

HIGHWAY PLANNING IN A RURAL STATE

C. J. Crawford, State Manager
Highway Planning Survey, Bismarck, North Dakota

The Highway Planning Surveys as originally constituted consisted of three principal activities: Road Inventory, Traffic Survey, and Financial Survey.

Road Inventory

To this activity was assigned the responsibility for mapping all roads open to public travel in the State and tabulation of such additional information as would determine the adequacy of the facilities for present and probable future traffic. This information included width and type of surface; locations and dimensions of bridges; and location of all rural dwellings, schools, churches and other improvements or developments that might be the origin or destination of traffic. Drainage areas, corporate limits of cities and villages and boundaries of parks and other reservations are also shown on the maps.

Traffic Survey

The purpose of the traffic survey was to determine the amount of traffic on all roads and to classify the traffic by vehicle types and sizes. Origin and destination studies were made and traffic trends and behaviors that would be significant with respect to future traffic were noted.

Financial Survey

The purpose of the financial survey was to ascertain tax levies, tax collections and expenditures by purposes over a considerable period. Special studies were made of highway costs, highway life and such other related information as would provide for determination of the probable future costs of adequate highway facilities.

The original studies in all States were made in a comparable manner which was necessary if comparisons between States were to be possible. During the war, these

data provided an inexhaustible source of information for many of the pressing problems that arose.

The uses made of Highway Planning Survey data fall into three groups: (1) Use of the original data by the Highway Department; (2) Use of special studies, made either as a specific request or as a part of the regular work by the Highway Department; and (3) Use of all these data by other governmental agencies and private enterprise. The latter has assumed a much greater degree of importance than was anticipated.

Since the war, shortages, chiefly in personnel, have seriously hampered the Highway Planning Surveys in that they have been unable to bring the work up-to-date and to make the analyses that are necessary if the large highway construction program now in effect is to be properly facilitated.

Transportation difficulties that arose during the war brought to the front many serious problems and demonstrated the fact that the Planning Surveys, in the future, must cease emphasizing statistics in general and study particular situations and conditions.

In a rural State like North Dakota the problems that confront the Planning Survey are not ordinarily very involved, but they vary greatly in extent, and factual information is necessary for proper solution. Also in a predominantly rural State, the Planning Survey may acquire additional duties. For instance: North Dakota finances do not allow an adequate amount of physical research to supplement properly the statistical research of the Planning Surveys. Under those conditions, it is apparently necessary for the Planning Surveys to assume responsibility for a limited amount of physical research if the desired results are to be achieved.

In a predominantly rural state, the interest of the individual toward roads is

great and the responsibility of the highway administrator in furnishing adequate highway facilities is very pressing. In order that the maximum transportation facilities be furnished under such a condition, detailed knowledge of conditions is necessary and intuition will not suffice.

The fact that in North Dakota not over 10 miles of rural road will, within the foreseeable future, even approach the point of traffic congestion for a two-lane highway must be faced. Under those conditions any rural road built in North Dakota to the minimum standards acceptable to the motorists will have a volume capacity far in excess of any traffic that will ever use the road.

Similarly, a road must be built to carry a specified weight unless weight barriers are to be raised on all truck traffic. This necessitates the construction of all principal highways to carry these recognized weights even though the motor vehicle registration figures indicate that there are less than 300 vehicles in the State which may be expected to even approach the weight for which the roads are designed.

Full use of the data gathered by the Planning Surveys will make it possible to build roads to standards adequate for the duty to be imposed on them. Constructing roads to either higher or lower standards than necessary simply means reduced benefits to the highway users as a group.

In North Dakota or any other predominantly rural State having a large mileage and small population, the ability of the State to own and perpetuate a highway system poses a problem of the greatest importance because in those States the per capita tax cost is going to be among the highest. Solution of the problem of solvency requires data which have the confidence of all road building agencies.

Problems such as these apply not only to the state highway systems but to the Federal-aid secondary and county highway systems.

Successful cooperation between the State Highway Department and the local political subdivisions is necessary. The Federal-aid highway act of 1944 was very specific in its requirement that there be cooperation between the State and these political subdivisions.

In many instances, the local road prob-

lems of the political subdivisions are even more pressing and acute to those involved than are the over-all problems of the State. The Planning Survey is the only organization in a position to assist, with factual data, in the solving of these problems. As these problems are solved together, all highway administrators obtain a broader perspective of the purpose of highways in general and systems in particular.

In urban areas and for interurban traffic, one of the most reliable means of obtaining highway use data is through origin-destination studies. For farm-to-market type traffic, such studies are generally not feasible. However, careful study of the road inventory maps showing existing highway facilities, cultural, and other related information, coupled with traffic data will usually be more satisfactory in the solution of most rural problems than is the more comprehensive origin-destination study which, in itself, must be limited to a relatively small area.

Experience has shown that local officials will more readily grasp and attempt to solve their problems when these data are made available in a form whereby the over-all problem may be easily seen and understood. The collection and tabulation of a mass of data and its analysis by lengthy mathematical computation and extended discourse serves no purpose for the highway administrator.

The fact must be recognized, however, that local administrators, long experienced in matters concerning their state or locality, have a more keen intuitive knowledge of the economics of the problem involved than they are often given credit for. They are interested only in a maximum benefit at a minimum cost with due regard for the future. Extended treatment of a problem beyond the realm of realism serves only to cause loss of confidence in pertinent data. Residents of rural areas have a very active interest in all highway matters and their attitude is not in the least passive.

In some of the rural States industrial development is very limited. In North Dakota it has been practically non-existent. In recent years, however, a tendency toward the decentralization of industry has developed and many of smaller manufacturing or assembling plants are being located close by the larger cities.

Such a development is very fortunate

in its nature because of the fact that fixed facilities, such as highways, can be planned and located before the industrial section is built. This condition makes for an ideal use of Planning Survey data, for, under such conditions, many of the causes of highway inadequacy can be eliminated before they occur.

Many highway problems must, because of their nature, be handled through legislation. In a predominantly rural State like North Dakota, these problems are not likely to be as numerous nor, in certain instances, as involved as would be the case in an industrialized State.

Certain problems, however, such as motor vehicle imposts, may become much more involved because of the high per capita cost. If this highway cost is to be equitably distributed on the basis of highway use, considerable detailed data must be available; otherwise the imposts will be inadequate or beyond the ability and willingness of certain of the highway users to pay, which will result in diminishing returns.

The Planning Survey is the only organization that has these necessary data and is in a position to keep them continuously current. The same condition applies to most of the other highway problems which require legislative determination.

The Planning Surveys, in their analysis of governmental data, often come upon

examples of operations that could be readily improved. Although the Planning Surveys were set up and operate as fact-finding bodies which should not assume the role of administrators, their experience, varied personnel and necessary knowledge of legal requirements place them in a position to recognize departmental deficiencies or irregularities as well as to determine analytically means and methods of correction. Experience has shown that proper presentation to the highway administrator will bring results. Such a procedure cannot react unfavorably toward the Planning Survey as long as it is careful not to assume any permanent administrative functions outside of its own type of operation.

The data collected and being kept current by the Planning Surveys form an almost inexhaustible reservoir of information necessary for the sound solution of basic highway problems. Statistical data which are compiled and not kept current with changing conditions soon cease to have any practical value. The gathering of statistical data without a proper analysis thereof is simply a complete waste of time and effort.

In the analysis of the accumulated data, the Planning Surveys are often deficient and lack definiteness of direction. Such a condition leads to reduced confidence on the part of highway administrators in the work as a whole, and this phase of the work must be vigorously pressed if the Planning Surveys are to accomplish their true purpose.