

## The Federal-aid Highway System A Definite Plan for a System of National Roads

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When the Secretary of Agriculture approves the last State section of the federal-aid highway system sometime this summer the United States will have, for the first time in its history, an official plan for a system of national highways.

On May 1, when this is written the system has been definitely approved in 35 States and all but 3 States have submitted to the Federal authorities tentative systems for their approval. As there are still 12 State sections to be finally agreed upon it is not yet possible to give the exact total mileage, but in round numbers there will be 130,000 miles, perhaps a few miles more or less. That means that about 6.4 per cent of the total mileage of roads in the United States, -2,775,168 miles as certified by the State highway departments, -will be included in the system, something less than the 7 per cent which the Federal Highway Act permits.

It is somewhat difficult to picture the extent of the system and the national service it will render without the map of the system, which is not quite ready for publication. Perhaps the simplest way is to compare it with the system of national roads in France - the routes nationales, which have been regarded as typical of all that a national system of roads should be.

There are some significant differences between the French system and ours - differences in degree of national control that one would expect to find in the roads of a closely centralized Republic and a federation of States, but the striking fact, the fact that indicates the completeness of the Federal-aid system is that the French system includes almost exactly the same percentage of the total road miles as ours. There are 371,700 miles of French roads and 23,600 miles, or 6.3 per cent are national roads.

Another way of measuring the completeness of this system is to see what towns it connects and how many towns are served by it. There are 1015 cities of 5000 or more population in the 33 States for which the system has been approved, and 959 of them, 94 per cent, lie directly on the system. Practically every one of them lies within 10 miles of a road which is included in the system, and it is safe to say that there is not one but will be connected with it by an improved State or county road. It may be said therefore that when the system is completed one will be able to travel from any town of 5,000 population or greater to any other town of similar size in the United States without leaving an improved road. Not a single town of this size will be left off the system in the following States: Vermont, New Hampshire, Maryland, Indiana, Oregon, Kansas, Nevada, Kentucky, Delaware, New Mexico, Arizona, Idaho, Montana, Colorado, Rhode Island, Wyoming, Virginia, West Virginia, Iowa, North Carolina, Nebraska and Missouri.

That is one way of measuring the degree of service that will be rendered by the system. Another is to determine what part of the total

population lives within certain distances of the roads. It is recognized, of course, that a Federal-aid road can not be built to everybody's front door. The best that can be done is to so distribute the limited mileage as to serve as many people as possible directly and come as close as possible to the rest. This has been constantly in the minds of the State and Federal engineers in selecting the roads to be included in the system and the results are eloquent of the thoroughgoing fairness of their selections. Taking Maryland, Indiana and Arizona as representative of the East, Middle West and sparsely settled West, we find that 96.5 per cent of the people of Maryland live within 10 miles of the roads of the system. In Indiana only a fraction of one per cent of the population lives outside of the 10-mile zone. In Arizona the total population is 354,000 of which 151,000 live in towns within 10 miles of the roads. We estimate that the rural population living within the same distance is at least 95,000, leaving not more than 108,000, of whom probably 25,000 are Indians at a greater distance than 10 miles from one of the Federal-aid roads.

The method adopted in designating the routes to be included in the system has been carefully designed to insure the maximum accommodation of the local and national highway requirements. The State highway departments were first asked to certify the total mileage of road in existence at the time of the passage of the Federal Highway Act in November, 1921. The act limited the total length of the system to 7 per cent of this mileage, which as already stated is 2,775,165 miles. The limiting mileage thus determined, the States were asked to designate the roads, within these

limits, which, from the State standpoint would compose a satisfactory system, locating the roads by controlling points on maps to be submitted to the Secretary of Agriculture. The various State systems thus submitted have been reviewed and studied by the Bureau of Public Roads to determine what changes in them, if any, were necessary or desirable from the national point of view. Most of the changes required have been necessary to make the proper connections at State lines, and, in order to effect the necessary agreements, conferences have been held between representatives of the Bureau and groups of States, and the systems as decided at these conferences have been submitted to the Secretary of Agriculture for his approval.

All money now or hereafter appropriated by the Federal Government will be spent only on roads of the system thus designated. But not all the roads included in it will need to be built with Federal assistance. A considerable mileage, in fact, has already been improved by the States or counties alone or with Federal aid under the plan inaugurated by the Federal Aid Road Act of 1916. Maryland, for example, has already completed all the roads included in its part of the system. Most of its roads were built entirely with State funds, and it is now receiving Federal aid on lateral roads branching off from the original system and extending its service. The States of Delaware and Rhode Island are in practically the same situation.

The roads built with Federal aid prior to the passage of the Federal Highway Act in most cases were fortunately so located that they

are included in the system as now selected. It has not been possible to include all of them, but all will serve to good purpose either as links of the system or as important laterals.

On April 30 there were 22,312 miles of completed Federal-aid roads, built at a total cost of \$391,556,800, of which \$167,071,774, was paid by the Federal Government. On the same date there were 3,296 miles additional that had been practically completed. Most of these roads were in fact completed, and are not included with the completed roads merely because they had not been finally inspected, accepted and paid for by the Government. The total cost of these roads was \$47,147,004. The roads under construction at the same time aggregated 14,014 miles, and according to the reports of our district engineers they were 55 per cent complete.

Since the passage of the Federal Aid Road Act in 1916, \$840,000,000 has been appropriated or authorized by Congress for the fiscal years 1917 to 1925 inclusive. Of this amount \$75,000,000 is authorized for the fiscal year 1925 and will not be available for expenditure until July 1, 1924. Sixty-five million dollars is authorized for the fiscal year beginning July 1 this year, leaving \$400,000,000 authorized or appropriated for expenditure up to the current fiscal year. Of this amount there had been paid to the States up to April 30, the sum of \$230,082,872, of which \$167,071,774, had been paid on projects completed and accepted and \$63,010,898, in the form of progress payments on projects which were still under construction.

The fear has been expressed in some quarters that the policy of Federal aid for roads will entail an unbearable tax burden. That these

fears are groundless is shown by the fact that only a trifle more than 2 cents of every dollar expended by the Federal Government is spent for roads. The greatest expenditure in any fiscal year since 1915 when the policy was adopted is the \$91,653,150 that was spent in the fiscal year 1922. In that year the total expenditure of the Government was \$4,340,969,033. The total receipts from taxes during the same year was \$3,569,696,644, the balance being made up from postal revenues and miscellaneous sources. If the policy were abandoned the Federal taxes could be reduced by only 2½ per cent. So long as it is in force roads can be built under it at the present rate three times over with the taxes on tobacco alone.