

## Highway Improvement Policies - Federal, State and Local

Abstract of an address by Thos. H. MacDonald,  
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In reviewing somewhat the changes in policies as to the administration of our highways which have been taking place gradually over a period of years and also in indicating some of the disclosures of highway research that should bear on future policies, both in the hope that an even balancing of sound engineering policies with administrative expediency will be restored, the following conditions are noted:

1. The tremendous pressure that is, and has been, brought to bear upon public officials for the placing of surfaces upon a larger and larger mileage of our public highways for the use of motor vehicles has resulted in a large relative, and actual, increase in the mileage of the so-called low-type roadways. Without criticism except to the extent that the design and cost of these low-cost roads has been forced below reasonably economical standards, the danger in this policy lies in the certain rapid increase of maintenance costs and the exclusion of necessary new construction.

2. The policy here expressed of extending the mileage of new construction has been brought about by transferring large mileages to the jurisdiction of the State, in some cases the total public road mileage within the State, without an equivalent transfer of funds.

3. Both of these policies placing an enlarged commitment against the State highway funds, have been simultaneous with a diversion of income from the road users' special taxes to other than highway purposes.

4. All of these policies are tending to destroy the logical and necessary stage construction policy, which was adopted by practically all of the States, by utilizing funds which should go to replace and to raise more adequate standards the roads which have received the first stage improvement.

5. Researches in the fields of soil physics and of load distribution through pneumatic tires have developed useful facts so that the service on our highways can be increased and the annual maintenance cost decreased, even with a somewhat larger first cost, particularly in the field of low-cost improvement.

The accuracy of these statements is supported by facts and data which will be reviewed as concisely as possible.

### Production of Roads

In the five-year period 1930-1934 the State highway departments, with and without Federal participation in the cost, annually completed 37,582 miles of roads, or nearly 10,000 miles per year above the preceding five-year average. In the two years 1933-1934, of an annual average completion of 36,012 miles, the Federal funds allotted to the States and administered through the Bureau of Public Roads, not including funds used by the States from other Federal sources, accounted for an

average of 20,048. Figures not yet available for the years 1935 and 1936 undoubtedly will show the same relative results. Federal appropriations for highways which account for the mileage increase must very soon face curtailment and the production of roads by State highway departments will be decreased. The reduction will easily reach 30 percent. Unless the diversion of the income from gasoline and motor vehicle fees is stopped and these funds restored to the highway departments, the construction program will probably fall off 50 percent or more by next year. It will be remembered that the high mileage figures are a result of the determined effort made to hold employment in this field at a high figure.

#### Facing the Needs Honestly

With a sharp rise in expenditures for maintenance growing out of the increased use of the low-cost type of roads combined with a larger surfaced mileage in addition to the policy trends stated there can be but one honest conclusion based on the official records honestly made. The dishonest answer is that we have enough roads and can take a road-building holiday so that the special taxes for roads can be diverted to other uses and at the same time mileages of roads can be added to the responsibility of the State highway departments even though it is beyond their ability properly to improve and to maintain them.

This answer is dishonest because obsolescence and depreciation do not indulge in holidays. Public pressure for more surfaced roads has forced the spreading of highway funds so thin that the capital invested is now in jeopardy. However, the so-called stage policy of road construction is both economical and sound if its processes are carried into

operations properly adjusted to surface life and maintenance costs.

The State and Federal highway departments in adopting these policies proceeded in the faith that they would be permitted to use the increased income to strengthen and raise the low-cost types to standards that can be economically maintained. But the earnings are being diverted and new mileages to be improved are being added.

A conservative estimate of the needs of those highways only under the jurisdiction of the State highway departments indicates that 26,059 miles should be constructed and reconstructed annually.

#### Extension of State Control to Secondary Roads

In the three years between 1932 and 1934 the surfaced mileage of secondary roads under State control increased 51,000 miles. While in a number of States all or a large part of the local roads have been placed under State control, in no case has the transfer of this increased responsibility been accompanied by a transfer of the funds formerly used by the local officials upon these secondary roads. Had it not been for increased Federal appropriations new construction on the more limited system of State highways would have been stopped. The extension of State supervision or control over local roads is a policy that can be in the public interest, but as it has been put into effect it is not. Only the greatly increased inflow of Federal funds has covered the inevitable result. A policy good in itself and worthy of public support so far has been thrown out of balance by two powerfully selfish motives. First, there has been continuous pressure to place all roads under the State highway departments and to take the cost from the revenues from road

users and, second, there has been the political motive to build the highway organization - which to be successful must be non-partisan - into a political machine.

#### Increase in the Surfaced Mileage of Secondary Roads

The striking increase in surfaced mileage, largely of low-cost type, on secondary or local roads under the control of local government units does not reflect a larger support by local units - rather, greatly increased support from Federal funds from the Public Works Administration, the Federal Emergency Relief Administration, and from other Federal agencies established to provide employment. For the five-year period, 1930-1934, the mileage increase amounted to a total of 218,000 miles, nearly 212,000 of which were of low-cost type. This increase was almost double that of the preceding five-year period.

It might be concluded from the foregoing that the rate of increase of surfaced mileage is too rapid to be sound. It would seem wise, on the highway construction undertaken to make employment opportunities, to build highway grades that will provide adequate drainage and withstand the climatic conditions of each particular locality. The next step is to stabilize the soil subgrade by scientific methods reduced to practical usage. These two fundamental steps will give results more satisfactory to highway users and they will insure reasonable maintenance costs.

#### Coordination with Other Transportation Facilities

Turning from the more pessimistic to the opposite view of highway policies, splendid progress is being made toward a more

intelligent coordination of our transportation facilities. For example, nothing has been more productive of a growing friendly and intelligent working together of highway and railway officials than the grade crossing elimination program that began with the Public Works projects of 1933 and was augmented in 1935 by a \$200,000,000 allotment from the Emergency Relief appropriation. These two programs will eliminate some 3,000 of the most dangerous and economically important grade crossings in the United States.

Progress also has been made in programming funds to provide highway access to railroad shipping points and air fields. Consideration is being given to providing emergency landing areas along highways that air routes rather consistently parallel. These areas might well be included in the enlarged highway right of way appropriately landscaped. Roadside planting and improvement and the recreational use of the highways also have been enhanced.

In rural areas a comprehensive survey of the whole road situation is in progress by the Bureau of Public Roads in cooperation with the State highway departments. Most of the States are now making basic studies to inventory our existing facilities and to obtain all the factual information necessary on which to plan a sound development for the future. It is hoped to establish a rural road development program on such a sound basis of fact as to merit the faith and continuing support of the public.