

INDIANA'S ROADS IN RELATION TO HER FUTURE DEVELOPMENT

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Indiana has more roads per square mile than any country in the world except England, and more roads per square mile than any other states in the Union except Massachusetts and Connecticut. Therefore, when the present highway commission came into office, its responsibility was scarcely that of building more roads; rather, it was a question of improving old ones and effecting changes to meet changing conditions. What kind of changes, then, were advisable?

In 1934, in my address before this group, the chief point stressed was that of widening existing rights-of-way. In the eastern states, buildings so crowd the highways that their problem has become almost insurmountable. The same condition is not yet present in Indiana, where our settlement is fifty to seventy-five years younger than in New England. The opportunity is still open to get wider rights-of-way without undue hardships to business or residential property.

We stressed the labor which widening of shoulders and culverts and bridges would bring. In addition we felt there would be a great by-product of increased safety for the motorist.

This program has been steadfastly pursued. Utilizing thousands of unemployed men in the fall of 1933, shoulder and culvert widening was undertaken in 84 of the 92 counties in the state. This work was continued through much of 1934. Hundreds of miles of rights-of-way were widened on highways throughout the state.

In 1935, in my address before this group, three policies were advocated: first, that work of shoulder and culvert widening should be continued; second, that our department should inaugurate the construction of divided-lane highways; third, that in planning highway development we must recognize the imminence of extensive rural electrification.

The only permanent thing about a road is the width and plan of the right-of-way. Any surface we construct will sooner or later have to be replaced. If there were any doubts in our mind as to the truth of this proposition, our experience with shoulder widening in 1933 and 1934 has dispelled them.

The divided-lane highway was advocated because it would provide greater motoring safety. A glance at the daily newspaper confirms the deadliness of the head-on collision.

Rural electrification was advocated because it would tend to build a strong rural population. In order to bring social

advantages and to build up a strong citizenry, the development of an adequate secondary road system goes hand in hand with rural electrification.

SOME ACCOMPLISHMENTS

Since this widening work was started in the fall of 1933, we have extended the shoulders on 887 miles of highways, and have widened several thousand culverts and bridges. This widening program has made possible the planting of trees and shrubs along our roadways. While it will take five years or more to begin to see the effect of this work, roadside plants will add to the beauty of our highways and will increase in attractiveness as the years pass.

During the past year, contracts were let for the construction of the first divided-lane on the Indiana State Highway System. It consists of thirteen and a half miles on Road 30 across Lake County. A right-of-way, 200 feet wide, has been purchased. Each traveling surface will be 22 feet in width, and a space of 44 feet will be left between the two lanes.

During the past year, the State Highway Department constructed, resurfaced, surface-treated, and made dustless more than 2,000 miles of highways in the State System of less than 9,000 miles. By far the larger percentage of this work was done on secondary roads. There now remain but 232 miles in the State System which are not dustless.

The State Highway Commission has supported the rural electrification movement. In my discussion last year it was pointed out that rural electrification would be carried out in Indiana within the coming few years and that these new pole lines should be so placed that they would not soon have to be moved at tremendous expense when it should become necessary to widen the roadways. During the past two and a half years utility companies have spent untold thousands of dollars in moving poles along widened rights-of-way. This same mistake should not be made with rural electric lines.

But highway development in Indiana, splendid as it has been, does not mean that our task is nearing completion. On the other hand, changing conditions must be met.

THIS QUESTION OF SAFETY

The increased speed of the motor car, the greater number of vehicles on our highways, the ever-expanding motor truck industry, and the necessity of using the motor car in our daily activities have created a new situation. Today we face a problem of major importance: "How shall we make our highways safe?"

From the time of Julius Caesar until 1910 it was more dangerous to go to war than to ride along the highway. Since

then, there has been such an ever-mounting motor toll that we have found the answer to "What is worse than war?"

On January 25, 1934, I pointed out to this road school that 30,000 had been killed in motor accidents during 1933. For 1935, the dead totaled 6,000 more than in 1933, and the number injured increased from 900,000 to 1,250,000. Of the injured, 140,000 are said to have been permanently maimed.

During the two years which have elapsed since that talk was made here, the question of motoring safety has become widely discussed. The press of the state and the nation has taken it up, and today ten states are already organized in safety drives. Here in Indiana there are no less than nine different agencies conducting safety drives of one sort or another.

On last December 24, I had occasion to motor north from Indianapolis on U. S. Highway 31. The first ten miles out of the city has a wide shoulder with a shallow side ditch. The pavement was covered with packed, slick snow. Motorists, though driving carefully, were skidding about. In spite of caution, however, several cars had slipped from the pavement; but with the wide, flat shoulder each was able to get back onto the highway on its own power.

When I left that portion of the highway where the shoulders had been widened and entered upon the portion which has but a 50-foot right-of-way with deep, abrupt ditches close to the pavement, the scene quickly changed. In the first quarter of a mile, three cars had been in the ditch and each had had to be pulled out by a wrecker. Within a distance of twenty miles, five wrecks were still along the highway. One was a car off the road lying on its side. A little farther on, a large ambulance was in the ditch with a bent front wheel. A patient was in the ambulance. Still farther along was a truck with the right rear wheel broken off as the result of a slight skid which ended in the deep, abrupt side ditch. In the remaining distance to the junction with Road 28, two more passenger cars were wrecked by sliding off the slippery pavement. But this is only part of the story. No less than seventeen additional cars had skidded off the pavement and, owing to the narrow right-of-way and deep side ditch, had had to be taken out with a wrecker.

By comparison, we had no wrecks on ten miles of widened shoulder as compared to twenty-two wrecks in twenty miles where the shoulder had not been widened. The motorist who suffered car damages could have afforded to pay a considerable share of his property loss to have had a safer highway on which to drive during a condition such as existed that day.

Safety campaigns and better traffic control in our cities have resulted in many instances in reduced motor toll. For example, Evanston, Illinois, has reduced its death toll 80 per

cent. But on our rural highways, nothing can take the place of the wider shoulder, the more shallow side ditch, and the wider culvert or bridge. This is the problem of the county and state highway departments.

On our more heavily traveled highways the divided lane will offer the maximum of safety. It may be true that life is cheaply held today, but when we consider that our roadways may be used for one hundred or five hundred years or more, they take on an importance which can not be estimated by present-day values.

DIVERSION OF ROAD FUNDS

But such a program can not be carried out in a day. It will require years. We hear much talk of the diversion of funds paid by the motorist to functions of government other than highways. Indiana has not been much of an offender in this way, but I can think of no better use for a million and a quarter dollars of motor license funds which now go to the state general fund than to turn them back to the State Highway Department and to use at least a part of it for the purchase of wider rights-of-way. Such expenditure of money would be of practically immediate benefit to the motoring public and would be a contribution to future generations of incalculable worth.

Studies in Indiana disclose that the motorist pays \$35 to \$40 per year for insurance. The average cost for gas tax and license fees amounted to \$30.14 a year or two ago. Thus the motorist is paying twenty-five or thirty per cent less for the privilege of using splendidly improved highways for an entire year than he pays to have his car insured for a similar period. If improved and safer highways would reduce this heavy annual premium, the motorist would be better served. He would increase his own pleasure in motoring and add greatly to his personal safety and that of his family.

RURAL ELECTRIFICATION

I pointed out to this road school a year ago that a number of foreign countries were far in advance of America in rural electrification. There should be no room for discouragement over the fact that in Sweden sixty-five per cent and in Czechoslovakia over seventy per cent of the farm homes are electrified as compared to but sixteen per cent in Indiana. In New Hampshire the state Farm Bureau found by a survey in 1924 that only 11.4 per cent of the farm homes of that state were electrified. In co-operation with privately-owned utilities, a campaign sponsored by the Farm Bureau was started in 1926 which was known as the five-year plan. The undertaking met

with success. New Hampshire today leads the nation with over sixty-three per cent of her farm homes electrified.

What New Hampshire has done, Indiana can do. A year ago, when I said that extensive rural electrification would take place in our state in the near future, many deemed such a development rather remote. Yet this important change is upon us now after a passage of but one year.

At the present time, contracts for the construction of the first lines are already under way in Boone County, and membership drives are being conducted in Whitley, Wabash, Huntington, Clay, Fayette, Union, Shelby, Rush, Decatur, Franklin, Henry, Hancock, and Johnson counties.

Forty-three counties have dates set for the starting of membership drives. Sixty-three counties have already filed articles of incorporation and have elected officers of their organizations, while seventy-two counties have received Rural Electrification Project numbers. Not a bad start for one year.

When such a program is completed, what changes will come about? Let us quote from a New Hampshire farmer's wife:

"To me, electricity spells opportunity to spend more time with my children, to be out of doors, to read, to attend church with my family, and to participate in community affairs.

"Electricity now lights house and barn, milks the cows, washes and irons our clothes. An electric soldering iron saves many trips to the hardware store. Our electric radio brings us the voice of our President, concerts, lectures, and many other programs of interest.

"With the aid of electric appliances we accomplish more, we live better and in all probability we shall live longer."

This statement by this New Hampshire farm woman indicates that when rural electrification is extensively carried out in Indiana, many changes will come.

We used to say that the automobile found the poor man chained to his own door-yard with no horizon but the borders of his own little hamlet, but now has made him monarch of distance and time. Now the automobile, with electricity added, will do the same thing for the farmer.

DECENTRALIZATION OF INDUSTRY

Many of our political economists and other students of the question believe that industry will tend to decentralize during the next two decades. We can already see the development of the small factory in the small community. Many of the employees of these plants are drawn from surrounding farms and villages. The shorter hour week promises to find more and more of our factory workers residing on small farms

within easy motoring distance of their work. Rural electrification will have an important influence on such a development because these factory workers who may reside on small farms would not be content to do without the conveniences which electricity may bring.

This change will develop a community of interest between the town and the country. The factory worker as well as the farmer will demand the widespread improvement of secondary roads. These highways, of vital importance to both, will tend to develop a mutual interest and better understanding between them.

Indiana's geographic position makes this state the natural focal point for industrial development. We have a happy balance between agriculture and industry. The cost of living is not above the average of the other states. Indiana, the crossroads of the nation, is the heart of a marketing area of at least 36,000,000 people.

Furthermore, we have at hand unexcelled transportation facilities. Many railroads cross the state, feeding into the Chicago district. Indiana highways, with 54,000 miles improved out of 77,000 miles in the state, constitute the finest system in the nation.

Iron ore from Minnesota can be shipped down Lake Michigan, and coal is available from West Virginia, Kentucky, and southwestern Indiana's extensive fields. Flanked by the fertile lands of central and northern Indiana, the source of food supply is solved. Indeed, every detail of the picture leads one to the conclusion that the Calumet is destined to be the greatest industrial center in the world.

The compact, urban population that accompanies this industrial growth will be a challenge to us to provide fine highways. The responsibility of accepting the challenge falls not alone on the State Highway Department and Boards of County Commissioners, but involves collateral agencies such as park boards and recreational heads.

Park development in southern Indiana has the admiration of our state and nation. A similar park development must be carried out in northern Indiana. With a shorter work week, we must provide proper recreational facilities within easy reach of those who dwell in the industrial areas.

The fact that Indiana does occupy such an important geographic position makes it our responsibility to provide adequate highways. Such a program, fulfilling as it does the development of Indiana's future, can also stand up as the best type of public work policy for our state.

ROAD IMPROVEMENT AS A RELIEF MEASURE

Two years ago Germany launched a stupendous plan of construction of 5,000 miles of divided-lane highways connect-

ing her principal cities and extending to practically every frontier. One hundred thousand laborers are toiling at the actual construction, while 150,000 more are at work producing the raw materials. Six or seven years will be required for the completion of the system.

When this task is finished, it not only will have afforded employment for many but will have produced a highway system which will be of service to the motorists of Germany for centuries.

Only a few days ago the papers announced that Great Britain is going to expend \$500,000,000 on highway construction. This sum is to be expended in building five thousand miles of new trunk-line highways which will extend the length and width of England and Scotland. Since this average cost is \$100,000 per mile, it would indicate that divided lanes are planned, although the newspaper accounts did not say so.

We have the examples of Germany and Great Britain before us. As part of the Works Relief Projects, the United States Government allocated large sums to the several state highway departments.

Germany, Britain, and America have proceeded along these lines for sound economic reasons. In the first place, a large part of the money expended goes for labor. Congressman Whittington places the figure at eighty-five per cent to those directly and indirectly employed. If the government is to spend funds for work relief, can it find a more efficient means than through highway projects?

In the second place, by the Bureau of Public Roads we are informed "that each \$100,000,000 of expenditure for highway construction has resulted in transaction of other business totalling \$315,000,000; and that the spending of \$100,000,000 in one year results in an average employment of 102,690 persons at an average cost of \$970 per person."

In the third place, highway improvement is of permanent benefit. Ninety-six per cent of the people of voting age in America are said to be on wheels; so what type of project could be carried out which would contribute more to the pleasure and benefit of our people?

Lastly, these projects are self-liquidating. It has been shown that the difference in the cost of operation of a motor car over improved and unimproved roads would pay for the costs of improvement in a short time. When gasoline, repairs, and maintenance are considered, the cost of operation over a hard-surfaced road is substantially one fourth the cost of operation over a dirt road.

SUMMARY

In repeating the subject of this paper, "Indiana's Highways in Relation to Her Future Development," the points outlined above may be summarized as follows:

That we continue to widen shoulders, culverts, bridges, and rights-of-way.

That we encourage the construction of divided lanes on more heavily traveled highways.

That we give every aid to rural electrification.

That in recognition of Indiana's important geographic position and the industrial development which is bound to come, we encourage a program of conservation and park development.

That the whole plan in the larger sense can be supported not only as a highway program but as the best type of public work.

Should we carry out these recommendations we will have measured up to our responsibility.

To what more responsible group could an appeal be made than to those assembled here? County highway engineers, county commissioners, city engineers, city officials, the Purdue civil engineering staff, the members of the State Highway Department should constitute the group if we have one in Indiana.

It must be recognized that large sums of money and years of time are required for the fulfilment of this program. There are those who clamor for the reduction of the gas tax and for the reduction of the license fee. It is my considered opinion that we should by no means curtail the funds available for highway work. I do not lose sight of the fact that highway expense represents a large annual bill to the public, but I am convinced that our highway industry is not only justifiable but one of the most important factors in the forward progress of our commonwealth.

WHO SHOULD PAY FOR THE HIGHWAYS?

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The policy controlling payment for the construction and maintenance of public works in the United States by the federal government and the various states has been one whereby the charge was made against the body politic as a whole or in accordance with benefits to the individual. When it was charged to the public at large, it was done on the theory of general social good, while when charges were made