

THE FEDERAL AID HIGHWAY SYSTEM

WHAT IT MEANS TO WYOMING AND THE UNITED STATES

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If the measure of highway service be the degree of accommodation afforded to all the people and all the industry of a State, then the Federal-aid highway system of Wyoming is a practically perfect system. With 6,099 miles of main arteries the highway department has contrived to connect practically every city and town in the State. Scarcely a hamlet is left off. And in connecting the cities it has projected its lines into and through every area of agricultural, industrial, or recreational importance, in such a way as to render a practically perfect service to the State. With the one system it has fully met the requirements of the interstate traffic, the tourist traffic to Yellowstone Park and the local traffic.

Already Federal Aid has been definitely set aside for the improvement of practically a third of the system. Almost a fourth of it has been completed and the mileage which has been improved to some degree is almost two-thirds of the whole system.

Along with the improvement of the roads there is an increase in the number of motor vehicles. Although still relatively few in comparison with the tremendous numbers which have been put into service

in the more populous States, their numbers are increasing at a rate which exceeds the average for the United States, and the ratio of vehicles to population is now well above the average for the whole country. Indeed there are only four States in the Union in which the Wyoming ratio of one automobile to every 4.9 people is exceeded. These are the State of California, which leads the country with a ratio of 3.1, the great agricultural States of Iowa, Kansas and Nebraska, and California's Pacific Coast neighbor, Oregon, each with one motor vehicle to something more than 4 of population.

The Wisdom of the Stage Construction Policy for Wyoming

Very wisely the highway department is limiting the improvement of the greater part of the mileage in the Federal-aid system to the lower types of construction, but in doing so it is fully cognizant of the wisdom and necessity of building grades and drainage structures for the future, and its construction policies are obviously based upon the principle of stage construction which is recognized as the best guide for States which, like Wyoming, are in an early stage of development.

No other course would be justified under the existing conditions, and the lower types of improvement should be entirely adequate for a number of years to come. The immediate job of the State highway department is to complete the grading and draining of the entire State and Federal-aid system, surfacing such parts as may need it with gravel

or selected soil, and this is exactly what the department is doing. By the time traffic develops to the point where it will require any appreciable mileage of high-type pavement the initial improvement of the entire arterial system should be completed.

More than half of the money expended upon the main system comes from the Federal Government in the form of Federal Aid and oil royalties and the owners of motor vehicles add to the Federal contribution a sum which brings the combined Federal and motor-vehicle payments up to full two-thirds of the total expenditure for State roads.

It is apparent then that Wyoming is a most fortunate State. It has designated and set its hand to building a main system of highways which when completed will afford almost perfect transportation service to all the people of the State; it is making very satisfactory progress in the improvement of the system; its citizens have the means which enable them to possess the motor vehicles which are needed to develop the full worth of the highways; and the continued improvement of the roads is made as easy as possible for the general taxpayer by large contributions from the Federal Government and the owners of motor vehicles.

Highway Future of Wyoming Viewed with Optimism

So far as the highways of the State are concerned there is every reason for optimism. There may be among the people of the State some who find the progress of construction discouragingly slow. There

are in most States. There may be others who doubt that the highways when completed will repay the State for the expenditure it is making. There have been such skeptics in all States, but few remain in the States where the main system is practically completed.

Developing a system of roads is much like piecing together a picture puzzle. One scarcely knows where to begin, and as the working out of the problem proceeds the onlooker is apt to receive the impression that what is done is done more or less at random; so that there are those who doubt that we are on the right track and want to abandon everything we have done and start over again in some other way. There are some States in which that is exactly what has occurred - fortunately Wyoming is not one of them, for almost invariably, I believe, the result of the change has been a setback in the highway work. In working out the picture puzzle every piece that is set down in proper relation to another makes clearer the conception of the whole picture and each step in the solution makes the rest of it easier. It is that way with road construction, also, assuming, of course, that there is a definite system toward which we are working and a reasonably conscientious effort on the part of the public agency in control. Whatever opposition there may be in the early stages of the development melts away when the disjointed sections of the system begin to take form and connection as a whole. This has been the experience of every one of the pioneer States and there is no apparent reason why it should not also be the experience of Wyoming.

The Underlying Reasons for Highway Development

To obtain a correct view of the real meaning of the current industry in highway building, it is necessary to consider the history of transportation in this country. It is a history which is different from that of any other country, and in these differences there is the explanation of much else in our history that is divergent from the usual course of national development.

Other countries have been slowly built up by the gradual spreading of the industry and culture of a people from a single center or a relatively small number of centers. By such a process the nations of Europe have been intensively developed. Their roads are the framework upon which their national industry is built. With them the improvement of the means of local transportation was the forerunner of the invention of the steam locomotive which made possible the extensions of the local road systems by the construction of correlated rail lines for the longer haul. Their national development, one might say, has progressed from the center outward. Not so with this country. Where Europe's growth has been intensive, ours has been extensive; where the nations of the Continent have expanded outward from a center, our development has taken place from the periphery inward. The difference, with all its social and economic implications, is due entirely to differences in the development of transportation facilities.

By the accident of invention the railroad came to this country at the beginning of our history instead of after long centuries of slow growth. We had begun to follow the precedents of Europe and all other older countries. We were building our roads westward from the Eastern settlements, and mile by mile as the roads were pushed out a tide of humanity followed to settle and build up the country. The railroads changed the course of this development. Instead of a slow westward progression, it made possible a development from numerous widely separated centers. When the railroad came to the country it was distinctly a railroad country. It was a country, I mean, which the railroad was ideally fitted to serve. A country of tremendous distances - a vast territory, continent-wide - we should have been centuries in reaching our present stage of development had it not been for the invention of the railroad. The railroad made it possible for us to grow as a continent. No wonder that it should capture the imagination of the people. No wonder that we should come to think of it as America's principal servant in the transportation field.

But we have come lately to the realization that the railroad is not all sufficient. Having settled a continent and cultivated it extensively we pass into the second stage of our National existence, a stage which is to be marked by intensive cultivation. Our population becomes denser, our cities grow up closer and closer together, and we find the railroads - which have been our national pride - suffering

from a curious malady - a malady induced by too much business.

Wyoming has perhaps not yet passed out of the pioneer stage, but the change is coming sooner or later and in some degree to Wyoming as to the other States, and the State is fortunate that the basic highway facilities which will one day be imperatively needed are being provided before the need becomes acute. Some of the Eastern States were not so fortunate. To them the great change in traffic came suddenly, almost without warning, and found them unprepared, and some of them have had to extend themselves to the utmost to keep ahead of the rapidly growing highway traffic.

Of the country as a whole, and of Wyoming in prospect it may be said that where we have had a country of long distances and widely separated areas of development, we have now grown inward until we have become much like those European nations which have reached a similar but more advanced condition by a different course. Where formerly our principal concern has been the provision of adequate means of transportation between points widely separated, we now must turn our attention to the improvement of the means of transportation between points which lie so close together that the railroads can no longer carry the whole tremendous bulk of freight which waits to be moved between them. We were distinctly a railroad country. We are no longer. We have developed inward until we can no longer get along without an improvement in the means of local

transportation which will at one and the same time contribute a greater bulk of freight to the long-distance rail carriers and relieve them of that local business which they can not afford to handle and which the country can not afford to let them handle.

Appearance of Motor Truck and Automobile Providential

It is providential that at the precise moment when the need for improvement in these means of local transport begins to make itself imperatively felt there should appear the motor truck and the automobile. Half of the problem is solved - what remains is to provide the roads over which these modern short-distance carriers can be operated with efficiency. That is the meaning of the present activity in road construction. That is why in every State there is a State department charged with the construction of a system of main State roads; and that is why the Federal Government is now giving aid to the improvement of a great system of 170,000 miles of main, interstate and intercounty roads, known as the Federal-aid highway system. That is why the annual expenditure for road construction and maintenance in the country at large has grown from \$250,000,000 in 1914 to upwards of a billion dollars this year.

Men may talk of reducing this expenditure - but you can not reduce it without retarding the further development of this country. They may talk of burdensome taxation and they may intimate that the cost of the road improvement program is mainly responsible for these burdens. What are the facts? That highway expenditures at the

present rate amount to five-thousandths of one cent per person per mile of road each year. The total highway income in 1921 amounted to just \$10.90 per capita; and of that amount the part which falls as a burden upon the community generally - that which has its incidence in property taxation - amounted to only \$4.82 per capita, which was just about 12 per cent of the total per capita property tax.

The balance of the \$10.90 was made up of funds derived from the taxation of motor vehicles, from bond issues and from Federal Aid.

Contribution of Motor Vehicle Owner Increasing

Since 1921, the total of highway income has not greatly increased. It is probable that it has not increased at all - there are no exact figures which can be cited. But it is a known fact that the contribution of the user of the road has materially increased during the intervening period. In 1916 he paid only 5 per cent of the cost of the road work of the year. In 1921 he paid 10 per cent and in 1923 practically 30 per cent of the total amount of highway income collected during the year. It is this development that stands out as the leading tendency in the financing of the highway work. With increase in the number of vehicles and in the amount of their use, the various license fees and gasoline taxes are producing increasingly large amounts, thereby lightening the burden on the general taxpayer. Without fully realizing it we are returning to something like a toll system for the maintenance and improvement of our roads - a system in which the objectionable toll gate is replaced by the gasoline filling station and the license tag is an annual ticket for the use of the roads.

The result of this tendency will be to decrease the general tax burden for highway improvement. The cost of the work will be paid in larger measure by those who use them and directly benefit from them, which, however, is rapidly coming to mean the great majority of the taxpaying public. In the last analysis, therefore, there is no great change in the distribution of the burden, but there is a wider outspreading of the direct benefits of road improvement which is accompanied by an alteration in the individual point of view, and the perception that the real question is not whether we can afford to go ahead with the program of road improvement, but whether we can afford to stop it.

Sound Principles of Highway Improvement Needed

That we are going to continue to improve our roads in this country is certain. The public demands them. There can be no avoiding the expenditure for them. The consummation which is the desire of everyone is a connected system of highways which will permit the free flow of travel from point to point without the annoyance of frequent interruptions by unimproved roads. There is no safer chart by which to steer the future course toward that end than the Federal Highway Act. The principles that have guided the progress of the States which have gone farthest in road improvement are established in the Federal legislation as beacons to direct the course of those who follow.

The first requirement is a classification of all highways and a clear definition of the Federal, State and local responsibility.

The designation of a Federal-aid system upon which the joint funds of the National and State Governments are to be expended is mandatory under the Federal Highway Act. The State systems will no doubt coincide with the Federal-aid system, but the traffic will probably demand extensions in a number of the States. The remaining roads are properly the charge of the localities. They will form by far the largest class but their improvement will entail a much smaller unit expenditure.

The next requirement is the establishment of a truly adequate State highway department in every State - a State agency free to function independently of county support, empowered with full authority over the roads of the Federal-aid and State systems, and equipped with personnel and material resources consistent with the responsibility imposed upon it. In this connection it is well to understand at once that the attainment of adequate highway improvement for a single State and for the nation as a whole is not a task that can be worked out in a single year or even in two or three years. It is a long-time job. It is therefore highly important that there be maintained that continuity of well considered policy which will insure the attainment of the end in the shortest possible time. Permanence of employment for capable and efficient officers, without political interference, is a first essential. Road building is a developing science. The experience of the capable specialist is too valuable to be lightly discarded with every change in the political complexion of the State administration.

The third Federal requirement, and the third guiding principle is the provision of ample funds for State road construction and maintenance and the expenditure of such funds by the State highway department without dictation by local interests. All the experience of the past points to the positive necessity of such a provision for the successful completion of a connected State road system.

With these principles adopted the State is equipped to proceed along assured lines to the development of the main roads. The counties, freed of the burden of providing for the most expensive roads, which are the concern of the entire State, can apply their resources to the improvement of the lateral roads, and the assistance of the Federal Government will insure the inter-State connections.

I can not too heavily underscore the importance of maintenance. The conservation of the large investment that must be made by the most prudent care is imperative if we are to avoid financial disaster.

Problems of highway design and construction may safely be left with the engineers and scientific investigators. By patient research and careful study they have already evolved types of highway which appear to be adequate for the exacting modern traffic. For the several classes of traffic, types of surface have been developed which wear well so long as the limits of load and number of vehicles for which they are designed are not exceeded. The normal increase in volume of traffic will call for progressive improvement from the cheaper to the more expensive surfaces. On this account it is the part of wisdom

to build the substructure of the road - the grade and subgrade and underground drainage structures - with a view to the accommodation of the traffic of the future. The character of the surface or pavement may be properly adjusted to the immediate requirements only.

Maximum weight limitations to protect the roads against their destruction by excessive loads, vehicle width and speed limits for the protection of life and property are matters which should be regulated by the States with careful attention to uniformity of legislation so that regulations, designed to protect and facilitate trade and travel, may not operate as a hindrance thereto by lack of inter-State agreement.

Two facts stand out in the highway situation today. One is that the problem of improvement has been worked out successfully in a large number of States. Not one or two States but almost a score are well along toward the goal and in their progress they have established the landmarks which will be the guiding signs to hasten the advance of the States in the rear. The second hopeful fact is that the Federal Highway Act, which touches the highway program of every State, embodies these principles. Operation under the Act will bring to the people of all States, more quickly than they would otherwise receive it, a knowledge of these sound principles of progress. I think there is abundant reason to believe that knowledge will lead to their general adoption and once adopted the future of the nation, so far as its highways are concerned is relatively secure.