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Activities of the Bureau of Public Roads in 1928 and 1929

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Road construction operations on the Federal-aid highway system under the joint supervision of the Federal Bureau of Public Roads and the State highway departments added to the previously improved mileage a total of 8,184 miles/ During the same period advanced stages of construction were completed on 2,014 miles of the system previously improved to some degree.

At the close of the year the roads improved by the cooperating Federal and State authorities amounted to 72,394 miles, the result of eleven years operation under the Federal-aid plan. With the exception of a few hundred miles, improved before the system was adopted in 1921, all of this mileage is included in the Federal-aid highway system of main interstate and intercounty roads.

The system embraces a total of nearly 183,000 miles of the country's main arteries, and is being improved as rapidly as the available State and national funds will permit. In addition to the improvements carried out with the aid of the Federal government, the State highway departments have completed the improvement of at least an equal mileage with their own funds; and it is estimated that at least 150,000 miles of the system have at this time been improved to some degree.

More bridges were improved with Federal assistance during the last year than in any year since the Federal-aid policy was adopted. More than 1500 bridges, each more than 20 feet in length and some, with their approaches, upwards of a mile long, were completed during the fiscal year. The aggregate length of these completed bridges was over 54 miles; and at the close of the year other bridges under construction made up a total of nearly 68 miles.

The Bureau is urging State highway officials to take full advantage of the Federal assistance in bridge building as one means of meeting the need for expensive structures over large streams and so avoiding the evils of private toll bridge construction.

The Federal law now permits employment of Federal appropriations to pay half the cost of bridges built by the States, and operated as public toll bridges for the length of time necessary to pay the State's share of the cost. By public construction and operation the necessary bridges can be provided at lower cost to the traveling public, because of lower interest rates available to the public agencies, lower costs of engineering, greater competition for building contracts, and the elimination of builders' profits.

The Bureau of Public Roads has taken a strong stand in opposition to the further construction of toll bridges, prompted therein by the evidence of widespread activity among promoters

seeking to reap a profit from the public improvement of the roads leading to potential bridge sites.

Of greatest interest in the Bureau's research work of the past year were the highway planning survey made in the metropolitan area of Cleveland; the test of a full-sized concrete arch bridge over the Pee Dee River in North Carolina; and the experiments with methods of road construction which can be applied at low cost for the improvement of hundreds of thousands of miles of local roads on which the traffic is so light that an expensive improvement could not be justified.

The Cleveland survey outlined a plan of suburban road and street development for a 10-year period in Cuyahoga County and adjacent counties tributary to the city of Cleveland. The plan includes the building of a viaduct over an industrial section, the construction of belt highways around the city, the elimination of traffic bottle-necks at points where present heavy-traffic roads converge, and other improvements which it is believed will relieve the serious condition of congestion that has developed in the Cleveland area.

The planning survey is much more than locally interesting. The conditions at Cleveland are duplicated in the vicinity of a number of other large cities, and the Cleveland report, which has just been published will be read with interest by city and regional highway planners in all parts of the country.

The North Carolina bridge test is the largest and most useful test of the sort that has ever been made. The observations made of the behavior of the long concrete arch under loads many times heavier than ordinary traffic loads have supplied a long sought check upon the theory of design used by engineers in planning such bridges; and have pointed out a number of ways in which economies may be introduced in the design.

The problems of road building to which serious attention must be given in the immediate future include the elimination of railroad grade crossings according to an accelerated program; the separation of intersecting highway grades on important heavy-traffic arteries near the larger cities; the widening of the main thoroughfares in metropolitan areas to 40 feet; the development of cheap methods of improvement applicable to light-traffic local roads; the removal of unsightly and often dangerous bill boards from the roadsides; and the planting or preservation of native trees and shrubs along the roads in order to improve the attractiveness as well as the usefulness of the highways. Along all of these lines the Bureau of Public Roads will lend its assistance to the State highway departments during the coming year.