it was subject to the widest variations. The following figures are significant and tell

of road building under state aid, one that contemplates an expenditure of the enormous sum of \$50,000,000 in ten years—enough money to improve all the main highways of the state, connect every community with the market town and county seat and give a complete network of good roads from Galena to Cairo; the plan being that the state should pay one-half the expense and the townships or road districts the other half. If \$50,000,000 were expended in ten years, the state would be required to raise \$25,000,000 of it. There is in the state property to the total assessed valuation of \$1,250,000,000. To raise \$25,000,000 a year, or \$25,000,000 in ten years, would require a two mill tax upon this property; so a two-mill tax applied to all the property of the state of Illinois at the present assessed valuation (and not taking into account the possible increase in value thereof) would produce the sum required.

The records show that the taxing value of an average 160 acre farm in the corn belt of Illinois is a little less than \$7,000, the actual value being approximately \$10,000. A two-mill state tax on this farm assessed on the value of \$2,000 would be exactly \$4 a year and no more, and in ten years the state tax would be \$40, which would be the farm's proportion of the \$25,000,000 total. Where this farm would pay \$40, one single corporation in the city of Chicago would have to pay \$570,000, another \$190,000, and the railroads of the state over two millions of dollars. Thus we see by a state levy of two mills for ten years, one-half of the \$50,000,000 is provided for. The other half must be raised by local taxation or by a bond issue.

Let us assume that the township in which the farm in question is located votes bonds to the full constitutional limit, that is, goes into debt just as far as it can go and pays the highest interest that the law permits it to pay. The limit of the bond issue is five per cent of the assessed valuation, so the amount of bonds resting upon the farm would be five per cent of \$2,000 or exactly \$100, payable one-tenth each year, with interest at five per cent. The total interest on this bond issue, so far as this farm is concerned, for the ten years would be \$27.50.

Thus, if we add the bonds..... \$100.00  
Interest on bonds..... 27.50  
And the state tax of..... 40.00

Under a state aid law not a rod of road could be built unless the residents of a township decided to do so. Not a dollar of state money could be expended unless the farmers who live in the rural township voted for improvements.

If it should be alleged that state aid was a plan to compel railroads, corporations, merchants and manufacturers to help build the roads, it would not be far from the truth. Under state aid the farmers control the situation; if they decide to improve the roads the other people are obliged to help pay the bill.

In order to build roads to what extent they should be built extensively. It costs a great deal more proportionately to build a half mile of road than it does to build ten half miles. No contractor cares for a small job but for a large one competition is keen. It takes just as much time and bother to get ready to build half a mile of road as it does to build ten miles. By building in the larger quantities from 20 to 25 per cent, in cost of construction can be saved.

As roads properly built will last for a great many years they should be built as school houses and court houses are built, viz: by a bond issue; thus a township under state aid could build 10, 15 or 20 miles of roads in one year, have the roads to use, and spread the payment of the same over say 10 or 20 years. If this is done and the state aid plan prevails, there will be very little, if any, increase in taxation.

Few people have any idea to what extent bad roads interfere with travel and how they affect the business of the merchant in the country town. The Illinois highway commission has gathered some very valuable data upon the effect of road and weather conditions upon highway traffic. Observations were made at 72 well distributed points in the state and an actual count was made by the vehicles passing upon different days throughout each month of the year, covering all kinds of weather and road conditions.

The report shows that traffic over stone or gravel roads was fairly uniform throughout the year, while upon the earth roads it was subject to the widest variations. The following figures are significant and tell

of road building under state aid, one that contemplates an expenditure of the enormous sum of \$50,000,000 in ten years—enough money to improve all the main highways of the state, connect every community with the market town and county seat and give a complete network of good roads from Galena to Cairo; the plan being that the state should pay one-half the expense and the townships or road districts the other half. If \$50,000,000 were expended in ten years, the state would be required to raise \$25,000,000 of it. There is in the state property to the total assessed valuation of \$1,250,000,000. To raise \$25,000,000 a year, or \$25,000,000 in ten years, would require a two mill tax upon this property; so a two-mill tax applied to all the property of the state of Illinois at the present assessed valuation (and not taking into account the possible increase in value thereof) would produce the sum required.

The records show that the taxing value of an average 160 acre farm in the corn belt of Illinois is a little less than \$7,000, the actual value being approximately \$10,000. A two-mill state tax on this farm assessed on the value of \$2,000 would be exactly \$4 a year and no more, and in ten years the state tax would be \$40, which would be the farm's proportion of the \$25,000,000 total. Where this farm would pay \$40, one single corporation in the city of Chicago would have to pay \$570,000, another \$190,000, and the railroads of the state over two millions of dollars. Thus we see by a state levy of two mills for ten years, one-half of the \$50,000,000 is provided for. The other half must be raised by local taxation or by a bond issue.

Let us assume that the township in which the farm in question is located votes bonds to the full constitutional limit, that is, goes into debt just as far as it can go and pays the highest interest that the law permits it to pay. The limit of the bond issue is five per cent of the assessed valuation, so the amount of bonds resting upon the farm would be five per cent of \$2,000 or exactly \$100, payable one-tenth each year, with interest at five per cent. The total interest on this bond issue, so far as this farm is concerned, for the ten years would be \$27.50.

Thus, if we add the bonds..... \$100.00  
Interest on bonds..... 27.50  
And the state tax of..... 40.00

The following table compiled from figures gathered by the agricultural department in 1904 shows the percentage of improved roadways in each state:

Alabama	.....	1.02	Idaho	.....	1.02
Arizona	.....	1.02	Iowa	.....	1.02
Arkansas	.....	1.02	Kansas	.....	1.02
California	.....	1.02	Kentucky	.....	1.02
Colorado	.....	1.02	Louisiana	.....	1.02
Connecticut	.....	1.02	Maine	.....	1.02
Delaware	.....	1.02	Massachusetts	.....	1.02
District of Columbia	.....	1.02	Michigan	.....	1.02
Florida	.....	1.02	Minnesota	.....	1.02
Georgia	.....	1.02	Mississippi	.....	1.02
Illinois	.....	1.02	Montana	.....	1.02
Indiana	.....	1.02	Nebraska	.....	1.02
			Nevada	.....	1.02
			New Hampshire	.....	1.02
			New Jersey	.....	1.02
			New Mexico	.....	1.02
			New York	.....	1.02
			North Carolina	.....	1.02
			Ohio	.....	1.02
			Oklahoma	.....	1.02
			Oregon	.....	1.02
			Pennsylvania	.....	1.02
			Rhode Island	.....	1.02
			South Carolina	.....	1.02
			South Dakota	.....	1.02
			Tennessee	.....	1.02
			Utah	.....	1.02
			Vermont	.....	1.02
			Virginia	.....	1.02
			Washington	.....	1.02
			West Virginia	.....	1.02
			Wisconsin	.....	1.02
			Wyoming	.....	1.02
			The United States	.....	1.02

The following table compiled from figures gathered by the agricultural department in 1904 shows the percentage of improved roadways in each state:

Alabama	.....	1.02	Idaho	.....	1.02
Arizona	.....	1.02	Iowa	.....	1.02
Arkansas	.....	1.02	Kansas	.....	1.02
California	.....	1.02	Kentucky	.....	1.02
Colorado	.....	1.02	Louisiana	.....	1.02
Connecticut	.....	1.02	Maine	.....	1.02
Delaware	.....	1.02	Massachusetts	.....	1.02
District of Columbia	.....	1.02	Michigan	.....	1.02
Florida	.....	1.02	Minnesota	.....	1.02
Georgia	.....	1.02	Mississippi	.....	1.02
Illinois	.....	1.02	Montana	.....	1.02
Indiana	.....	1.02	Nebraska	.....	1.02
			Nevada	.....	1.02
			New Hampshire	.....	1.02
			New Jersey	.....	1.02
			New Mexico	.....	1.02
			New York	.....	1.02
			North Carolina	.....	1.02
			Ohio	.....	1.02
			Oklahoma	.....	1.02
			Oregon	.....	1.02
			Pennsylvania	.....	1.02
			Rhode Island	.....	1.02
			South Carolina	.....	1.02
			South Dakota	.....	1.02
			Tennessee	.....	1.02
			Utah	.....	1.02
			Vermont	.....	1.02
			Virginia	.....	1.02
			Washington	.....	1.02
			West Virginia	.....	1.02
			Wisconsin	.....	1.02
			Wyoming	.....	1.02
			The United States	.....	1.02

which is exactly the amount of the tax that would be levied and collected upon this farm for both state aid and to pay off the road bonds and interest. This amount is about 10½ cents per acre per year and the total charge against the farm for the whole ten years would be \$1.05 per acre. This amount of money paid by the farm under the state aid plan would enable the state to expend \$50,000,000 upon its highways, and the expenditure of that sum would add to the value of farm property at least five and probably ten times as much as the respective farms would be taxed in order to pay the bill.

Copyright, 1904, by Wright & Potomac