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Address before North Carolina Good Roads Association

The road officials of this State and of the nation as a whole are face to face with a highly involved and perhaps embarrassing task, which must be performed with patience and with a thorough knowledge of the highway situation as it exists today. The public must be made a co-partner in the administration of highway matters, and must be possessed of the information which will hold its support and cooperation. Unless this can be accomplished I fear that much of the great progress in crystallizing an enthusiastic public sentiment for broad and liberal policies of highway improvement will be lost.

The intelligent assumption of this task ought to be the biggest accomplishment of this year's convention. When the individuals here assembled return to their respective homes, it is presumed that the contacts with their neighbors from nearby counties, with the officials occupying similar positions to their own from all over the State, with those who, though not occupying official positions, show their interest by their attendance here, and from the information and discussions in the sessions of the convention, each man will have formed a fairly accurate picture of the present highway situation within the State. He will know that the price of highway construction has advanced to an unprecedented figure, that all of the available contractors are employed or are refusing to take further contracts because of their inability to fulfill them; that there is an insufficient amount of labor and that road materials are not being transported in sufficient quantities to enable road contracts, many of them dating back to the early months of last year, to be carried out. He will know that conditions are not favorable for floating bond issues which the public has enthusiastically approved, and that the State Highway Department and county officials are endeavoring with very limited success to carry on a small part of the highway improvement program which they have been looking forward to since 1916, and which they have felt could certainly be fulfilled this year. But the public must understand these conditions, and every individual here must constitute himself a committee of information to discuss and explain fully and persistently among his neighbors and friends these facts, so that they, too, may understand, and not lose confidence in the efficiency of their officials or lose faith in the efforts which they are putting forth to produce the highways which the public is demanding.

There are many big questions of highway design and highway construction that are yet to be solved, but these are even of less importance than the economic conditions which have unexpectedly arisen to limit the building of highways. It will be recalled that there was a time when the building of canals held for the moment the fancy of the public. There was great expectation and far reaching plans made for the development of water transportation thru projected canals. Some of the schemes were so wildly speculative as to be worthy of a later date when we are so much more experienced in the intricacies of high finance. But the conditions then were purely speculative. The boats were yet to be built. The traffic was yet to be developed, and no matter how many miles of canal were built they necessarily were dug before there was any canal traffic. Today I ride along the old

Cumberland Canal, one of the most famous and most useful of such waterways -- useful yet -- but if I see one or two canal boats in motion in the course of a ten-mile drive along the canal, it is as much traffic as I ordinarily expect to see. Most of the early canals have long since fallen into disuse.

Later came the building of the railroads. In many instances the early lines served communities already established, but ordinarily these had water transportation, or were within teaming distance of waterways. So the transfer from water to rail transportation was effected gradually as the rail equipment became sufficient to handle all the traffic and the waterways became of less and less importance. At the time the mileage of railways was increasing at its most rapid rate many were projected into territory as yet almost untouched, and certainly without the population or the agricultural and commercial development from which would come considerable traffic. How to increase the traffic, agricultural and commercial, within the territories served, has been one of the biggest constructive studies made by the railroads. Efforts to locate new industries, develop natural resources, to bring people to new lands, to develop more traffic of all character, has been one of the biggest constructive efforts made by the railroads. How different than is the situation with respect to our highways today. First, in the base of the waterways and later in the case of the railways, the traffic was largely potential. It cannot be said in any broad way that the traffic existed at the time of the construction state. The undertaking of big waterway and railway enterprises was based upon potentialities, not upon existing realities. The traffic was developed by the facilities provided. It is true that we have not in recent years enlarged and extended either of these means of transportation at the same rate that traffic has developed, and we are now suffering severely from this economic handicap.

In the case of our highways, the traffic is here now, developed and demanding highway service. It is yet too new for us to determine exactly the status in which we will find ourselves in five years from today. It has been unforeseen. No man, least of all the early manufacturers of the motor vehicle themselves, would have predicted that on the roads of the United States in the year 1920 would be driven upwards of 7,500,000 motor vehicles, or that there would be a production of commercial vehicles alone for the single year estimated at some 350,000. Yet this is exactly the condition which road officials are attempting to meet today, and these same officials because of factors entirely outside of their control will either suffer public criticism and embarrassment if they do not state their case fully and frankly to the public and secure from those who are fair-minded an understanding and cooperation which is a fundamental need today if we are to succeed in holding the favorable attitude toward road improvement which now exists. In North Carolina as a whole traffic conditions have not yet become acute as in many other States, because there is not the same pro rata number of automobiles, but this condition is acute in many portions of the State, and will rapidly become more so because the rate of absorption of motor vehicles by the American people is well indicated by many of the States where the proportion of cars to population is as low as 1 to 6.

In this contingency there are a few important principles which can profitably be thoroughly discussed in this convention.

First, let it be understood that with the highway traffic already developed in a high degree and still rapidly growing, the rate of highway improvement will be much slower than is desirable from the standpoint of the public who are demanding better highway service. This is true because there is a lack of rail transportation to move the necessary road materials. It is true because there is not a sufficient amount of first class materials now developed, speaking for the country as a whole, to fill the needs if sufficient rail transportation were available.

It is true because sufficient contractors' organizations are yet to be developed and because the supply of labor in general is insufficient to carry on the work of construction, were all the other factors eliminated. Conceding that the rate of highway improvement because of these limitations, will be far slower than is desirable, it becomes essential, first, that the roads be selected for improvement in the order of their economic importance, and second, that the roads which are selected for improvement shall be improved with the types of road surface that will withstand the traffic which is to be carried by them. This first requirement demands cooperation between the Federal Government and the State, between the State and the county units, and between the counties and their smaller subdivisions. It means a classification of the highways into groups, each group being composed of those highways which are as nearly of equal importance as it is possible to maintain in the selection, due consideration being given to the necessity for connection with the most important roads of adjoining States, to the continuation of important roads within the States across the individual counties, and to the differences which exist in the development of the various parts of the State. It is only by a selection of this character and agreement among the road officials responsible for the various administrative units, that a system of highways can be planned that as it is developed will extend adequate service into all parts of the State and serve continually the greatest percentage of the population possible proportional to the mileage constructed. We have the opportunity now before there has been a largely extended mileage of the higher types of roads built, to so plan the development of these systems that they will most adequately, when finished, serve the State and its smaller administrative units, as well as provide those inter-State roads which have become so important with the developing use of the motor vehicle. Every county road official here must remember that he is not only a citizen of his county, but he is a citizen of the State of North Carolina, and he must be willing to admit that if the production of highways is to be limited, those roads having the greatest economic importance should be first improved. There must be, so far as is humanly possible, the elimination of the selfish motives that would build up one community to the detriment of the other. In other words, the development of the primary system of the State should not take place all in one community or in one district, but should be extended into all of the different areas of the State as a matter of common fairness and justice.

The economic limitations which have been brought out apply with the greatest force to the improvement of hard surfaced highways. It will be possible to build a large mileage of the lower cost types, such as the earth, sand-clay and gravel. It must be recognized that there are two stages of construction in the building of highways. First is the

re-location to avoid heavy grades, dangerous railroad crossings or secure a more favorable place on which to build a highway. This is followed by the spanning of the waterways with permanent culverts and bridges, the constructing of the road grade itself, the laying of tile drains where necessary, and such incidental work as may be required. This stage may or may not be accompanied by the placing of a surfacing of local materials.

The second stage of construction is the building of a durable surface following standard designs and specifications. There are portions of the State of North Carolina where local materials are found and where the traffic has not yet developed to a point where such surfacing materials will not carry it satisfactorily, even on roads which will be a part of the primary road system. There can be no just criticism of a policy which constructs these roads of the lower cost types. Paved surfaces can follow when necessity demands. On the other hand, there are roads for which local materials may or may not be available and the improvement with standard paved construction will be slow, but where the traffic is such that anything short of such construction will be a loss and disappointment to the taxpayers. These conditions are recognized in the administration of the Federal Aid funds. We have no hesitation in approving projects for Federal Aid in one locality where only the first stages of construction herein mentioned are considered, but there is a little hesitation in declining to approve projects in other sections where the same type of construction is contemplated, but where it will not prove adequate under the traffic. We can with profit take a page from the lessons which have been well learned by many of the States, and so expend the funds which have now become our responsibility whether we speak from the standpoint of Federal, State or County officials, that there will not be the same needless and expensive experience repeated here in North Carolina. This is without criticism of those States which have built their highway systems of the lower cost types prior to the advent of the heavy traffic service produced by motor vehicles. As has been said, this traffic was unforeseen, and the demand for a large mileage of improved highways was intense. But with the warning which we now have so plainly before us, to pursue further such a policy would be nothing short of negligence and incompetence on the part of ourselves as the road officials entrusted with the expenditure of these funds. What is true of the development of a State system of primary highways is equally true of the development of county highways. The county systems should be correlated with the State system. The roads which lie on the county system and those which have been selected for the State system, should not be brought into competition with each other during construction in such a manner as to force the price upwards without the actual production of an additional mile of roadway. This is a condition that can easily happen, and will happen unless there is a complete correlation of the county and State activities. In this discussion I have referred particularly to State highways. It must be always kept in mind that the development of the State highways is in part being financed through the Federal funds, and it is essential from the standpoint of national highway service that those roads chosen within the State to be a part of the State system should fit into the roads selected as the principal highways of the adjoining States. Let it not be understood that there is any suggestion that a very limited mileage of highways should be developed for the purposes of transcontinental touring, but it is important that the Federal funds shall be used on those roads which,

as they are improved, become integral parts of a national system of highways connecting the population centers and preconceived in their establishment on a basis that is larger than the State unit itself. I hold no brief for the relations which the roads of North Carolina bear to those of Arizona, but North Carolina is interested in having the proper connections between her own State roads and the roads of Virginia, Tennessee, South Carolina, Georgia, and through these States to the highways of the greatest importance in the surrounding States. In order to illustrate with figures the fact that the development of our highways will be much slower than we had hoped, and that consequently those of the greatest importance should be selected for first improvement, it will be of interest to review the Federal Aid activities. In 1916 the first appropriation was made available, carrying 75 millions of dollars to be expended over a period of five years. It was necessary for all of the States to make appropriations, and for many States to create now highway departments to inaugurate the cooperative plan established under the law, all of which took well into 1917. Very little actual work had been placed under way when war was declared in April. Following this the curtailment of road work was very rapid and when the armistice was signed in November, 1918, new road building activities had been almost stopped. During that year less than one-half million dollars was paid out of the Federal Aid funds for actual construction work. Even with depleted organizations and with much of their work centered upon necessary activities in connection with war emergencies, highway departments prepared a large program. Up to the first of May, 1920, a program amounting to 27,796 miles had been agreed upon between the Department of Agriculture and the State highway departments. This mileage was estimated to cost \$355,754,000, of which \$152,000,000 was to be paid from the Federal Aid funds. On the same date 13,539 miles of highway had been placed under contract, of which 4,301 miles had been completed, thus leaving approximately 9,000 miles under construction at the present time. Many of these contracts extend back into the early months of 1919, in fact, some States have contracts extending back into 1917, which are still uncompleted. From the reports which are reaching my desk day by day I cannot believe that we will be able to complete more than fifty per cent of the mileage now under contract this year, and most of the States have for some time refused to undertake any additional work or let any new contracts. In other words, we have today under construction less than one-third of the program which has been undertaken, and it is probable that we will not be able to complete this amount. In a letter just received from the Chief Engineer <sup>of all</sup> of the State highway departments that has built a large mileage of improved roads, he states, "The work is about to close down almost completely. No more contracts will be let until conditions are more favorable." This is not a local condition. It is general throughout the country. A partial embargo has already been placed against the movement of road materials by rail, and there has been intimation that even more severe restrictions may be made. Every man who sits in this convention must constitute himself a responsible agency for bringing these conditions home to his neighbors and friends in the communities which he serves. In my judgment there is no amount of legislation that will greatly increase the production of roads at the present time. We are working under economic handicaps which are not fixed by the highway departments or by the county road officials and over which they have practically no control. It is time, too, that we awaken to the fact that

the construction of essential highways cannot be placed in the non-essential class. Many improved highways are being rapidly torn to pieces because of the heavy and continuous traffic which is being accentuated by the failure of the railroads to fill our transportation needs. We are very rapidly approaching the point where severe limitations will necessarily be imposed upon the use of our highways by loads that are too heavy to be carried without the rupture of the road surfacing. We cannot go through a period such as the present with a far too small mileage of new construction and a limitation upon the repair of existing highways and at the same time see the existing highways which must serve for a long time torn to pieces by loads for which they were not designed.