

The Role of Planning in Highway Administration

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Highway planning is still one of the least understood functions, has no common definition, no uniform interpretation or understanding of its processes, and practice varies from state to state. This paper primarily attempts to define the planning function and its proper place in administration, and indicates the requisites of an organizational, conceptual, and operational nature for more effective highway planning. Some of the practical benefits of good planning are also set forth.

• HIGHWAY PLANNING is not what it used to be when the idea of organized planning was conceived more than 25 years ago. No longer merely concerned with fact gathering, which was its original purpose, planning is now leaving its imprint firmly on administration. Although it has acquired a status of complete respectability and is now generally recognized as a first responsibility of the highway administrator, planning is still one of the least understood administrative functions. It has no common definition, no uniform interpretation or understanding of its processes, and practice varies from state to state.

The proper role of planning has not yet crystallized, nor has the position of the planning unit in the administrative organization been settled. After a quarter century of trial, experimentation, and practice, it should be possible to more precisely define the planning function and its proper place in highway administration. This paper explores primarily this aspect and the requisite conditions for more effective highway planning.

The author was one of the original group concerned with setting up the so-called "highway planning surveys" in state highway departments, and has been closely associated with planning activities and operations for many years. As Director of Administration he was instrumental in setting up the Planning and Research Division as a principal staff function of the Wisconsin State Highway Commission. The proposals made and the conclusions reached in this paper are therefore based on intimate knowledge and association with highway planning, and first-hand study and observation of planning in action.

EARLY HIGHWAY PLANNING

Modern highway planning began with the institution of the nationwide highway planning surveys about 1935. When Federal legislation authorized the use of 1½ percent of the highway apportionments to the states specifically for research and fact-finding purposes, the Bureau of Public Roads began actively to encourage each state highway department to set

up an organization unit for the purpose of collecting and assembling facts and data upon which sound planning could be based. The Bureau provided counsel and guidance and a staff of specialists to advise and consult with the states and aid them on technical and organization problems.

As might be expected in launching any new enterprise, considerable opposition was encountered because of imagined invasion of prerogatives of top highway officials and general misunderstanding of the planning function. Lack of experience in the use of data and the products of this new kind of research contributed to the cautious acceptance of the planning idea. In view of this attitude, the course followed was to start modestly and get the planning unit established and operating in each department, and as it proved itself, it was hoped that planning would find its rightful place in the administrative organization. In this manner, after much education and persuasion, 46 states had organized highway planning surveys by 1947, and a few years later all states had finally done so.

In the early years the planning units were rather insecure. Many were temporary arrangements financed with emergency relief funds. As a result, their status was in doubt for many years. In many cases, only the steadying influence of the Bureau kept them in operation. An indication of their tenuous existence as late as 1946 is evident in a news release of a state as follows: "The State-wide highway planning survey which has been under way for about 10 years will be continued for at least another year as a consequence of a grant of Federal funds. . . ." (1)

By way of contrast, it can now be stated with assurance that the planning units have successfully passed through their probative period and are here to stay in some form. Their creation and continuation have been

justified on many occasions and in many ways, and they are now indispensable in planning and supporting the highway programs. The question now is no longer a matter of survival, but whether the planning organizations fully realize their responsibilities in modern administration and are prepared for a more important role of service to the administrative and executive heads of the departments. Unless their needs are reasonably well served the planning unit will fall short of its principal purpose and utility.

EARLY AND PRESENT PLANNING CONCEPTS

As conceived, highway planning surveys were primarily concerned with fact gathering rather than true planning. This is understandable, because few dependable data were available for use in sound planning. For the first ten years or so, many studies, investigations, and surveys were made, and great quantities of data and information were collected and compiled on traffic, road inventory, road use, finance, and other related subjects. This continuous activity by the states and the Bureau perhaps constituted the greatest data-gathering effort with the possible exception of the Federal decennial censuses. In later years more emphasis was placed on particular uses of planning survey data and justification of the enterprise thereby. More recently, the broader concept of planning emerged as dependable data became available, and as the function became better understood the need for comprehensive planning became more evident.

In earlier years most highway planning was necessarily improvised, hastily prepared, and often done without adequate study and facts on which sound decisions could be based. This condition provoked much public criticism and probably accounts for

some of the current concern about the highway programs. These early attempts at planning did, however, stimulate an interest in planning and helped establish it as a specialized function of highway administration. The vast outlays for improvements in recent years have also focused attention on the need for more provident and economical expenditures which result only when they are made in pursuance of sound and orderly planning. Much more knowledge and data on which better planning can be based are now available, and there is less reason for failure to develop sound economic, social, and physical programs.

Whatever the reasons, planning at present is in better standing than it ever has been. Moreover, there is more general appreciation of the need for comprehensive planning, and a better understanding among highway officials of what the planning process can do to improve the efficiency of their departments and obtain public support. Thus, the climate has never been better for great progress in highway planning provided the departments, and the planning units in particular, take advantage of this opportunity to advance the planning function to its proper place in administration.

As considered in this paper, planning means preparation for action. It implies a clear comprehension of goals, and a study and "thinking through" before being committed to any course of action. Planning is forward-looking, dynamic, and pointed to the future and things which lie ahead, and is less concerned with support and justification for past and current decisions. In this context, it is not, as many suppose, synonymous with the preparation of detailed plans for particular projects. The latter is merely a subsequent step taken to implement planning of the kind considered here.

Planning is one of the least understood and least effective aspects of highway management, yet it is an indispensable part of administration. It is the key operation from which all other activities flow. It serves to activate the enterprise and gives direction and guidance in accordance with the principles and philosophy of the administrator. Planning, then, is a primary function and first responsibility of the administrator.

Good planning requires the collection and study of relevant facts, and under ideal conditions research should precede the development of an action program. Obviously, the administrator who deals with the complex problems of today can not be expected to gather and assimilate the pertinent facts himself, as may have been possible years ago when such data were meager. Therefore, there must be some place in the organization where the administrator can turn for advice and assistance on planning, and where various plans can be assembled, reviewed, and adjusted before presentation for his consideration. This function and service is so important and so complex that only specialized staff and skills should be relied upon to provide planning guidance and advice. It appears that the future of highway planning and the ultimate fulfillment of its function will depend on the development of this relationship with the administrator.

STATUS IN THE ORGANIZATION

Attempts have been made in the past to rationalize the proper position of the planning unit in the organization. About 1944, papers presented before the Committee on Planning and Traffic Engineering of the American Association of State Highway Officials (2) suggested planning and traffic engineering as a logical combination and this pattern was followed by a number of states. In the

interim, a variety of combinations with design, construction, engineering, etc., have been experimented with: some are still in effect. Generally, such mismatings have been found to be illogical and unsatisfactory.

Although experimentation still continues, the tendency is toward recognition of the planning function's role as a part of administration. For example, an analysis made in 1946 of 45 states disclosed that 26 planning units apparently had major division, bureau, or department status of equal rank to such established divisions as construction and maintenance. In 13 states the unit existed as a subdivision of a major bureau or department, and in five of these states the planning unit had been practically assimilated by another division, or its status was uncertain. Two states had attached planning to an assistant administrative officer, and in four states it was directly responsible to the chief administrative or executive official.

A recent check indicates that planning generally is emerging rapidly from a subordinate and secondary status to a position in the organization from which it can operate more effectively and be of greater service to the departments. Of 48 states, in 35 the planning unit has major division status, and more of them are responsible to the chief administrator. Although 13 planning units still have a lesser status, the changes toward major status are evidence of the recognition and appreciation of the planning function and its proper role in highway management.

ORGANIZATIONAL REQUISITES

Several administrative and organization conditions are necessary for the successful operation of a planning unit. First, there must be a reasonably close relationship with

the chief administrative official. This relationship should be such that the administrator has full confidence in the planning unit, particularly its head. The latter, too, must enjoy close personal contact with the administrator so that the planning head can become intimately familiar with his thinking and ideas. Second, the planning unit must also be closely linked with other staff and operating divisions of a department if its proposals are to be taken seriously and receive the benefit of their judgment and support. Moreover, this liaison helps establish the usefulness of planning in the department, and the association leads to knowledge of the requirements of the operating divisions and thus permits the development of a realistic research program designed to meet their needs. Finally, the planning function must have certain minimal requirements with respect to its authority and responsibilities, and its status in the organization.

Planning is normally only as good as the administration it serves; conversely, administration can be no better than its basic planning. Thus, because planning is a primary responsibility of the administrator, the logical place for the planning unit is close to the administrator so that research, investigation, and relevant facts may underlie his decisions. Although it may be possible, it is unlikely that a planning unit could be of maximum service as a subordinate or coordinate part of another division of the department. Moreover, the disciplines of the planning function are not compatible with those of the operating divisions.

The place in the organization structure occupied by the planning unit is an important factor in determining whether it is to be a real tool of highway management. Much depends also on whether the planning function is properly oriented and posi-

tioned in the organization. Any organization plan should facilitate concentration of the chief administrative official on basic planning, policy making, and evaluation of results. In designing top management structure, the planning function should be properly provided for and practically built into the top management processes.

Planning is a function carried on in all parts of the organization, and the several components contribute in some way to the planning process. As a result, much planning at the present time is a composite or summation of the several plans of the organization units, rather than a systematic and coordinated schedule of objectives. Thus, because the responsibility for planning is scattered and divided, it is imperative that the planning function be reviewed and defined, and definite responsibility for it be assigned in one place in the organization. This will require disengaging the several fragments from the units where they now repose, reassembling them, and transferring the responsibility to the planning unit.

In any organization or reorganization plan it is always best to reduce the management requirements of the plan to writing. This is particularly true for planning for the reasons previously cited, and because it is frequently poorly established and positioned in the organization. For all top positions in the management level, including planning, a guide should be prepared setting forth the function, responsibilities, authority, and relationships so that each member has a permanent source of clear understanding of his position, and instruction and guidance in the objectives and the cooperative relationships for which he is responsible. With a guide available for reference and study, the planning head can gain a broader knowledge and better

understanding of his place and obligations in the organization. Certainly no one will doubt that with the elimination of uncertainty about responsibility and authority, and a clear understanding of the requirements of his job, the planner is best equipped to do his job successfully and utilize his energies and capabilities to their full potential.

An example of a good definition of the role of planning in highway management, and the position and responsibilities of the division, are outlined in the management guide for the Director of Planning and Research of the Wisconsin State Highway Commission. The functions of the division are clearly and concisely set forth as follows:

The Director of Planning and Research, as a staff member of management, is charged with advising the Commission and furnishing functional guidance to the Staff Divisions and Districts on highway planning, programs, highway systems and classification, economic, financial, legislative research, and related matters (3).

The functional statement is followed with an outline of the principal activities and relationships for which the Director of Planning is responsible. Under these specifications planning quickly emerged from its secondary status and assumed its rightful place in the administrative organization. Previously, planning had been dispersed throughout the organization and the function and authority therefor rested primarily upon tradition, past practice, and verbal assignment. The treatment accorded planning in Wisconsin is worthy of study. A copy of the guide is included for reference purposes as an appendix to this paper.

Inasmuch as highway planning divisions all have some different functions, no two are organized alike. The form of the organization and the subdivision of the unit are of less importance than the functions for

which it is responsible; nevertheless, it would seem necessary that the planning division should include the following components:

1. Programing. To insure coordination of programing activities and a systematic translation of long-term planning into actual construction projects requires that the whole operation be centered in one place. Responsibility for all program activities, including interstate, primary, secondary, urban, and roadside development projects, should be within the province of the unit.

2. Cooperative projects. These involve short and long-term improvement programs entered into with local units of government under the Federal-aid secondary and urban provisions, and similar joint enterprises. Because of the differences between the two, a separate section to deal with urban and rural communities is warranted.

3. Planning. This unit would be concerned with the development and coordination of long-range improvement plans based on the needs and wants, and with drafting proposals for plans of action in accordance therewith. It would also review the plans from time to time and modify them as necessary to meet current conditions and needs. In brief, this unit would be concerned with far-sighted planning and clarification of objectives and determining the most advantageous future course.

An allied assignment is legislative liaison. Legislative committees, interim study groups, and individual legislators need to have available a ready and reliable source of information on highways. The planning division should have most of the needed facts available; but in any event, effective liaison will permit adjustment of the research program to accommodate legislative needs. It will also facilitate communication of ideas and

results to such groups and individuals, thus increasing the chances that available relevant facts will be considered in proposed legislative changes.

This unit should be free of administrative and operational responsibilities. Experience has indicated that when a planning unit has current assignments and operational duties, long-range planning is neglected. Inasmuch as the future is the most important concern of the Department, it seems proper to provide for some concentrated time and attention for thinking about this matter.

4. Economic Studies and Research. Assuming that facts and investigation should underlie planning decisions, the research program should be directed toward meeting these needs. Unless the planning division is able to determine and control the research program, it is not likely to get the information on which sound planning can be based. Moreover, the program cannot be static, as it must change with shifts in departmental policy, and revisions can be made more readily if the activity is part of the planning responsibility.

PLANNING CONCEPT CHANGES NEEDED

Thus far, the idea has been propounded that the planning unit must eventually establish a closer relationship in the capacity of an advisory staff to the chief administrative official, and also achieve integration with other major divisions of the department. Before the planning unit can function properly in this role, however, some adjustments in the concept of planning and in the methods of bringing about the practical application of the planning process to administration may be necessary. Highway planning is not what it used to be when the idea of organized planning began. Significant and substantial differences are evident, and those

who have been closely associated with planning over the years should understand and appreciate the differences. Planning is no longer merely physical planning in the old sense when project justification was the principal consideration. It is now planning in the sense that highways are not merely ends in themselves, but that they are being recognized as powerful instruments for social and economic good, and a principal means of developing the states' and the nation's resources in the public interest and for the public welfare. Although the latter has always been a motivating force in highway building, the expanding motor vehicle-based economy is forcing a general re-assessment and modernization of highway development policy in accordance with this concept.

As the highway enterprise gets larger and more complex, key decisions will be more economic and less engineering in nature. Much more consideration will have to be given to costs and the economic consequences of highway improvements. At present, in contemplating improvements, there is little study and knowledge of their effect on the economy of the area involved. Also, the heavy reliance on traffic volume as the principal criterion for improvement policy is questionable. Traffic volume is an indicator of relative use of segments of the highway system, but counts on existing roads shed little light on such problems as, for example, the economic and resource development needs of a state or region. An indicated need, then, is the further application of the planning techniques developed thus far to problems of economic as well as physical development.

To achieve more effective planning, it will be necessary to re-orient the concept of planning and re-examine highway planning theory. Some time ago Bradshaw (4) suggested that a

most promising proposal would be the extension of fundamental research in the planning divisions to provide "a rational approach to the design of a satisfactory policy guiding the development of all highways and streets of the state." This approach would involve a "broadening of the character of fundamental highway planning and in some cases a broadening of point of view—all of which would be to the good." (5) This proposal has considerable merit and is consistent with the growing realization that mere concern with isolated units, projects, and systems will not suffice, because we are now concerned with an integrated and coordinated transportation network whose development is indispensable to the economic and social welfare of the states and nation. Indifference and lack of knowledge on the part of the state, counties, and cities of each other's problems are no longer excusable in view of the mutuality of their interests.

An aspect of highway planning which has been overlooked, neglected, or not adequately developed in the past has been assistance to local planning. Some impetus has been given to the cooperative planning of county road and city street improvement by the requirements for designating systems of principal roads and streets under the several Federal Aid Acts, but examples of systematic and coordinated planning on a comprehensive basis are conspicuously absent. Ideally, the state highway planning body should have complete information on all local planning activity so that improvement plans can be integrated on a state-wide basis. Highway planning by the state cannot be realistic and complete unless it takes into account the planning done by other governmental units. The converse is equally true. There have been many cases in which state highway engineers have had quite different ideas from those of city planners

and engineers as to the routes to be followed within municipal areas, and the effect of a particular highway location on the community. It is not unreasonable to assume that in the majority of these cases, the difficulties could have been avoided, or easily compromised, if state highway departments had had the benefit of at least a general familiarity with local planning and goals.

It would seem, then, to be desirable for highway departments to expand the planning activity to include a section charged with the development of planned local improvement programs and the coordination of such plans with state proposals. Also, technical services in planning and research should be provided to local units which may require such assistance, and highway departments should be authorized to initiate and carry out an appropriate program. To be sure, adequate staffing to serve local units on a variety of technical, administrative, and legal problems presents difficulties, but they are not insurmountable. The ultimate benefits in the form of good will, coordination of efforts, more economical public improvements, and better public acceptance would offset the outlay for these services. Both the state and Federal governments have a primary interest in the proper and wise expenditure of Federal and state funds made available to local units. It must be granted that the local units having the soundest planning will use these funds to the best advantage.

PERSONNEL REQUIREMENTS

A serious deficiency in planning is the lack of adequately trained and motivated personnel to carry forward the present level of activity and maintain the quality of the planning being done. Much more needs to be done in training and developing skilled staff to handle today's complex planning requirements. As one observer

tersely stated: "We have too few planners in general and too few highway planners in particular" (6). A greater degree of specialization is indicated, and bolstering of the economic and sociological aspects of planning is in order if highways are to serve the public needs fully. For example, specialization in and knowledge of community planning would seem necessary if highway and urban planning are ever to be harmonized.

Nearly all other administrative functions have raised their standards of competence and performance while planning has been fumbling its way. Regular conferences designed to bring about a re-orientation and better understanding of the process and its tools would be a step in the right direction. Special training and educational courses for highway planners are overdue, and no time should be lost in providing much-needed knowledge and an updating of thinking in this urgent but neglected area.

Competent personnel in the principal planning posts are the best assurance of a successful planning operation. In the average organization there are likely to be few men to whom the responsibility for planning can be entrusted. Hence, the crying need for training and educational programs. The function is not well understood, and the nature of it seems to require a special kind of personnel with peculiar qualifications. But whatever the qualifications, few selections are likely to be of more importance to the success of the Department than the selections of planning personnel.

OTHER REQUISITES

In addition to its function of guidance to the administrator, the planning unit must aid the other major divisions in carrying out their spe-

cialized functions. Some kind of planning is done in all divisions of a highway department. Therefore, it is highly important that close cooperation exist with the operating divisions so that all will be working toward the same general objective. Through the integration of this planning, the planning staff should be able to effect closer cooperation among the several divisions and thus bring about increased efficiency and economy.

The planning unit has an obligation to make the results of its research available promptly to operating divisions concerned for use as a basis for immediate or long-term action. The fact is that the planning unit has to live with operating personnel and create a demand for its services. Inasmuch as operating divisions are the chief users of research data, research programs must meet their needs as well as those of the administrator. If they fail to do so, the research merely provides data which serve no immediate useful purpose, and which are so often referred to as "interesting." This means that the programs cannot be static, and they must change with shifts in the departments' policies and programs. Future as well as more immediate needs must be anticipated, and differentiation must be made between the more urgent and secondary needs, because there is never enough time and staff to do everything. At the same time, the program must be well-rounded and balanced with no important area uncovered. The research program may vary from state to state, but basically the same problems exist in all states and similar techniques may be applied to their solution. In general, present research programs do not measure up to this prescription, because most of them are a combination of undertakings not specifically directed toward, and often unrelated to, the particular

needs of the executive and operating divisions.

Decided departures from present practices with regard to reporting and presentation of research facts will be necessary if the planning head is to serve the administrator properly. A current picture of the situations at hand must be made available promptly if it is to be of any value. Adherence to more rigid schedules of reporting, compilation, and analysis is in order. The preferred course should be statistics few and early rather than too many and too late. Even a small bit of useful information available when needed is of far more value than a much greater amount of data long after the need has passed. Data compiled long after the facts are of historical interest only, and have limited use only in long-range studies. This suggestion in practice may require sacrificing the last small percentage of accuracy, which is so assiduously striven for and takes so much time. It should be remembered that administrative decisions do not require such precise data. Timeliness in the issuance of data and reports is of much more importance.

Likewise, simple presentations of data for the busy and often nonstatistically minded administrator will increase the chances that the reports will be read and used. If the relationship with the chief executive is close, formalities might well be waived. Whenever possible, abbreviated tabular presentation should be used so that further study and analysis are not required. The problem and the answers should be concisely stated in terms in which the administrator thinks. Feeding information in small doses through the presentation of the main idea instead of all the facts of a report always proves effective. Too many planning heads practically overwhelm the administrators with long and voluminous reports. The

two-page or even briefer report is probably the best one in most instances. In any event, planning heads who prepare reports solely for publication soon cease to play an important role in affairs. The planner must develop more effective means of communicating ideas and results of research to executive users. Explaining and selling conclusions or findings are perhaps more important than arriving at the conclusion themselves.

It should not be inferred from the foregoing that careful research is depreciated. Rather, the need for more exact but perhaps more selective investigations is indicated. The deleterious effects of superficial or careless study have been sufficiently demonstrated in highway administration in the past, and examples are familiar to all. As in everything, there is no substitute for thoroughgoing investigation, and whenever a choice is necessary, curtailment of some activities rather than a sacrifice of quality is preferable. Ways must be found, however, to glean pertinent facts and conclusions as they become evident for possible use and application in administrative decisions. The common practice of delaying the release of data until publication of a final report causes many missed opportunities for influencing policy decisions, and to that extent damages the usefulness and timeliness of the findings. Through the intimate relationship between the planner and the administrator as proposed in this paper it should be possible to bring needed facts to light in time to aid in decision making.

It is evident that highway administration has been made more difficult under the expanded program. More data as well as more exacting information are needed, thus the problem of maintaining suitable records and developing the needed statistics has become more complicated.

Statistical data and reports which were believed to be adequate a few years ago no longer fulfill their purpose. By today's standards, traffic data are deficient, road and street inventories are incomplete, and sufficiency ratings are not properly developed or are out of date. These deficiencies in basic administrative tools are certain to be reflected in administration unless they are corrected soon.

Planning and research heads will have to develop better methods of rapid and accurate surveying, of sampling conditions and attitudes, and of establishing trends. Furthermore, the need for more adequate records and quicker results will require a shift from the conventional old-fashioned techniques to modern automatic data processing. As one observer stated: "The computer opens a whole new floodgate of information potential which was not available before, or was too costly to develop under nonautomated systems of processing." A computer system not only will make the new objectives attainable, but also is indispensable to their accomplishment. Although computers have been primarily engineering tools, the greatest benefit of a computer system will be derived when it becomes an effective administration and management tool. When management people have available to them information, provided through automatic data processing systems, which can aid them in arriving at sounder management decisions, computers will be making their greatest contribution to highway administration.

BENEFITS OF PLANNING

Highway planning is still more of an art than a science, and any discussion of it tends toward abstraction. Enthusiasm for it may easily lag, particularly when there is a lack

of understanding as to its purpose, or when there are excessive or premature expectations as to findings and results. Some administrators still do not realize the scope and availability of existing information, and others are not convinced that factual analysis is needed to support individual judgment. Planning, too, is frequently looked upon as an impractical, theoretical, and time-consuming process that interferes with accomplishment. In reality, planning produces real and practical benefits which have been amply demonstrated.

Everyone who is familiar with public works improvements will agree that a principal cause of waste and lost motion is the lack of sound advance planning. Hasty and inadequate engineering and poor design often produce an inferior product and more expensive public works. Improvised planning also leads to patchwork-type improvements, creates ideal conditions for political manipulation, and encourages expenditures based on expediency rather than priority and need.

On the other hand, proper planning makes for less uncertainty, fewer damaging delays, and less improvising. With it, production can be stepped up, schedules can be set and maintained, and engineering can be improved. Other benefits derived are as follows:

1. With good planning comes positive direction as opposed to drift—a great time waster.

2. It tends to minimize indecision, uncertainty, and unnecessary delays caused thereby.

3. It permits orderly scheduling of work, better use of organization, thus increasing output and quality.

4. It permits orderly letting of work to contract at the right time, in the right size and amount, and in accordance with needs, supervisory

capabilities, contractor capacity, etc.

5. It permits more time for property negotiations and eliminates some of the difficulties of hasty acquisition (such as irritations and excessive prices), and provides more protection and consideration for the property owner.

6. It permits more time for proper conduct of the necessary public hearings.

7. It permits the contractors to know what is ahead so that they too can make plans for their own organizations as well as for equipment and materials.

8. It makes for orderly and advance adjustment of utilities, which so often delay highway projects.

9. It facilitates participation of counties and cities in cooperative projects.

10. It permits keeping the public informed of the department's plans, goals, and accomplishments, and thus gives the people a way to observe and check progress and performance.

The foregoing list of benefits is not exhaustive, but it points to an inescapable conclusion that if highways are to be built in an orderly and progressive manner at a minimum cost, a prerequisite is sound long-range planning. Economy and quality are not the products of haphazard and hastily improvised action.

SUMMARY AND CONCLUSIONS

The foregoing proposal to organize the planning unit as a staff division closely associated with the administrator may have shortcomings, and undoubtedly will meet with some opposition from operating heads who will insist upon long-established prerogatives. Eventually, however, as highway problems become more

complex and greater demands are made upon the time of the executive and administrative officials, the need for a planning unit so positioned and constituted will become more apparent.

Readjustment and reorientation will be necessitated in present arrangements to fill the specification; however, in many cases the transition to the suggested role would be natural and free of difficulties. Ultimately all planning units would fit neatly into this new administrative pattern. Action to bring about the needed organization changes is perhaps beyond the capabilities of the planning heads, but they can exercise considerable influence in that direction. They have the responsibility of reshaping their thinking, revising their methods and techniques, and devising a program to fit the needs of the executive and administrative officials. Not many of the current programs fill these needs, and not all heads of the planning organizations have been able to demonstrate the utility of their services.

Research is beginning to penetrate every phase of highway administration as a foundation for policy determination. Highway administrators can no longer afford the many opportunities to speculate on their decisions, and the public can even less afford the luxury. The tremendous outlays involved in modern improvements, and the resulting demands upon the taxpayers, do not permit such speculation. A properly organized and staffed planning unit is the best assurance that administrators will make wise and farsighted decisions. Without sound research leading to sound planning, shortsighted administration and management is inevitable. The progressive highway department of the future will be distinguished by a planning unit intimately associated with the administrative official, and backed by

an integrated and purposeful program of research.

Recently, proposals have been made for broadening highway planning objectives to include the entire field of transportation, particularly in urban areas. Such suggestions would seem to be somewhat premature and beyond realization and the capabilities of present highway planning. Under the circumstances it would seem better to follow the more realistic goals of the Sagamore Conference (7), which call for more effective cooperation in planning, designing, constructing, and operating streets and highways in urban areas. This means an extension of collaborative planning with local units on a broader local development basis, and the general and more effective coordination of local and state highway plans. Federal and state planning funds should be made available on a cooperative project basis to accomplish this much-needed joint planning and integration of objectives, and a workable program and method should be devised to bring this about on a mutually acceptable basis with cities and counties alike. Such arrangements would be a natural extension of present planning and would provide a good and economical way to get a basic plan and necessary participation of local government in the process and plan.

It is obvious that highway administration has lost contact with the public in recent years to the detriment of the highway enterprise. Failure to keep the citizenry apprised of the plans for improvements is deemed by many to account for the current low esteem of the highway program. Closer cooperation with citizen groups is needed to quell the mounting clamor caused by inadequate preparation. Better long-range planning will be the means by which public knowledge, understanding, and support of the highway program can be re-established and assured.

Thinking ahead about the future, it appears that highway planning is due for extensive development. What it needs most is the interest and support of top management if it is to achieve maximum usefulness. On the other hand, planning will help to define and strengthen the role of the administrator. It will permit him to make better decisions and in more situations than is now possible because the facts upon which his judgment depends will be made available. It is doubtful whether the point will ever be reached when subjective and qualitative factors of decision reaching will be eliminated, and all decisions are based on research; nevertheless, greater dependence on planning and research is necessary to attaining progressively higher standards in highway development. An organization is of little value unless it defines its goals and ultimately devises a plan and program for reaching those goals. That is the least the public expects of its state highway department. Good planning alone will permit the highway administrator to fulfill this important first responsibility.

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APPENDIX

GUIDE FOR THE DIRECTOR OF PLANNING AND RESEARCH,
WISCONSIN STATE HIGHWAY COMMISSIONI. *Function*

The Director of Planning and Research, as a staff member of management, is charged with advising the Commission and furnishing functional guidance to the Staff Divisions and Districts on highway planning, programs, highway systems and classification, economic, financial, legislative research, and related matters.

II. *Responsibility and Authority*

Within the limits of his approved program and Commission policies

and control procedures, the Director is responsible for and has commensurate authority to accomplish the fulfillment of the duties set forth below. He may delegate to members of his Division appropriate portions of his responsibilities together with proportionate authority for their fulfillment, but he may not delegate or relinquish his over-all responsibility for results nor any portion of his accountability.

A. Operations and Activities

1. He will formulate, receive, and recommend for ap-

- proval policies on research and planning and will administer such policies when approved.
2. He will receive, develop, and recommend for approval long-range programs for highway construction and development for the state primary, secondary, and urban systems of highways.
 3. He will develop and recommend for approval annual programs consistent with long-range plans.
 4. He will conduct necessary research to facilitate planning and development of annual programs.
 5. He will review the legal and administrative systems of highways and make recommendations to the Commission as to classification, changes, extensions, and layouts.
 6. He will review county trunk highway systems and make recommendations to the Commission with respect to alterations and extension.
 7. He will formulate and maintain for the guidance of the Commission in program and long-range planning, a sufficiency rating or similar system of rating highway adequacy.
 8. He will maintain liaison with, and undertake research at the request of the Highway Advisory Committee of the Legislative Research Council.
 9. He will plan, correlate, and administer the Federal aid secondary program of highways (off the state system).
 10. He will, as requested and authorized, attend public meetings and conventions as a representative of the Commission, and cooperate with state and national organizations in research and other projects for the advancement of highway planning and programing.
 11. He will, as requested, appear before legislative committees and groups to give advice and testimony on proposed legislation or on departmental matters, and will review proposed legislation and advise the Commission thereon.
 12. He will receive for review and recommendations the proposals of other Staff Divisions and Districts coming within his province.
- B. Organization of Division
1. He will recommend changes in the basic structure and complement of his Division.
- C. Personnel of Division
1. Having ascertained the availability of qualified talent from within the Commission, he will recommend outside personnel or employees for positions within his approved basic organization.
 2. He will recommend pro-

motion, demotion, or release of personnel.

3. He will approve vacations, sick and personal leaves, except his own.
4. He will prepare necessary job and position descriptions.

D. Finances of Division

1. He will prepare the annual budget.
2. He will administer funds allotted under the approved annual budget, any approved extraordinary or capital expenditure program, or any appropriation.
3. He will recommend extraordinary or capital expenditure programs and appropriations.
4. He will administer fiscal procedures.
5. He will receive for review and recommendations the items of annual budgets of other Staff Divisions and Districts coming within his province.

III. *Relationships*

The Director will observe and conduct the following relationships. He may delegate portions of the conduct of such relationships to members of his Division, but may not delegate his over-all responsibility or accountability for their proper conduct.

A. The Commission

1. He is accountable to the Commission for the fulfillment of his function, responsibilities and authority, and relationships, and for their proper interpretation.
2. He will relieve the Commission of administrative detail as indicated above, or as specified by the Commission.

B. Other Staff Divisions and Districts

1. He will advise and assist other Staff Division heads and District Engineers in the fulfillment of their respective functions in matters within his province and will coordinate his activities and cooperate with them in matters of mutual concern, but in so doing he will not assume, nor will he be delegated, any function, responsibility, authority, or relationship belonging to any other member of management.

C. Government Agencies

1. He will conduct such relationships with representatives of the Federal, state, and local governments as are necessary to the accomplishment of his function.

D. Others

1. In the conduct of these relationships, he will establish and maintain those contacts necessary to the fulfillment of his function.

2. The Commission may specify from time to time other relationships to be conducted by him.
- E. The Public
1. He will conduct such re-
- lationships outside the Commission as are necessary to the accomplishment of his function, acting in such cases only as the representative of the Commission.