

By Thos. H. MacDonald

The cooperative roadbuilding work of the Federal Government and the States resulted in the improvement of 12,129 miles of highway during the fiscal year 1938. The year saw the near completion of the emergency program of road construction, and was marked by the initiation of Federal aid for secondary and farm-to-market road construction and the extension of outright Federal grants for highway-railroad grade crossing elimination as parts of the regular Federal highway program. Continuation of work on the Federal-aid system with regular Federal-aid funds formed by far the greater part of the year's activity.

Improvements made during the year included 9,333 miles on rural portions of the Federal-aid highway system, 559 miles on municipal portions of the Federal-aid system, 201 miles of secondary roads in municipalities, and 2,036 miles of rural secondary roads. Classified according to type of construction, the year's work consisted of 1,506 miles of graded and drained road, 4,998 miles of treated and untreated sand-clay, gravel, and macadam, 1,989 miles of low-cost bituminous mix, 213 miles of bituminous macadam, 419 miles of bituminous concrete, 2,870 miles of portland cement concrete, and 134 miles of bridges, grade separations, and miscellaneous types.

Advancement during the year of the program of eliminating hazards to life at railroad grade crossings was an important contribution to highway safety. In addition to the protection of life and property, grade separations effect considerable savings in time and inconvenience to public travel on the highways. During the year, 711 railroad-highway grade crossings were eliminated, 144 separation

structures were reconstructed, and 744 crossings were protected by signals or other safety devices. More than half of the expenditures during the year for this class of work was in municipalities, reflecting the relatively greater danger and delays at city and suburban crossings.

From 1921 to 1933, Federal funds were concentrated on the Federal-aid highway system in order to insure the early completion of a network of main, through highways. This system was limited initially to 7 percent of the rural roads in each State, but provision was made for expanding it in any State when the previously designated mileage had been brought to a satisfactory degree of improvement. Twenty-four States have expanded their Federal-aid highway systems beyond the initial 7 percent, and the system now includes 224,615 miles.

As work progressed in the improvement of the main highways and as they came to serve an ever-increasing volume of traffic, the time came when the sections leading into and through cities became bottlenecks, impeding the free flow of traffic. Steps to remedy this condition were taken in 1933 when Federal funds were made available for the improvement of extensions of the Federal-aid system into and through cities, and in 1934 the basic law was amended to make future Federal-aid funds available for this class of improvement.

Legislation in 1933 and 1935 providing emergency funds to furnish employment through road construction broadened the Federal roadbuilding program to include the improvement of secondary roads.

In addition, specific funds were appropriated for the elimination of hazards to life at railroad grade crossings. Provisions continuing this broadened Federal program have been made in acts authorizing regular Federal-aid funds for the years 1938 through 1941.

The Act of June 16, 1936, authorized funds for each of the fiscal years 1938 and 1939 as follows: for Federal-aid highways, \$125,000,000; for the improvement of secondary or farm-to-market roads, \$25,000,000; and for grade crossing work, \$50,000,000.

Congress provided for the continuation of this broadened program in the fiscal years 1940 and 1941 by an act approved June 8, 1938. This legislation authorized \$100,000,000 for Federal-aid highways in 1940 and \$115,000,000 in 1941; \$15,000,000 for secondary or farm-to-market roads in each of these years; and \$20,000,000 for grade crossing work in 1940 and \$30,000,000 in 1941. The funds for Federal-aid highways and for secondary roads must be matched by the States; the grade crossing funds are outright grants to the States.

When the Federal Government adopted the policy of aiding the States in road construction, it was essential that the funds be used to improve the main roads carrying the most traffic. The large mileage of unimproved roads and the limited funds available for their improvement made this the only sound policy. Now that the Federal assistance has been extended to the secondary roads, it is likewise necessary to apply the funds authorized for that purpose to a limited mileage of the most important secondary roads. To accomplish this, each State has been called upon to designate a system of main secondary

roads not exceeding 10 percent of the total highway mileage of the State. This selection is to be based upon factual data obtained from State-wide studies for the planning of an integrated highway system. Projects are being approved prior to the designation of the secondary road system where it is reasonably certain that they will become a part of the system.

The system of main highways in the United States is by far the most extensive of any in the world. Only the most out-of-the-way places cannot be reached over a surfaced road.

However, many miles of highway constructed to the lower standards of an earlier day cannot now be considered adequate. Short sight distances on many roads make passing unsafe and cause queues of vehicles to form behind slow drivers, reducing vehicle speed to that of the slowest car. Many curves are so sharp that they cannot be comfortably traveled at reasonable speeds. The surfaces and shoulders of many roads need widening. Many miles of worn-out surfaces need to be replaced with the stronger and more durable types required by larger volumes of traffic.

Funds urgently needed to correct these dangerous highway conditions and to improve all parts of our main highways to a degree commensurate with the traffic they now carry are being paid by highway users in the form of gasoline taxes, registration fees, and other highway-user imposts. Every motorist contributes in proportion to the extent he uses the highways. Although these taxes were originally imposed to pay for highway improvements, 13½ cents out of every dollar of State taxes collected from highway users in 1937 was used for

purposes other than highway improvement - the equivalent of \$5.50 for every registered motor vehicle in the United States. The use of these motor-vehicle revenues for highway purposes would greatly expedite the work of providing a safer and more complete highway service.

Forty-six States are now cooperating with the Bureau of Public Roads in conducting highway planning surveys. These surveys will make available for the first time, complete information as to the mileage and condition of existing roads, the volume and character of traffic they carry, and the sources and amounts of funds being used for their improvement. The data collected will provide a basis on which to plan more equitable programs of highway improvement in the future, to the end that the greatest safety and service will be provided.

The safety of highway users is a first consideration with all who plan and build the highways. Defects in the existing systems are fully recognized and the speed with which they will be corrected depends only upon the rate at which funds can be made available for the purpose. The program of highway modernization, including road straightening and widening, increasing sight distances, grade crossing elimination, and construction of sidewalks, should go forward with all possible speed. At the same time it must be realized that accomplishment of all these things will not constitute a solution of the accident problem. The present condition of the main highways is seldom conducive to accidents except where coupled with erratic actions of risk-taking drivers. Such data as are available on the causes of highway accidents indicate that improper acts by vehicle drivers cause most accidents. The number of accidents and deaths can be materially lessened only by centering the attack on driving habits and a proper selection of drivers.

Improvement of the highway accident situation will require concerted action by the numerous agencies concerned with traffic control and law enforcement. Immediate action should be taken toward the adoption by the States of the Uniform Vehicle Code recommended by the National Conference on Street and Highway Safety. There is urgent need for uniformity in speed laws, stopping and turning regulations and hand signals, and other phases of traffic control. All States should provide for rigid examination of applicants for drivers licenses. Motor vehicles should be inspected at regular intervals to insure that those poorly equipped and defective are kept off the road. Expanded patrol forces are required for the enforcement of traffic laws; and violators, when arrested and convicted, must be punished without fear or favor.

Fortunately, officials charged with the construction and administration of our roads and streets, reinforced by an aroused public opinion, are making definite progress toward reducing the highway accident toll.