

## RURAL TRANSPORTATION

Rural Life Conference  
Richmond, Va.  
May 18, 1921.

The extent to which transportation influences the lives and well being of everyone is rarely appreciated. Each of us for his own needs requires transportation facilities and service in our every day movements both of a social and business character, and for the carrying of commodities which we produce, handle in trade or which we consume. If transportation is easily accessible and reasonable in price, our use of it increases. As transportation becomes more difficult to secure and higher priced, we economize more in its use, and if it is unsatisfactory in character we limit our use to the more necessary purposes. These transportation services are rendered direct to the individual and we are necessarily in daily contact with them. Yet we seldom heed this influence until there is a disturbance or change which limits or makes impossible our ordinary use, or increases the cost of the transportation services to which we have accustomed ourselves. As the community life reflects the life of the individual, so any limitation upon customary transportation facilities is immediately reflected upon the life of the whole community. This is true whether it be a single community or a whole group constituting a State or a nation.

How vitally the element of transportation can affect a whole nation is repeatedly shown in conditions which exist today. Take, for example, the famine conditions in China. These are not due to a lack of transportation facilities primarily, for continued drought

is the immediate cause. But there is at this time grain in different parts of the country which could be used to help relieve the suffering, were it possible to get it to the provinces affected. Most logically, it seems, the American Red Cross have adopted a method of relief in China which consists of payment in food to laborers who are building a road through the famine district. In planning this relief it was decided to do something which would not only relieve the distress, but would do so without pauperizing the people and at the same time help build up the district and prevent a repetition of present conditions. The conclusion was reached that the building of roads would fill a fundamental economic requirement. The route was selected through the district of greatest suffering, extending inland from the seacoast, as most of the supplies come in by boat.

The American Red Cross Bulletin of May 16 says:

"As a result of the recent appropriation by the American Red Cross of a second \$500,000 for famine relief in China, still more highways are to be constructed in the famine area. It is by providing employment in this road building that the Red Cross is enabling tens of thousands of Chinese to obtain food for themselves while the roads will be of permanent benefit in remedying conditions that play a large part in bringing about famine in China. Inadequacy of transportation facilities is responsible for much of the suffering from lack of food."

Turning to other countries, recent travelers returned from Russia state that reconstruction is largely dependent on improved transportation. Europe is more dependent on roads and waterways than this country because their railroad system has never been made as complete as ours. In other countries this same condition largely applies. In Central and Eastern Europe the small, recently carved out countries like Roumania, Czecho-Slovakia, Hungary as separated from Austria and

Austria itself, are all suffering from the lack of transportation. To let a car stray over the borderland, was to lose it. The other Country kept it as its own property. Trains were stopped at the border and unloaded. This means that supplies in transit had to be reloaded at each border with attendant delays in reaching their destination. These conditions still exist, so that if the peasants produce sufficient food for everybody and have more than sufficient for themselves it is impossible to get the food to the cities. Vienna has an added difficulty in that Austria was stripped of all of its outlying food producing rural districts and the city is left with no sources of its own upon which to draw. Because of transportation conditions food cannot be shipped to it in sufficient quantities.

The Red Cross Bulletin of May 9 says that "rehabilitation, under the circumstances, is postponed to a degree that makes it impossible to forecast the future with any certainty whatever. The reasons for this are not by any means of so fundamental a nature as agriculture. I am inclined to lay stress on certain economic factors which are not quite so obvious. I am impressed every time I think, or see, or hear of the conditions there, by the fundamental importance in our modern life of such a factor as transportation."

In this country, with its system of railroads already developed far beyond that of any other country, we have recently added nearly 9,000,000 vehicles capable of going anywhere that serviceable roads are provided, and of bringing transportation to the very door of every man in the city or in the country. But there is this requirement - that serviceable highways be provided. The growth of the motor vehicle

has been amazing. The principal development has taken place during the period from 1914 to the present. During this period we have increased our registration of motor vehicles by more than 1,000,000 annually. Almost 90 per cent of all of the motor vehicles in the world are in use in the United States. Thus, we have in this country ready at hand to our use the greatest system of railroads and the greatest number of motor vehicles of any nation. Here, then, are already developed the best of the modern vehicles for transportation, abundant in number and adaptable to all of the requirements that the nation or its individual communities need, but our fortunate condition with respect to these available means should not blind us to the necessity for ever increasing their efficiency and adding to their usefulness. Those communities which best make use of their transportation facilities will have a marked advantage over those which neglect the opportunity to use for their advancement both in a social sense and in a commercial way, this essential factor of transportation.

The usefulness of the motor vehicle in furnishing ample transportation facilities when adequate highways are provided has been so well demonstrated as to be unquestioned. For example, consider some of the economic results which have been produced in California by the building of a primary system of highways reaching all sections. California is a large State, approximately 800 miles in length, and there are somewhat over 60,000 miles of public highways. Since 1909 the State has been engaged upon the construction of a system of primary highways totaling approximately 5,500 miles, or about 9 per cent of the total mileage. Of this system of primary roads there have been actually improved 1,930 miles, or slightly over one-third of this system. In

comparison with the large total mileage of public roads, and even in comparison with the mileage of primary roads selected, the improved sections do not seem to make a large showing, yet by actual count it is shown that the people in California last year used these improved roads to the amount of over 400,000,000 vehicle-miles. The average number of vehicles per day over these roads is 1,387, and of trucks only 173. The Sunday traffic is considerably increased, showing a total number of vehicles of 2,267. Computations show that approximately 23 per cent of all agricultural products in the State are hauled for some distance over the State highways.

Most interesting in character are the uses made of the highways by the trucks. For example, the trucks hauling from farm to market carry loads of garden truck, fruits of all kinds, cereals, hay, feed, cotton, meat and livestock, dairy products, poultry and eggs, honey and bee products, and fuel wood. Hauling away from the market, the trucks carry groceries, provisions and general merchandise, dry goods and laundry, house furnishings, building materials and machinery of all kinds, seed and nursery stock, ice, soft drinks, freight, gasoline and oil. Still the use of the highways made for the transportation of commodities is not so important or so influential upon the life of the communities as the use of the highways by the people in their business and social activities. For example, 103 bus lines have been established carrying passengers on regular daily schedules between termini, the average length of the 103 lines being 59 miles. The number of passengers carried over the State highways last year totaled 610,000. During the decade 1910 to 1920 the estimated value of agricultural products has increased

in that State over 500 per cent, the population of the entire State 44 per cent, and the population on the State highways, exclusive of the two largest cities, 63 per cent. It will be noted that the increase of population along the improved highways has been nearly 20 per cent greater than the average increase for the State. The increase in the use of trucks has been over 500 per cent in 7 years and 250 per cent during the past three years.

The first bond issue in 1909 was carried in that State by a bare majority, the third bond issue in 1919, ten years later, after many miles of improved highways had been built and the people had begun to see the importance and utility of going ahead with the development, carried by a majority of more than 7 to 1. This is indicative of the support received when the evidence justifies the expenditure, as observed by those who use the highways but who must also pay the bills. The results in California are indicative of the results secured on a State-wide scale.

Illustrative of the resulting benefits in a small community in quite a different part of the country, take for example Pendleton County, West Virginia. Here a fertile and potentially wealthy section is quite undeveloped because there have been no roads. Franklin, its County seat lies thirty miles from the nearest railroad. The old road followed a branch of the Potomac River, sometimes using the river bed itself, sometimes climbing up and down steep banks. In high water it was flooded from two to ten feet deep. When it was first proposed to improve this highway with Federal Aid, the County had no highway engineer, and the people were decidedly skeptical, as to the results that might

be secured. After many delays, upon the advice of an engineer sent to the County by the Bureau of Public Roads, a road was established on the proper location, above high water, that would permit travel the entire year. Nearly 8 miles have been completed and rip-rap and rubble walls have been constructed to protect the road during seasons of high water. The surface has been covered with gravel and is maintained regularly by a patrolman. The County now has an engineer who directs the work and there is an overwhelming sentiment in the County to continue the construction of other roads. The sum total of sentiment created in the counties of the State by the construction of roads within the means of the community but adequate to their needs, is responsible for the Good Roads amendment to the State Constitution in November 1920.

A factor of great influence in bringing about the marked improvement in highway transportation facilities which has characterized the last half decade has been the effective aid which has been rendered by the Federal Government.

In passing the Federal Aid Road Act of 1916 the Congress laid down a policy radically different from that which had governed the United States in its attitude toward the highways of the country for a century preceding. By the habit of a hundred years the highways were regarded as the sole concern of the States and their subdivisions. Under the principle of local self government derived from our British forbears the original jurisdiction was lodged in the smallest units, and many of our State constitutions specifically forbade the States to meddle in these affairs which the locality considered as its own special province. But, for some years there had been a drift toward State control

and those States which had advanced farthest in that direction had accomplished most in improving the well nigh hopeless condition to which a century of local mismanagement had brought the country roads.

The Federal Aid Act recognized the success of State administration and built upon it a plan of Federal and State cooperation designed to encourage highway improvement and to bring about the adoption of the successful principle of State control by all the States.

In the five years since its passage both of these primary objects of the Act have been accomplished. Every State now has a special department of the State government, whose duty it is to provide for the building and upkeep of the State highways. Some of these departments have met with more success than others; but there is none which does not promise a tremendous betterment of the old conditions, and all, no doubt, will be strengthened and improved as experience points the way.

Where a decade since the suggestion of scientific, systematic highway construction met with skepticism and doubt there is now confidence, and a determination to improve the means of transportation by applying the tested principles of modern highway engineering. California's experience in the disposal of its several bond issues is not unique. Other States, as well have found their people the more willing to invest their money as the value of the investment has been demonstrated; and Pendleton County's skeptics are typical of thousands upon thousands in communities all over this broad land who have been converted into ardent supporters of good roads.

Frankly an experiment in the beginning, with no precedent to guide its course, Federal aid has become an accepted principle which is likely never to be abandoned. By complete cooperation between the

States and the Federal government 23,210 miles of Federal-aid road have already been placed under construction, of which 3390 miles have been entirely completed and paid for.

To Virginia, the aid which has been extended amounts to \$5,451,730, \$513,735 of which has been earned by the State on completed projects, and \$2,432,602 of which is obligated for the 242 miles now under construction, leaving \$2,505,393 still available for new contracts.

In Virginia, as in the country as a whole, the cooperative funds are being expended in the interest of no one class of the population and for no one type of road. There is no inflexible standard which prescribes that the Federal money may be expended only for the types of road surface which are wrongly styled "permanent", such as concrete and brick and bituminous concrete. A portion of the money - the larger portion - is being expended for roads of this class, but other portions are also being expended for top-soil, sand-clay and gravel roads and for the types of intermediate durability such as waterbound and bituminous macadam. Instead of laying down a hard-and-fast rule the decision as to type of surface is based upon a careful examination of the conditions surrounding each project, and the type selected is that which appears to be justified by the traffic and the general development of the section. In many cases we are approving plans which provide only for grading and draining the roads. Such projects invariably are located in those sections which are passing through the early stages of highway development, where there is need to raise the general level of improvement of a large mileage of utterly unimproved road. In all such cases, however,

we require that the State shall give definite assurance that the foundation which is laid will be built upon as soon as practicable.

I have referred to the fact that the system of Federal aid was frankly regarded as an experiment at the outset. I think that a fair appraisal of what has been accomplished already will stamp it as a successful experiment, but I should not like to give the impression that the plan as it is now established is not susceptible to further improvement. By taking counsel together the Federal Bureau and the States have been able to adopt many administrative improvements suggested by their collective experience; the original act itself has been amended once to great advantage, and it is now clear that further amendment is desirable, particularly in respect to the selection of the roads which are to receive Federal aid, the methods of raising money with which to match the Federal contribution, and the provision of adequate means for the maintenance of the roads when they are completed.

Under the present law the Government requires that roads proposed for Federal assistance be parts of a definite system of State highways. There have been few cases in which this requirement has been waived, but in a number of the States the systems as adopted are more extensive than they should be and include many roads which can hardly be considered as of sufficient importance to warrant Federal aid in their construction.

As a basis for further cooperation there is immediate need for a thoroughgoing classification of the roads of all the States into two classes, designated according to their relative importance as primary and secondary roads.

The primary roads should be limited to not more than 8 or 10 per cent of the total mileage of State highways, and should consist

of these roads which are clearly of State-wide importance. In most States a network of roads connecting the various county seats and principal cities would make a satisfactory system of primary roads.

The secondary roads would include the more important county roads which would form the principal laterals to the primary system.

Federal aid should be confined to the roads of the primary system, and the influence of the Federal government should be exerted to assure the connection of these roads in each State with the roads of like importance in adjoining States. Such an application of the Federal money would accomplish a threefold purpose. First, it would encourage the development of a system of main roads in each State; second, by the connection of the main roads of the States, it would insure the gradual upbuilding of a system of main roads for the nation; and third, since the primary roads are likely to include the principal roads of each county, it would meet the most important of the local requirements.

The roads of the primary system in each State should be placed under the direct control of a State highway department vested with full authority to determine the order of their improvement and the type of construction, and to administer the funds employed in their construction and maintenance. In all of its decisions the State department should have in mind primarily the best interests of the State as a whole; and in order that it may be entirely unhampered by local influence it should not be dependent upon local funds to carry on its work. Money for the construction and maintenance of the roads of the State primary system should be derived solely from State sources and the State department should be charged with the full responsibility for its proper expenditure.

It is needless to say of course, that having laid upon the department the responsibility for the work that is done it should also be adequately manned with a force of competent engineers to enable it to discharge the responsibility with credit.

The secondary roads can be left to the administration of the county commissioners, who should, however, employ the services of a competent county engineer to guide them in engineering matters. On account of the relatively large mileage of the roads of this class, and the comparatively small funds available for roads in many of the counties, the work on the larger portion of the secondary roads will partake of the nature of maintenance rather than construction. The roads must be accepted as they are and maintained in the best condition possible with the funds at hand. By constructing each year a small mileage, and by careful maintenance the whole system can be gradually improved. To do so, however, implies that there shall be a continuing policy with respect to the roads, and a permanent force of patrolmen working under the direction of a competent county engineer, whose position shall be independent of the fortunes of local politics. With such an organization as a nucleus, reinforced by such occasional help as can be given by farmers during the off-seasons, any county can bring about a gradual but sure improvement of the secondary roads within its borders. The system can not be built as if by magic overnight. Whatever betterment is to be made in the existing conditions will come only as the result of constant effort applied in accordance with a definite plan, building each year such roads as the funds at hand will permit and conserving the investment that is made by careful and continuous maintenance.