

From Department of Public Relations
American Automobile Association
Penna, Avenue at 17th Street.
Washington, D. C.

Modern Roads for Modern Needs

(Radio interview with Thos. H. MacDonald,
Chief, U. S. Bureau of Public Roads, from
AAA Annual Convention at Cleveland, Ohio,
1:45 p.m., Friday, November 18, 1938, over
N. B. C. Blue Network.)

ANNOUNCER--Whizzing wheels in steady streams of traffic are a constant reminder that America has come a long way since the era of the livery stable, the hitching post and muddy roads. The advance of the motor age is the marvel of the century. A sideshow curiosity forty years ago, the automobile now exercises an influence on every phase of American life. It has changed human habits and social relations. It has also developed the industry of highway transportation--the lifeblood of national progress.

Yet the individual mobility we enjoy today is wholly dependent upon adequate highways. Without roads, we would never have become a nation of car owners. Without modern roads--free from traffic congestion--automobiles cannot move with the ease and flexibility America demands.

This year marks the thirtieth anniversary of the organized movement to get America "out of the mud." Launched in 1908, it was given real impetus a year later through a national good roads convention called by the American Automobile Association. In the three decades since, the country has been laced with a network of all-weather roads.

The 1909 gathering of highway enthusiasts was held here in Cleveland where the American Automobile Association is now holding its thirty-sixth annual convention. From a luncheon session, the National Broadcasting Company brings you a radio interview with Thos. H. MacDonald, Chief of the United States Bureau of Public Roads.

First, however, let's ask Mr. Thos. P. Henry, President of the AAA to introduce Chief MacDonald to the radio audience. Mr. Henry--

MR. HENRY--When the good roads movement was initiated thirty years ago, an active participant was a young Iowa engineer who had a real grasp of the problem. Since 1919, he has actively directed the Federal road-building program, which has given the country a national system of interstate roads. He is today an outstanding authority on highway development and highway trends. We are extremely gratified that he has come to our annual convention to summarize briefly what lies ahead in the highway field. Ladies and gentlemen, Thos. H. MacDonald, Chief of the U. S. Bureau of Public Roads.

CHIEF MacDONALD--Thank you, Mr. Henry. We have come a long way in building highways to meet traffic needs. However, the job of adjusting many of our present roads to modern traffic conditions has truly just begun. Fortunately, the country is better prepared to go forward than ever before. I shall be happy to outline, so far as I can, some of the highway trends now in evidence.

ANNOUNCER--Chief MacDonald, you used the words "better prepared to go forward."

Would you enlarge on that thought?

CHIEF MacDONALD--We are getting for the first time really adequate facts with regard to highway needs. There have been, and there are today, many conflicting and partial viewpoints on road development. For example, to indicate extreme elements, there are those, who feel that greatest emphasis should be placed on the improvement of the purely land-serving roads traveled by rural free delivery carriers; others who insist that first place in the program should be given to the building of a number of transcontinental superhighways.

Similar partial views of the highway problem account for the conflict of claims of state, county, and city governments in the apportionment of motor vehicle/ revenue, and persuade worried legislators that the improvement of

roads is so far advanced that they may safely divert to other purposes large sums of the highway income. Other such partial views are responsible for the warring opinions currently advanced about the regulation and taxation of motor trucks; and still another for the belief--widely held today--that the existing road system is almost a total loss because of a short-sighted failure of highway engineers to provide in its creation against the generation of various kinds of traffic hazards.

When I used the words "better prepared," I had in mind the accurate road inventory now underway in the form of state-wide highway planning surveys undertaken by the highway departments of forty-six states in cooperation with the Bureau. These elaborate studies will furnish a secure factual basis for new policies.

ANNOUNCER--Would you tell us, Chief MacDonald, why new road policies are needed?

CHIEF MacDonald--Certainly. Preferential attention accorded the main highways, included in the state and Federal-aid systems, has been and remains a sound policy. While large sections of these systems remained without even pioneer improvement, it was unnecessary to look elsewhere for the most useful expenditure of road revenues; and even an exclusive concentration of the principal thought and effort upon them resulted in no important error. However, as we approach a reasonably satisfactory state of the main roads, the necessity grows to think of them as parts of the whole highway system, and the need increases to formulate new policies comprehending a balanced development of the whole system in all its parts, rural and urban.

ANNOUNCER--What is included in the surveys?

CHIEF MacDonald--The scope of the surveys covers the entire rural highway system. For the first time an inventory is being taken of all roads, including the

length and condition of all sections, and every fact associated with the origination and destination of highway traffic. For the first time also an effort is being made to measure the flow of traffic over all rural roads and to determine the relative uses of the main and local roads, by both urban and rural residents and by local and general, or through traffic.

ANNOUNCER--Are cities included in the surveys?

CHIEF MacDONALD--The inventory is being extended into cities to cover only the condition of the streets that serve as through connections of the principal rural highways, and to record the number of, and conditions existing at all rail grade crossings. Supplemental data are being secured on the use of city streets.

ANNOUNCER--With special motor taxes at the highest level in history, motorists are, of course, interested in road costs. Is there any phase of the surveys touching on this subject?

CHIEF MacDONALD--Yes. Financial studies are being made covering both city street and rural road administration. These include a determination of all income collected and expenditures made for road and street purposes, the tax sources of the income, and the purposes of the expenditure. The studies also seek to establish the total measure and classification of all tax income and expenditure for all purposes, both urban and rural. Comparison of the street and highway figures with such totals will, it is hoped, assist the formation of a judgment of the relative adequacy or inadequacy of the highway finances.

ANNOUNCER--Thank you Chief MacDonald. I am sure that everyone will agree that a much sounder basis for road-building is being developed. Have any significant facts yet been drawn from the planning surveys?

CHIEF MacDONALD--In a general way. Charting the results of the highway inventory and the preparation of basic maps are, of course, the first steps. Some data with reference to traffic flow have been developed in the form of the first national traffic map which we have tentatively constructed from incomplete results. Subject to correction, it presents a substantially correct picture of the flow of traffic on the principal highways. I note that this map has been enlarged and is on display at this convention.

ANNOUNCER--Would you give some of the more outstanding facts regarding traffic flow?

CHIEF MacDONALD--For example, it has been developed that by long odds the country's heaviest traffic is found in the Middle Atlantic and New England States. Outside of this relatively small area of greatest traffic concentration the principal volumes are found in the East North Central States and on a few outstanding interstate routes elsewhere, particularly along the east and west coasts and two or three of the prominent east-west routes.

ANNOUNCER--Speaking of traffic volumes, what is their relationship to existing highways--say in the areas of concentrated traffic?

CHIEF MacDONALD--That the response of the roadbuilders is now reasonably consistent with the traffic demand is indicated by the national traffic flow map, and the location of existing four-lane highways. This type of pavement is most numerous and most nearly continuous in the Middle Atlantic and New England and East North Central States.

Let me put it another way. In ten representative states, the surveys show that the mileage of roads on which the average traffic is 4,000 vehicles a day or greater is 1,138. A daily average traffic of 4,000 vehicles is close to the maximum for which a two-lane pavement will suffice. On this basis, there should be in these ten states at present, 1,138 miles of the

wider pavements, preferably four lanes or wider. On January 1, 1938, the mileage actually existing in these states, four lanes or wider, was 1,333.

ANNOUNCER--Chief MacDonald, you refer to four-lane highways in ten states. Is there any way of indicating the situation for the country as a whole?

CHIEF MacDonald--Indicating, yes. In the ten states mentioned the total mileage of all rural highways is about twenty-eight per cent of the national total. If traffic in these states is assumed to be representative, it is reasonable to estimate that the roads in all states now carrying 4,000 or more vehicles daily, and by that test, require pavement of four lanes or wider, total about 4,000 miles. The mileage of pavement of such width actually existing on January 1 last was 3,452. Of course, this mileage deficiency is more substantial when it is considered that a part of the existing multiple-lane mileage is improved with undivided pavements, which experience has shown to be definitely unsatisfactory. Apart from the question of width, many of our present roads are also deficient in alignment, and there is urgent need for a program of betterment to eliminate sharp curves and increase sight distances in the interest of safety.

ANNOUNCER--What does this mean as viewed from the standpoint of road-building in the years to come?

CHIEF MacDonald--From now on, in all our new road building we must try to look ahead at least to 1960. Our investigations show that rural pavements as they are constructed today should have a useful life greater than 30 years, so that pavements we now build should still have years of service left in them in 1960. Since that is true we must try to anticipate the volume and other conditions of the 1960 traffic and make ample provision to meet those conditions in our present planning. It has been estimated that present

traffic will be approximately doubled by 1960. Incomplete studies, made as a part of the planning surveys, indicate that this estimate is generous. If it is assumed to be correct, then it may be supposed that the mileage of roads now carrying 2,000 or more vehicles daily will, by 1960, be serving at least the 4,000--vehicle volume indicative of the need of four-lane improvement. The mileage in ten representative states on which the traffic volume is now 2,000 or more vehicles daily is 6,916, indicating the probability of a national total of at least 25,000 miles. On this basis, it would seem that construction of divided multiple-lane highways must proceed during the next twenty-two years, in the country as a whole, at an average rate in excess of 1,000 miles per year.

ANNOUNCER--Chief MacDonald, what about two-lane highways?

CHIEF MacDonald--With less than three per cent of the roads in the ten representative states now serving 1,000 or more vehicles daily and less than one per cent serving 2,000 vehicles or more, it is clear that two lanes will long remain the standard of pavement width for the vast majority of the rural roads of the country. But whether two or more lanes are required to accommodate the expected traffic volume, it is now clear that the lanes will be wider than they now are. In place of the 10-foot lane width common today, the future roads will doubtless have lanes 12 feet wide. This will be necessitated by the increased speed of vehicles.

ANNOUNCER--Are figures available to indicate the use of the various types of traffic facilities, say main rural roads, city streets and so on?

CHIEF MacDonald--The surveys give us some very definite data as regards the use of various classes of highways. Studies in seventeen representative states disclosed that 58.9 per cent of the total annual motor travel on all roads

and streets is on the main rural highways and the streets that connect them across cities; 30.8 per cent of the total occurs on the large mileage of other city streets, local and neighborhood streets, and scarcely more than ten per cent of the total volume of motor travel occurs on all the secondary and local rural roads, which have eight times the mileage of the group of main highways.

ANNOUNCER--Thank you, Chief MacDonald for some very illuminating highway facts. Now, the time is getting short. Let's see if Mr. Henry desires to ask Chief MacDonald a question. --Mr. Henry.

MR. HENRY--Thank you, Chief, for your contribution to a better understanding of the highway problem. However, there is one question I should like to ask. What can the American Automobile Association do to make the highway surveys effective for future planning?

CHIEF MacDonald--If the planning surveys are to yield the great benefits of which they are capable, the facts they develop must be studied and used for the basis of action in planning the policies and performances of the future road program. Four logical developments seem to stand out. First, drafting of state master plans as a guide to future road construction and maintenance. Second, efficient highway administration on a long-term basis, perhaps with technical staffs under civil service. Three, construction of rural service roads on the basis of traffic requirements. And, fourth, sound financing with due regard for the rights of motorists and other beneficiaries of highway programs.

This is a responsibility that lies first and heavily upon the legislatures and upon responsible highway administrative officials. It also lies upon the general public and such groups as the American Automobile

Association which is well-equipped to bring about a better national understanding of sound highway policies and highway needs.

ANNOUNCER--Again thank you, Chief MacDonald. Ladies and gentlemen, you have just heard a radio interview with Thos. H. MacDonald, Chief of the U. S. Bureau of Public Roads, on highway trends. It has been brought to you from the thirty-sixth annual convention of the American Automobile Association as a presentation of the National Broadcasting Company.