

**“MY IDEA OF AN IDEAL DISTRICT ORGANIZATION AS IT
RELATES TO MAINTENANCE, EQUIPMENT, TRAFFIC,
AND SAFETY.”**

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The subject assigned to me, “My Idea of an Ideal District Organization as it relates to Maintenance, Equipment, Traffic, and Safety,” is certainly a broad one and no doubt, there are many opinions among you present this afternoon as to just what would constitute an ideal district organization. For the purpose of discussing this subject, I feel that we might as well resign ourselves to being practical in our thoughts and certainly not attempt to visualize a Utopia and state that it is my ideal, when we know it is beyond accomplishment.

The question of my idea of an ideal district organization as it relates to maintenance, equipment, traffic and safety, is a question that could be answered in several different ways. A district organization, as it affects maintenance, equipment, traffic, and safety, to a greater or less degree, affects every other phase of highway work within that district. Primarily, we must consider at the very beginning that if we expect to have a successful highway system, the manner in which a road is located and designed has a material bearing on its successful construction and, certainly, the manner in which a highway is constructed, materially affects the problem of maintenance of a road and its satisfactory usage by the traveling public. Due to the discontinuance of service by the railroads to many communities throughout our State, and the rapid increase of mileage to our highway system, the maintenance and operation of the highway system as now spread throughout the State, vitally and materially affects the daily lives of every citizen, and in the Department's efforts to serve these communities and citizens, it has become a problem of keeping sufficiently trained man power, together with sufficient and proper equipment and materials readily available to keep any portion of road, however remotely located or difficult to maintain, in service and satisfactory condition for usage at all times.

In accomplishing this service, we must realize that it is necessary to decentralize the management and over-all supervision of our work as much as possible. Of course, we cannot carry this decentralization too far, as we must operate on a uniform policy outlined by a central

authority through proper channels with each department concerned administering their division, which will assure uniformity in policy and methods of operations throughout the State. However, we must realize that administration, supervision, and operations should be in as close contact and congenially connected with each other as possible.

In our present highway system of Kentucky, we have approximately 15,000 miles of state maintained roads, and there are over 3,200 state maintained bridges of various types on these same roads. There are approximately 45,000 miles of rural county roads throughout the State, making a total of approximately 60,000 miles of roads of considerable variations in character and importance. There has been about 2,600 miles of roads added to the State maintenance system during the past two or three years and considering the great mileage of roads identified as county roads at this time, there is no doubt that in the future it will be necessary for the Department to continue increasing their mileage under maintenance in probably the same proportion as heretofore.

Due to the marked differences of certain sections of Kentucky in relation to other sections, it is evident that our Kentucky road conditions vary as much, or perhaps more, than in any other State in the Union. We extend from the border industrial communities on the north at the Ohio River, to the almost purely agricultural section on our southern border; from the Cumberland mountain area in Eastern Kentucky, westwardly through the Bluegrass, to the river delta section of Western Kentucky. Each and every section of our State is receptive to, and is inviting tourist travel, and are making every effort to attract visitors to their natural attractions. Wherever able to do so, they are developing these natural attractions which, in turn, increase highway use. Of course, the movement of freight by highways which has so tremendously increased in recent years, both in through freight movements and in the handling of local raw materials, has materially increased highway use. Again, traffic suddenly increases on a road when a surface is improved or a gap is constructed. Such circumstances as these which affect road usage make it necessary that district organization, as well as the amount of work assigned to a district, be considered in the light of the particular section of the State that this district serves.

It has been suggested that with the present set-up of nine highway districts, the districts are entirely too large and the amount of work assigned to one district is entirely too great to permit the efficient operation of the district organization. The Public Administration Service, in a report of their study made of the Highway Department in 1947, stated that the present field organization, which was seven dis-

tricts at that time, was not adequate for the efficient performance of the current work load and stated that several additional districts were required. The same service, in their 1951 report, stated that the work load, as it was distributed between the nine districts at the time of the study, was not equally distributed between the districts and recommended a realignment of districts in order to more equally distribute the work load.

At present, throughout the State, we have districts of distinctly different types as to terrain, miles of roads, class of roads, facilities for carrying on operations, field personnel, and district office personnel. There appears to be no doubt but what some of the districts are entirely too large in area for the personnel assigned to properly cover the territory and give it the attention which they realize should be given. It is the policy, with one or two exceptions, to staff each district headquarters with one district engineer, an office engineer, and an assistant district engineer for each major operation administered by that office. These men are attempting to cover their territory and in many instances, they must do it in a hit and miss manner. I believe it to be the consensus of opinion of those present that seldom do they have sufficient time to spend at any one point while out on field trips to properly gain complete facts concerning a situation for purpose of rendering a worthwhile decision.

There are, of course, many different opinions as to what an ideal district organization should be. There are people in our own department who feel that there should be more than the nine present districts and some of them feel there should be as many as twenty. Probably the size of a district should be controlled to some extent by the question of whether or not the district performs all of the work within the Department of Highways in the respective district, or whether some of the work is handled by other personnel, such as the location work as now being handled by zone location offices.

Some states dealing with this problem have established districts similar to those in our own state. Others have established districts supervising the work of resident or sub-district offices. For instance, the system followed in the State of Virginia is the resident system. In that state, which compares favorable with Kentucky as to size and general terrain, the work is some different by reason of the fact that the Virginia Department of Highways is responsible for all the highways in the state. There are no local county road systems or county road organizations, with the exception of possibly two counties, who elected in accordance with their privilege to receive their portion of the funds from the state and take care of their own county system of

roads. The administrative set-up in Virginia is eight districts and some 40 to 50 residencies. Each residency is, in a sense, a sub-district. The resident engineer performs all the work of the Highway Department within the area assigned to him, that is; location, construction, maintenance, traffic control, etc. Of course, this is done under the direction of the district office. The district office performs the work of design and preparation of construction plans in addition to supervising the work performed in the residencies. The districts, of course, work under the direct supervision of the central office. Some other states have established a system with the state divided into a few divisions for the purpose of decentralizing main office organization. These divisions usually cover approximately one-third to one-fourth of the state territory and they, in turn, supervise the work of the several districts within their territory. Such a system has been suggested for our state with probably an Eastern Division, Central Division, and Western Division, and I believe that this idea should be given serious consideration.

It is my opinion, firstly, that the highway districts throughout the state should be re-grouped in such manner that each district would have as near as practical an equal proportion of responsibility of the department's affairs in relation to the number of districts formed. Secondly, it would be advisable in designating the counties within the district, to place those of similar nature within a district. In territory where means of travel is convenient, usually, this same territory reflects less difficulties of maintenance, and in other portions of the state where the territory is rugged, travel is more difficult, this same territory presents greater maintenance problems. These two points should be given major consideration in selecting counties to be placed within a district, as well as the fact that in re-designating the size of districts and the creation of additional districts, there is sufficient personnel of required rating now assigned in the districts and available in the department to properly staff any newly created districts.

At the very start, I believe that the administrative personnel of district offices should be men of sufficient training and experiences in all phases of highway engineering and kindred activities and, certainly, fully informed as to the policies of the department, and be people of such type that they can and will assume responsibility and accept authority as given by the Central Office to such an extent that they will be able to fully administer the responsibilities of their position.

District engineers present will, no doubt, recall that at a recent meeting in Commissioner Curlin's office at Frankfort, all district engineers were told by the Commissioner that it was his desire for each

district engineer to assume as much authority toward operating his district as he was capable of doing. To me, this is indicative that there is sufficient authority at this time invested in the district engineer for him to fully administer the affairs of his respective district in accordance with policies given to him from time to time by the Central Office, and, in doing so, naturally, he is in a position to delegate, as necessary, authority to his various assistant district engineers.

As related to the individual district, the entire affairs of maintenance, construction, equipment, traffic, safety, and so forth, should be administered by the district office and, in many cases, location work on projects other than that of major proportion should be administered in co-operation with the respective location zone offices.

There has been considerable discussion in the past several years concerning the establishment of a resident engineer in which all work in one county, or in the case of smaller counties where activities are less, the assignment would be in charge of work in two or more counties. This resident engineer to be rated as a senior resident engineer, having full charge of construction, maintenance, equipment, traffic, safety, and all other Department activities in his area. I believe that this is certainly worthwhile to look forward to doing, and that we should strive to establish this type of set-up as early as possible.

My own idea of an ideal district organization might be stated as generally following an outline something like this:—

With reference to the work that should be assigned to the district, I believe that with current trends of location surveys being made to meet a design policy standard for minimum sight distance and other features of safety and strength to accommodate certain speeds and load limits for motor vehicular traffic, and with the present limited engineering personnel now available, it is not wise to charge the district office with the full responsibility of highway locations. I think this particular phase of work can be better handled by zone location offices who can devote more attention to the study of location problems. I think certainly there should be close co-ordination between the zone offices and the district offices, particularly in matters where consideration is being given to such matters as compromising location and design standards in the interest of salvaging or continuing the use of existing highway facilities, as often the district office personnel have knowledge of local conditions of such importance that should be given full consideration in making decisions. With location being handled by zone offices, then, the responsibility charged to the district office would be that of construction, maintenance, equipment, traffic control and employee safety. With this work load and with an equitable

distribution of work load between districts, I think the work of a highway district could be handled successfully with a district office organization about similar to that now in use. In connection with district office organization, we know that in the past, several methods have been tried in various districts in regard to the assignment of duties to assistant district engineers. I believe that an assistant district engineer should be assigned to handling construction district wide and that the maintenance of the state system as well as the Rural Highway program be handled jointly in a designated portion of a district by an assistant district engineer. These assistant district engineers should be capable and willing to assume and operate their respective phases of the district's responsibilities, both in the direction of the field activities, as well as the district office engineering and clerical personnel with respect to their division activities, and certainly, there should be no hesitancy on the part of the assistant or lack in his ability to fully administer his division's activities under the over-all policy direction of the district engineer. I believe that materials testing, traffic, safety, and roadside improvement activities should be handled district wide by the necessary engineering personnel attached to the district office at ratings compatible with the duties performed. In some districts, it probably would take an individual for each of these activities, while in other districts, more than one activity of this character could well be assumed and efficiently handled by a single individual. I believe that there should be an equipment superintendent in each highway district. This man, under no circumstances should be given the assignment unless he is well qualified mechanically for the position. He should have not only a speaking knowledge and a working knowledge of vehicular and equipment repairs, but full knowledge of the operations of various types of general construction equipment that he could well judge the ability of operators and instruct them in their operations and use of equipment, as well as full ability to organize and operate equipment repair shops which would generally be established at district headquarters for purpose of receiving equipment from out in the district which required major repairs.

A chief clerk or office manager should be in charge of the clerical personnel of a district office and be a person fully informed as to all the various phases of the administrative work handled at that office. The clerical personnel should be individuals well qualified and selected for a principal duty to which they should be assigned; however, all clerical employees in the office should be required to attain working knowledge of the entire clerical work so that no particular phase of the office operations would suffer delay due to the absence of any individual.

With major assignments made in this manner, the district engineer could administer all district activities through the individual assigned to any particular activity concerned. He should handle all problems concerning personnel in the district, be available for meeting with committees, delegations, and individuals relative to engineering problems concerning the district's responsibilities. He should keep himself well informed as to district wade activities by frequent field trips of inspection on both maintenance and construction, and certainly, it would be advisable while making these field trips to call on county officials and discuss personally with them their problems as they relate to the Highway Department's responsibilities in their county. By making such field trips, a district engineer would certainly be in a better position to consult in the planning of new work and the allocation of funds to new construction, resurfacing, and major repairs, as well as keep himself fully informed as to activities in connection with the Rural Highway programs in the respective counties.

These statements are made with the idea that the district is approximately the size and contains approximately the percentage of the over-all state work load that is now assigned to District Seven, to which I am now assigned. The work load in District Seven, according to the distribution of the total percent responsibility as worked out by the Division of Maintenance for budgeting purpose for 1951-1952 fiscal year, is 8.4% of the total work load of the State. This total responsibility was prepared on the basis of maintenance of the state maintained system and probably the percentage of responsibility of construction, and the other functions would be about the same relative percentage. If this idea is right, then the work load throughout the state would be distributed among about twelve districts so laid out as to nearly as possible equally distribute the responsibility for the state as a whole.

The statements I have just made have been dealing principally with personnel which would be assigned to the district office headquarters. Now, for a discussion of the field organization. The district should be divided into residencies; in some instances, one county would comprise a residency, and in other instances, were it small counties, two counties or more would comprise a residency. A senior resident engineer should be assigned in each established residency and his assignment should be considered, generally speaking, of a permanent nature and certainly his transfer from one place to another should not be wholly controlled by the volume of contract construction work underway in that particular residency from time to time.

A residency's headquarters should be established on a site providing ample parking area for equipment and other necessary require-

ments, together with office space for himself and his immediate office personnel, as well as office space for the engineering party, and any other engineering personnel assigned to him for the purpose of carrying on such functions as materials testing, traffic, roadside improvement, safety and such other activities as permits and encroachments as the local office would be called on from time to time to handle in conjunction with the district office. Building space should be provided for county maintenance crews and their equipment. This space providing a small equipment repair shop whereby mechanics assigned at this residency could make so called first and second echelon equipment repairs, which would eliminate the sending of equipment to the repair shop located at district headquarters, except in cases where major repairs were required. This senior resident engineer should be actively in charge of all operations now carried on by the department within the bounds of his residency. Engineering parties of such personnel required from time to time due to volume and nature of contract construction work progressing, should be assigned, together with qualified assistants to direct the engineering party work and handle the daily details in connection with the contract construction work. These parties headed as stated, would be primarily for purpose of handling contract construction work, however, they would perform any other engineering duties needed within that residency, such as making Rural Secondary locations co-ordinated with zone location offices by their respective district offices and performing minor engineering duties on maintenance and reconstruction work.

Generally speaking, I believe that the county maintenance crew should be headed by a maintenance foreman; however, in the case of a residency covering more than one county, it probably would be necessary to use a maintenance superintendent in addition, whereby there would always be frequent supervision and contacts with the maintenance foreman in the counties of the senior resident engineer. In speaking of maintenance foremen, in addition to their other qualifications and aptitudes, they should be competent and qualified to perform the duties of a maintenance foreman; and these same requirements of competence and qualifications for the position should hold in regard to the selection and assignment of a maintenance superintendent, as this man, in a practical sense, will be used not only for co-ordination of work of the maintenance crews in the counties, but have the responsibility of looking after the exchange of equipment from one crew to another for usage as required, and the assisting of the senior resident engineer in gathering field information as to replacement materials required and such other activities related to maintenance of the roads within the residency.

Right at this point, I am mindful of the ever increase in mainte-

nance activities. Years ago, we more or less thought of it as just one of those things we inherited after constructing a road. Now, it is more and more becoming one of the major activities, and is developing into a science within itself. Certainly, in long range planning, I feel that it will be highly desirable that as personnel is developed in the organization, that men of engineering qualifications go through the step of serving as a maintenance superintendent as part of their over all training. To me, this would be a step in the right direction, in developing and training of personnel for over all responsibility.

I believe that a county maintenance crew should have personnel and equipment for the performance of all of the maintenance activities, such as; ditching and shouldering, patching roadway surface, erecting guardrails, removing slides, repairing slips, et cetera, within their respective counties, and that the use of so called special crews or district floater crews, should be limited to the performance of district sign crew activities, major bridge repairs, and such activities as the erection of buildings; however, this building erection by state forces should certainly be held to a minimum, as such work of this character can be more economically accomplished by contract. Actually, I think that when it appears necessary for a special crew to do work over and above the normal operations carried on by the county crew, that then we should think of doing that activity by contract construction; thus, relieving the state of possessing expensive specialized equipment for occasional use. Ditching and shouldering by contract on maintenance projects has been carried out successfully by the department during the last two years, and where such work is of such character to justify, it should be done by contract. However, in District Seven, due to frequent slides and slips, it is necessary that we pull ditches on many projects several times a year and normally there would be no justification of contracting ditching and shouldering in that type of area.

In closing, I want to make this statement; I believe that the administrative personnel of the district office and of the senior resident engineer offices, and everyone in the district, in any degree of supervision whatsoever, should be very conscious of employee relations and in their contacts with the district personnel, they should attempt to promote the thought and impress the employee that they are all on the same ball team and without full co-operation, loyalty, and support from all, be he an engineer, office employee, equipment mechanic, or maintenance crew personnel, satisfactory results cannot be obtained. Today, we must all realize the closer we place administration and supervision to operations, the better results we shall obtain, as operations is actually the man that is doing the work.