

fences. We had one hold-out from whom we found it entirely impossible for us to get a right-of-way grant. But with 17 property owners signed in favor of the road, public sentiment was so strong that the commissioners felt justified in bringing condemnation proceedings. Court action is still pending. But using the figure as allowed by the viewers appointed by the court, the total cost to the county of resetting fences, and moving one house and another building was \$2,987.03, or \$702.83 a mile for an 18-foot, black-top road with 6-foot berms on an 80-foot right-of-way. We consider this a worth while project.

It would appear that there has been a lack of effort on the part of the local citizens and officials to secure available benefits from this farm-to-market program. Its future status will be determined by the sincerity of the effort and the co-operation put forth by those who administer the road program in the county unit of government.

COUNTY PLANNING

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Last November, Professor Petty suggested that I make another effort to enlist the active interest of you who attend the Road School in the planning problems of your own communities.

I accepted the assignment for three reasons: First, because I know that no citizen or group of citizens would enjoy greater benefits from a carefully prepared development plan for a county or city than the engineers, commissioners, and other officials. The proper performance of their duties depends upon solutions of problems of a physical nature. Successful planning is also founded upon factual data concerning our physical surroundings. It is true that social and economic conditions must also be analyzed and co-ordinated with those of the physical; but, as an engineer, I cannot subscribe to planning theories that place our social and economic problems on a higher planning plane than physical ones. In fact, it is quite possible that certain economic and social weaknesses of our present-day civilization might be strengthened or even entirely eliminated if the planning process were applied to all public work. The authors of our enabling legislation were apparently of the same mind. For example, one of the duties of a county planning commission involves a study of the county highway system, to result in plans and recommendations. Parks, bridges, drainage and sanitary systems, flood prevention works, aviation fields, and housing are other problems of a physical nature in which the planning commissioners are interested.

I have another very selfish reason for appearing before you. The State Planning Board is primarily a fact-finding and co-ordinating agency. As such its task would be greatly simplified if all counties and cities had plan commissions and if these all functioned properly. Fitting the jig-saw puzzle of county plans together would then be the State Board's job. The completed picture would be the Indiana State Plan. At the present time, however, activities of the State Board are seriously curtailed. The 1939 legislature failed to provide adequate funds. Because of that failure, the advisory service on planning problems which the State Board should give to local commissions is not available, nor can much be done in promoting the establishment of additional local planning agencies in the state.

My third reason is to call your attention to a very significant movement in the agricultural field that is now gathering considerable momentum. I refer to the formation of Soil Conservation Districts. The theory underlying this movement is true planning theory. First of all, it has to do with the conservation of our most valuable resource, the land. Second, the planning process is beginning with those who own and use that resource and who are awakening to the fact that future generations will have reason to criticize their stewardship if the present wasteful methods of land use are allowed to continue. At a recent meeting in Knox County it was reported that the available crop lands of that county were decreasing at the rate of about 800 acres each year. Divide that 800 into 160-acre farms, transpose the acre unit into bushels of wheat or corn, and the resulting picture of the future of Indiana is not particularly pleasing. Our agricultural friends tell us that already $1\frac{1}{2}$ millions of acres of productive Hoosier soil is lost and that nine million other acres are in danger. Here is a problem in which you as engineers and administrators should be interested. It is undeniably a planning problem. In *County Planning Problems and Their Relative Importance* published in 1937 by the State Planning Board, control of soil erosion was found to be the most important planning problem in 11 counties and was second in importance in 33 counties. In other words, almost half of Indiana is now faced with the necessity of establishing land-use practices that will reduce loss of soil fertility and save what is left of that priceless heritage. Whether we like it or not, the principles of zoning will eventually control the uses of land in all of our counties and we, as engineers, should recognize that fact.

LOCAL RESPONSIBILITY

Since my last talk to this group on this subject, there have been no important advances made in county planning in Indiana. Replies to letters of inquiry have been few, indicat-

ing either that the movement is dormant or that those selected to serve as commissioners recognize the importance and size of their problem and are afraid to tackle it. Yet it must be done. I am firmly convinced that the planning process begins at home. Whenever a group of civic-minded citizens, with capable leadership, discusses and analyzes its own problems and formulates its own programs of action, such programs are apt to be more reasonable and possible of achievement than those formulated by an outside agency. Advisory and consulting services are necessary, but such services should emphasize the technique rather than the execution of the plan. Execution is a local responsibility. Capable leadership of such citizen-groups is important, and you who represent professions trained to think clearly and in straight lines are the logical leaders of these local planning commissions. You should assume that leadership. Your knowledge of physical conditions in the county, of what should be done to improve those conditions, and of how much should reasonably be spent from year to year on that improvement, qualify you for the role. The engineer has been criticized, and justly so, because of his failure to play his proper part in public affairs. Here is an opportunity to refute that criticism.

Your reaction to these suggestions will, in all probability, take the form of a question such as: "What should we do and how should we do it?"

May I suggest that you read the county planning act? You will learn there that you are an ex-officio member of the planning commission. You will also learn that, among other things, the commission is expected to "make and adopt a master plan for the physical and economic development of the county" and, in time, certify it as such to the board of county commissions; that you are "to prepare, amend and keep up to date a long-term development program of all major county improvement projects," and that you are to "advise and co-operate with municipal, county, regional and other local planning commissions within the state."

Interpretation of the law is not easy. No one has as yet defined the term "master plan" satisfactorily. As I understand it, the commissioners are expected to assemble data concerning every important community problem, analyze these data, and then exercise a great deal of common-sense foresight in the determination of a desirable and attainable future. Interrelationships must be recognized so that the solution of any one problem dovetails into that of all other problems. The final result of the process, "the master plan," would, therefore, be a composite of all problems—a co-ordinated, comprehensive plan for the future development of the county.

Personally, I am not greatly in favor of certification of the plan to the county commissioners—at least not until it

has been tried out for several years. The plan, when finally adopted by the plan commissioners, should be the result not only of their own careful thought and deliberations but also of that of all county officers and community-minded citizens. Citizen co-operation is definitely essential to sound planning. The plan should be so flexible that social or economic changes which may occur in the future will not seriously handicap its attainment. Certification may tend toward fossilization.

After the master plan has been adopted, the discharge of other duties assigned to the commission by the planning act is not so difficult. With the plan as a guide, a long-term improvement program attended by a plan for financing the improvements can be worked out and amended from time to time. Thus, public services such as highway construction and maintenance, development of recreational areas, construction of drainage and flood prevention works, etc., will be performed at the right time, in the right place, and at a reasonable cost.

Those who oppose the theory that planning is a proper function of government maintain that dictatorial power is necessary for planning achievement. I cannot agree to that. I may be wrong; but I am firmly convinced that thinking citizens are planning-minded. They recognize the need for safeguarding the future of our communities, economically, socially, and physically, by planning for that future now.

AIMS AND ACTIVITIES OF THE JOINT HIGHWAY RESEARCH PROJECT

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For the benefit of those not closely associated with the Research Project, it seems in order to raise certain questions concerning the wisdom of the S.H.C.I. in establishing it. First, is the amount too large? Second, should the Project have been located at Purdue? Third, what benefits are expected from the Project and who are the chief beneficiaries?

The amount authorized for the Joint Highway Research Project by statute is a maximum of \$50,000 per year. The annual report of the State Highway Commission of Indiana for the fiscal year ending June 30, 1939, shows a total expenditure from its beginning in 1919 of \$324,548,839.32. If 1% of this had been spent for research, it would have amounted to \$3,245,488. Even 0.1% would have amounted to \$325,000 approximately. The actual expenditure for the Joint Highway Research Project has, in fact, been less than 0.05% of the total disbursements of the S.H.C.I. to July 1, 1939.

Now let us compare this with research in private industry. In this connection, I have recently been much interested in