

INTERREGIONAL HIGHWAYS

MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

A REPORT OF THE NATIONAL INTERREGIONAL
HIGHWAY COMMITTEE, OUTLINING AND
RECOMMENDING A NATIONAL SYSTEM
OF INTERREGIONAL HIGHWAYS



JANUARY 12, 1944.—~~Referred to the~~ Committee on Roads
and ordered to ~~be~~ printed with illustrations

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MESSAGE FROM THE PRESIDENT

To the Congress of the United States:

On April 14, 1941, I appointed a committee, known as the National Interregional Highway Committee, to investigate the need for a limited system of national highways to improve the facilities now available for interregional transportation, and to advise the Federal Works Administrator as to the desirable character of such improvement, and the possibility of utilizing some of the manpower and industrial capacity expected to be available at the end of the war.

The committee, with the aid of a staff provided by the Public Roads Administration, made careful and extended studies of the subject, and has submitted to me its final report which I transmit herewith and commend to the favorable consideration of the Congress. The report recommends the designation and improvement to high standards of a national system of rural and urban highways totaling approximately 34,000 miles and interconnecting the principal geographic regions of the country.

The recommended system follows in general the routes of existing Federal-aid highways, and when fully improved will meet to optimum degree the needs of interregional and intercity highway transportation. Its development also will establish a transcontinental network of modern roads essential to the future economic welfare and defense of the Nation.

While the annual rate of expenditure to accomplish the improvement of the rural and urban sections of the system over a reasonable period of years will be dependent upon the availability of manpower and materials, and upon other factors, the required expenditure is estimated at \$750,000,000 annually. The over-all expenditures would be approximately equally divided between urban and rural sections of the system.

The improvement of a limited mileage of the most heavily traveled highways obviously represents a major segment of the road replacement and modernization program which will confront the Nation in post-war years, in rural and urban communities alike. The committee found that the national network outlined in its report comprises only 1 percent of the total road mileage of the United States but carries 20 percent of the total travel.

Continued development of the vast network of rural secondary roads and city thoroughfares, which serve as feeder lines and provide land-access service, likewise has an important place in the over-all program, together with the repair or reconstruction of a large mileage of Federal and State primary highways not embraced within the interregional network.

I commend especially to the consideration of the Congress the recommendation that minimum standards of design and construction be established cooperatively with the States for all projects embraced within a designated interregional system. This, it seems to me, is

wise planning procedure, assuring the orderly development of the facilities which are necessary in the public interest with maximum, long-range economy.

By Public Law 146, Seventy-eighth Congress, section 5, Commissioner of Public Roads Thomas H. MacDonald, was authorized and directed to make a survey of the need for a system of express highways throughout the United States, the number of such highways needed, the approximate routes which they should follow, and the approximate cost of construction, and to report to the President and to Congress, within 6 months after the date of the act, the results of the survey, together with such recommendations for legislation as deemed advisable. The act was approved on July 13, 1943.

The purposes of this directive by the Congress were identical with my own in requesting the investigation which has been made by the National Interregional Highway Committee. The Commissioner of Public Roads has served as the chairman of the Committee appointed, and the detailed investigations required have been made by the Public Roads Administration staff. The Commissioner of Public Roads has informed me that he concurs without exception in the report of the Committee, and desires that it be accepted as his report, complying with the direction of Congress in Public Law 146.

I am glad to endorse this suggestion, and ask that the Congress receive the report herewith transmitted as fulfilling the purposes of Congress in the directive laid upon the Commissioner of Public Roads.

Early action by the Congress in authorizing joint designation by the Federal Government and the several State highway departments of a national system of interregional highways is desirable, in order to facilitate the acquisition of land, the drawing of detailed project plans, and other preliminary work which must precede actual road construction.

These advance steps taken, the program can serve not only to help meet the Nation's highway transportation needs, but also as a means of utilizing productively during the post-war readjustment period a substantial share of the manpower and industrial capacity then available. A program of highway construction will, in addition, encourage and support the many diverse economic activities dependent upon highway transportation.

From personal experience, as Governor of a State and as President, I hope that the Congress will make additional studies in regard to the acquisition of land for highways.

In the interest of economy, I suggest that the actual route of new highways be left fluid. It is obvious that if a fixed route be determined in detail, the purchase price of rights-of-way will immediately rise, in many cases exorbitantly; whereas, if two or three routes—all approximately equal—are surveyed, the cheapest route in relation to right-of-way can be made the final choice.

Second, experience shows us that it is in most cases much cheaper to build a new highway, where none now exists, rather than to widen out an existing highway at a cost to the Government of acquiring or altering present developed frontages.

As a matter of fact, while the courts of the different States have varied in their interpretations, the principle of excess condemnation is coming into wider use both here and in other countries. I always

remember the instance of the farmer who was asked to sell a narrow right-of-way through his farm for a main connecting highway. From an engineering point of view it would have been as feasible to build the new highway across the dirt road that ran in front of his house and barn. Actually the owner received from a jury an amount equal to the whole value of the farm. The road was built. The owner of the land thereby acquired two new frontages. He sold lots on one frontage for the former value of his farm. A year or two later he sold the other frontage for the farm value of his farm. The result was that he still had his house and barn and 90 percent of his original acreage, and in addition he had received in cash three times the value of what the whole place was worth in the first instance.

It hardly seems fair that the hazard of an engineering survey should greatly enrich one man and give no profit to his neighbor, who may have had a right-of-way which was equally good. After all, why should the hazard of engineering give one private citizen an enormous profit? If there is to be an unearned profit, why should it not accrue to the Government—State or Federal, or both?

FRANKLIN D. ROOSEVELT.

THE WHITE HOUSE, *January 12, 1944.*

LETTER OF TRANSMITTAL

FEDERAL WORKS AGENCY,
Washington.

The PRESIDENT,
The White House.

MY DEAR MR. PRESIDENT: I transmit, with my approval, the final report of the National Interregional Highway Committee appointed by you on April 14, 1941.

In your letter of that date to the Honorable John M. Carmody, then Administrator, Federal Works Agency, you expressed the hope that as a result of the Committee's recommendations it would be possible to prepare detailed plans and specifications for the construction of a national system of interregional highways to utilize some of the manpower and industrial capacity which will be available at the termination of the war emergency.

The system of interregional highways which the Committee recommends has been found to meet in optimum degree the needs of interregional highway traffic, and I particularly commend to your notice the views of the Committee concerning the special importance of those sections of the system located within and near our larger cities and metropolitan areas.

The Defense Highway Act of 1941 authorized a Federal appropriation of \$10,000,000 to be apportioned among the several States and matched by them to provide a fund for the making of surveys and plans for future highway construction. The funds authorized have been apportioned, and have been allotted in substantial part to the preparation of detailed plans and specifications for sections of highway included in the system the Committee recommends. The further application of these funds largely to the system, in my opinion a desirable requirement, will assure the availability of complete plans for the construction of important highways of an estimated cost of about \$400,000,000.

More recently the Congress has authorized expenditure in each State of an amount of the unobligated balance of Federal-aid highway funds not exceeding the State's apportionment of a national total of \$50,000,000, together with matching State funds, for additional surveys and plans for post-war highway construction.

By these two measures generous provision has been made for the preparatory work of surveying and planning which is necessary to assure the readiness of a large body of highway construction projects at the end of the war. There is, however, another equally important measure of preparation that must be taken if work on the planned projects is to begin promptly when peace returns. Rights-of-way for the planned improvements must be in hand; and funds for this purpose, clearly expendable during the war, should be made available. The recent act of Congress (Public Law No. 146, 78th Cong.) provides

for payment of the Federal share of the right-of-way costs of post-war projects only after construction has been actually begun. The States are required to advance from their currently reduced revenues, for the period of the war, the whole cost of rights-of-way acquired. Their inability to do this in many cases means that essential rights-of-way will be lacking when construction should be started, and the purpose of the wise provision that has been made for advance planning will thus be in large measure defeated. Moreover this right-of-way obstacle is likely to be most serious in the case of the very important projects that are being designed to relieve traffic congestion in cities, projects that will afford, if they are ready, large employment in the precise places where the need of employment will be greatest.

To remedy this unfortunate defect in the preparatory measures that have been taken, I strongly recommend congressional action to permit the Federal Government to pay promptly its proportionate share of the costs of rights-of-way acquired in anticipation of post-war highway improvements.

While the interregional system proposed constitutes, as a whole, the most heavily traveled section of the entire highway system of the Nation, it is obvious that there will be imperative need after the war for a large expenditure to repair the deterioration now in progress and eliminate critical deficiencies on other roads of national importance. Neither for planning nor for construction, therefore, do I believe it would be wise to limit the assistance of the Federal Government to routes included in the interregional system.

The plan suggested by the Committee, which would provide for the designation of an interregional system approximating that proposed, as, in effect, the primary routes of the Federal-aid system and, the appropriation of Federal funds for these and other classes of highways in accordance with need, but with particular provision for the urgent municipal needs, is in my opinion the wiser course. I, therefore, join with the Committee in its recommendation to that effect.

Sincerely yours,

PHILIP B. FLEMING,
Major General, United States Army,
Administrator.

JANUARY 5, 1944.

LETTER OF SUBMITTAL

NATIONAL INTERREGIONAL HIGHWAY COMMITTEE,
Washington, D. C.

Maj. Gen. PHILIP B. FLEMING,
Administrator, Federal Works Agency,
Washington, D. C.

SIR: In a letter under date of April 14, 1941, addressed to the Honorable John M. Carmody, then Administrator, Federal Works Agency, the President appointed a National Interregional Highway Committee of seven members to serve in an advisory capacity to the Administrator. He directed the Committee to review existing data and surveys and, upon completion of its review, to report to him not later than October 1, outlining and recommending a limited system of national highways designed to provide a basis for improved interregional transportation.

The President expressed the hope that our national needs would be paramount in the deliberations of the Committee and that as a result of its recommendations it would be possible to prepare detailed plans and specifications. This, the President, stated would permit us, upon the conclusion of the defense program, to utilize productively some of the manpower and industrial capacity then available to construct a national system of interregional highways.

The President also directed the Federal Works Agency to furnish such staff as necessary for the efficient functioning of the Committee and to compensate its members for travel expenses incurred.

The following persons were asked by the President to serve as members of the Committee:

Thomas H. MacDonald, Commissioner of Public Roads, Federal Works Agency.

G. Donald Kennedy, State highway commissioner, Lansing, Mich.
Bibb Graves, former Governor of Alabama.

C. H. Purcell, State highway engineer, Sacramento, Calif.

Frederic A. Delano, Chairman, National Resources Planning Board.

Harland Bartholomew, city planner, St. Louis, Mo.

Rexford Guy Tugwell, chairman, New York City Planning Commission.

All of those invited accepted membership and responded to the call for attendance at the initial meeting which was held at Washington, D. C., on June 24, 1941. At this meeting, the Committee elected as its chairman, Thomas H. MacDonald, Commissioner of Public Roads; and as its vice chairman, G. Donald Kennedy, State Highway Commissioner of Michigan. Mr. H. S. Fairbank, Public Roads Administration, was appointed secretary of the Committee and a small staff was supplied by the Public Roads Administration. The research and writing of this report are the work primarily of Mr. Fairbank, assisted by this staff. In addition to Mr. Fairbank, the

Committee desires to record its appreciation of the helpful services of this staff, and owes special acknowledgment to Harold E. Hiltz, Edward H. Holmes, Arthur G. Siegle, Joseph Barnett, John T. Lynch, Olav K. Normann, D. W. Loutzenheiser, Clarence F. Rogers, David R. Levin, Conya L. Hardy, Mary S. Austin, and Margaret H. Davies for important contributions to the report.

Finding that it would be unable to complete its review and essential further investigations by the date originally set by the President, the Committee on October 2, 1941, submitted a preliminary report to the Federal Works Administrator and requested an extension of time which it was hoped would be of short duration.

Shortly thereafter the Committee was deprived of the counsel of one of its most valued members by the death of the Honorable Bibb Graves, former Governor of Alabama. The appointment of Dr. Rexford Guy Tugwell as Governor of Puerto Rico made it difficult for him to continue his active participation, and the exigencies of war have further greatly lengthened the time required. It is believed, however, that the final report transmitted herewith is not too late to serve the President's intended purpose to define the general character of a national system of interregional highways, the construction of which, if begun with the termination of the war emergency, will permit the productive utilization of much of the manpower and industrial capacity then likely to be available.

The Committee therefore hopes that you will approve its report and transmit it to the President for such favorable consideration and use as he may deem it to merit.

Very respectfully,

THOMAS H. MACDONALD, *Chairman.*
G. DONALD KENNEDY, *Vice Chairman.*
C. H. PURCELL.
FREDERIC A. DELANO.
HARLAND BARTHOLOMEW.
REXFORD GUY TUGWELL.

JANUARY 1, 1944.

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INTERREGIONAL HIGHWAYS

Report and Recommendations of the National Interregional Highway Committee

INTRODUCTION

Construction of the present main highway system of the United States began in the later years of the horse-and-buggy era of highway transportation. At that time the Nation possessed a rural road network almost as extensive as at present, but it was almost wholly unimproved. By necessity all travel by road was of the shortest range.

In the cities, on the other hand, most of the streets were paved, some with cobble but many with smooth asphalt and brick. It was mainly the desire of new-fledged motorists in the cities for a comfortable ride into the country beyond the reaches of their paved streets, the similar deferred hope of more humble cyclists, and the competing aims of merchants in each town and city to enlarge or at least to hold, each his own rural trade, that prodded a long-talking "good roads movement" into actual construction.

The construction of roads begun, years of promiscuous building followed. Finally the builders awakened to the hopelessness of ever joining the thousands of disconnected little pieces of roads those years had produced. They began to realize the need for systematically classifying the vast road network and giving preferential order to the improvement of the portions of greatest use potential.

The original Federal Aid Road Act, passed in 1916, did not require such a classification. But by that time a few States, seeing the light, had created State highway systems of selected routes—usually those routes joining their several county seats and larger towns and cities.

To this sound principle of classification and preferential improvement—beyond any other the means of the rapid and orderly subsequent development of the main highways—the Federal Highway Act of 1921 gave endorsement and national extension. It required designation of the Federal-aid highway system and confined to this system all Federal funds then and thereafter to be appropriated for aid in road improvement—a restriction that was to remain in effect unaltered for many years.

At that time, the beginning of the century's third decade, the unimproved sections of roads chosen to make up the newly designated Federal-aid system were still far longer in the aggregate than the length of those that had been in some manner constructed. Most of the State highway systems were at the same early stage of development.

But the rapid upswing of motor-vehicle use had already set in. Each successive year more road-improvement revenue was coming in, largely from fees paid for vehicle registrations, from new motor-fuel

taxes and from the Federal Treasury. The purpose of State and Federal road agencies was to use these revenues to extend as rapidly as possible a useful measure of improvement to the entire selected mileage of main roads and thus to narrow as quickly as practicable the wholly unimproved gaps.

The measure of improvement considered necessary was usually less than the costly ideal which, by consuming much revenue on little mileage, would have delayed longer the improvement of other sections. It was expected that an initial limited improvement of each section would be followed in due course by a secondary stage when the progress of improvement of the system as a whole should permit the further expenditure. This was the policy of stage construction. It was a wise and useful policy as applied in the design of road surfaces. Its mistakes were its acceptance and fixation of obsolescent road alinement and its failure to anticipate the need of rights-of-way of greater width than those that in all previous time had been considered ample.

These are pardonable mistakes. When they were made, the high speeds at which motor vehicles can now travel were generally unforeseen and probably unforeseeable. The standards of alinement required by modern speed would then have been considered fantastic. The great increase of vehicle registration and traffic volume was anticipated too late, but even if it had been foreseen earlier, lack of necessary legal and popular sanctions would have prevented a forehanded acquisition of the wider rights-of-way that widened and divided roadways require.

First reasons for immediate designation of interregional system.—Past mistakes of main road location and rights-of-way neglect are understandable, but their consequences today emphasize the need for designating and preferentially improving an interregional system. For, paradoxically, the country's most important highways which will constitute the large part of such an interregional system are the ones that have suffered most in their improvement because of these mistakes.

The explanation of the paradox is that these roads, in recognition of their prime importance, were among the earliest of our highways to be durably improved. Structurally, many of these improvements are still embarrassingly sound; but in location, in traffic capacity, and in their lack of most of the features of modern highway design that make possible the safe operation of vehicles at high speeds, they are badly obsolescent.

Most of them have long since repaid their cost in the benefits they have yielded to the heavy traffic that has moved over them. As they are rebuilt, as soon they must be, they should be built to the highest modern standards, on locations and within rights-of-way where they will have the prospect of long and beneficial service. That such an improvement of these main arterial roads of the Nation may proceed consistently in all parts of the country, that all may agree upon the particular roads comprising the national routes in all regions and in all States, and that preparations may now be made for beginning the systematic improvement of these roads in the first post-war years—these are the first reasons indicating the necessity for immediate designation of an interregional system.

Other reasons for immediate designation.—Another consequence of past policies is the widely recognized gross inadequacy of the accommodation afforded by city streets for the heavier streams of arterial travel. Two decades ago the most obstructive deficiencies existed on the rural roads. City streets were relatively ample in their traffic capacity. Today these conditions are reversed. It is within and in the vicinity of the cities and metropolitan areas that through travel now experiences its most serious resistance and delays, resistance and delays that are abundantly shared by the heavy intraurban local traffic that tends to congregate on the same arterial routes.

Twenty years ago when the Federal Highway Act and many of the State highway enactments prohibited the expenditure of limited Federal and State funds for improvement of the transcity connections of the Federal-aid and State highway systems, the prohibition was not unreasonable. It was instead a necessary and logical recognition of the superior need of rural highway improvement. Now, with congestion of the transcity routes replacing rural highway mud as the greatest of traffic barriers, emphasis needs to be reversed and the larger expenditure devoted to improvement of the city and metropolitan sections of arterial routes. That the particular locations of these routes may be agreed upon in common by Federal, State, and municipal authorities who will share the responsibility for arterial highway improvement, that the desirable standards of that improvement may be established and commonly accepted, and that plans may at once be laid for a prompt post-war beginning of the highly essential construction work—these are other compelling reasons for the designation of an interregional system.

Optimum system proposed.—Clearly recognizing the present need, the President in his letter of April 14, 1941, to the Administrator, Federal Works Agency, appointed the National Interregional Highway Committee and directed it to review existing data and surveys and to outline and recommend a limited system of national highways designed to provide a basis for improved interregional transportation.

In all its deliberations and in the recommendations which follow, the Committee has been guided by the President's expressed hope that it would hold national needs paramount over the needs of sections and localities. Consistent with the purpose of interregional connection and the limitation of total mileage, it is believed that the system recommended will serve as large a proportion of the total highway traffic of the Nation as it is possible to attract to any system of the same extent.

The cities and metropolitan areas of the country are known to include the sources and destinations of much the greater part of the heavy flow of traffic that moves over the Nation's highways. The system of interregional highways proposed, within the limit of the mileage adopted, connects as many as possible of the larger cities and metropolitan areas regionally and interregionally. For this reason, although in miles it represents scarcely over 1 percent of the entire highway and street system, it will probably serve not less than 20 percent of the total street and highway traffic.

The wealth of factual information available to the Committee indicates clearly that any other system, either materially larger or smaller than that proposed, would have a lesser average utilization. The

limiting mileage adopted may therefore be accepted with confidence as very close to the optimum mileage which will afford the greatest possible service per mile.

The Committee had for its consideration all the data amassed by the Public Roads Administration for its report, Toll Roads and Free Roads, which was transmitted by the President to the Congress in 1939 and published as House Document No. 272, Seventy-sixth Congress, first session. In that report two systems were defined, one of approximately 14,200 miles and the other of about 26,700 miles. The latter was proposed as an interregional system.

Subsequently, the Public Roads Administration reexamined its data and made minor changes and small additions to the published system, increasing its length to 29,300 miles. The facts suggesting these changes were available for the Committee's review, as were also the voluminous data amassed for selection of the strategic network of principal highway routes shown on a map approved by the Secretary of War, as revised May 15, 1941.

Finally, at the Committee's direction, a staff supplied by the Public Roads Administration made studies of three additional systems, one of approximately 48,400 miles, one of 36,000 miles, and one of about 33,920 miles which is the recommended system.

In the selection of all of these systems, one common objective prevailed: To incorporate within each of the several mileage limits adopted, those principal highway routes which would reach to all sections of the country, form within themselves a complete network, and jointly attract and adequately serve a greater traffic volume than any other system of equal extent and condition.

All facts available to the Committee point to the sections of the recommended system within and in the environs of the larger cities and metropolitan areas as at once the most important in traffic service and least adequate in their present state of improvement. These sections include routes around as well as into and through the urban areas. If priority of improvement within the system be determined by either the magnitude of benefits resulting or the urgency of need, it is to these sections that first attention should be accorded.

Obviously, it is not possible by any limited highway system, whatever the relative importance of its constituent routes, to serve all the needs of the Nation's traffic. Nor is it reasonable to assume that in and near the cities the routes included in such a limited system will if improved, provide a complete solution to the serious problem of city traffic congestion. Particularly in the cities, many other routes are probably of substantially equal if not greater importance, and improvement of the system routes should, therefore, not be advanced ahead of others of similar or greater local importance. In this connection the Committee has been restricted in its choice because the President directed it to select an interregional rather than a local system, and to consider national above local needs.

The Committee believes it would be a mistake to regard the interregional system as an object of exclusive attention, even by the Federal Government, or to concentrate upon it all or a disproportionate part of any effort and funds that may be applied to highway improvement. The Federal Government has substantial interests in many other roads and possibly other city arteries. Its assistance should not be confined to the routes included in the recommended limited system.

Nevertheless it is important, both locally and nationally, to recognize this recommended system and the routes that comprise it for what they are—as that system and those routes which best and most directly join region with region and major city with major city.

And with such recognition, it is desirable, in all Federal, State, and local highway improvement programs, to give to this system and to these routes, promptness and preference of attention, consistency of plan, and a large share of available financial means. This will be necessary for its progressive and balanced improvement at a rate sufficient to halt the present obsolescent trend of constituent routes and to substitute a reasonably rapid movement toward complete adequacy.

THE RECOMMENDED INTERREGIONAL HIGHWAY SYSTEM

The general location of the routes comprising the recommended interregional highway system is shown on the map, figure 1.

The total length of the system is approximately 33,920 miles. This represents 1.04 percent of the 3,267,717 miles of rural roads and urban streets in the United States.

The approximate length of rural sections of the system, 29,450 miles, is 0.99 percent of the 2,964,677 miles of rural roads.

The approximate length of urban sections, 4,470 miles, is 1.48 percent of the 303,040 miles of urban streets.

By regions¹ (fig. 2) and States, table 1 shows the approximate lengths of the recommended system and of its rural and urban sections, and the percentage relations of these lengths to the total length of all road and streets and to the total lengths of all rural roads and all urban streets, respectively.

LOCATED FOR SERVICE

In relation to cities.—The recommended system connects² directly all cities of 300,000 or more population. It is the smallest system that provides these connections.

It reaches 59 of the 62 cities of population between 100,000 and 300,000 persons, and is superior in this respect to the 48,300-mile and 78,800-mile systems previously investigated by the Public Roads Administration.

The recommended system reaches directly only 82 of the 107 cities of population between 50,000 and 100,000. The 48,300-mile system reaches only 91 and the 78,800-mile system only 95 of the cities of this size, and hence are little superior to the recommended system.

For purposes of its study the Committee considered the United States as divided into regions. These regions are composed of contiguous States grouped together by the U. S. Bureau of the Census because of generally similar population and economic characteristics (see appendix I, tables 1 and 2).

¹ Table 2 summarizes the numbers of cities of each size reached by each system in each region.

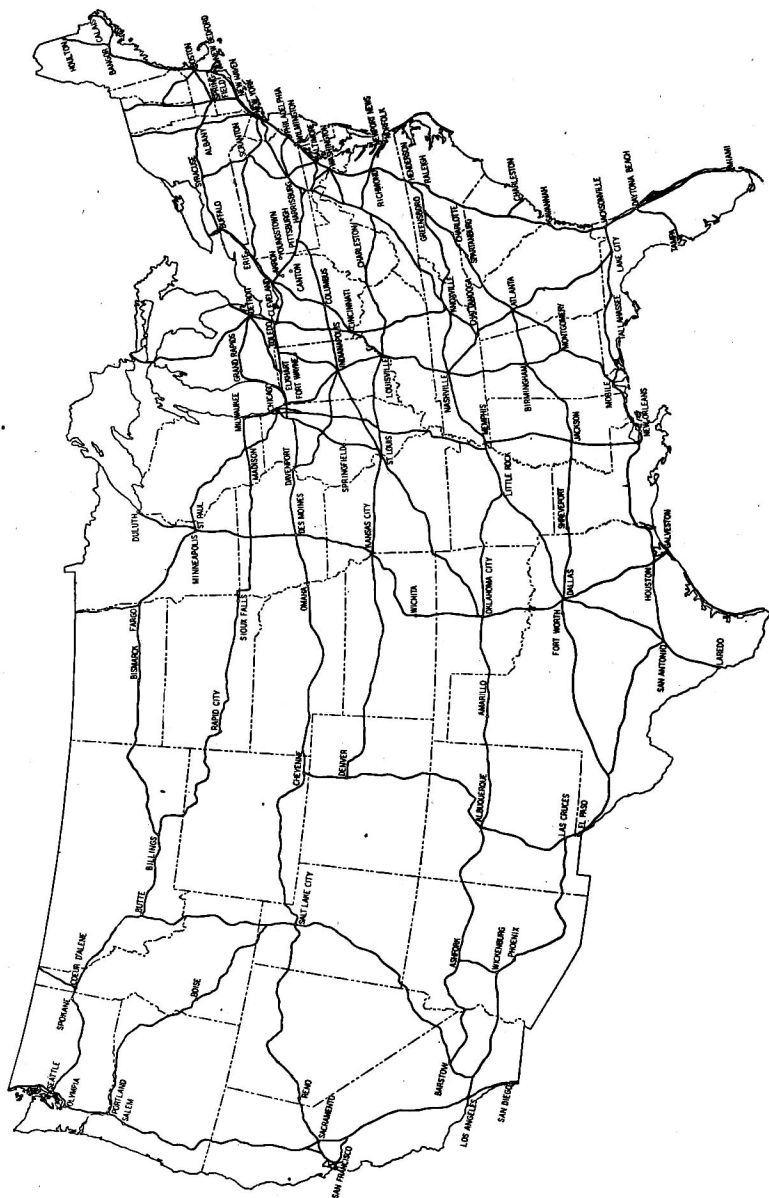


FIGURE 1.—The general location of routes of the recommended interregional highway system. Total length of the system is 33,920 miles.

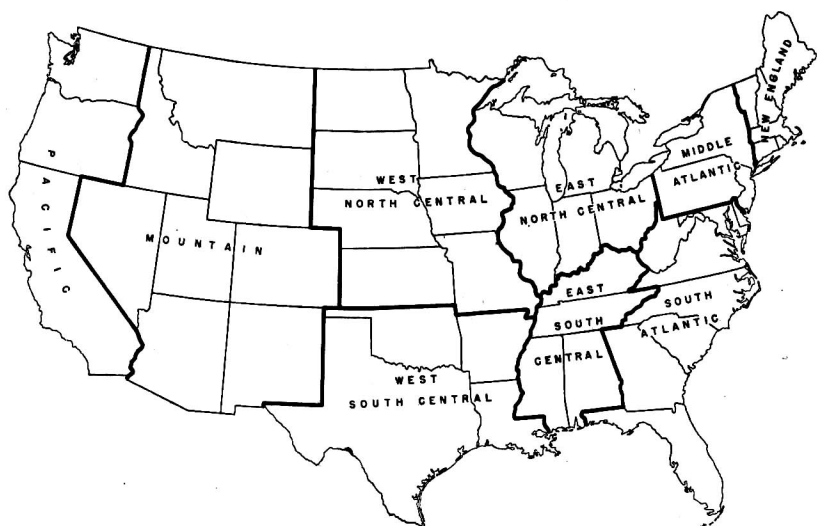


FIGURE 2.—Regions of the United States, based on groupings of the States by the United States Bureau of the Census.

TABLE 1.—Lengths of the recommended system and its urban and rural sections, and the percentage relationships of these lengths to the total length of all roads and streets and to the total lengths of all rural roads and urban streets, respectively

Region and State	Length of interregional system			Ratio to total road and street mileage		
	Rural sections	Urban sections	Total	Total inter-regional system to total road and street mileage	Rural sections inter-regional system to total rural road mileage	Urban sections inter-regional system to total urban street mileage
	Miles	Miles	Miles	Percent	Percent	Percent
United States.....	29,450	4,470	33,920	1.04	0.99	1.48
New England.....	1,110	220	1,330	1.43	1.38	1.78
Maine.....	410	40	450	1.87	1.78	3.70
New Hampshire.....	100	20	120	.89	.80	2.04
Vermont.....	170	30	200	1.41	1.26	4.45
Massachusetts.....	260	80	340	1.45	1.49	1.33
Rhode Island.....	30	10	40	1.02	1.21	.70
Connecticut.....	140	40	180	1.28	1.18	1.82
Middle Atlantic.....	1,760	510	2,270	.97	.92	1.21
New York.....	685	175	860	.85	.82	1.01
New Jersey.....	130	70	200	.72	.70	.76
Pennsylvania.....	945	265	1,210	1.17	1.07	1.69
East North Central.....	4,000	990	4,990	.98	.91	1.38
Ohio.....	780	260	1,040	1.02	.95	1.35
Indiana.....	790	160	950	1.10	1.03	1.61
Illinois.....	1,280	310	1,590	1.25	1.22	1.38
Michigan.....	700	185	885	.85	.76	1.58
Wisconsin.....	450	75	525	.58	.55	.92