

WHAT OUR HIGHWAYS MEAN TO US.

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To have any real comprehension of the actual value of highways we must view them not only from the economic point of view, important as their economic service is, but also from a more human standpoint. Successful road building does not rest altogether in the technical skill of the builder but also in a comprehension of the social significance of the task.

Roads are not merely a medium for industrial transport; they are indispensable parts of the system of communication without which this country could not exist as a united nation. They are necessary links in the chain of transportation which holds together in a bond of common purpose 48 sovereign States. They are connecting links between the city and the country; between want and supply. They make it possible for those who work in crowded offices and congested factory districts to enjoy the pure air of the country; they bring outside interests to the farmer's wife and education to his children. It has been well said that if our modern highways and automobiles had existed in 1860 there would have been no civil war. The inter-sectional misunderstanding which gave rise to it could not have reached the

critical stage of war had it been possible as it now is for the Southern planter to spend his summer in Maine, and the New England business man to journey southward in his own car for golf at Pinehurst and a winter vacation in Florida.

In the ominous fifties when Henry Adams left his New England home for his first visit to the National Capitol the journey from Philadelphia to Washington over the Maryland roads was a thing of discomfort almost indescribable. Today it is a pleasant day's outing.

The great improvement in the condition of our highways is not a product of sixty years' effort, however, but of less than thirty years - less than thirty years even in the most advanced States - in some States road building, in the modern sense, has been carried on less than a decade. At the beginning the Federal Government had no part in it. The great change was initiated by the States and in every State it dates from the establishment of the State highway department. In most of the eastern States it goes back to the period between 1890 and 1900, in others it is of more recent origin, and in seventeen States it did not take place until 1916 when the Federal aid road act prescribed as a prerequisite of the receipt of Federal aid the establishment of an adequate State highway department to supervise the expenditure

of the funds appropriated by the Government.

That provision of the first Federal law was one of the most important contributions to road building progress the Government has made - as important, perhaps, as the financial aid it offered.

Since 1916 the principle of Federal aid has been extended and the Federal highway act of 1921 established a new principle which ranks in importance with the highway department requirement of the first act - that the roads which receive Federal aid must all be links in a certain definite system of connected main highways. Such a system is to be established under this act in every State. It is not to include more than 7 per cent of the total highway mileage in the State, of which not more than three-sevenths is to be in primary highways of inter-state importance and the balance is to be in secondary or inter-county highways.

HOW HIGHWAYS ARE SELECTED.

The selection of these highways is the work of the State highway departments. The connection and correlation of the several State systems is a matter for adjustment by the Federal authorities in conference with the various State departments. It has been just a year since the system was

provided for by law and in that time practically all the States have designated the system which in the judgment of the State officials should be built. Conferences have already been held with officials of the Federal bureau by groups of State officials of several sections of the United States and the final decision upon the Federal-aid system for the country as a whole will be reached within a few months.

As it is finally decided upon the whole system will include more than 180,000 miles. Its construction will require from 15 to 20 years of continuous road building.

There is a mistaken impression that the purpose in developing the Federal-aid system is to provide transcontinental or long-distance roads. Such is not the intention. If it were our work would be of interest and value to a very small percentage of the people of the country. Careful analysis of highway traffic in many sections of the country shows that the major part of the travel is from point to point within the same State and between points in adjacent States. The automobile has greatly extended the range of travel by road. It has made the transcontinental trip possible with relative comfort, but few motorists travel such long distances. Nor does industry demand any such system of long-distance motor transport.

ARTIFICIAL BARRIERS TO COMMUNICATION TO BE ELIMINATED.

The reason for the exercise of the correlating and connecting functions of the Federal Government is that the normal range of travel has been sufficiently extended to reach and pass beyond State borders, and the artificial barriers set up by lack of coordinated action by the various commonwealths must be eliminated. Following out this purpose the roads of each State are being laid out according to the needs of each section with the provision that the roads of each State shall so correlate with those of the adjoining States that there shall be no break in the continuous system at the State lines. The final result of this plan will be that there will be a system of connected roads which will reach from coast to coast and from the Canadian border to the Gulf. The transcontinental tourist will be accommodated as well as the local traveller.

WHERE FEDERAL AID COMES IN.

The best estimates available place the expenditure for highways during the past year at more than \$700,000,000. This figure includes the Federal expenditure as well as the disbursements of the States, counties and smaller units of government.

The Government's fiscal year ends on June 30. This is a mid-season date, a fact that must be borne in mind, for the work continues as long as the weather is favorable; but in the year preceding last June 30 the Federal aid earned by the States for work completed amounted to \$194,560,135. of which \$166,911,552 had been actually paid and the balance was due for payment by the Treasury.

At the close of the preceding fiscal year projects completed aggregated 7,469 miles and there were 17,976 miles under construction estimated as 50 per cent complete. In one year the completed mileage grew to 17,716, an increase of more than 10,000 miles, and there still remained under construction 14,513 miles estimated as 56 per cent complete.

The total length of projects in all stages at the end of the fiscal year, including those completed and those in preliminary stages of construction, was 39,940 miles. Of this 17,716 miles were completed, 14,513 miles were under construction and the remainder of 7,711 miles was in the pre-construction stage.

When a State is ready to undertake the construction of a particular road with Federal aid the plans are prepared and forwarded to one of the twelve district engineers of the Bureau of Public Roads, who examines the location, makes sure the construction complies with Federal requirements and forwards the plans to

Washington or to the regional office in San Francisco with his recommendation as to the adequacy of the plans and any changes in them he considers advisable. When the plans are approved at Washington, perhaps with certain changes suggested, the State is so notified and a definite agreement is entered into between the State and the Government whereby the two parties pledge themselves to pay parts of the cost, the limit upon the Government's participation being 50 per cent as a general rule. In some of the States of which more than 5 per cent of the State's area is in public land under the jurisdiction of the national Government, the share of the Government may be in excess of 50 per cent of the cost by an amount or percentage depending upon the amount of public land in the State. The only other limitation upon the Federal participation is that the total allotment which may be made to any construction project is limited. The limit set by the law this year is \$16,250 per mile; next year it will be reduced to \$15,000.

In approving projects every modern type of rural road is recognized as having relative merit. Obviously, where roads are constructed over mountains, plains, deserts, on the alluvial soils of the Mississippi Delta, on sand deposits, where traffic is light and where it is exceptionally heavy, not only technical requirements, but sound logic demands wide latitude in construction.

However, two engineering points are adhered to: The roads built must have grades, drainage structures and curvature that will be satisfactory for anticipated future use; and there must be a kind of surfacing consistent with traffic demands.

In addition to the roads built with Federal assistance there has been an even greater activity by the States and local governments unaided. For some time past we have been compiling the figures which will show the status of road building in each of the States. As yet the complete returns are available only from Wyoming and Colorado. They show that in Wyoming the total mileage has increased since 1914 from 14,797 to 46,528 miles, the improved mileage from 1724 to 6367 miles; in Colorado the total mileage has increased from 39,780 to 48,143 miles and the improved mileage from 15,298 to 29,540 miles. Something of the same nature has been going on in all the other States. In the East the activity has been mainly along the line of improving already existing roadways. There have been few entirely new roads laid out. Perhaps there has even been a tendency toward the elimination or dropping of excess mileage. In the West the opening of new roads into regions hitherto inaccessible has gone hand in hand with the improvement of existing roads.

WHAT DOES IT ALL MEAN?

And all to what purpose? I have already suggested the helpfulness of the improved roads in making us a truly united and harmonious people. I have indicated the service they render to the rural communities in a social way, and this is a great and greatly worth while service. We simply must improve the social condition of the farmers of this country if we are to avoid serious trouble in the future. The last census points ominously to trouble ahead in its showing that we have really passed the danger point and that more than half of our population is now living in cities, supplied with the necessities of living by the smaller part of the people. We cannot afford to let this condition grow worse, and if we are to prevent it, the causes back of the trend of the population to the cities must be eliminated. No one doubts that one of the most important of these causes is the lack of the means of social development in the rural sections, and certainly, no one doubts that the improved roads are bringing to the farmer opportunities for education and enjoyment previously beyond his reach.

That the farmer wants his roads improved cannot be questioned. As a class he owns one-third of all our motor vehicles, and ownership of motor vehicles implies undoubtedly a desire for

roads suitable for the operation of such vehicles. That the road is of value to him not only as a means of improving his social condition but as a means of bettering his economic condition as well is evidenced by all the studies that have been made. By the improvement of the road the farmer is enabled not only to reduce the cost of haulage, to reduce the time consumed in reaching the market, to free himself still further from his ancient bondage to the weather, but he is also able in many instances to take his produce to a better market, and to an increasing degree he can select his farm on the basis of land fertility rather than nearness to a railroad.

There is complaint in some quarters that the improvement of the roads constitutes a danger to the railroads, on the ground that we are subsidizing a competitor which will so far invade and reduce the profits of the rail carriers that they will be unable to continue operation. The complaint is based on a false premise. The highway will never be a competitor of the railway. It will be a supplementary servitor, which will relieve the railroads, it is true, of a part of their business, but it will be that part of their business which has brought them to their present admittedly serious inadequacy. It will relieve them of the short-haul traffic which is congesting their terminals and which they are admittedly

handling at a loss, and release equipment and trackage for the better handling of the long-haul traffic which the railroads alone can handle with economy.

Thus at the nerve centers of the country the function of the roads and the motor vehicles will be to relieve the congestion of the railroads. Out at the finger tips of the rail system - at the ends of the branch lines, from the point beyond which no railroad can be extended because of the lack of a developed contributing area of sufficient productivity to support the extension - from that point the road will be pushed out and with the motor vehicle it will bring to the railroad tribute which would otherwise come in smaller measure or not at all, and it will develop the territory and add to the tribute from year to year. Far from being a danger to the railroads, the highways we are building will be their faithful allies.

**SOUND FINANCING AND CAREFUL ADMINISTRATION
NECESSARY FOR SUCCESS**

We are engaged in a great undertaking. If it is to be successful the method of financing to care for construction, maintenance and reconstruction should be planned for many years in advance. Changes in methods of raising funds every few years, uncertainty as to whether funds will be provided, and the period in which funds

are not provided all increase the final cost of highways. Such a policy would soon bring any business to disaster.

Development and increase in the numbers of motor vehicles and the coincident need and demand for good roads have come so rapidly that methods of raising funds have often been expedients for the time being. Consideration has been given not so much to the just distribution of the cost as to how the funds could be raised with the least controversy and the utmost ease.

All this leads to the conclusion that the whole situation with respect to our highways should be gone over carefully, traffic studies made, the services which the roads are rendering and will render determined and the cost should then be distributed in proportion to the service rendered.