

Demand for Good Roads Becoming Nation-Wide

Congress Being Appealed to for Aid in Establishing a Thorough System of National Highways—Failure of Present System Is in Upkeep

From north and south, from east and west comes, as if by a single voice, the cry for better roads. The country districts demand them to facilitate the marketing of their crops. The towns insist upon a network of substantial highways leading out into trade territory, that the profits of their merchants may become greater. The autist demands them to make possible the opening up of new territory for his business and pleasure. The public at large demands them that land values may be enhanced and the general good be increased. The agitation has reached into county courts, state legislatures and the national congress, so that today an awakened people are looking for the best information as to road construction to be found. The subject is being treated scientifically in the agricultural schools; the government is flooding the states with literature in which the results of careful scientific investigation are set before the citizen without charge. The result is a general determination on the part of authorities in every section of the United States to get out of the rut and stand among the progressive communities of the country.

No great has been the agitation in this country during the past few years that congressmen have been pressed by constituents to secure the passage of laws that would permit the government to participate in the road building of the country. Nearly a hundred

bills have been introduced during the present legislature, looking to federal aid for states and counties in this important matter. Proof of the benefits derived from a system of good roads is not wanting and the fact that the government has not as yet taken an active part, in the enterprise is due, not to lack of faith in it, but to skepticism on the part of many members of congress as to just how to get at it. It is generally believed that federal assistance will come before many years and the pressure upon congressmen is becoming greater annually.

Meanwhile, much work is being done in several of the states. In some cases the counties are doing the work through the bond issue plan, while in others state aid is handed to the counties. In some of the states, an appropriation for the building and maintenance of roads has become a part of the regular annual budget and the number of states in which this is the case is increasing. As the movement gains headway and the competition between states increases the results of agitation on the part of its most ardent enthusiasts become more apparent in the increased number of miles of roads built each year. It is only a question of a few years until the people of every state in the Union will bow to the extra tax required for initial expense and vote strongly for a bond issue or legislative aid.

It is a mistake to argue that the good road is a luxury. An abundance of examples to the contrary are available. Massachusetts and New Jersey stand as pioneers in the state aid movement for good roads. In the former state, many instances remain to prove that the construction of substantial roads where formerly were impassable mud holes has had the effect of raising land values at least \$10 per acre. Not only this, but in many of these districts land would not sell at all because of the impassable condition of the roads in spring and fall. With the improvement of transportation facilities the land along these highways became suddenly desirable and the result was a stimulus to the realty market that affected other districts as well. Spottsylvania County in Virginia three years ago voted \$100,000 bonds for the construction of permanent roads within the county. Upon the advice of the United States office of public roads the money was expended so as to give the county a complete system of excellent trunk highways. The result was apparent at once. In two years the agricultural and forest products handled by a single railroad were increased more than 45 per cent, the road system rendering it possible for the farmers to get their produce to market more easily and quickly, with greater profit to themselves. Outgoing poultry, eggs, and dairy products more than doubled in these two years, while the increase of imports was correspondingly large.

Right in the Pacific Northwest are several examples of the great saving to producer and shipper brought by good roads. In 1909 fruitgrowers in the Goodhue Hills in eastern Washington had to traverse a mountain road for a distance of seven miles to shipping point. The roads were so sandy in some places that it was impossible to haul a heavy load over them, while some of the grades were so steep as to challenge the best horses of the country. It cost the fruitgrowers 20 cents per hundred pounds to haul their produce out and 35 cents per hundred for freight going back. This meant an expense of 57 cents and \$1 per ton per mile. The citizens of this district in-

duced the county to build them a shorter and better road, with the result that they now can market their produce at a profit, whereas formerly the greater part of their residue was eaten up through the expense of marketing.

These are but isolated examples of the results to be realized from good roads. Hundreds of others may be found, particularly in France, where the science of road building has been carried to its greatest perfection. No perfect is the system of roads in many parts of France that freighting is done by team and auto truck in annually increasing quantities, the railroads reaping their share of the profits from the increased tonnage of farm products hauled to their tracks. England can furnish the same story. New Jersey has been building good roads since 1892. In Essex county farm values have increased 41 per cent in the last decade, while taxes have decreased almost 50 per cent. From North Carolina comes similar intelligence, an instance being cited where, prior to the campaign for permanent roads, it was difficult to make the trip to market with a single bale of cotton drawn by a team of sturdy mules. Now two

mules will haul 12 bales of cotton any month in the year over the same road. A contemplation of the difference in expense arising from these changed conditions will convince the most skeptical of the value of a system of good roads.

In many counties throughout the United States, vast sums of money have been spent for the construction of permanent roads, but the most important feature of the movement has been overlooked. This is the upkeep of the road after constructed. County officials seem to regard the newly constructed road as completed. The upkeep is neglected and almost before they know it the surface is gone, the bottom has been undermined and the work has to be done again at the expense of the taxpayer. To overcome this evil there seems to be but one remedy—the patrol system. Properly organized, this method of handling the roads will be found inexpensive and efficient, the road once constructed properly being kept constantly in as good condition as when new. Authority is distributed among too many supervisors in the majority of cases and each is given a free hand for the maintenance of the roads of his district as best he sees

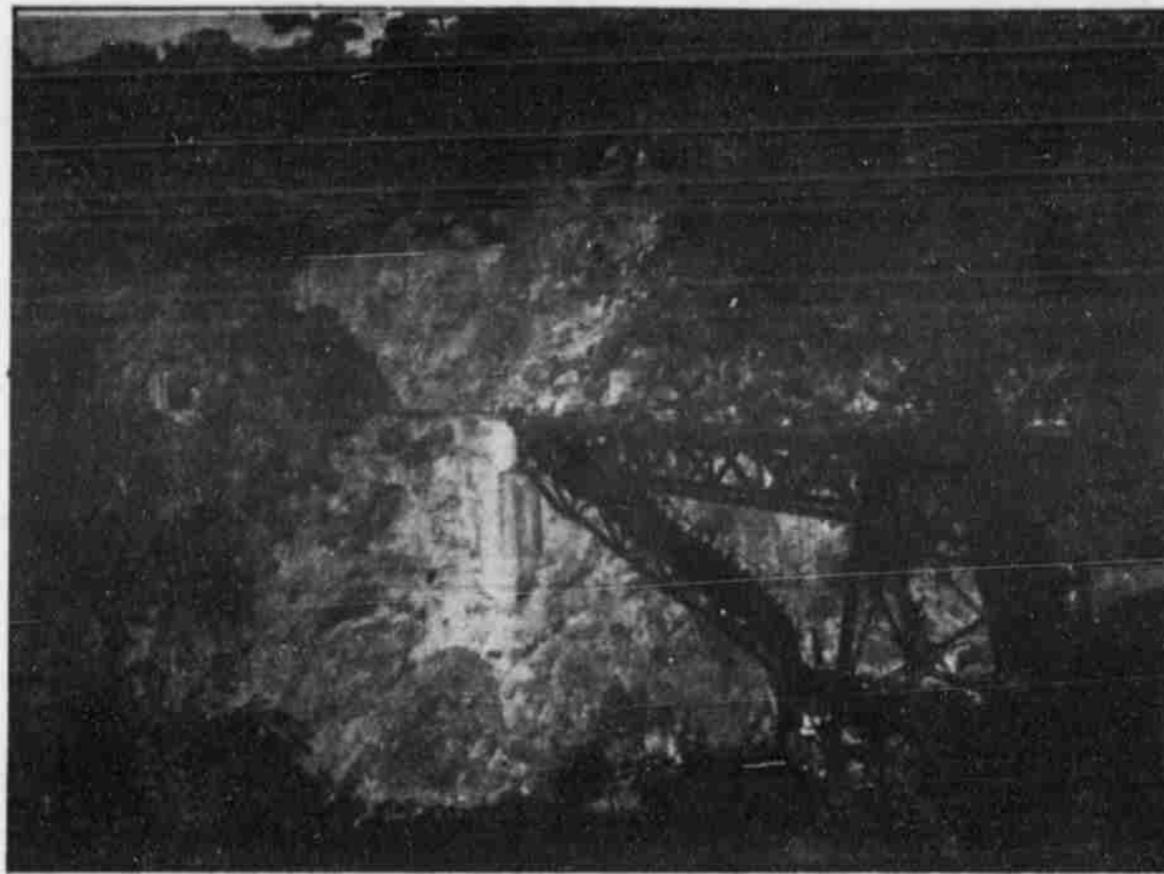
St. A centralizing of the authority in the county court seems to have been the most effective method of dealing with the problem of upkeep, a close supervision being found necessary if the roads are to be kept in perfect repair.

The necessity of the patrol system is made more apparent from the widely different effect of wagon and auto traffic. The dust surface, kept constantly forming by the travel of horses and vehicles and so essential to the permanency of the roads, is sucked up and whisked away by the swiftly-moving motor, while the same motors wear off no dust from the stones remaining to take the place of that removed. This condition has brought about much experimenting in the making of surface, but as yet no solution has been found. It has been demonstrated, however, that with an effective patrol system one man can attend several miles of road with a single horse and cart, carrying with him some of the materials for repairing and keeping others in stations located at intervals along his route. The expense incurred in this manner is found to be slight, the first cost proving to be practically the full cost. In Europe a road, once

constructed, is constantly watched and kept in repair. In America it is seldom touched after it is built. Here is our mistake. In many countries the best road-building materials are to be found along the highway, thus reducing to a minimum the cost of upkeep. It has been found that about 30 per cent of the roads carry 90 per cent of the traffic. The patrol system, adjusted to meet this condition, would find the upkeep of the roads less frequently used to be very light.

The reform of our system must begin with repairing. Nothing speaks better for a community than a system of excellent roads. Nothing is so discouraging to the prospective settler or the casual observer as a good road full of chuck-holes, the result of neglect. If the patrol system is followed in this country as it is in Europe, there will be no bad stretches of road, for the methods now known and advised by our government are superior to those of the old country. Until about three years ago nothing had been done to bring the matter before the public. Now the importance of the automobile as a factor in road construction has made imperative a close study of the best methods in order that a surface may be kept that will not yield to the suction of the soft pneumatic tire and at the same time come within the limit of the taxpayer's pocketbook. With the government to advise and with a thorough upkeep system, this result may be attained and the full benefits of a permanent road system be derived. A national association for highway improvement is the next step in this great movement.

Railroad Construction in Mexico Presents Numerous Obstacles



The wealth of Mexico in agricultural, mineral and natural resources has proven so alluring that American railroads have entered the field with zest and have expended millions of dollars in construction of trunk lines and branches reaching far into the interior and tapping the richest sections of the country. Apparently no attention has been paid to the expense entailed in reaching the goal, for canyons have been trestled, mountains pierced and rivers spanned but a few years ago challenged the skill of the best engineers. Rich valleys and mineral-laden mountains are thus reached in this strangely unprofitable country and the scenic wonders of many portions

challenge the eye of the passing tourist as do those of our own country. One looks down from the rapidly-moving train seemingly fathomless distances to the jagged bed of the canyon below; or up toward the stars to where, hundreds of feet above, the mountain peak pierces the blue, reaching, as it were, for a closer communion with the infinite; then the mountain is entered and the train emerges after a spell, upon a change of scene that calls forth new exclamations of admiration and wonder.

The expenditure of so much money in a country so belligerent has brought loss to the capitalist during the recent months. For Mexico is a country of revolutions and property rights receive no consideration at the hands of the

contestants. During the late revolutions of Madero and Orozco bridges were dynamited and trains wrecked, the replacing of which entailed the expenditure of millions of dollars. Wherever the presence of a bridge proved of advantage to the enemy, it was blown up with dynamite, and whenever either faction could find a trainload of the enemy's soldiers enroute, the spreading of the rails, or the undermining of a trestle spelled the doom of the entire force. Saber and bayonet finished the work not accomplished by the wreck. But, despite the losses incident to the revolutions, repairs have been made and further work projected. The best engineering talent available is even now at work on new construction proposals.



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