

A NATION-WIDE SEARCH FOR HIGHWAY FACTS

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In 38 of the 48 States, as this is written, the most comprehensive and detailed study of highway problems yet undertaken is in progress. In several other States similar work will soon be begun.

Known as State-wide highway planning surveys, these studies are being conducted under the immediate direction of the several State highway departments, with the cooperation of the U.S. Bureau of Public Roads. They are financed largely by Federal funds, authorized especially for the purpose, supplemented, in most cases, by smaller amounts of State money.

With minor variations, necessitated by local circumstances, the survey in each State follows a common plan — a plan designed to bring to light all of the many kinds of facts needed to build a sound program of highway improvement and provide a fair and reasonable basis for the regulation and control of highway transportation.

For the first time, as a result of these surveys, the participating States will learn the true extent of their highway systems. Hitherto there have been no complete or accurate maps, and the public records and estimates of road mileage, except as to the small fraction in the State and Federal-aid highway systems, are known to be in error. For the first time, also, the survey will reveal accurately the existing condition of all highways and the extent to which each has been improved.

Against this record of what has thus far been done to improve the highways there will be set the most complete array of information ever assembled to indicate the need of further improvement. Vehicles

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using the roads will be counted. They will be weighed and measured. The origins and destinations of their trips will be determined. These and other facts of road usage will be determined so that, in the end, it will be possible to present a reasonably exact picture of highway transportation as it is -- not only the transportation over the main highways, of which much is already known in several States from less extensive earlier studies, but over all roads, down to the least important.

Questions to be Answered

To what extent is the traffic on our highways -- the local roads as well as the trunk lines -- a movement of passenger cars? What, similarly, is the percentage of motor trucks, and of busses? To what extent is the traffic commercial in character; in what part are its purposes those of pleasure or recreation? Of the commercial traffic, what part is a for-hire movement and what part a movement of vehicles transporting the goods of the private vehicle owners? To what extent is the traffic on all roads an inter-city movement; a movement between country and city; a movement between country points? What part of it is a short-range local movement, and what part of longer range, interstate, transcontinental? What are the exact weights and sizes of the larger vehicles -- the busses and trucks? And, especially, how do all these characteristics of the traffic vary from road to road and from one class of roads to another; from the main roads to the local roads; from the highways of general use to the by-ways that serve the rural land?

As to all these questions, in the absence of exact knowledge, there have been wide differences of opinion, resulting in the unsettlement of public policy through conflicting counsel. It is hoped that the precise information that will be supplied by the surveys will serve to promote a better and perhaps general agreement upon many of these moot questions.

To supplement the indications of relative importance of the various roads afforded by the studies of the flow of traffic, the survey will also supply the first accurate knowledge of the location of farms, homes, churches, schools, stores, and other rural property in relation to the road system as a whole and, particularly, in relation to the roads thus far improved. This information will be especially important as a guide in deciding upon the order of improvement of the large mileage of local roads, because in the case of such roads the relative service they give to land and local property, rather than the density of the traffic they carry, may be the determining factor in apportionment of improvement funds.

In a broader sense this first charting of the spread of residence and industry over the rural land will also permit an appraisal of the extent to which the work thus far done has brought the benefits of improved road service to the rural population. Until now only the roughest estimates of the numbers of farms directly served by improved roads have been possible; and means have been wholly lacking for the estimation of the additional numbers of farms and other rural properties that would be served by any projected extension of road improvement.

The facts revealed by the planning surveys will make exact determinations of this nature possible and for purposes of future highway planning -- indeed, for all plans touching the future of rural America -- they will be indispensable. This phase of the surveys will produce information of the widest usefulness and the utmost interest to every agency, company and person who for any reason needs to know how and where our rural population and industry are distributed, and how directly they are served with facilities of all sorts -- economic, social, educational, religious.

Surveys Look Ahead as Well as Back

Through other departments of the surveys, information indicative of probable future changes in actual and relative uses of the highways will be sought. Trends in the distribution of population will be studied. Probable future changes in the utilization of land and the location of industry will be recorded. Observed changes in marketing methods and shifts from one form of transportation to another will be weighed; and the probable effects of all such trends upon the observed present usage of highways will be estimated as carefully and as exactly as possible.

To such a portrayal of the present adequacy of the highways and their present and probable future use, there will finally be joined the financial side of the picture -- the taxation side, if you please -- carefully and minutely drawn. The yield of all present highway taxes, direct and indirect, will be determined as exactly as possible, and each tax dollar will be traced to its origin to determine the extent to which it bears upon various population groups -- the rural and the urban, the owners of motor vehicles and the owners of real property, the residents

and taxpayers of various parts of the State and those of cities of various sizes.

The uses of the tax money will be examined in detail. In what part is it applied to various sections of the whole road and street system -- to city streets on the one hand, and rural roads on the other; to main rural highways and local rural roads? To what extent is the money spent for construction, for maintenance, for debt service, for administration?

An effort will be made to ascertain what relation exists between the taxes paid by various population and tax-paying groups and the benefits flowing to the same groups from the expenditures as made. And finally, without mention of many of the details, the strongest possible effort will be put forth to establish with a practicable degree of accuracy those elusive elements of the highway cost equation -- annual maintenance cost and the economic life of various types of highway improvement.

All these facts properly fitted together will provide a far better basis for rational planning of a highway program and for the equitable solution of highway transportation problems of all kinds than has ever before existed. And such a better basis is now badly needed. Until recently it has not been practicable to obtain such complete information. Not only were the means and facilities lacking; the very questions in their final forms were not yet posed. The whole highway industry was too young, too rapidly growing, to permit of any estimate of its final stature and relationship to the general economy. During this earlier period progress could be made in

reasonable safety without such specific guiding information, because of the very inevitableness of that progress.

The Job Ahead

We have now reached a point at which, with the pioneer growth behind us — the growth of the highways and the growth of highway transportation as a system — it has become possible to discern relatively lasting needs and relationships if we look for them.

In the improvement of the highways the most obvious, the most urgent needs have been met. Improved to some degree are roads that permit a reasonably free flow of traffic far and wide, that serve the great preponderance of the traffic from origin to destination, and the balance of it for the greater part of its movement. What remains is to build up to complete adequacy the roads already improved for pioneer service, and to extend the improvement effort to that remaining road mileage of secondary importance, which can be shown to justify such effort on economic or social grounds.

On account of recent great changes in the operating characteristics of motor vehicles, particularly the newly practicable higher speeds, standards of highway improvement quite adequate only a few years ago are no longer sufficient. Because the more important highways, by very reason of their greater importance were first improved, and are now generally the oldest of the improved roads, these important roads — many of them -- are in need of betterment to make them safe and adequate for the modern traffic.

For the most part this needed betterment can be built into the existing highway structure in the form of modified curvature, reduced grades, lengthened sight distances, eliminated grade crossings of railways and highways, widened surfaces, and separated roadways for traffic in opposite directions where the traffic is heaviest. To a lesser and probably not great extent, new express highways on more ample and protected right of ways are indicated as the modern need. The real need and precise location of all such further improvements of the main highway system will be disclosed by the planning surveys -- the real need and the precise location that must be distinguished from fanciful suggestions and vague and general appraisals too often put forward by visionary and academic enthusiasts.

Similarly the surveys will substitute quantitative measurement of real and relative need of additional local road improvement for the clamorous but often ill-considered and too general demand for the improvement of every by-way.

What the planning surveys attempt to do as a basis for decisions in regard to the further improvement of all our highways, is, first, to provide an accurate inventory of the highway facilities already possessed, a true and unbiased report of the flow and character of the traffic now moving, and an accounting of the highway costs already undertaken. To these facts, that have to do with the past and present, they aim to add others that will indicate what additional highway improvements are required for the service of the probable future traffic, and the probable cost of

the whole highway system thus improved -- not as a capital investment but as a continuing annual cost.

As the justifiable highway cost determined by such means must depend upon the amount and character of economical highway usage, and as, in large measure, the cost must in the end be paid by those who benefit directly by use of the highways, owners, operators, and manufacturers of motor vehicles have a special interest in the planning surveys which merits their particular attention to the work in progress and to its results.

Legends for Photographs

(Letters refer to corresponding letters marked on the reverse side of the enclosed prints)

(36-3792) A - At many points on the main highways trucks and busses are being stopped, their wheel loads measured with portable scales, and information concerning their carried loads and the origin and destination of their trips obtained from the drivers.

(36-3821) B - Curves on the existing roads too sharp for modern traffic are detected by means of a simple scale attached to the steering post of an automobile.

(36-3821) C - This is the forward car of a "sight distance" party equipped with semaphore for signaling the rear car and a measuring rod for determining the distance intervening between the forward and rear cars.

(36-3823) D - Here the two cars of the "sight distance" party are shown together, separated by a distance of 1,000 feet.

(36-3822) E - This is what the driver of the rear "sight distance" car sees. The forward car is just passing out of sight below the top of a hill. The rod projecting across the front of the rear car is a sight rod. As seen by the driver, the width of the rod exactly covers the distance between the top of the forward car and the cross arm when the cars are 1,000 feet apart. The object is to locate all places on the highways where sight distance is less than 1,000 feet.