

Modernizing Highway Administration and Organization

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In the early twenties we highway engineers were brought face to face with one of the most challenging situations since the turn of the century. When the forerunners of our present 53 millions of automotive vehicles began appearing in ever increasing numbers, it became apparent that prompt and drastic action was an absolute necessity. The problem at that time was to provide all weather paving surfaces which would permit efficient utilization of this rapidly growing means of highway transportation. Civic minded citizens of Ohio and her sister states rose to the support of highway engineers around the rallying cry of "Get out of the mud." The effectiveness of these combined efforts has become history and, as we are all well aware, the results are now recorded in indelible figures in history's ledger as a remarkably successful achievement.

Thirty years later we find that we are faced with a similar challenge which again calls for the utmost ingenuity of highway engineers and once again there is likewise an urgent need for the concerted efforts of civic minded individuals and groups working harmoniously with us toward a common objective of providing highway transportation facilities that will be adequate for present day traffic needs.

Today we are finding our main highways clogged with more cars travelling more miles than ever before, and with more and heavier trucks carrying bigger loads and travelling greater distances than ever before. While the efficiency of this important automotive vehicular traffic is somewhat hampered through the lack of parking facilities, it is principally hampered because of the inadequacy of our roads and streets to efficiently accommodate their great numbers under safe operating conditions.

With some 53 million vehicles on the nation's roads today and the likelihood of automotive production continuing at a high level in the not too distant future, it becomes apparent that today's eco-

nomically unhealthy highway congestion will not only continue, but will probably increase in severity.

As engineers, we know that it is possible to build roads capable of carrying practically unlimited weights of cargo and numbers of vehicles. We know that expressways can speed up the movement of traffic in heavily congested areas. We know that an answer to the parking problem is available.

But—we should also be well aware of the fact that, for us as engineers to merely have the answers in a planning stage on our drawing boards, is not in itself a conclusive solution to the complex highway problem. The conversion of these comparatively nebulous blueprints into tangible highway improvements requires action that has in the past been considered to be beyond the scope of engineers to accomplish.

Let's face the challenge.

We are the engineers who in the past have built a network of highways which has made possible this spectacular and tremendous growth of modern day automotive transportation. Our state, as well as our national economy and welfare, has moved upwards in direct proportion to the development of these all important highway communication facilities.

We are the same engineers who have allowed ourselves to get behind the eight-ball on road issues simply because adequate financing has not been provided which would permit us to keep pace with the achievements of the automotive engineers who are producing cars and trucks at a rate faster than we have been providing even equivalent parking space.

It is my opinion that while there are many difficult problems incidental to providing a highway transportation system that is adequate to meet the tremendous present day traffic demands, the provision of such facilities is not impossible of attainment in the immediate foreseeable future.

We highway engineers, as a group, have a great responsibility at the present stage of developments because of our technical knowledge of the details of these fundamental highway problems. You gentlemen, as highway engineers, have an obvious civic duty to be performed in your respective communities in this matter, by the furnishing of technically accurate information which will permit the final adjudication of the inherent controversial issues on a logical basis rather than by purely emotional appeal.

With the sharply increased use of our highways now being an actuality, and with there being a very strong probability that these

heavy traffic demands will increase in the future, it becomes obvious that careful consideration should be given to the development of highway organizations and the adoption of administrative procedures that will be adequate to meet modern day requirements.

While I would under no circumstances have the effrontery to attempt to suggest to Indiana what it should or should not do with its highway problems, it is thought that it might be helpful to your consideration of this subject if I should briefly discuss the relevant features of our situation in Ohio.

In my opinion, our overall situation in Ohio breaks down into two general phases insofar as highway organizational matters are concerned. The first phase has to do with those operational procedures that can be adopted immediately by administrative action within the framework of existing statutes. The second phase has to do with procedures that can be adopted only after future legislative action has been taken to revise the existing statutes, or enact new laws, as the case may be.

It was found practicable to utilize the first phase having to do with the adoption of procedures by administrative action in several significant instances. We found that we were faced with a shortage of engineering personnel and more particularly in the younger age groups. We further found that a bottleneck had developed in the preparation of detailed plans for construction projects together with the associated development of current and long range construction programs.

RECRUITMENT OF ENGINEERING PERSONNEL

Our approach to the engineer shortage problem was to adopt an engineer-in-training program which was designed to attract new engineering graduates to fill the existing vacancies and in part to give these new recruits a well rounded background of experience in the department's activities. The program is further intended to function on a continuing basis, after the engineering staff is built up to full strength, for the purpose of supplying annually approximately 80 new graduate replacements which are needed to fill vacancies created by our normal turnover of engineering personnel.

The highway training program was inaugurated on March 1, 1949, with a supervisor being appointed to interview, select and appoint qualified engineer graduates, as well as to develop and supervise comprehensive on-the-job training programs in the various phases of highway engineering.

It was realized that the question of adequate starting salaries, while highly essential, was not in itself necessarily the only factor that would strongly influence potential personnel in deciding to become affiliated with the department. Full recognition was given to the fact that these potential employees might be greatly concerned over the possibility that their political affiliations, rather than their technical and professional qualifications, might be the determining factor in obtaining an initial appointment as well as subsequent promotions.

This problem was met head on by means of publicly declaring that it is the department's policy that the purpose of the training program is to attract engineering graduates without any reference whatsoever to their partisan political affiliations. That this policy has been effectively carried out is evidenced by the fact that I am authoritatively advised that both engineering graduates in the program, as well as the professors at the engineering schools where employees have been recruited, are in unanimous agreement that no question of partisan political party affiliation has ever been raised in connection with the appointments of any of these trainees. It is thought that the non-political character of the recruitment, together with the reputation that the program is entirely free from partisan political manipulation, has been highly instrumental in assuring its success.

The starting salary was originally fixed at 276 dollars per month, then shortly thereafter raised to 300 dollars per month, and it is now fixed at 315 dollars per month. Successful applicants are appointed under our classified civil service as Engineer Aides IV, and receive 15 dollars a month increase for each year of satisfactory performance of duty for a period of four years. These salaries, in conjunction with all department salaries, are further subject to a five per cent variation in conformance with each 12 point change in the Bureau of Labor Statistics cost of living index, with such adjustments being made every two years. After the trainee has completed his course of training and has become registered as a professional engineer, he then is eligible for an appointment in the appropriate grade of civil engineer and becomes a full fledged engineer—member of the department.

The recruitment of personnel is not limited to the geographical confines of our own state. The supervisor is free to contact any of the various colleges and universities, and in fact he searches far and wide for engineering talent. In the first year of operation he visited 16 engineering schools where he talked to more than 1,000 students. Three hundred of these students filed applications which

resulted in the enrollment of 98 graduate engineers in the training program. It is of further interest to note that the training program to date has recruited 345 engineers-in-training from 46 different engineering schools, and that of this number only 101 have severed connections with the department for a percentage turnover of 29.3 per cent. When it is realized that the impact of the presently accelerated defense production effort has caused an abnormal turnover of 37.78 per cent of the 8,000 personnel of the department as a whole, the comparatively lower figure of 29.3 per cent turnover of the personnel in our training program indicates in part that the program is successful.

I have explained the workings of our training program in considerable detail because of the widespread interest that has been shown in the subject.

RELIEVING THE BOTTLENECK IN PLAN PREPARATION

A number of years ago, the preparation of construction plans, the procurement of rights-of-way, the awarding of contracts and the supervision of contract construction operations, was all centered in our Bureau of Construction, as prescribed by our statutes. Subsequent legislative action created a Bureau of Location and Design and assigned to it responsibility for the accomplishment of those duties of the Bureau of Construction other than the accomplishment of the actual supervision of construction operations.

As a result of the further normal growth and expansion of the Department's activities, the Bureau of Location and Design became overloaded with duties additional to those normally executed in the accomplishing of the preparation of construction plans.

To alleviate this situation, the Bureau of Planning and Programming was established on March 16, 1949, by administrative action, for the purpose of accomplishing the orderly planning, programming and financing of improvements to our state and federal systems of highways, together with the programming and financing of advanced engineering studies.

The bureau was suitably staffed with the necessary personnel, including the planning survey; and carries on those functional activities incidental to its assigned mission of the planning, programming and financing of all improvements to those highways coming under the jurisdiction of the department. These duties include the negotiation and entering into of agreements with other political subdivisions,

as well as the Bureau of Public Roads, on all matters in connection with the programming and financing of construction projects.

As an indication of the kind of function performed by this bureau, extensive studies have been processed under its jurisdiction relative to the adoption of a system of sufficiency ratings that will satisfactorily fulfill the intended purpose of such a system as it can be applied to Ohio's highways.

That the administrative action taken in the establishing of this Bureau of Planning and Programming has been successful is attested by the fact that where we were faced with an acute shortage of construction plans in 1949, we are now anticipating a sizeable backlog of completed construction plans on the shelf by the end of this calendar year. The advantages of the flexibility of operations incidental to the adoption of construction programs in such circumstances is obvious.

ORGANIZATIONAL CHANGES

While these matters have to do with actions that can be taken by administrative action—what about those organizational changes which require legislative action?

Our approach in Ohio to this phase of the problem has been to obtain basic and factual information by means of an all inclusive state wide engineering study of needs, together with an associated fiscal study. These studies were completed under the auspices of a committee of an interim legislative nature, and resulted in the adoption of far reaching recommendations which will require legislative action to put into effect. These recommendations are now being given further consideration by a new committee and it is presently contemplated that final recommendations will be made to the next regular session of our legislature, meeting early next year.

While the extensive analysis of our highway problems in Ohio resulted in many broad recommendations, a brief rundown of the major recommended organizational changes requiring legislative action is as follows:

1. The question of a state highway commission versus a single executive departmental head was debated at great length and resulted in the recommendation that the department be operated under the jurisdiction of a director of highways to be appointed by and serve at the pleasure of the governor.

2. An assistant director to be appointed by the director.

3. Establish the new positions of four deputy directors, to be appointed by the director, with respective functional assignments of

planning and programming, design and construction, operations and administration.

4. All other departmental personnel to be placed under civil service. This provision would principally involve a change from the present statutory requirements whereby the chief engineers of our five major bureaus and our 12 field division engineers are now appointed by the director and presently do not come under Civil Service regulations.

5. Abolish the law authorizing the appointment of a resident deputy director in each of our 88 counties.

6. The director of highways should be legally authorized to enter into contracts with engineering firms for the procurement of engineering services.

7. Establish a division of state-local relations.

8. Reorganize our field divisions and consolidate the maintenance districts without regards to boundaries of political subdivisions.

9. Establish a uniform system of accounting and reporting of expenditures for roads and streets by all governmental agencies having jurisdiction.

10. The cities to consolidate street management functions into a single agency with a responsible head.

11. The villages and small cities be authorized to enter into contracts with the counties for street maintenance work, where such need is indicated.

12. Consolidate local rural road construction and maintenance under the counties, with the townships retaining fiscal control over those roads coming under township jurisdiction.

13. Consideration was given to a proposal that county engineers be appointed by the respective boards of county commissioners in lieu of being elected by popular vote as at present, but the proposal was not adopted.

This description of the two phases of an approach to the problem of modernizing highway administration and organization in Ohio, delineates not my thinking on the subject alone, but a composite of the informed opinion of responsible representatives of the citizens of our state as a whole. The actions recently taken by administrative action, are of course my own, while the recommendations for future action represent a composite of informed Ohio opinion.

TOLL ROADS

Now a few words on a subject that has attained national interest in the past few years, and I use the expression "national interest"

advisedly, because, as of the first of this month, some form of definite action toward the creation and operation of toll roads had been taken in 22 states. There were at that time:

Nine states in which toll roads were in operation or under construction.

Seven states in which the creation of turnpike authorities or other administrative bodies had been authorized.

Three states in which special toll highways had been authorized, and

Three states in which special committees had been appointed to investigate the feasibility of toll roads.

What has caused this rapidly spreading interest in this particular means of providing adequate highway facilities? I can well imagine that the majority of Ohio's sister states are faced with the same perplexing problems that we in Ohio are faced with. On the one hand, we face the shocking increase in modern traffic demands to which our highway network is being subjected, and on the other hand, we are faced with woefully insufficient funds with which to finance the rapidly increasing and tremendous backlog of urgently needed improvements to our obsolescent highways.

When it is realized that it has been demonstrated time after time that the motorists using these new toll facilities are *not only willing* to pay toll rates that are, comparatively speaking, substantially higher than the present pattern of highway user taxation rates—*but*, that they have additionally demonstrated an overwhelming eagerness to use such modern highway facilities. In view of the fact that selfish opposition has succeeded in effectively blocking the provision of adequate highway financing for toll free highways it is readily understandable why states such as Ohio have turned to this method of financing a portion of their backlog of urgently needed highway improvements.

The construction of a toll highway across northern Ohio by the Ohio Turnpike Commission is rapidly nearing reality. This project, which will be a continuation of the westward extension of the Pennsylvania Turnpike, will be financed from revenue bonds and will be constructed and operated by the Ohio Turnpike Commission, which is an agency separate from our Department of Highways.

Close coordination of the Turnpike Commission's and our department's respective efforts is assured in that Ohio's director of highways is an ex-officio member of the commission, as well as there being provisions in the basic turnpike law which requires approval by the director of such features as turnpike design standards and his

assisting in the resolving of potential conflicts with highway facilities of the various political subdivisions.

The initial engineering and economic studies, which were accomplished by our Department of Highways, have determined that the project is economically feasible, and it is anticipated that the commission will be placing an offering of bonds on the market in the very near future.

The successful sale of bonds, with the consequent construction of this important highway facility, will relieve our highway department of a heavy financial burden relative to the high volume traffic routes in the vicinity of the turnpike.

In conclusion and summary—once again we highway engineers as a group, are faced with a challenge that calls for our utmost ingenuity in helping to untangle the strangling traffic snarls that threaten to choke our economic well being.

The modernization of highway administration and organization can be expedited by administrative action, however, because of the complexity of the usual statutory control over a state's highway activities, legislative action is required.

The principles inherent to the utilization of toll highway facilities readily lend themselves to adaptation toward a partial solution of our present highway financing problems.