

A NATIONAL PROGRAM FOR SECONDARY ROAD DEVELOPMENT

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There is provided in the Federal Highway Act of 1944 a three-way plan of action to establish a program for the nation-wide development of secondary roads. This is a long-range undertaking. The conditions to be met vary between wide extremes. At first thought, a reasonably uniform concept, universally applicable, appears difficult, and perhaps to many impracticable. Such, however, is not true, for we have an unfailing guide.

"The justification for the expenditure of public money in the improvement of the highway must be found in the traffic itself. Not only the present amount of traffic on the road, but also the amount it would be increased by improved conditions, should be taken into account."

"The volume of traffic over the public roads on which is based their value to the community through which they pass, can only be estimated by totaling the amount which each individual uses the road."

"It will be seen that the important traffic, from the standpoint of road improvement, is not the heavy hauling, but rather the light travel."

"If through road improvement he (the average farmer) is enabled to haul a larger load, the actual money saved would not be an enormous sum, as has been claimed by many enthusiasts writing on this subject and who have deduced their estimates from data manifestly inadequate."

"The travel to market and other light travel are without doubt the most important classes of traffic which the public roads carry, and the value of improvements must be based largely on the stimulus and beneficial results it gives to these two classes."

These are excerpts from the 1906 revision of the "Manual for Iowa Highway Officers." Since its issue, forty years of highway history have passed. They are not statements of theory as of that time, but are the principles which resulted from surveys which secured from each farm family the facts as to their daily and yearly use of the rural roads. There was not to my knowledge a motor vehicle on a single farm in the State. These principles are as valid today when there are totally changed types of vehicles upon the roads, and many times multiplied miles of travel over them. They indicate how persistent is the pattern of highway transport necessary to the individual whose home and occupation are on

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the farm. While the mileage which he uses the road has been multiplied many times, the pattern of his daily use remains constant. This is the reason that we may have faith in the future program for the development of rural highways, for the new program is based upon a determination of just how people who are dependent on them need to use the roads. In passing, it may be remarked that such a determination is the antithesis of regimentation. It fits the roads to the public. It does not attempt to fit the public to the roads.

Selection of Secondary Systems

There are in excess of 3 million miles of public roads in the United States. There are many laws, State and local, and many jurisdictions over segments of the whole, which have all too frequently operated independently. It has none-the-less long been accepted by road officials that to insure progress in improvement consistent with the need, it is essential that this over-all mileage be segregated into systems. The beneficial results accruing from such a course have been amply demonstrated by the Federal-aid system, the State highway systems, and in many counties where classification based on relative importance is in effect.

In the regulations for the selection of the secondary road systems which were developed by the Public Roads Administration in cooperation with State highway officials and county engineer consultants, no mileage limitation was placed on the extent of the State systems of secondary roads. There are two principal requirements; first, that the selection of secondary roads shall constitute an integrated system within themselves and with the primary roads of the State, and second, that the extent of the system shall be consistent with the anticipated finances available for their construction and maintenance.

Up to the first of June, 43 States, the District of Columbia and Puerto Rico had submitted systems which have been approved, totaling 200,241 miles, and there were under review 85,775 miles, a total of 286,016 miles.

While there have been received in Washington from a few States complaints that the county officials were not adequately consulted in the selection of the systems by the State highway departments, such complaints have been very few. For the 200,000 miles plus which have been approved, evidence has been submitted by the State departments that the submissions are in accord with the State laws, and that the local officials had been accorded their legal prerogatives.

The reassuring element in the selection of this immense mileage is that the choice has been predicated upon the detailed studies of the highway planning surveys. This should not be construed to mean, however,

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that existing traffic volume is the only, or even the most important, criterion. While the yard-stick of traffic volume reasonably fixes the relative service requirements of the Federal-aid and State highways, service for the land and for the development of natural resources, such as mines and timber, must be given equal weight in the selection of the secondary road system. The ultimate goal is to extend service of an adequate character to every farm home or substantial source of raw materials needed for production. Currently, the extent of the systems has been determined on a State-wide basis with the mileage allocated to the counties or local road jurisdictions on the basis of formulae reflecting various factors. The application of such formulae has been necessary as an expedient to permit immediate action, but there lies ahead the need for the revision of the systems, county by county. This revision must be directed toward the goal of a completely adequate system of secondary roads, but the rate at which this desirable end can be reached will depend upon the individual county's financial resources, supplemented by State and Federal funds.

It is apparent that the selection of secondary systems is a continuing undertaking. It must not be permitted to become static. As stated, the regulations did not limit the mileage to be included in these secondary systems. As rapidly as possible the mileage that can be built to adequate standards and maintained with the income available, must be determined for county units. The one important thing is the maintenance of full cooperation between local, State and Federal officials administering this work.

Secondary Road Programs

While the selection of the systems has been in progress, the construction programs of projects have been formulated. As of June 1st, 2,851 projects, estimated to cost \$217,000,000 for more than 12,000 miles of road, have been included in the going program. The funds include prewar balances and the new postwar secondary funds. As of the same date, including the funds recently allocated for the fiscal year 1947, there is an unprogrammed balance of \$209,000,000 of Federal funds alone.

While it is purely speculative, it will reduce to somewhat concrete terms the progress that may be expected in the improvement of the secondary systems if we carry the estimates ahead based on existing figures. At the estimated over-all cost for the 12,000 miles in the going program, the available Federal funds plus State funds will provide for an additional 23,000 miles, which, together with the current program, would improve approximately one-eighth of the presently recommended mileage of 286,000 for the secondary road systems.

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Probably at some time in the future I shall be embarrassed by someone repeating the above figures wholly divorced from the purely speculative aspects with which they are qualified.

At the present time the emphasis is on the housing program, and the fact that we have had five years of rapid road deterioration, lack of replacements and a curtailed maintenance program with equipment in bad repair, is pushed aside. This is intended in no way as a criticism of the housing program, but road maintenance and construction conflict very slightly, if reduced to realities, with the housing program. My own fear is that we will pay heavily in loss of life and property damages, not only in the months ahead but in the acceleration of these penalties when the quantities of new vehicles roll off the assembly lines. This is the nightmare of road officials everywhere.

Road Standards

Speaking of nightmares, this is a good time to lay a ghost--the ghost that confronts us so frequently that the Public Roads Administration demands too high standards. Actually, the only standards for secondary roads ever issued by Public Roads, with the exception of the two details of width of grading and width of permanent bridges, are the standards adopted August 1, 1945. These standards were developed by the Design Committee of the American Association of State Highway Officials and Public Roads, and the minimums included are probably open to the criticism that they are too low rather than too high. At least that is the conclusion of the Board of County Engineer Consultants appointed by Public Roads to reflect the viewpoint of the county officials. Their work has been of tremendous value already, but it is only starting. Given a little time and reasonable patience, acting in cooperation with this Board, Public Roads will endeavor to reach and remedy the causes of every legitimate complaint. The appointment of this Board is no passing gesture. We have the same respect for, and confidence in, this Board of county engineers representing every division, that we have in our own personnel. These standards have previously been brought to the attention of your Association, and no criticism has been voiced. This does not mean that any of us think there has been no misapplication of standards. The problem is not lowered improvement standards, but higher administrative and technical competency in their application. This we hope to assist in bringing about, although it will take time, through the establishment of a division dealing exclusively with this field of operation.

One fact should be inserted right here. It is characteristic of our Federal-aid secondary road projects that they include many bridges. The most enduring assets we have in our roads are permanent bridges, and it is not economy to build short-lived structures. The inclusion of the

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cost of long-lived structures, however, materially raises the average cost per mile of Federal-aid secondary road construction, Federal-aid construction costs are frequently compared with costs of other secondary roads from which the cost of bridges has been omitted. Obviously such comparisons are unsound.

Secondary Road Financing

Prior to the advent of motor vehicle traffic and the consequent earnings from road user taxes, all highway construction was supported by revenues derived from property taxes. Since then there has been a constant replacement of road income from the property sources by the income from the road user. The year of greatest revenue from the property source was 1928, when the total amounted to \$499,000,000. As late as 1931 this total amounted to \$459,000,000, but during the depression years the amount fell off rapidly, reaching a minimum of \$236,000,000 in 1934. Recovery since that year has been relatively slight, amounting only to a rise of \$21,000,000 between 1934 and 1941. In 1941 the highway income from property taxes levied by counties and other local rural road agencies was \$257,000,000. This total includes appropriations from the general revenue funds of these agencies, but the source was principally from property.

There has been a constant increase in the State user taxes allocated to local roads, as follows:

For the 5-year period 1927-31, the annual average amount was \$157,000,000; for the 5-year period 1932-36 the average annual amount was \$222,000,000; and for the 5-year period 1937-41 the average annual amount was \$307,000,000. In 1944 there was allocated 25.4 percent of the total road user revenue to this purpose. In 1941 the excess of road user taxes for local roads above the income from property revenues amounted to approximately \$100,000,000.

While there has been a falling off of the total road user revenues during the war years, it is apparent from their rapid growth since gas rationing was removed, that the total amounts will exceed the prewar years very soon. In addition there is the Federal authorization of \$150,000,000 annually for each of the three fiscal years 1946-48. It must be conceded that, when compared with any previous period, the States and the Federal Government are providing a very substantial contribution to the development of adequate secondary roads. For this discussion it is fair to assign road user tax earnings to the road systems in the ratio of mileage use of the highways. 72.1 percent of the total rural traffic is carried by the State primary systems. This leaves 27.9 percent for the balance of the rural roads from which the Federal-aid secondary road systems are being selected. There is convincing evidence that the total highway

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traffic particularly on our primary roads will increase at a rate which, in view of our present inadequate facilities, is alarming. Between 1921 and 1941, registered motor vehicles in operation increased three times, but in the same period the use of the individual vehicle doubled. Thus, in 1941 our highways were called upon to carry not the apparent 3-fold demand of 20 years before, but six times the annual mileage of the earlier date.

We all recognize the lag of the war years of replacements of worn-out roads, of deterioration under excessive loads characteristic of war traffic, to say nothing of the need to untangle the traffic congestion of the cities, toward which we have done so little. But the more practical aspect from the angle of those interested in secondary road improvements is that the highways which have the greatest potentials for increased earnings through use must be given the opportunity, since it is in these earnings that lies the greatest hope for additional support funds for secondary roads from the road user source.

Careful studies made during a prior normal period of the effect upon farm values of improved roads led to the conclusion that the provision for reliable year-round service to the farm gate, increased the value of farm property. The raising of road standards above this service except in special cases did not result in materially increasing the value of the land. This fact supports the reasonableness of maintaining an income from property taxes to be used with State and Federal allotments to advance the day of acceptable improvements upon the rural road systems.

The officers and members of this Association occupy a unique position since they exercise the prerogatives of both executive and legislative functions in the management of the affairs of the county units. Upon their shoulders rests the responsibility for the levying of taxes, but concurrently their responsibility includes the management of the secondary road improvements. Their recommendations go far in determining State policies and legislation with reference to these roads. The State planning surveys focused upon their individual county problems can be of tremendous service in formulating a sound program. This is one of the surest ways of promoting mutually advantageous cooperation between the State highway departments and the county units. Too often a lack of harmony is produced through failure to understand the problems of each, and this results in conflicting views as to beneficial legislation.

There are serious problems to be met. For example, there is an exceedingly dangerous trend in the failure to collect road user revenues which by every right should come to the public treasury. I refer to the refunds and exemptions of gas taxes. Based on the total consumption of motor fuel within the State, in 1944 sixteen States, including the District of Columbia, refunded or exempted under 5 percent of the total consumption of motor fuel for agricultural purposes; ten additional States exempted less than 10 percent. Thus, 26 States found that fair exemptions

for this purpose did not exceed 10 percent of the total gallonage consumed during the year. Eight States refunded or exempted less than 15 percent from taxation. Thus, 34 States found that under 15 percent covered fair exemptions for the purpose--these included many of the dominantly agricultural States. Seven additional States exempted up to 20 percent. Eight States either refunded or failed to collect taxes on 20 to above 60 percent of the consumed gallonage. Of these Kansas exempted above 40 percent, and North Dakota above 60 percent. None of the States perhaps are more in need of, or more insistent upon, the development of farm roads than these latter two. Perhaps gas rationing had an influence upon the lack of a fine or even a reasonable distinction between the road use and the agricultural use, but this disastrous trend began long before rationing. Is there not an element of fairness to the urban user who has long contributed the major portion of road user income? At least there should be a fair ratio maintained between insistence upon road improvement and the willingness to share the cost. This problem is basic, and should have the best efforts of county, State and Federal road officials, first to determine the facts, and second, to support corrective legislation and its enforcement.

Construction Administration

There is no wish on my part to omit discussion of any essential part of the actual securing of the end product, the maturing as rapidly as possible of the improvement of the secondary road systems. The methods adopted for the actual construction are to be determined by agreement between the county officials and the State highway departments. There are no hard and fast Federal regulations that will preclude this. If they are so interpreted, this interpretation will be corrected. We believe in the contract method of doing work. It has beyond question proved the most economical. But we are quite willing to submit this to the fire test. There is only one condition--that the test be based on the precise number of units of work accomplished. We do not insist that those units be the conventional ones, either. Some new methods will have to be tried that will introduce the contracting for the improvement of a whole route rather than the short mileage of just a little more than 4 miles which is the average of our current project program. We are ready to accept the improvement of the culverts and bridges on the secondary road systems on any route in any county without the intervening road work, since such an improvement is basic. There are innumerable counties in which the drainage structures of temporary character absorb the available road funds. They will continue to do so until they are built to endure the floods, the trucks and other heavy equipment moved over them. Just at the moment the lack of culvert and bridge materials and their high cost do not recommend such a program. This will change not too long in the future.

These possibilities are only brought forward to illustrate the flexibility of the Federal regulations to meet any conditions.

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Recently one of the county engineer consultants reported that his inquiries in several States indicated that the custom was general of dividing the combined road funds among the supervisors' districts. When again divided into the road mileage in each district, the amounts per mile could only be used as maintenance funds. Obviously, no Federal regulations for construction of new projects can meet such a condition. Neither can any progress be made. If the county is the unit, it must be so administered. There must be a construction fund and a maintenance fund, and so administered.

In summary, under the uncertain postwar conditions, it can be fairly said that good progress has been made by the county, the State and the Federal officials in the selection and approval of the first increments of the secondary road systems, that a fair start has been made upon the construction program, and that on the whole a reassuring spirit of cooperation and mutual assistance exists between the responsible officials. As conditions affecting road construction become less uncertain the way will be easier.

I have faith in the future of our joint undertaking.