

O. L. Evans

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NATIONAL HIGHWAY PROGRAM

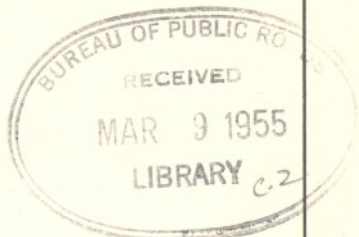
MESSAGE

FROM

THE PRESIDENT OF THE UNITED STATES

RELATIVE TO

A NATIONAL HIGHWAY PROGRAM



*U.S. President's Advisory
Committee on a National
Highway Program.*



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PRESIDENT'S MESSAGE

To the Congress of the United States:

Our unity as a nation is sustained by free communication of thought and by easy transportation of people and goods. The ceaseless flow of information throughout the Republic is matched by individual and commercial movement over a vast system of interconnected highways crisscrossing the country and joining at our national borders with friendly neighbors to the north and south.

Together, the uniting forces of our communication and transportation systems are dynamic elements in the very name we bear—United States. Without them, we would be a mere alliance of many separate parts.

The Nation's highway system is a gigantic enterprise, one of our largest items of capital investment. Generations have gone into its building. Three million three hundred and sixty-six thousand miles of road, traveled by 58 million motor vehicles, comprise it. The replacement cost of its drainage and bridge and tunnel works is incalculable. One in every seven Americans gains his livelihood and supports his family out of it. But, in large part, the network is inadequate for the Nation's growing needs.

In recognition of this, the governors in July of last year at my request began a study of both the problem and methods by which the Federal Government might assist the States in its solution. I appointed in September the President's Advisory Committee on a National Highway Program, headed by Lucius D. Clay, to work with the governors and to propose a plan of action for submission to the Congress. At the same time, a committee representing departments and agencies of the National Government was organized to conduct studies coordinated with the other two groups.

All three were confronted with inescapable evidence that action, comprehensive and quick and forward-looking, is needed.

First. Each year, more than 36,000 people are killed and more than a million injured on the highways. To the home where the tragic aftermath of an accident on an unsafe road is a gap in the family circle, the monetary worth of preventing that death cannot be reckoned. But reliable estimates place the measurable economic cost of the highway accident toll to the Nation at more than \$4.3 billion a year.

Second. The physical condition of the present road net increases the cost of vehicle operation, according to many estimates, by as much as 1 cent per mile of vehicle travel. At the present rate of travel, this totals more than \$5 billion a year. The cost is not borne by the individual vehicle operator alone. It pyramids into higher expense of doing the Nation's business. Increased highway transportation costs, passed on through each step in the distribution of goods, are paid ultimately by the individual consumer.

Third. In case of an atomic attack on our key cities, the road net must permit quick evacuation of target areas, mobilization of defense forces, and maintenance of every essential economic function. But the present system in critical areas would be the breeder of a deadly congestion within hours of an attack.

Fourth. Our gross national product, about \$357 billion in 1954, is estimated to reach over \$500 billion in 1965 when our population will exceed 180 million and, according to other estimates, will travel in 81 million vehicles 814 billion vehicle-miles that year. Unless the present rate of highway improvement and development is increased existing traffic jams only faintly foreshadow those of 10 years hence.

To correct these deficiencies is an obligation of government at every level. The highway system is a public enterprise. As the owner and operator, the various levels of government have a responsibility for management that promotes the economy of the Nation and properly serves the individual user. In the case of the Federal Government, moreover, expenditures on a highway program are a return to the highway user of the taxes which he pays in connection with his use of the highways.

Congress has recognized the national interest in the principal roads by authorizing two Federal-aid systems, selected cooperatively by the States, local units, and the Bureau of Public Roads.

The Federal-aid primary system as of July 1, 1954, consisted of 234,407 miles, connecting all the principal cities, county seats, ports, manufacturing areas, and other traffic generating centers.

In 1944 the Congress approved the Federal-aid secondary system, which on July 1, 1954, totaled 482,972 miles, referred to as farm-to-market roads—important feeders linking farms, factories, distribution outlets, and smaller communities with the primary system.

Because some sections of the primary system, from the viewpoint of national interest, are more important than others, the Congress in 1944 authorized the selection of a special network, not to exceed 40,000 miles in length, which would connect by routes, as direct as practicable, the principal metropolitan areas, cities, and industrial centers, serve the national defense, and connect with routes of continental importance in the Dominion of Canada and the Republic of Mexico.

This national system of interstate highways, although it embraces only 1.2 percent of total road mileage, joins 42 State capital cities and 90 percent of all cities over 50,000 population. It carries more than a seventh of all traffic, a fifth of the rural traffic, serves 65 percent of the urban and 45 percent of the rural population. Approximately 37,600 miles have been designated to date. This system and its mileage are presently included within the Federal-aid primary system.

In addition to these systems, the Federal Government has the principal, and in many cases the sole, responsibility for roads that cross or provide access to federally owned land—more than one-fifth the Nation's area.

Of all these, the interstate system must be given top priority in construction planning. But at the current rate of development, the interstate network would not reach even a reasonable level of extent and efficiency in half a century. State highway departments cannot effectively meet the need. Adequate right-of-way to assure control of access, grade separation structures, relocation and realignment of

present highways—all these, done on the necessary scale within an integrated system, exceed their collective capacity.

If we have a congested and unsafe and inadequate system, how then can we improve it so that 10 years from now it will be fitted to the Nation's requirements?

A realistic answer must be based on a study of all phases of highway financing, including a study of the costs of completing the several systems of highways, made by the Bureau of Public Roads in cooperation with the State highway departments and local units of government. This study, made at the direction of the 83d Congress in the 1954 Federal-aid Highway Act, is the most comprehensive of its kind ever undertaken.

Its estimates of need show that a 10-year construction program to modernize all our roads and streets will require expenditure of \$101 billion by all levels of Government.

The preliminary 10-year totals of needs by road systems are:

	<i>Billions</i>
Interstate (urban \$11, rural \$12 billion).....	\$23
Federal-aid primary (urban \$10, rural \$20 billion).....	30
Federal-aid secondary (entirely rural).....	15
Subtotal of Federal-aid systems (urban \$21, rural \$47 billion).....	68
Other roads and streets (urban \$16, rural \$17 billion).....	33
Total of needs (urban \$37, rural \$64 billion).....	101

The Governors' Conference and the President's Advisory Committee are agreed that the Federal share of the needed construction program should be about 30 percent of the total, leaving to State and local units responsibility to finance the remainder.

The obvious responsibility to be accepted by the Federal Government, in addition to the existing Federal interest in our 3,366,000-mile network of highways, is the development of the interstate system with its most essential urban arterial connections.

In its report, the Advisory Committee recommends:

1. That the Federal Government assume principal responsibility for the cost of a modern interstate network to be completed by 1964 to include the most essential urban arterial connections; at an annual average cost of \$2.5 billion for the 10-year period.

2. That Federal contributions to primary and secondary road systems, now at the rate authorized by the 1954 act of approximately \$525 million annually, be continued.

3. That Federal funds for that portion of the Federal-aid systems in urban areas not on the interstate system, now approximately \$75 million annually, be continued.

4. That Federal funds for forest highways be continued at the present \$22.5 million per year rate.

Under these proposals, the total Federal expenditures through the 10-year period would be:

	<i>Billions</i>
Interstate system.....	\$25.000
Federal-aid primary and secondary.....	5.250
Federal-aid urban.....	.750
Forest highways.....	.225
Total.....	31.225

The extension of necessary highways in the Territories and highway maintenance and improvement in National Parks, on Indian lands and on other public lands of the United States will continue to be treated in the budget for these particular subjects.

A sound Federal highway program, I believe, can and should stand on its own feet, with highway users providing the total dollars necessary for improvement and new construction. Financing of interstate and Federal-aid systems should be based on the planned use of increasing revenues from present gas and diesel oil taxes, augmented in limited instances with tolls.

I am inclined to the view that it is sounder to finance this program by special bond issues, to be paid off by the above-mentioned revenues which will be collected during the useful life of the roads and pledged to this purpose, rather than by an increase in general revenue obligations.

At this time, I am forwarding for use by the Congress in its deliberations the report to the President made by the President's Advisory Committee on a National Highway Program. This study of the entire highway traffic problem and presentation of a detailed solution for its remedy is an analytical review of the major elements in a most complex situation. In addition, the Congress will have available the study made by the Bureau of Public Roads at the direction of the 83d Congress.

These two documents together constitute a most exhaustive examination of the national highway system, its problems and their remedies. Inescapably, the vastness of the highway enterprise fosters varieties of proposals which must be resolved into a national highway pattern. The two reports, however, should generate recognition of the urgency that presses upon us; approval of a general program that will give us a modern safe highway system; realization of the rewards for prompt and comprehensive action. They provide a solid foundation for a sound program.

DWIGHT D. EISENHOWER.

THE WHITE HOUSE,
February 22, 1955.

A 10-YEAR NATIONAL HIGHWAY PROGRAM

A REPORT TO THE PRESIDENT

THE PRESIDENT'S ADVISORY COMMITTEE
ON A NATIONAL HIGHWAY PROGRAM

JANUARY 1955

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A REPORT TO THE PRESIDENT

THE PRESIDENT'S ADVISORY COMMITTEE

ON A NATIONAL HIGHWAY PROGRAM

JANUARY 1956

LETTER OF SUBMITTAL

The PRESIDENT,
The White House.

DEAR MR. PRESIDENT: The plan submitted herewith, for modernizing America's road and street network was prepared in response to your request of September 7, 1954, to the Advisory Committee on a National Highway Program.

The Committee has received a great deal of factual data, documenting the urgent need to improve our highways as quickly as possible, to prevent tragic and costly accidents, to serve the national defense, and to provide facilities essential to our growing population and economy. As you stated to the governors' conference on July 12, 1954, through Vice President Nixon, our road network is inadequate and obsolete, and its improvement calls for immediate and earnest attention.

So far as availability of materials, contracting capacity, personnel, and administrative machinery are concerned, the doubling of our present road construction program, which the studies indicate as a magnitude of need is entirely feasible. A difficult problem, of course, is finance, a responsibility shared by all levels of government. The Committee is confident that if the Federal Government, as proposed herein, increases its share of the total construction program to about 30 percent of the total, the States and local units of government also will correspondingly step up to this challenge.

The plan recommends authorization by the Congress of long-term financing, with existing Federal aid continued and additional funds concentrated for 10 years on modernizing the key 40,000-mile national system of interstate highways. It would, in effect, be a self-liquidating program since the funds to be capitalized would be equivalent to the revenues anticipated from Federal taxes on gasoline and lubricating oils. It will achieve our objective while entailing no increase in either the Federal tax rates on these items or the national debt limit.

Early in 1955 the Bureau of Public Roads, pursuant to a directive of the Congress, will submit a comprehensive report on its current study of highway needs and financing. The estimates used by this Committee have been based upon preliminary tabulations of data by the Bureau, and hence no major inconsistencies are anticipated.

Acknowledgment is made to the governors' conference, for counsel and suggestions; to the interagency committee, reflecting the views of various departments of the Federal Government, and to more than a score of organizations whose representatives gave useful information and assistance. The Committee's special thanks are due the Bureau of Public Roads, whose capable personnel and resources were indispensable, and to a small group of consultants who worked indefatigably in the preparation of this report.

Respectfully submitted.

LUCIUS D. CLAY, *Chairman.*
STEPHEN D. BECHTEL.
DAVID BECK.
S. SLOAN COLT.
WILLIAM A. ROBERTS.

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DEAR MR. PRESIDENT: The plan submitted herewith for modernizing America's road and street network was prepared in response to your request of September 7, 1955, to the Advisory Committee on a National Highway Program.

The Committee has received a great deal of factual data, has mentioned the urgent need to improve our highways as quickly as possible, to prevent traffic and costly accidents, to serve the national defense and to provide facilities essential to our growing population and economy. As set forth in the government's conference on July 12, 1954, through Mr. President Nixon, our road network is inadequate and obsolete, and the management calls for immediate and earnest attention.

So far as availability of materials, contracting capacity, personnel, and administrative machinery are concerned, the findings of our present road construction program, which the studies indicate as a major need, are entirely feasible. A difficult problem, of course, is to find a responsibility shared by all levels of government. The Committee is confident that if the Federal Government, as proposed herein, increases its share of the total construction program to about 30 percent of the total, the States and local units of government also will correspondingly step up to the challenge.

The plan recommends authorization by the Congress of Federal funds for 10 years to modernize and construct and additional funds for interstate highways. It would transfer to a separate system of interstate highways. It would transfer to a separate system of interstate highways. It would transfer to a separate system of interstate highways. It would transfer to a separate system of interstate highways.

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It is suggested to the interagency committee, reflecting the views of various departments of the Federal Government, and to those other organizations whose representatives have furnished information and assistance. The Committee's special thanks are due the Bureau of Public Roads, whose capable personnel and resources were invaluable, and to a small group of consultants who worked independently in the preparation of this report.

Respectfully submitted,

WILLIAM A. ROBERTS
S. SLOAN COLE
DAVID BECK
STEPHEN D. BUCHHEIT
JACQUES D. CLAY, Chairman

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

1. A safe and efficient highway network is essential to America's military and civil defense, and to the economy. The existing system is inadequate for both current and future needs. It must be improved to meet urgent requirements of a growing population and an expanding economy.

2. Total construction needs of all highway systems during the next 10 years are estimated at \$101 billion, including completion to modern standards of the 37,600 miles of the presently designated national system of interstate highways. The present program if continued unchanged would make available for highways during that period approximately \$47 billion, leaving a gap of \$54 billion.

3. The Committee concurs with the governors' conference in recommending to the President that the Federal share of this needed construction program be increased to about 30 percent of the total, with States, cities, counties, and other agencies remaining responsible for financing the remaining 70 percent.

4. The interstate network is preponderantly national in scope and function. Modernization of the presently designated system in 10 years, together with the most necessary urban-connecting arterials, is estimated to cost \$27 billion. It is recommended that State and local participation be \$2 billion of this amount, which would continue the present responsibility of the States for this system.

5. Since roads are a capital asset, it is recommended that the Federal share of interstate construction be financed by bonds to be issued by a Federal highway corporation created for this purpose by the Congress. The cost of the interstate system improvement, together with the total authorized funds under the regular Federal-aid highway program to the States, would approximate the revenues which the Federal Government will derive from the motor vehicle fuel and lubricating oil taxes projected at the present rates.

6. The Federal Highway Corporation should have a Board of Directors to be composed of three citizens appointed by the President and confirmed by the Senate with the Secretaries of Treasury and Commerce as ex officio members. On matters involving highway locations, the Secretary of Defense would also serve as an ex officio member. The Commissioner of the Bureau of Public Roads would serve as Executive Director. The Board of the Corporation should be responsible for the development of financial policy. It should serve when necessary as an appeals board to resolve major points of difference between the Federal and State authorities which may arise under the program.

7. Toll roads built to acceptable standards and meeting other requirements of the Corporation may be included as segments of the interstate system. However, toll financing is not a satisfactory solution to the full problem of network modernization.

8. Appropriate credit should be given to those States in which adequate sections of the interstate system have been constructed by State

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DEAR MR. PRESIDENT: The plan submitted herewith for modernizing America's road and street network was prepared in response to your request of September 7, 1954, to the Advisory Committee on a National Highway Program.

The Committee has received a great deal of factual data during the past year and has endeavored to present a picture as complete as possible of present trends and needs. It is convinced that the national highway system is essential to our growing population and economy. As stated in the report, our road network is inadequate and obsolete, and its improvement calls for immediate and earnest attention.

So far as availability of materials, contracting capacity, personnel, and administrative machinery are concerned, the findings indicate that a major road construction program, which the studies indicate as a matter of need is entirely feasible. The Committee believes that the Federal Government should share the responsibility for financing a program of this nature. It is confident that if the Federal Government, as proposed herein, increases its share of the total construction program to about 30 percent of the total, the States and local units of government also will correspondingly step up to the challenge.

The plan recommends authorization by the Congress of a highway trust fund, with existing Federal and State and local funds concentrated for 10 years on modernizing the 10,000-mile national system of interstate highways. It would be a self-financing program since the funds to be capitalized would be derived from revenues anticipated from Federal taxes on gasoline and lubricating oils. It will achieve our objective while entailing no increase in either the Federal tax rates on these items or the national debt limit.

In 1955 the Bureau of Public Roads, pursuant to a directive of the Congress, will submit a comprehensive report on the current study of highway needs and financing. The estimates used by the Committee have been based upon preliminary tabulations of data by the Bureau, and hence no major inconsistencies are anticipated.

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9. It is recommended that traditional Federal aid to the States be continued in the amounts authorized by the Congress in 1954 with some adjustments in the amounts for urban areas, and Federal-domain roads, omitting the interstate system authorization since this system is provided for in sections 4 and 5 above.

10. In many States the modernization of highway-enabling laws is necessary, especially in connection with the acquisition of land for right-of-way, the control of access, and the closer integration of State, city, and county highway managements. States should be encouraged to revise existing statutes where needed to permit expeditious and economical completion of the program. Congress should provide for the use of the Federal right of eminent domain to acquire right-of-way for the interstate system where it is not feasible to obtain it through normal procedures under State law, and the State so requests.

A 10-YEAR NATIONAL HIGHWAY PROGRAM

I. INTRODUCTION

This report contains recommendations for translating into reality the concept of the President of the United States for a vastly expanded and strengthened national highway system.

The concept was first presented in behalf of President Eisenhower at the governors' conference on July 12, 1954, by Vice President Nixon. In that speech, using the President's own notes, he conveyed to the governors the conviction that the Nation's highway network is obsolete and inadequate.

It is obsolete—

the President's note said—

because in large part it just happened. It was governed in the beginning by terrain, existing Indian trails, cattle trails, arbitrary section lines. It was designed largely for local movement at low speeds of 1 or 2 horsepower. It has been adjusted, it is true, at intervals to meet metropolitan traffic gluts, transcontinental movement, and increased horsepower. But it has never been completely overhauled or planned to satisfy the needs 10 years ahead.

We can no longer afford to deal with the problem in that manner, the President pointed out.

We live in a dramatic age of technical revolution through atomic power, and we should recognize the fact that the pace is far faster than the simpler revolutions of the past. It was a very long generation from the Watt steam engine to a practical locomotive. It was less than 9 years from the atomic bomb to the launching of an atomic-powered submarine. We have seen a revolutionary increase in opportunity, comfort, leisure, and productivity of the individual.

Look at the prospects in population. In 1870, the population of the United States was 38½ million, and our population growth in the previous half century was one of the wonders of the world. In 1970, the population of the United States, it is estimated, will reach 200 million. It will grow in the next 16 years as much as the entire population of the United States was in 1870.

In planning for that future, the President's message pointed out, top priority must be given to transportation, and to health and efficiency in essential industries. "America is in an era," he said, "when defensive and productive strength require the absolute best that we can have."

The President specifically called for "a grand plan for a properly articulated [highway] system that solves the problems of speedy, safe transcontinental travel—intercity transportation—access highways—and farm-to-farm movement—metropolitan area congestion—bottle-necks—and parking."

As a target, the President suggested an expenditure of \$5 billion annually from all sources for the next 10 years, in addition to current, normal construction expenditures. "It will," he said, "pay off in economic growth * * * and we shall only have made a good start in the highways the country will need for a population of 200 million people."

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The President called attention to the severe penalties inflicted by inadequate roads and streets, particularly the loss of life and limb from accidents, the economic cost of congestion, and the clogging of our courts by cases having their origin in traffic.

APPOINTMENT OF COMMITTEES

In response to the invitation from the President to recommend cooperative action which might be taken to provide adequate highways, the governors by resolution authorized an immediate study and a report. A special seven-man highway committee was created, consisting of Govs. Walter J. Kohler, Jr., of Wisconsin; Frank J. Lausche, of Ohio; Howard Pyle, of Arizona; John Lodge, of Connecticut; Lawrence W. Wetherby, of Kentucky; Paul Patterson, of Oregon; and Allan Shivers, of Texas. Governor Kohler was named chairman of the committee, and Gov. Robert F. Kennon of Louisiana, chairman of the governors' conference served automatically as an ex-officio member.

An interagency committee within the Federal establishment also was set up to consider the matter from the standpoint of Federal interest in roads and their financing. This group included representatives appointed by the Secretaries of Defense, Commerce, Agriculture, and Treasury, the Director of the Bureau of the Budget and the Chairman of the Council of Economic Advisers.

On September 7, 1954, the appointment of the President's Advisory Committee on a National Highway Program was announced. This Committee is composed of Lucius D. Clay, chairman of the board, Continental Can Co., Chairman; Stephen D. Bechtel, of San Francisco, Calif., president, Bechtel Corp.; David Beck, of Seattle, Wash., president, International Brotherhood of Teamsters; S. Sloan Colt, of New York, president, Bankers' Trust Co.; and William A. Roberts, of Milwaukee, Wis., president, Allis Chalmers Manufacturing Co. The headquarters of this Committee were established in the White House Executive Office Building.

The Committee was requested by the President to study the problem and report back to him, working in cooperation with the Special Highway Committee of the Governors' Conference and with the Interagency Committee. To provide opportunity for all other interested individuals and groups to present their views, public hearings were held by the President's Advisory Committee in Washington, D. C. on October 7 and 8, at which 22 organizations associated with the highway problem made presentations with respect to financing and executing the proposed construction program.

HELP RECEIVED BY COMMITTEE

In reaching its conclusions and recommendations, the Committee has given full consideration to the several viewpoints expressed in these hearings. Helpful and constructive suggestions were received from many other groups, including the Federal agencies represented on the Interagency Committee.

The Governors responded promptly and wholeheartedly to the President's request for suggestions regarding the program, with the result that a special study was completed by their highways committee.

A carefully considered plan was submitted to President Eisenhower on December 3, 1954, by Governor Kennon, of Louisiana, chairman of the governors' conference. The Committee has drawn heavily upon this report by the governors, and upon their wise counsel, in the formulation of the program recommended herein.

The Committee has also drawn on the abundance of information and experience of the Federal Government departments and agencies and from private associations, organizations, State, city, and other units of government and individuals without whose help the Committee could not have accomplished its work.

Likewise, the Committee has sought out and been benefited by, the able advice and counsel of members of the congressional committees and their staffs who have long been associated with legislation designed to provide a highway program adequate for our Nation's needs.

Grateful acknowledgment must be made to these and others who have so capably and unselfishly aided the Committee's work.

II. THE HIGHWAY SYSTEM

USE OF OUR HIGHWAYS

Highway transportation in the United States is provided currently by approximately 48 million passenger cars, 10 million trucks, and a quarter of a million buses, operating on 3,348,000 miles of roads and streets, which is by far the most comprehensive public transportation network in the world.

All forms of transportation are essential to the national economy, including waterways, railroads, airways, and pipelines and their continued functioning as complementary services under equitable competitive conditions is important. Representatives of the railroads have pointed out to us the competitive threat represented by improved highway facilities and increasing truck haulage. However, this Committee was created to consider the highway network, and other media of transportation do not fall within its province. This relationship between the several forms of transportation is under study by other Government agencies and special committees fully informed of these views.

In relatively recent years, the motor vehicle has come to occupy a unique place in America, not only because it is a major unit of transportation, but also because it is an intimate and seemingly indispensable part of our daily life. The bread winner uses an automobile to get to work; the housewife to shop; children ride in a car or bus to school, and the entire family relies on the automobile for many social and recreational activities. Privately owned passenger cars now in service could transport the entire population of the Nation at one time—with seats to spare.

The universal use of rubber-tired vehicles for transportation on a family-unit basis has resulted in the creation of large manufacturing, distributing and service industries. Highway transportation provides essential movement of people and goods; in addition, it has itself become a major element of the economy, generating directly or indirectly approximately one-seventh of all gainful employment, and accounting for about 14 percent of the total gross national product.

One out of every six retail, wholesale, and service businesses is connected with motor vehicles.

About 3 million miles, or 90 percent of the total, of the public roads carrying this traffic are rural highways, with the balance being streets inside municipalities. These figures have remained comparatively stable over the last two decades, increasing now at a very slight rate, because most construction of "new" roads actually is the replacement or betterment of existing facilities. A highway improvement program therefore is not designed to achieve "more" highways so much as it is to achieve "better" or "more adequate" ones.

HIGHWAYS DIVIDED INTO SYSTEMS

One of the principal characteristics of this road network is its classification into designated systems, for purposes of financing and management. Thus we have Federal-aid, State, county, township, and other systems, classified in accordance with the responsibility which those political jurisdictions have in the highway function. A street or road providing access to individual homes or farms obviously is of predominant local interest, whereas one linking together the principal population centers of a State is primarily of State and Federal concern. Traffic tends to concentrate on rather limited mileages of highways, so that some of these highways are required to carry heavier volumes than others.

With agriculture, industry, and our defense planning closely geared to motor transportation, Congress has recognized the national interest in a limited mileage of the principal roads by authorizing the designation of two Federal-aid systems, selected cooperatively by the States, local governments, and the United States Bureau of Public Roads.

In 1916 the basic Federal-Aid Highway Act provided for the sharing of highway construction costs between the States and the Federal Government, under standards mutually approved, and with the initiative retained by each State for choosing projects and carrying them out. The planning and development of the Federal-aid systems referred to above began in 1921. Federal funds share with State funds in costs of engineering, construction, and right-of-way acquisition on the designated systems while other charges, such as maintenance and policing, are entirely borne by the States and local agencies. It is proposed to continue this well established and very effective partnership in the enlarged program recommended herein.

The Federal-aid primary system as of July 1, 1954, consisted of 234,407 miles, connecting all of the principal cities, county seats, ports, manufacturing areas, and other traffic generating areas. In general, these are at the same time the main State trunkline roads.

In 1944, the Congress approved designation of the Federal-aid secondary system, which on July 1, 1954, totaled 482,972 miles commonly referred to as the farm-to-market system but which could equally be referred to as the market-to-farm system. It is composed of important feeder roads linking the farms, factories, distribution outlets, and smaller communities of our Nation with the primary system.

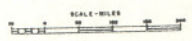
Responsibility for construction of these two Federal-aid systems traditionally has been shared in approximately equal amounts by the Federal Government and the States, in accordance with an apportion-

formula in which land area, road mileage, and population are factors. But some sections of the primary system are more important than others from the viewpoint of the national interest. Congress, in 1914, authorized the selection of a special system of roads to be maintained by the Federal Government. This system was to be composed of roads which connect by routes of travel the most important cities and industrial centers of the country.

From 1914 to 1953, the Federal Government has expended over \$10 billion for the construction and maintenance of the Federal-Aid Highway System. The rapid improvement of the highway system, including the construction of a national system of facilities needed for the efficient operation of the national economy, is a major objective of the Federal Government.

SHOWN ON THIS MAP are the Federal-Aid Systems which cover 21% of all U. S. road and street mileage and which carry 60% of all rural and urban travel.
NOT SHOWN ON THIS MAP is the remaining 79% of all U. S. road and street mileage which carries 40% of all rural and urban travel.

LEGEND
FEDERAL AID HIGHWAY ———
FEDERAL AID SECONDARY HIGHWAY - - - - -
INTERSTATE SYSTEM SHOWN BY WIDE BANDS



UNITED STATES
FEDERAL AID HIGHWAYS AND FEDERAL AID SECONDARY ROADS
JUNE 30, 1953

ment formula in which land area, road mileage, and population are factors. But some sections of the primary system are more important than others, from the viewpoint of the national interest. Consequently, in 1944 the Congress authorized the selection of a special network, not to exceed 40,000 miles in length, which in the language of the act would be so located as "to connect by routes, as direct as practicable, the principal metropolitan areas, cities, and industrial centers, to serve the national defense, and to connect at suitable border points with routes of continental importance in the Dominion of Canada and the Republic of Mexico."

The result was the creation of the national system of interstate highways embracing about 1.2 percent of total road mileage, joining 42 State capital cities and 90 percent of all cities over 50,000 population. The interstate system carries more than a seventh of all traffic, one-fifth of the rural traffic, serves 65 percent of the urban and 45 percent of the rural population, and is the key network from the standpoint of Federal interest in productivity and national defense. Approximately 37,600 miles have been designated to date; the remaining 2,400 miles are reserved for future additions. This system and the mileage referred to are included within the Federal-aid primary system described above.

CIVIL DEFENSE ASPECTS

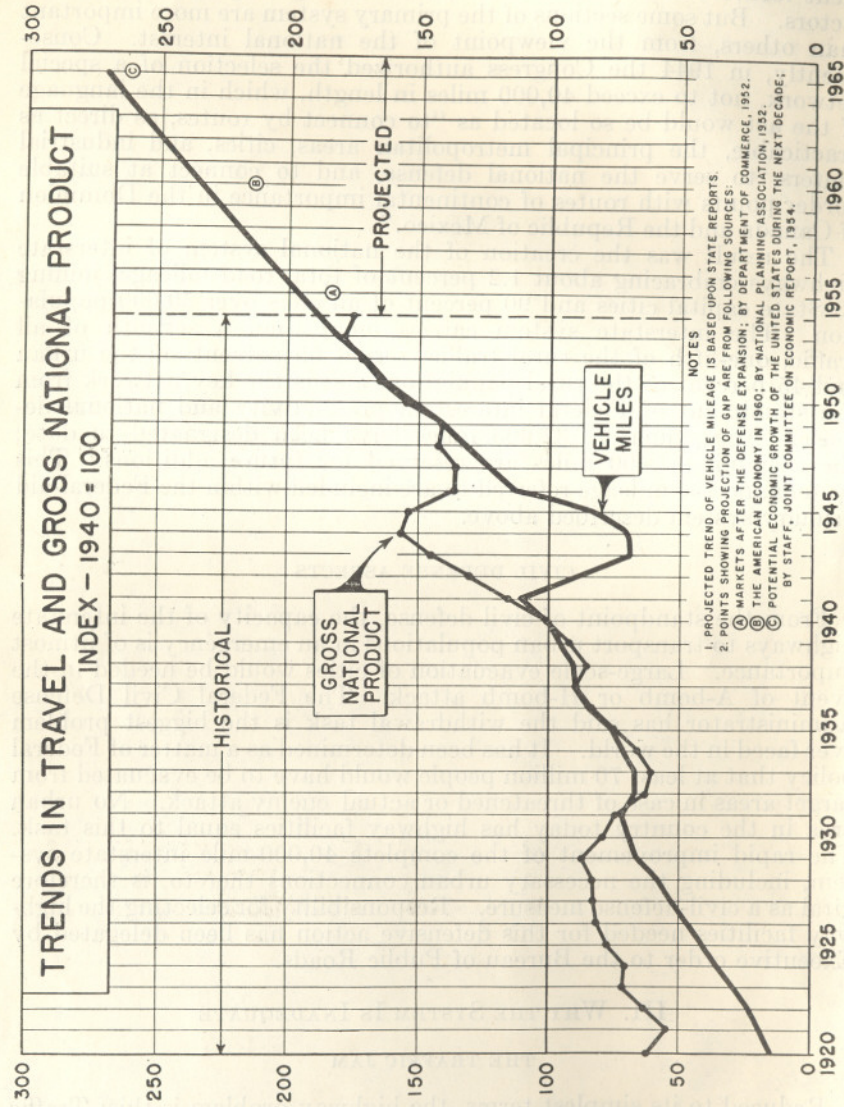
From the standpoint of civil defense, the capacity of the interstate highways to transport urban populations in an emergency is of utmost importance. Large-scale evacuation of cities would be needed in the event of A-bomb or H-bomb attack. The Federal Civil Defense Administrator has said the withdrawal task is the biggest problem ever faced in the world. It has been determined as a matter of Federal policy that at least 70 million people would have to be evacuated from target areas in case of threatened or actual enemy attack. No urban area in the country today has highway facilities equal to this task. The rapid improvement of the complete 40,000-mile interstate system, including the necessary urban connections thereto, is therefore vital as a civil-defense measure. Responsibility for selecting the highway facilities needed for this defensive action has been delegated by Executive order to the Bureau of Public Roads.

III. WHY THE SYSTEM IS INADEQUATE

THE TRAFFIC JAM

Reduced to its simplest terms, the highway problem is this: Traffic has expanded sharply, without a corresponding expansion in capacity of roads and streets. As a result, a major portion of our facilities are seriously overcrowded. Moreover, this movement is faster and heavier than in previous years, and continues to increase.

Simple arithmetic illustrates the dimensions of the task. We now have more than 58 million motor vehicles registered—one for every 700 feet of every lane in both directions on all streets and highways in the Nation. This gigantic fleet traveled an estimated 557 billion vehicle miles in 1954, much of it concentrated on main arteries in urban areas which have become the expensive, hazardous bottlenecks referred to by the President.



The existing traffic jam is bad enough, but prospects for the future are even worse. Vehicle registrations are expected to continue their upward surge, reaching 81 million by 1965, an increase of 40 percent. Total highway travel of these 81 million vehicles will likewise continue to increase as we attempt to meet the transportation requirements of an expanding economy, probably to reach an estimated 814 billion vehicle-miles in 1965.

This Committee believes that these forecasts, carefully projected on the basis of all available data, are soundly conservative and represent the foundation upon which the Nation's highway improvement programs should be planned. Our population is expected to exceed 180 million by 1965. Our gross national product, which was about \$357 billion in 1954, is estimated to reach \$535 billion by 1965, an increase of almost 50 percent in the next decade, as recently reported by the Joint Congressional Committee on the Economic Report.

HIGHWAYS IN THE NATIONAL ECONOMY

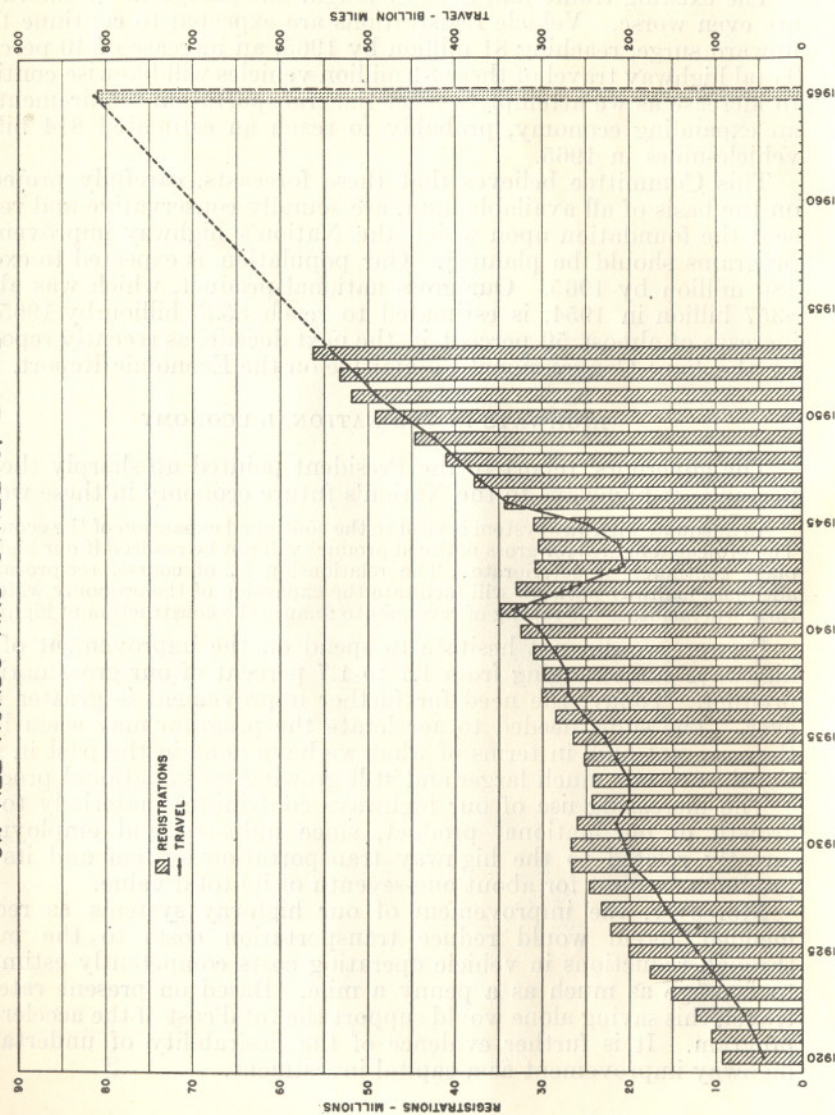
The governors' report to the President pointed up sharply the importance of highways to the Nation's future economy in these words:

An adequate highway system is vital to the continued expansion of the economy. The projected figures for gross national product will not be realized if our highway plant continues to deteriorate. The relationship is, of course, reciprocal; an adequate highway network will facilitate the expansion of the economy which, in turn, will facilitate the raising of revenues to finance the construction of highways.

Prewar, we did not hesitate to spend on the improvement of our highways sums ranging from 1.1 to 1.7 percent of our gross national product. Today, the need for further improvement is greater than ever. The sums needed to accelerate the program may seem high; they are not high in terms of what we have done in the past in relationship to our much larger and still growing gross national product.

The increasing use of our highways contributes materially to the growth of our national product, since industry and employment directly related to the highway transportation system and its by-products account for about one-seventh of its total value.

Moreover, the improvement of our highway systems as recommended herein would reduce transportation costs to the public through reductions in vehicle operating costs competently estimated to average as much as a penny a mile. Based on present rates of travel, this saving alone would support the total cost of the accelerated program. It is further evidence of the desirability of undertaking highway improvement as a capital investment.

MOTOR-VEHICLE REGISTRATIONS AND MILES OF TRAVEL
ON ALL ROADS AND STREETS, BY YEARS

OUR HIGHWAYS DETERIORATE

Vehicle registrations and travel mileages, enormous though they have been, do not fully disclose the constantly increasing demands on our highways. Increased weight of vehicles, higher average speeds, heavier axle loads have caused a serious deterioration of inadequately designed highways.

The 4-year moratorium on construction imposed during World War II prevented both adequate maintenance and replacement, thus causing further deterioration.

The shrinkage in the purchasing power of the road dollar has also contributed to our present situation. While dollar expenditures for road construction have increased in approximately the same ratio that their purchasing power has declined, the actual level of construction is not much higher than it was in 1940.

Thus, our road improvement programs have failed to keep pace with a growth in traffic which requires far more capacity of our road plant.

SAFETY

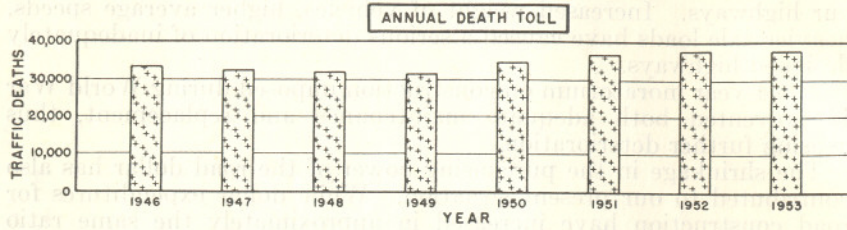
In any consideration of road deficiencies, the safety factor must assume large importance. As President Eisenhower has said, we have an "annual death toll comparable to the casualties of a bloody war, beyond calculation in dollar terms," and as stated by the governors' report:

A simple dollar standard will not measure the "savings" that might be secured if our highways were designed to promote maximum safety, so that lives were not lost and injuries sustained in accidents caused by unsafe highways. Various estimates have been made of the number or proportion of traffic deaths due to inadequate, unsafe highways; data do not exist to permit accurate evaluation of these estimates. But whatever the potential saving in life and limb may be, it lends special urgency to the designing and construction of an improved highway network.

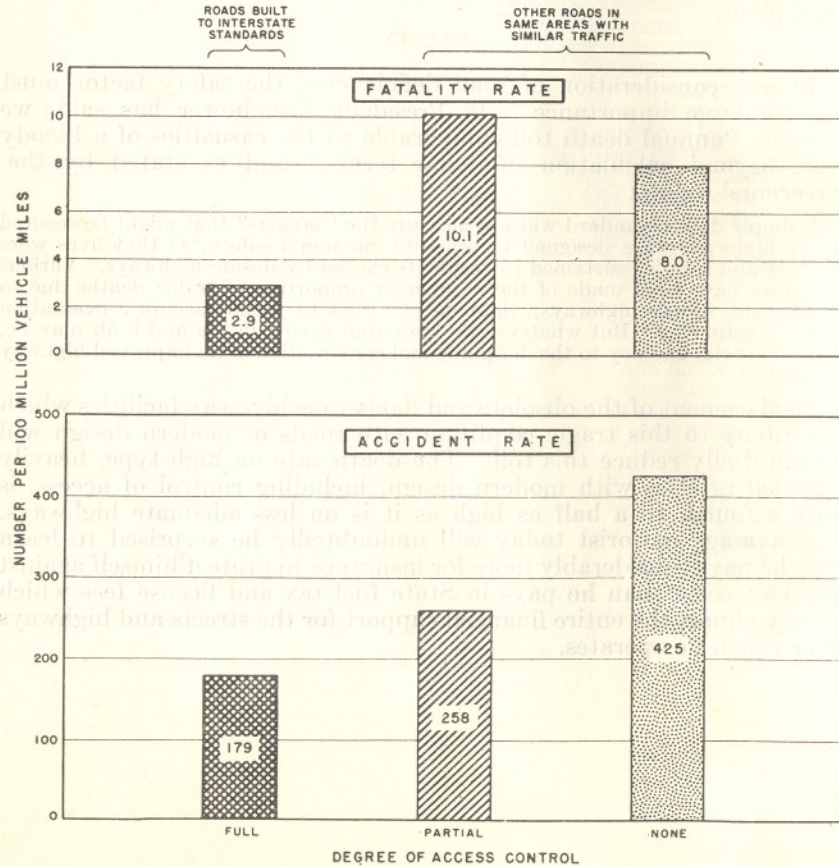
Replacement of the obsolete and dangerous highway facilities which contribute to this tragic condition with roads of modern design will substantially reduce this toll. The death rate on high-type, heavily traveled arteries with modern design, including control of access, is only a fourth to a half as high as it is on less adequate highways. The average motorist today will undoubtedly be surprised to learn that he pays considerably more for insurance to protect himself against accident costs than he pays in State fuel tax and license fees which supply almost the entire financial support for the streets and highways over which he operates.

OUR FIRST PENALTY OF AN OBSOLETE HIGHWAY NET IS AN ANNUAL DEATH TOLL COMPARABLE TO THE CASUALTIES OF A BLOODY WAR BEYOND CALCULATION IN DOLLAR TERMS

VICE PRESIDENT NIXON, LAKE GEORGE, 1954



EFFECT ON ACCIDENT RATES OF BUILDING ROADS TO INTERSTATE STANDARDS



PARKING

It is generally recognized that offstreet parking for passenger cars and termini for buses and trucks are essential components of the highway transportation picture. But, unlike public highways, these facilities are not generally provided by Federal or State Government, some being provided by private enterprise, some by municipalities, and some by both groups working together. While the Federal Government can serve an important role in basic research on this question, in the judgment of this Committee Federal funds should not be used for construction of offstreet parking facilities, or for the acquisition of land for such purposes. The Committee believes that progress in this field must continue without Federal funds, and that the States, where necessary, will meet their responsibility to provide enabling legislation whereby municipalities and other local political subdivisions can develop needed programs, in cooperation with the sizable private operations which have grown up in this important field.

IV. COST OF MODERNIZATION

HIGHWAY NEEDS STUDIES

The Congress in the 1954 Federal-aid Highway Act directed the Secretary of Commerce to make a comprehensive study of all phases of highway financing, including a study of the costs of completing the several systems of highways, reporting to Congress not later than February 1955. The Bureau of Public Roads in the Department of Commerce made this study during 1954, in cooperation with the State highway departments and local units of government. It covered the estimated costs of completion of all roads and streets including toll roads, and is the most comprehensive study of its kind ever undertaken. The committee has obtained the essential data on highway needs developed from this study.

To insure uniformity in the measurement of needs among the States, a manual was prepared by the Bureau which set forth the standards to be used in making the estimates of need. In the case of the interstate system, the estimates provided for building in 10 years roads adequate for traffic of 1974, while for the other systems the estimates provided for the replacement or reconstruction of the portions that are now inadequate or are expected to become so during the 10-year period. The tabulated data thus obtained was provided to this Committee as preliminary totals. These studies are treated in much more detail in the Bureau's own report being sent to the Congress.

The estimates of the several States may vary, some tending to be lower in relation to actual needs, while others may be higher. The total estimates for the country as a whole, however, are the best available, and are accepted by the Committee as a measure of requirements. They establish the target for nationwide estimates of planning and financing; the actual expenditures for construction, of course, will be subject to the detailed specifications and other controls normally used.

Some of the individual States in recent years have undertaken special studies to measure their future needs in terms of the anticipated demands of traffic, and the results of those studies tend to substantiate the fundamental validity of the nationwide estimates referred to above which have been furnished to the Committee. None of these studies would have been possible without the vast storehouse of data accumulated and analyzed through the continuing highway planning surveys conducted over the last two decades by the State highway departments in cooperation with the United States Bureau of Public Roads.

The estimates of need show that a 10-year construction program to modernize all of our roads and streets will require expenditure of \$101 billion. This figure cannot properly be compared with any previous estimate of the Nation's road needs because none has ever before been made on the same basis. Earlier estimates producing figures of about half the present amount were based on traffic conditions and road deficiencies which existed at the time of the studies. In this latest survey, however, traffic volumes expected to be reached in 10 to 20 years from completion of the systems have been used, producing a much more realistic determination of the requirements to be met during the reasonable life of the improvement. For example, an estimate made for the interstate system in 1948 without any regard for the future requirements caused by further growth already is obsolete because of a 40 percent increase in travel since that time.

The preliminary 10-year totals of needs by road systems are:

	<i>Billions</i>
Interstate system (urban \$11, rural \$12 billion)-----	\$23
Federal-aid primary (urban \$10, rural \$20 billion)-----	30
Federal-aid secondary (rural)-----	15
Subtotal, Federal-aid systems (urban \$21, rural \$47 billion)-----	68
Other roads and streets (urban \$16, rural \$17 billion)-----	33
Total of needs (urban \$37, rural \$64 billion)-----	101

CONTROLLED ACCESS HIGHWAYS

The interstate system which carries the top national economic and defense priority is planned for completion in 10 years. One of its principal features is provision for adequate right-of-way to permit control of access to the highway itself. Otherwise, experience shows that the facility becomes prematurely obsolete due to developments crowding against the roadway which made it unfit for the purposes for which it was designed. Control of access to the degree required by traffic conditions is essential to the protection of life and property. It is also essential to preserve the capacity of the highway. So far as the investment of funds in major roads is concerned, provision for control of access to the extent required by traffic is fundamental. It assures that roads financed by the sale of bonds will still be serving efficiently when the bonds mature at a future date. Even though control of access may not be essential to a particular section of road at the time of construction, provision should be made for future control, when it becomes necessary.

Present highway inadequacy results in part from the need to replace highways which have become unsafe and limited in capacity because of unlimited and uncontrolled access. We must not repeat

such costly mistakes in the large investments which must be made now.

State highway departments cannot meet the need for this type of facility. At the current rate of improvement, the interstate network would not reach even a tolerable level of efficiency in half a century. It is clearly necessary in the national interest to accelerate the program.

Under the standards used in developing the program, approximately 7,000 miles of the interstate system when completed to 1974 standards would remain 2-lane highways, but large sections would become 4, and in some cases 6- and 8-lane facilities to meet anticipated traffic volumes.

Additional grade separation structures also will be required at many points on the system to carry intersecting routes over or under the main route, and traffic will be brought onto and taken off the highway at selected points with maximum safety. The capacity of the road will thus be permanently preserved, and, where necessary, adjacent service roads will be built to serve local traffic needs. The preliminary estimated cost of modernizing the presently designated interstate mileage on this basis in 10 years is \$23 billion.

In constructing a controlled access system, care must be exercised to insure that traditional free enterprise is promoted and that no monopolistic tendencies develop in the provision of needed facilities to service the highway user with food, lodging, vehicle fuel, and similar needs. This is a problem which requires careful thought and planning not only by Federal and State Governments but also by private industry serving the highways so that equitable plans may be developed taking local requirements into account.

On a considerable portion of the interstate network (especially in urban and suburban areas) it will be more economical to relocate than to acquire the additional land necessary to permit control of access. Realignment of the highway to eliminate sharp curves will be required in some sections and changes in location to reduce mileage between terminal points will be required in others.

TOLL ROADS ON INTERSTATE SYSTEM

Some States have utilized the toll method of financing to provide adequate sections on the interstate system. Therefore, our Committee has given careful consideration to this method of financing. As of December 1, 1954, 7 States have 988 miles of toll roads in operation which parallel or coincide with the interstate system. The estimated construction cost of these toll roads was \$1.1 billion. Another 1,200 miles, presently under construction or financed, also coincide with the interstate system. These routes, to cost \$1.9 billion upon completion, lie in 9 States, 4 of which have toll roads already in operation.

Agencies have been set up in 17 States and authorized to study and plan nearly 4,000 more miles of toll roads which would coincide with the interstate system. Estimated cost of these authorized toll routes is put at \$4.3 billion. However, recent studies disclosed that of the 4,000 miles at least 914 miles, costing \$991 million, do not appear economically feasible.

Thirteen States have proposed, but not yet authorized, another 3,500 miles of toll roads which would coincide with the interstate system. Available estimates set the cost of these proposals at \$2.6

billion. Investigations to date on a portion of the 3,500 miles proposed have disclosed that at least 240 miles, costing \$200 million, would not be financially feasible.

☐ In summary, 5,242 miles of toll roads in operation, under construction, financed, or authorized, either parallel or coincide with the interstate system in 23 States. This mileage does not include those proposed projects found not to be feasible. Additional proposals in these States and in 5 more States, excluding projects found economically unfavorable, bring the total of present and potential toll routes coinciding with the interstate system to 8,527 miles.

☞ Thus, it seems clear that while toll financing on a sound financial basis can meet the needs of a limited portion of the system, it cannot support the cost for the system as a whole. It is obvious, of course, that existing toll roads must be protected in their appeal to traffic.

However, our Committee feels strongly that the Federal Government should not enter into toll-road construction nor provide funds for deficit financing of otherwise non-self-supporting projects. It feels equally strongly that this is a question to be resolved by State governments. Since the national interest is an adequate highway system, sound toll projects which fit into the system are worthy of consideration by the States, as discussed later in the report.

The Committee believes that major structures such as bridges and tunnels should be financed from tolls to the extent feasible financially. It would leave this determination to the judgments of the States as approved by the Federal Highway Corporation. It does not recommend credit being given for the cost of such structures financed by separate toll charges as compared with lesser structures considered and financed as integral parts of the highway.

About half of the States have provided for meeting their interstate system needs through construction of expressways and freeways of design standards equaling or exceeding those of the toll-financed roads, without imposition of tolls, paying for the facilities from current revenues or bond issues of the State amortized principally from gasoline taxes and license fees. The amount of progress made by this method is about the same as through tolls.

However, neither State nor toll-road financing separately or jointly will suffice to finance the interstate system as it should be constructed, and therefore the requisite funds must be found elsewhere.

ADDITIONAL URBAN FEEDER ROUTES NEEDED

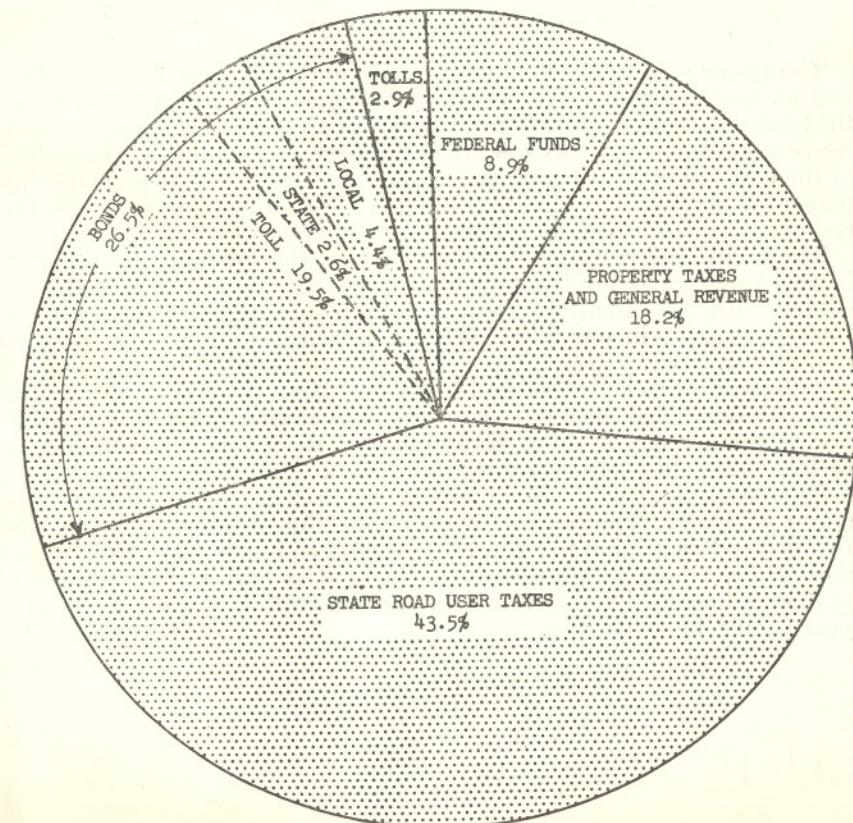
Further to render the interstate system fully effective, it must be tied in much more closely with existing roads in congested areas. This will require provision for the major feeder and distribution routes which at present are not included within any of the Federal-aid systems. Since complete data were not available from the Bureau of Public Roads on this particular point from the current needs study, the Committee arranged for special examination of this feature in several representative metropolitan communities, including a review of cost estimates involved. The examination disclosed that a desirable improvement program for the interstate network should include certain of these urban arterials. Accordingly, the Committee in its appraisal of needs has included \$4 billion as an amount to be assigned for this work over a 10-year period. This is intended to provide only

for the most important connecting roads and is not intended to meet the total needs in this category.

FEDERAL DOMAIN ROADS

The Federal Government has the primary, and in many cases, the sole responsibility for building roads to cross or provide access to federally owned land, the area of which aggregates more than one-fifth of the Nation's total area. In a few cases, States have themselves provided funds to improve these connections across Federal land areas in order to furnish continuity for one of their own main routes. In any estimate of needs for highways to be financed from Federal funds, it is necessary therefore to include the cost of such roads within the Federal domain.

These roads are located in the national forests and parks, Indian reservations, national monuments, and other public lands. While the majority of these road needs are in the Western States, there are also such areas in most of the 48 States, Alaska, Puerto Rico, Hawaii, and the District of Columbia. Many of these roads provide access within our national recreational areas, and serve to generate a considerable portion of the vehicle-travel mileages on which Federal and State fuel-tax revenues are dependent.



SOURCES OF FUNDS FOR HIGHWAYS - 1954

SIZE OF PROGRAM REQUIRED

To what extent will the highway needs of the country—Federal, State, and local—be met if the present program is continued? Allowing for anticipated growth in vehicle registration and usage, the existing tax structure and other highway-revenue sources, there would be available for construction during the next 10 years a total of \$47 billion. As indicated in the tabulation on page 18, the total estimated needs on all systems for that period will be \$101 billion. The gap is therefore \$54 billion.

This then is the deficiency in the roads program—documenting in dollars the goal toward which we must work, as the President has said, if highway transportation is to perform its vital job in an expanding economy. An enlarged construction program is essential on all systems of roads—local, State, and Federal. President Eisenhower underscored its urgency and its justification when he said:

It will pay off in economic growth * * * and we shall only have made a good start in the highways the country will need—in the years just ahead.

V. A FINANCING PROGRAM

THE FEDERAL SHARE

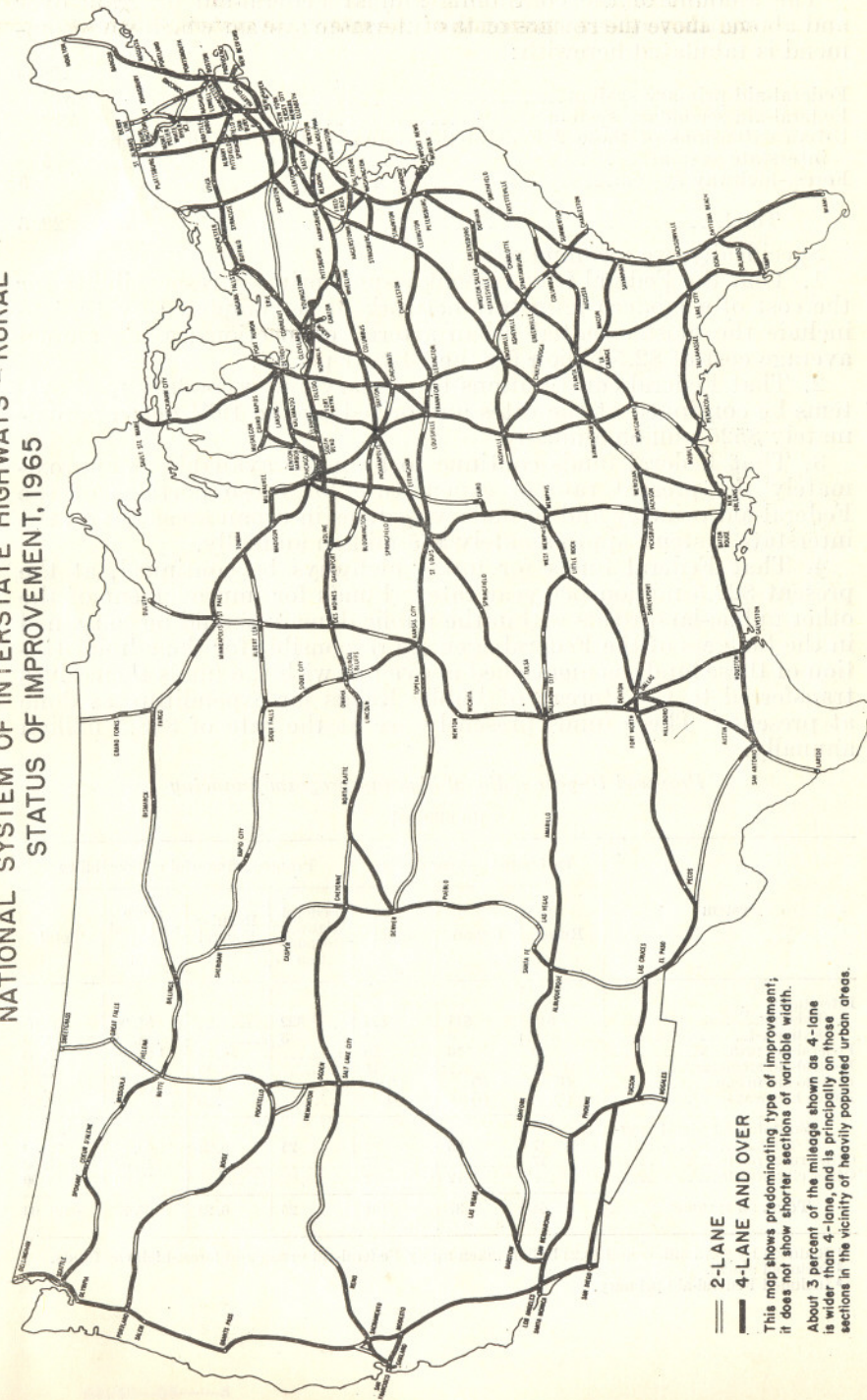
The responsibility for financing road and street construction in the United States is shared by Federal, State, and local governments, with the States and local governments assuming the major portion. If the recommendations of this Committee are accepted, the Federal portion of the cost for this \$101 billion of needed highways would be about 30 percent of the total, leaving to State and local units of government the responsibility to finance the remaining 70 percent.

The additional responsibility accepted by the Federal Government in this program is for the development of the interstate system together with its essential urban arterial connections. The existing Federal interest in our 3,348,000-mile network of highways remains unchanged.

This interest as expressed in the Federal Highway Act of 1916 in its presently amended form authorizes Federal contributions of \$315 million to the primary system, \$210 million to the secondary system, and certain amounts to urban routes and to routes on public lands.

The committee believes these contributions are essential to a balanced program. The funds now authorized for urban routes could be reduced to \$75 million per year, because much of the work to be done with these funds as previously authorized is within the interstate system. Forest-highway funds in the amount of \$22.5 million per year should be continued.

NATIONAL SYSTEM OF INTERSTATE HIGHWAYS - RURAL STATUS OF IMPROVEMENT, 1965



2-LANE
4-LANE AND OVER
This map shows predominating type of improvement; it does not show shorter sections of variable width. About 3 percent of the mileage shown as 4-lane is wider than 4-lane, and is principally on those sections in the vicinity of heavily populated urban areas.

The amount of the continuing annual Federal-aid program over and above the requirements of the interstate system which we recommend is tabulated herewith:

	<i>Million</i>
Federal-aid primary system.....	\$315
Federal-aid secondary system.....	210
Urban extensions of these 2 Federal-aid systems into cities not on the interstate system.....	75
Forest-highway system.....	22.5
Total.....	622.5

Specifically, we recommend:

1. That the Federal Government assume primary responsibility for the cost of a modern interstate network to be completed by 1964 to include the most essential urban arterial connections; at an annual average cost of \$2.5 billion for the 10-year period.

2. That Federal contributions to primary and secondary road systems be continued at the rates authorized by the 1954 act; approximately \$525 million annually.

3. That Federal funds continue to be made available at approximately the present rate of expenditure for those portions of the Federal-aid primary and secondary systems in urban areas not on the interstate system; approximately \$75 million annually.

4. That Federal funds for forest highways be continued, at the present \$22.5 million per year rate. Funds for improvement of the other public-land roads within the public domain should be contained in the budgets of the Federal agencies responsible for the administration of these lands as mentioned above but with the funds themselves transferred to the Bureau of Public Roads for expenditure as done at present. These funds presently are at the rate of \$58.5 million annually.

Proposed 10-year national highway program financing

[In billions]

System	Estimated 10-year needs			Proposed financial responsibility			
	Rural	Urban	Total	Federal Highway Corporation	Regular Federal aid	State and local governments	Total
Interstate:							
Existing.....	\$12	\$11	\$23	\$22		\$1.00	\$23.00
Extended.....		4	4	3		1.00	4.00
Federal-aid primary.....	20	10	30		\$3.15	125.88	29.03
Federal-aid secondary.....	15		15		2.10	12.90	15.00
Federal-aid urban.....	(²)	(²)	(²)		.75	(²)	.75
Forest highways.....	(²)	(²)	(²)		.23		.23
Subtotal, Federal systems.....	47	25	72	25	6.23	40.77	72.00
Other rural roads.....	17		17			17.00	17.00
Other city streets.....		12	12			12.00	12.00
Total, all systems.....	64	37	101	25	6.23	69.77	101.00

¹ Reduced by \$0.75 billion and \$0.23 billion taken up by Federal-aid urban and forest-highway funds.

² Included above.

³ Included Federal-aid primary.

STATE AND LOCAL PARTICIPATION

The Committee is of the view that the traditional requirement for local financial participation is sound and should continue. It was pleased to find that the governors' conference was of the same view. The Committee recommends no change in the matching requirements as presently fixed except for the interstate system and the connecting routes included in the \$27 billion program. In the accelerated program, the States would be expected to contribute annually the amount they are required to contribute now to obtain funds from the \$175 million made available to the interstate system by the Federal Government. The cities would be expected to participate to the same degree. This would make the cost of the 10-year program to the Federal Government about \$25 billion.

PURCHASE OF EQUITY INTEREST IN EXISTING ROADS

Some States have already constructed sections of the interstate system to the required standards with either State or toll financing and others are proceeding along similar lines. Such construction should not be discouraged by this report since our goal is maximum highway improvement. Those States in which sections of the interstate system have been provided to meet the presently established standards for the completed system should receive appropriate credit, provided such funds are used to improve other roads on established Federal-aid systems or as may be approved by the Federal Government and all other Federal funds for highway purposes have been matched as required. No funds should be made available as a credit for toll roads unless the returns from tolls above financing requirements are used exclusively for road construction as contemplated above.

To limit the Federal liability, credit for roads built between 1947 and 1951 should be limited not only to those sections fully meeting the new standards but also to a maximum of 40 percent of costs other than financing. The credit for those roads completed prior to the calendar year 1955 should be limited to 70 percent of such costs. In no instance would credit be given for Federal funds expended on the road or for toll roads in excess of remaining amortization. Roads built at a later date should be credited at full cost.

The funds thus made available to the States will not only encourage matching of available funds but will also make possible accelerated improvement of primary, secondary, and other roads, and will encourage local financing of interstate mileage to make funds available for other roads without increasing total Federal responsibility. They will be paid to the States only as required to meet the costs of projects approved for construction and, it thus appears, would provide a major incentive to the highway improvement program as a whole.

A FEDERAL HIGHWAY CORPORATION

The Committee finds it feasible to finance the needed improvements on the interstate network through a capitalization of appropriated funds in accordance with accepted financial principles, creating for this purpose a Federal Highway Corporation as an independent agency of the Government.

In the expenditure of funds provided for the interstate system, the Committee recommends that Congress provide legislation to guide the Corporation in allocating such funds in a manner which would reflect the needs of the system in the respective States as jointly determined by the Commissioner of Public Roads and the States, and finally certified by the Commissioner of Public Roads.

To accomplish its purposes, the Federal Highway Corporation should be empowered by the Congress among other things to issue bonds and utilize the proceeds therefrom for the following purposes:

1. For payments by the Corporation to the States of the cost of constructing projects on the interstate system and approved arterial connecting routes in urban areas; or payments of the cost of such projects undertaken by the Federal Government in the Federal domain;

2. To establish an appropriate credit to a State which has built subsequent to the date of designation of the interstate system or does build within the period 1955-64 with State funds, or funds of an agency under State highway department control, sections of the interstate system, toll or nontoll, in conformance with the prescribed design standards and other requirements which may be established by the Congress and the Corporation;

3. For necessary costs of administration, research, planning, and other purposes as authorized by the Congress;

4. To establish an advance revolving fund, if requested by any State highway department, to enable it to prosecute the program pending receipt of any payments described above.

Consideration might be given to authorizing the Corporation at the request of a State, to receive funds to be made available annually by the State to extend its bond issue thus capitalizing for the State its proposed annual expenditures on the interstate system. This might be helpful in those States with income insufficient to meet their matching requirements. It would require agreement as to rate of interest, security, and charges made by the Corporation for this service. Such agreement should be made only with the approval of the Treasury and then, only if possible without affecting the marketability and cost of the bond issue.

BOND ISSUES

The Corporation should be authorized to issue bonds, in an amount sufficient to meet its share of the costs to complete the interstate system during a construction period of 10 years, with maturity schedules, interest rates and other conditions determined by the Corporation with the approval of the Secretary of the Treasury. Similar authority would extend to issuance of other bonds under one of the State participating proposals referred to above. The bonds would be fully taxable.

The obligations of the Federal Highway Corporation issued for interstate system improvements should be secured by a contract between the Corporation and the Treasury Department under the terms of which, it should be provided that the Corporation will receive certain specified amounts annually as authorized by the Congress, always sufficient to meet its obligations. It is estimated that these amounts plus those proposed herein for continued allocations to the other Federal-aid highway programs, will be approximately equivalent to that portion of the receipts from Federal taxes on gasoline and lubricating oils.

These and other moneys received by the Corporation would be pledged in the first instance for payment of the interest and principal on any obligations issued by the Corporation. All balances remaining after the payment of debt service would be used solely, apart from setting up such operating reserve as may seem desirable, for improving the interstate highway system, the approved urban feeders and other purposes described above.

The Corporation should have a mandatory call on the United States Treasury for loans up to some agreed total, possibly \$5 billion outstanding at any given time, in order to assure investors of ability to meet obligations when due through borrowing temporarily from the Treasury, if ever necessary.

In order to broaden the market for the bonds of the Corporation, the enabling act should permit commercial banks to underwrite and deal in its securities in the same manner as those of the farm credit agencies and the International Bank for Reconstruction and Development. This would provide the widest possible trading as well as investment interest.

ANNUAL COSTS OF THE PROGRAM

A table on the following page illustrates a possible schedule of annual debt service requirements. This indicates that the cost of the recommended program is offset by the anticipated growth in a single revenue source without an increase in present rates (January 1955) and without the need to reduce the continuing Federal-aid program for other roads. It is not recommended that the tax received from any source be earmarked or linked to the amount of construction program. However, the table does show that the proposed additional program could be paid for with the anticipated increase in revenue from the established gasoline tax. Thus, the program creates no demand for further taxation for its accomplishment.

The general outline of this program has been discussed with Treasury Department representatives, the Council of Economic Advisers, Department of Commerce, and Department of Defense as well as with State and municipal representatives who have indicated in a general way their acceptance of the program. Banking and investment banking experts have approved the proposed financing as feasible.

In estimating the value of the project the Committee has made no attempt to evaluate possible revenue from rentals to concessionaires serving the traveling public nor has it attempted to estimate the additional tax revenue which will result from the creation of new values in real property resulting from the improvement.

Financial plan for highway program—Excess Federal gasoline tax over \$623 million annually available for highway program

[In million dollars]

Year	Estimated ¹ Federal 2-cent tax less \$623 million	Construction expenditures			Bond maturities, years	Annual debt service			Annual excess revenues	Balance
		Total	From revenues	From bond proceeds		Interest 3 per cent	Principal	Total		
1956	\$527	\$1,000	\$500	\$500	11				\$27	\$27
1957	567	2,000	500	1,500	13	\$15		\$15	52	79
1958	611	2,500	600	1,900	15	60		60	-49	30
1959	652	2,700	500	2,200	17	117		117	35	65
1960	694	2,900	500	2,400	19	183		183	11	76
1961	734	2,900	500	2,400	20	255		255	-21	55
1962	777	2,900	500	2,400	21	327		327	-50	5
1963	818	2,900	400	2,500	21	399		399	19	24
1964	860	2,700	400	2,300	22	474		474	-14	10
1965	898	2,500	365	2,135	22	543		543	-10	None
1966	943					607		607	336	336
1967	983					607	\$500	1,107	-124	212
1968	1,024					592		592	432	644
1969	1,063					592		592	471	1,115
1970	1,099					592	1,500	2,092	-993	122
1971	1,141					547		547	594	716
1972	1,171					547		547	624	1,340
1973	1,218					547	1,900	2,447	-1,229	111
1974	1,257					490		490	767	878
1975	1,294					490		490	804	1,682
1976	1,339					490	2,200	2,690	-1,351	331
1977	1,381					424		424	957	1,288
1978	1,422					424		424	998	2,286
1979	1,465					424	2,400	2,824	-1,359	927
1980	1,504					352		352	1,152	2,079
1981	1,550					352	2,400	2,752	-1,202	877
1982	1,588					280		280	1,308	2,185
1983	1,631					280	2,400	2,680	-1,049	1,136
1984	1,671					208	2,500	2,708	-1,037	99
1985	1,706					133		133	1,573	1,672
1986	1,745					133	2,300	2,433	-688	984
1987	1,785					64	2,135	2,199	-414	570
Total	37,118	25,000	4,765	20,235		11,548	20,235	31,783		

¹ Motor fuel and lubricating oil taxes levied by Federal Government—estimated by Bureau of Public Roads.

VI. EFFICIENT ADMINISTRATION

ORGANIZATION FOR ADMINISTRATION

The size of this construction program makes its efficient administration most important. Fortunately, the existing Federal-State partnership in this field has demonstrated its effectiveness over four decades. It should be retained and fully utilized with care taken to avoid establishment of any unnecessary new agencies.

However, a new agency must be established to exercise the proposed financial authority as previously set forth. It should be small in size with its administrative functions exercised by existing agencies. The committee recommends that the Federal Highway Corporation should consist only of a Board of Directors with secretarial assistants. Three members-at-large would be appointed by the President and confirmed by the Senate, while the Secretary of the Treasury and the Secretary of Commerce would be ex officio members. On problems of location, the Secretary of Defense would also serve as an ex officio member.

The terms of office of the 3 appointed members should be staggered over 5 years or some reasonably similar period of time to insure

maximum continuity of management for the Corporation. The public members might initially have 1-, 3-, and 5-year terms and be eligible for reappointment. The Chairman of this group should be designated by the President with the Chairman alone drawing an annual salary and expected to devote full time to the task. The other two members should draw appropriate per diems and allowances only when serving on the Corporation's business. The Corporation should have legal corporate status for the issuance and management of its bonds and other financial instruments, and the usual powers necessary for the transaction of business as a corporate body. It should be responsible to the President and required to submit annual reports of its transactions to the President for transmittal to the Congress. The Secretary of the Treasury would designate the treasurer of the Corporation to be established within the Treasury Department and authorized to utilize such Treasury Department personnel as the Board found necessary to properly perform its financial responsibilities, charging the costs thereof to the Corporation.

While the Board's functions would be principally of a financial management nature, it would also serve when needed as an appeals board in hearing and deciding, in an administrative as distinguished from a judicial capacity, any major questions which arise between the Bureau of Public Roads and other parties in the execution of this program. This group should have no other management functions in administering the program except those here described. All other responsibilities of management should be vested in the Commissioner of Public Roads, whose present authority should be amended as may be needed to administer the additional responsibilities required by this program. The Board should have as much latitude as feasible in approving agreements with the several States and in resolving differences between the States and the Bureau of Public Roads, bearing in view its purpose to provide a maximum highway program with the total available funds.

Staffing for the Corporation (other than secretarial assistants) would be provided by the Bureau of Public Roads and the Treasury Department. The Bureau of Public Roads would continue to perform all of its presently authorized duties including those in connection with the continuing Federal-aid highway program. The Commissioner of the Bureau of Public Roads would serve as Executive Director of the Corporation in addition to his usual duties as Commissioner of Public Roads.

ADMINISTRATIVE PROBLEMS OF THE PROGRAM

Consideration has been given to certain administrative problems which will arise when a program of this magnitude is undertaken, and while some are difficult, the Committee is convinced they can be satisfactorily met.

Probably the most serious initial obstacle to execution of this program is a shortage of highway engineers and technical personnel. Completion of the interstate system program in 10 years would entail considerable expansion of the workload. A canvass made through the Highway Research Board of the National Academy of Sciences and the American Association of State Highway Officials, whose opinions in this field the Committee accepts as competent, indicates, however, that the shortage can be met by cooperative effort on the part

of highway agencies, particularly if the several States utilize the private engineering organizations capable of providing sound engineering in this field. Simplified procedures and standardization of specifications possible on a long-range program should be encouraged to reduce the engineering requirements.

IMPORTANT TO EXPAND HIGHWAY RESEARCH

An essential part to any large construction program is continuing and adequate research. Therefore, the Committee urges that the present research program be continued and enlarged to insure that the latest thinking of the engineer, the scientist, and the administrator be available to the program, thus insuring economic and efficient accomplishment.

MATERIALS AND CONTRACTORS ARE ADEQUATE

While a construction program of this size would impose an additional and heavy load upon the contracting, road equipment, and highway materials industries, surveys made for this Committee by the American Road Builders' Association and the Associated General Contractors of America give assurance that the program is feasible. A substantial enlargement of the current construction program in the highway field can be achieved by highway contractors without difficulty. Since several years are required for the construction program to reach its peak level, ample time exists for the training of equipment operators and other necessary skilled workers. These conclusions are also substantiated by an earlier and independent finding of the American Association of State Highway Officials. During World War II, the American contracting industry demonstrated its ability to meet successfully a challenging program of this magnitude.

Information furnished by the Bureau of Mines as to the outlook for increased availability of cement, aggregates, and petroleum products indicates that no critical bottlenecks are foreseen once a construction program of definite size and duration is authorized. Other key materials are expected to be available in ample quantities as determined from studies made by the Bureau of Public Roads.

SOME LEGISLATION NEEDED

A study made for the Committee by the Highway Research Board shows that in many States important revisions of enabling legislation governing the financing and construction of State highways will be needed for efficient execution of the program. This modernization of statutes is essential to success of the program, especially in three areas:

1. In the advance acquisition of land necessary for right-of-way;
2. In the control of access, which, as was pointed out earlier in this report is fundamental to the development of the interstate system as contemplated;
3. In the integration through cooperative working agreements of State, city, and county agencies concerned with street and highway research, planning, and construction.

The expeditious purchase of land needed for right-of-way is particularly important from the standpoint of cost. Inadequate State

laws in this regard could be serious obstacles to the program. Likewise the lack of adequate laws to control access in some States could nullify the program. It must be expected that legislatures in those States requiring modification of their statutes will take prompt action to remedy the situation.

It is recommended also that for the early improvement of the interstate system and its connecting urban arterials, provision be made by the Congress for exercise of the Federal right of eminent domain in cases where this is necessary, and is requested by the State, similar to that authority now contained in the Federal-Aid Highway Act as related to the program of access roads for the national defense.

The various agencies concerned with highway administrative research should concentrate early effort to development of the needed legislation whereby States and other agencies may jointly participate in the most effective manner in building the needed highway improvements being recommended herein. It might be pointed out that failure to do this may seriously delay and jeopardize a State opportunity to receive the very substantial Federal aid proposed herein for projects on the interstate system.

Utilities and other interested parties appeared before the Committee to point out the huge costs which they would face in the relocation of utilities in the event the program is adopted. They urged that the Federal Government bear the cost of such relocation. Present estimates include only those right-of-way costs which must be assumed under the laws of the several States and do not contain funds for this purpose. The Committee has not revised these estimates to meet the views thus presented nor does it make any specific recommendation in this proposal which is, of course, far reaching in its effects. It is understood that it is a broad policy matter already receiving the attention and consideration of the Congress.

VII. CONCLUSION

The Committee in arriving at its conclusions has sought the views and recommendations of many representative agencies in our economy, of Federal and local government, and of individuals with outstanding experience in highway development. It has found a preponderant opinion that our present highway system is inadequate for existing traffic, that improvements are not keeping pace with increasing traffic, and that the cost of an inadequate system is high not only in wear and tear on the automobile but also in accidents and loss of life.

At present, approximately \$47 billion is expected to be spent on highway improvement during the next 10 years as compared with \$101 billion needed to modernize our highway system. The Committee believes that about half of this deficit of \$54 billion should be assumed by the Federal Government. The half which represents the cost of a fully modernized network of highways connecting our most important cities, known as the national system of interstate highways, together with important feeder routes in congested population areas can be fully justified as a Federal responsibility due to the value of the system to the national economy as a whole, to interstate commerce, to safety, and to national and civil defense. The remainder of the program should continue either as a joint Federal-State respon-

sibility as in the case of primary and secondary roads, or as a local government responsibility.

The Committee offers no suggestions as to how local governments may raise funds to do their share of the program. Present matching requirements are continued, credits for completed portions of the interstate system must be used on other roads, the assumption of major responsibility by the Federal Government for the interstate system releases corresponding amounts of State funds for other roads. Thus, there is both incentive and encouragement to State and local governments to accelerate their own programs. The Committee hopes and believes that all government units will participate and cooperate in this program designed to meet the needs of a growing America in which the highway system used daily by our people is an integral part of our way of life. In doing so, we shall further strengthen our system of government to meet the President's stated desire for "a cooperative alliance between Federal Government and the States so that local government * * * will be the manager of its own area."

We are indeed a nation on wheels and we cannot permit these wheels to slow down. Our mass industries must have moving supply lines to feed raw materials into our factories and moving distribution lines to carry the finished product to store or home. Moreover, the hands which produce these goods and the services which make them useful must also move from home to factory to store to home.

Our highway system has helped to make this possible. We have been able to disperse our factories, our stores, our people; in short, to create a revolution in living habits. Our cities have spread into suburbs, dependent on the automobile for their existence. The automobile has restored a way of life in which the individual may live in a friendly neighborhood, it has brought city and country closer together, it has made us one country and a united people.

But, America continues to grow. Our highway plant must similarly grow if we are to maintain and increase our standard of living. There can be no serious question as to the need for a more adequate highway system. Only the cost and how it is to be met poses a problem.

The Committee realizes fully the necessity for the reduction and early elimination of the deficit in the annual budget, the reluctance of the Congress to increase the Federal debt limit, and the heavy tax burden already borne by our people. It also is sympathetic to "pay-as-you-go" financing. However, in this instance, the advantages of a modern, efficient national highway network to be completed in 10 years to meet the traffic demands to be reached a decade later, and with a minimum life of 30 years justifies its financing through a bond issue to be retired during the useful life of the system. The proposed financing need not be inflationary since the financing is spread over a 10-year period and the program can be planned to fit in with general governmental fiscal policy. Bonds will be retired on schedules from general revenue to be specifically appropriated by the Congress in which the anticipated increase in the gasoline tax alone suffices to service the bond issue while continuing a substantial Federal-State cooperative program on other roads.

The Committee has complete confidence in the continued growth of America. Its increasing population and expanding economy re-

quires a vastly improved highway system. In fact, we face a challenge today and America has ever evidenced its readiness to meet a challenge head on with practical bold measures.

Therefore, the Committee believes that an increase in Federal expenditures of approximately \$25 billion for highway improvement over the next 10 years is of vital importance to our growth as a nation and recommends the adoption of its financing proposals so that these funds can be made available for the full completion of the interstate system with important urban feeders.

Thus, we will accomplish the objective sought by the President for a "grand plan for a properly articulated highway system that solves the problems of speedy, safe, transcontinental travel—intercity transportation—access highways—and farm-to-market movement—" * * * "paying off in economic growth—" * * * and making "a good start on the highways the country will need for a population of 200 million people."

APPENDIXES

The President's Advisory Committee on a National Highway Program met in Washington on October 7 and 8 to hear representatives of associations interested in highway development. The following associations appeared:

American Railway Association
American Trucking Associations, Inc.
Automobile Manufacturers' Association
Chamber of Commerce of the United States
Truck-Trailer Manufacturers' Association
American Road Builders' Association
National Association of County Officials
American Automobile Association
National Association of Township Officials
Associated General Contractors of America
National Association of Motor Bus Operators
American Petroleum Institute
National Council of Private Motor Truck Owners, Inc.
American Association of State Highway Officials
National Grange
American Farm Bureau Federation
American Municipal Association
Automotive Safety Foundation
Conference of Mayors of the United States
National Highway Users Conference
Independent Advisory Committee to the Trucking Industry
National Parking Association

Existing rural and municipal mileage in the United States, 1953, classified by system

[Compiled for latest available year from State Highway Planning Survey Data—Table M-1, 1953 issued November 1954]

State	Rural mileage												Total rural roads
	Under State control				Under local control				Under Federal control ⁵				
	State primary system	State secondary system ¹	Other State roads ²	Total	County roads ³	Town and township roads ⁴	Other local roads ⁴	Total	National forest highways	National Indian reservation roads	Other national roads	Total	
Alabama	6,981	4,212		11,193	49,398			49,398					60,591
Arizona	3,859		3	3,862	16,273		33	16,306	3,572	4,396	512	8,480	28,648
Arkansas	9,446		7	9,453	55,993			55,993	1,067			1,067	66,513
California	12,643			12,643	66,665			81,188	19,268			19,268	113,099
Colorado	7,514	(7)	⁸ 17	7,531	35,032			61,453	653	19	116	788	69,772
Connecticut	⁸ 2,362		188	2,550		7,929		7,929					10,479
Delaware	452	3,390		3,842									3,842
Florida	8,643	1,829	⁸ 26	10,498	30,929			30,929	736		390	1,126	42,553
Georgia	13,527		32	13,559	⁸ 69,516			69,516	56			56	83,131
Idaho	4,533		5	4,538	17,664	9,519		27,183	7,870	512	9	8,391	40,112
Illinois	10,471			10,471	19,983	73,408		93,391					103,862
Indiana	9,753			9,753	75,730			75,730					85,483
Iowa	8,681		118	8,799	92,168			92,168					100,967
Kansas	9,425			9,425	116,123			116,123			12	12	125,560
Kentucky	16,311			16,311	43,470			43,470	159		168	327	60,108
Louisiana	2,210	11,853		14,063	25,907			25,907					39,970
Maine	2,924	7,664	⁸ 128	10,716		8,139		8,139	29		60	89	18,944
Maryland	4,546			4,546	12,327			12,327					16,873
Massachusetts	1,978		123	2,101		15,925		15,925					18,026
Michigan	8,271			8,271	84,680			84,680					92,951
Minnesota	10,364		1,256	11,620	41,742	55,790		97,532	1,011	408	8	1,427	110,579
Mississippi	7,240			7,240	53,916			53,916	904		125	1,029	62,185
Missouri	7,904	12,260		20,164	78,230			78,230	1,088			1,088	99,482
Montana	5,516	3,403		8,919	54,170			54,170	5,650	754	295	6,699	69,788
Nebraska	9,417		33	9,450	67,170	23,004		90,174	113		146	259	99,883
Nevada	2,132	3,735		5,867	19,678			19,678					25,545
New Hampshire	1,485	2,161	⁸ 15	3,661		8,585		8,585	128			128	12,374
New Jersey	1,229		⁸ 582	1,811	4,894	10,430		15,324					17,135
New Mexico	10,682		3	10,685	45,820			45,820	2,631	1,493	34	4,158	60,663
New York	12,938		⁸ 621	13,559	⁸ 18,527	54,304		72,831					86,390
North Carolina	10,770	54,970	45	65,785					845	115	308	1,268	67,053
North Dakota	6,480			6,480	25,361	82,130		107,491		437	37	474	114,445
Ohio	16,019			16,019	28,753	37,407		66,160					82,179
Oklahoma	9,768		⁸ 88	9,856	81,764			81,764		338		338	91,958
Oregon	4,492	2,415	799	7,706	31,198		1,110	32,308	13,024	1,295	209	14,528	54,542

NATIONAL HIGHWAY PROGRAM

Pennsylvania	12,796	25,280	⁸ 3,660	41,736		765	44,978	45,743	209		4	119	332	87,811
Rhode Island	599		64	663			1,095	1,095						1,758
South Carolina	8,116	13,482	122	21,720	26,235			26,235						47,955
South Dakota	6,492		63	6,555	20,142		61,864	82,006						89,087
Tennessee	7,464		355	7,819	56,196			56,224		1,042	84	1,126		64,726
Texas	42,874			42,874	153,756			153,756	535		148	683		196,630
Utah	4,808			4,808	16,732			16,732	4,073		512	1,270	5,855	27,395
Vermont	1,791		68	1,859			11,083	11,083	14			8	22	12,964
Virginia	7,868	39,732	12	47,612	512			512	593			501	1,094	49,218
Washington	3,824	2,019	143	5,986	39,455			39,455	6,187	712	78	6,977	52,418	33,238
West Virginia	4,487	26,233	322	31,042	18,577	57,599	1,682	76,176	96		303	399		86,691
Wisconsin	10,036		80	10,116	15,075		4,500	19,575	1,353		327	308	1,988	20,344
Wyoming	4,781			4,781										
District of Columbia														
Total	376,902	214,638	8,978	600,518	1,710,516	563,189	48,307	2,322,012	72,378	12,667	4,945	89,990	3,012,520	

See footnotes at end of table, p. 37.

NATIONAL HIGHWAY PROGRAM

State	Municipal mileage						Total rural and municipal mileage	
	Under State control			Under local control ⁶				
	Extensions of State primary systems	Extensions of State secondary systems	Total	Extensions of county, town and township roads	Local city streets	Total		
Alabama	877		877		6,310	6,310	7,187	67,778
Arizona	98		98		1,626	1,626	1,724	30,372
Arkansas	583		583	338	3,846	4,184	4,767	71,280
California	1,278		1,278		23,275	23,275	24,553	137,652
Colorado	337		337		4,255	4,255	4,592	74,364
Connecticut	604		604		4,194	4,194	4,798	15,277
Delaware	83	80	163		410	410	573	4,415
Florida	1,137	101	1,238		11,434	11,434	12,672	55,225
Georgia	1,570		1,570	2,565	5,200	7,765	9,335	92,466
Idaho	208		208		2,061	2,061	2,269	42,381
Illinois	1,807		1,807		17,354	17,354	19,161	123,023
Indiana	904		904		11,067	11,067	11,971	97,454
Iowa	1,046		1,046		10,160	10,160	11,206	112,173
Kansas	519		519		6,940	6,940	7,459	133,019
Kentucky	641		641		2,780	2,780	3,401	63,509
Louisiana	340	631	971	343	5,297	5,640	6,611	46,581
Maine	237	235	472		1,146	1,146	1,618	20,562
Maryland	250		250	112	2,440	2,552	2,802	19,675
Massachusetts	131		131		6,349	6,349	6,480	24,506
Michigan	1,030		1,030	462	12,630	13,092	14,122	107,073
Minnesota	1,472		1,472	1,657	8,815	10,472	11,944	122,523
Mississippi	537		537	158	3,398	3,556	4,093	66,278
Missouri	1,026		1,026		10,650	10,650	11,676	111,158
Montana	164	50	214		1,518	1,518	1,732	71,520
Nebraska	411		411		5,047	5,047	5,458	105,341
Nevada	52	20	72		506	506	578	26,123
New Hampshire	172	113	285		995	995	1,280	13,654
New Jersey	546		546	1,758	9,402	11,160	11,706	62,568
New Mexico	411		411		1,494	1,494	1,905	103,327
New York	137		137		16,800	16,800	16,937	75,490
North Carolina	1,126	1,323	2,449		5,988	5,988	2,290	116,735
North Dakota	250		250	566	1,474	2,040	2,290	98,491
Ohio	2,384		2,384		13,928	13,928	16,312	99,253
Oklahoma	528		528	623	6,144	6,767	7,295	59,268
Oregon	393		393	172	4,161	4,333	4,726	59,268
Pennsylvania	1,851	1,175	3,026	2,263	11,860	14,123	17,149	104,960

Rhode Island	265		265		2,046	2,046	2,311	4,069
South Carolina	716	1,351	2,067		2,500	2,500	4,567	52,522
South Dakota	225		225		2,033	2,033	2,258	91,945
Tennessee	671		671		4,370	4,370	5,041	69,767
Texas	2,512		2,512		25,795	25,795	28,307	224,937
Utah	593		593		3,062	3,062	3,655	31,050
Vermont	165		165		656	656	821	13,785
Virginia	804	443	1,247		3,775	3,775	5,022	54,240
Washington	326	138	464		6,160	6,160	6,624	59,042
West Virginia	444	127	571		2,390	2,390	2,961	36,199
Wisconsin	1,254		1,254	561	7,424	7,985	9,239	95,930
Wyoming	118		118		738	738	856	27,200
District of Columbia					1,189	1,189	1,189	1,189
Total	33,233	5,787	39,020	11,578	303,072	314,650	353,670	3,366,190

¹ Includes mileage of county roads under State control in Alabama (4 counties), Delaware, North Carolina, Virginia (all but 2 counties), and West Virginia; 6,611 miles designated as farm-to-market system in Louisiana; State-aid system in Maine; and 19 miles of State-aid roads in Montana.

² Includes mileage of State park, forest, institutional, toll, and other roads, rural and municipal, that are not a part of the State or local highway systems.

³ Includes local roads designated as State-aid mileage as follows: Illinois, 19,983 miles; Minnesota, 15,634 miles; and Vermont, 2,550 miles.

⁴ Roads not on county, town, or township systems. The mileage shown for California, Colorado, and Wyoming has not been classified by administrative system.

⁵ Includes only the mileage of roads not forming a part of the State or local highway system.

⁶ Municipal extensions of county, town, and township roads cannot be segregated for all States.

⁷ Mileage previously reported here is now a part of the State primary and local road systems.

⁸ Toll roads are included as follows: Colorado, Denver-Boulder Turnpike, 17 miles; Connecticut, Merritt, and Wilbur Cross Parkways, 67 miles; Florida, Buccaneer Trail, 15 miles; Georgia, Brunswick-St. Simon Highway, 11 miles; Maine Turnpike, 45 miles; New Hampshire Turnpike, 15 miles; New Jersey Turnpike, 118 miles; New York county parkways, 26 miles, State parkways, 13 miles; and the New York State Thruway, 80 miles; Oklahoma, Turner Turnpike, 83 miles; Pennsylvania Turnpike system, 328 miles.

Source: Department of Commerce, Bureau of Public Roads.

Existing rural and municipal mileage in the United States, 1953, classified by system and type of surface

(Compiled for latest available year from State Highway Planning Survey Data—Table M-2, 1953, issued November 1954)

[In thousand miles]

System	Total	Nonsurfaced mileage ¹	Surfaced mileage			
			Total	Low type ²	Intermediate type ³	High type ⁴
Rural mileage:						
Under State control:						
State primary systems	377	8	369	41	129	199
State secondary systems	87	8	79	28	34	17
County roads under State control ⁵	127	29	98	56	33	9
State parks, forests, reservations, etc. ⁶	9	5	4	2	1	1
Total	600	50	550	127	197	226
Under local control:						
County roads	1,711	779	932	741	155	36
Town and township roads	563	215	348	281	48	19
Other local roads	48	43	5	4	1	1
Total	2,322	1,037	1,285	1,026	204	55
Under Federal control: National parks, forests, reservations, etc. ⁶	90	70	20	18	1	1
Total rural mileage	3,012	1,157	1,855	1,171	402	282
Municipal mileage:						
Under State control: Extensions of State highway systems	39	1	38	1	9	28
Under local control: City streets	315	48	267	69	94	104
Total municipal mileage	354	49	305	70	103	132
Total rural and municipal mileage in the United States	3,366	1,206	2,160	1,241	505	414

¹ Nonsurfaced mileage includes primitive and unimproved and graded and drained roads.² Consists of slag, stabilized soil, and gravel or stone surfaces.³ Consists of bituminous treated and mixed bituminous surfaces.⁴ Consists of bituminous penetration, bituminous concrete, sheet asphalt, Portland cement, concrete, brick, and block surfaces.⁵ County roads are under State control in Alabama (4 counties), Delaware, North Carolina, Virginia (all but 2 counties), and West Virginia.⁶ State and National park, forest, reservation, toll, and other roads that are not a part of the State or local systems.

Source: Department of Commerce, Bureau of Public Roads.

Toll roads and the United States interstate highway system

State	In operation	Under construction or financed	Authorized	Total	Additional proposals	Total
Alabama					330	330
Arkansas					133	133
Connecticut	67	130		197		197
Florida			103	103	366	469
Georgia			² 415	415		415
Illinois			³ 417	417		417
Indiana		157	150	307	⁴ 220	527
Iowa					298	298
Kansas		234		234		234
Kentucky		40	100	140	100	240
Louisiana					75	75
Maine	47	66	200	313		313
Massachusetts		123		123	10	133
Michigan			⁵ 351	351		351
Mississippi					290	290
Missouri					458	458
Nebraska			300	300		300
New Hampshire	15		40	55		55
New Jersey	118	6	79	203		203
New York	396	163		559	373	932
Ohio		240	⁶ 295	535		535
Oklahoma	88	88	222	398		398
Pennsylvania	327		130	457		457
Tennessee					885	885
Texas			659	659		659
Virginia			36	36		36
Washington			70	70		70
Wisconsin			1 287	287	1 40	327
Total miles	1,058	1,247	3,854	6,159	3,578	9,737
Less not feasible			917	917	283	1,200
Total			2,937	5,242	3,295	8,537

¹ Not feasible.² 65 miles not feasible.³ 280 miles not presently feasible.⁴ 110 miles not feasible.⁵ 60 miles not feasible.⁶ 225 miles not feasible.

Toll roads paralleling or serving same cities as designated United States interstate highway system, Dec. 15, 1954

State	Toll route	Miles	Status	Cost ¹
Alabama	Tennessee line-Mobile	330	Proposed; not authorized	Millions \$250
Arkansas	West Memphis-Little Rock	133	Under study; not authorized; previously found not feasible	100
Connecticut	Merritt and Wilbur Cross Parkways	67	In operation	38.0
Florida	Greenwich-Killingly Expressway	130	Bonds partially sold	398.0
	Hollywood-Fort Pierce	103	Authorized	87
	Fort Pierce-Jacksonville	238	Proposed; not authorized	150
	Titusville-Clearwater	128	do	80
Georgia	Buccaneer trail extension	50	Authorized; not studied	30
	Cartersville-Florida line	300	do	225
	Tennessee line-Cartersville	65	Authorized; not feasible	40
Illinois	Chicago-Rockford	100	Authorized; under study	100
	Chicago-Antioch	14	do	40
	Chicago-Iowa line	149	Authorized; 126 miles not feasible	162
	East St. Louis-Indiana line	154	Authorized; not feasible	163
Indiana	Hammond-Indianapolis	150	Authorized	225
	Indianapolis-Kentucky line	110	Not feasible	100
	East-West Turnpike	157	Under construction	280.0
	Indianapolis-Cincinnati	110	Proposed; not authorized	100
Iowa	Council Bluffs-Davenport	298	do	180
Kansas	Kansas City-Topeka-Wichita-Oklahoma line	234	Bonds sold	160.0
Kentucky	Louisville-Elizabethtown	40	Under construction	38.5
	Elizabethtown-Tennessee line	100	Authorized; not studied	80
	Louisville-Cincinnati, Ohio	100	Proposed; not authorized	80

See footnote at end of table, p. 42.

Gross national product, 1953-74, projected at a 3 percent per year rate of increase

[Billions of dollars]			
1953 (actual)	364.9	1965 (projected)	520.4
1954 (projected)	375.8	1966	536.0
		1967	552.1
1955	387.1	1968	568.7
1956	398.7	1969	585.8
1957	410.7	1970	603.4
1958	423.0	1971	621.5
1959	435.7	1972	640.1
1960	448.8	1973	659.3
1961	462.3	1974	679.1
1962	476.2		
1963	490.5	Total 1965-74	5,966.4
1964	505.2	Total 1955-74	10,404.6
Total 1955-64	4,438.2		

Highway construction activity as related to gross national product.

Year	Total highway construction expenditures (millions of dollars)	Gross national product (current billions of dollars)	Construction as percent of gross national product
1921	853	68.5	1.3
1922	876	69.9	1.3
1923	805	81.6	1.0
1924	987	82.0	1.2
1925	1,082	86.4	1.3
1926	1,067	92.3	1.2
1927	1,222	90.9	1.3
1928	1,289	93.7	1.4
1929	1,266	103.8	1.4
1930	1,516	90.9	1.7
1931	1,355	75.9	1.8
1932	958	58.3	1.7
1933	847	55.8	1.4
1934	1,000	64.9	1.5
1935	845	72.2	1.1
1936	1,362	82.5	1.7
1937	1,226	90.2	1.3
1938	1,421	84.7	1.7
1939	1,381	91.3	1.5
1940	1,302	101.4	1.3
1941	1,066	126.4	.9
1942	734	161.6	.4
1943	446	194.3	.2
1944	362	213.7	.2
1945	398	215.2	.2
1946	895	211.1	.4
1947	1,451	233.3	.6
1948	1,774	259.0	.7
1949	2,131	258.2	.8
1950	2,272	284.2	.8
1951	2,518	329.2	.8
1952	2,860	348.0	.8
1953	3,222	364.9	.9
1954 (estimate)	3,729		

¹ Revised.

Source: U. S. Department of Commerce, Construction and Building Materials, statistical supplement, May 1953; August 1953, 20th Century Fund; 1921-28, Survey of Current Business, May 1942, p. 12; 1929-53, Council of Economic Advisers, January 1954; 1953-54, Bureau of Public Roads.

Proposed highway construction activity, 1955-64, as related to gross national product projected at 3 percent rate of increase, 1953 dollars

Year	Total highway construction expenditures (millions of dollars)	Gross national product (billions of dollars)	Construction as percent of gross national product
1955	10,136.5	387.1	2.6
1956	10,136.5	398.7	2.5
1957	10,136.5	410.7	2.5
1958	10,136.5	423.0	2.4
1959	10,136.5	435.7	2.3
1960	10,136.5	448.8	2.3
1961	10,136.5	462.3	2.2
1962	10,136.5	476.2	2.1
1963	10,136.5	490.5	2.1
1964	10,136.5	505.2	2.0
Total	101,365.0	4,438.2	
Average			2.3

Estimate of travel by motor vehicles, 1921-54

Year	Vehicle-miles (millions)	Percent change from previous year	Year	Vehicle-miles (millions)	Percent change from previous year
1921	55,027		1938	271,177	0.4
1922	67,697	23.0	1939	285,402	5.2
1923	84,995	25.6	1940	302,143	5.9
1924	104,838	23.3	1941	333,396	10.0
1925	122,346	16.7	1942	267,096	-19.9
1926	140,735	15.0	1943	206,747	-22.6
1927	158,453	12.6	1944	211,580	2.3
1928	172,856	9.1	1945	249,344	17.8
1929	197,720	14.4	1946	340,655	36.6
1930	206,320	4.4	1947	370,622	8.8
1931	216,151	4.8	1948	397,589	7.3
1932	200,517	-7.2	1949	424,089	6.7
1933	200,642	(¹)	1950	457,222	7.8
1934	215,563	7.4	1951	479,369	4.8
1935	228,568	6.0	1952	512,242	6.9
1936	252,128	10.3	1953	540,707	5.6
1937	270,110	7.1	1954	557,000	3.0

¹ Less than 0.1 percent increase.
² Excludes military traffic.

Source: Highway Statistics Summary to 1945, Bureau of Public Roads; Highway Statistics for respective years 1947-48, Bureau of Public Roads; Bureau of Public Roads estimates for 1953 and 1954; Automobile Facts and Figures, 1953, Automobile Manufacturers Association for 1921-35 and 1949-51 data; Public Roads, June 1954, vol. 28, No. 2, for 1952 data.

State and Federal gasoline tax rates by years ¹

(Table G-205, issued August 1954)

[Cents per gallon]

State	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	
Alabama	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Arizona	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Arkansas	6-6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
California	3	3	3	3	3	3	3	3	3	3	3	3	3	3-4.5	4.5	4.5	4.5	4.5	4.5	4.5-6	6	6
Colorado	4-5-4	4	4	4	4	4	4	4	4	4	4	4	4	4.6	6	6	6	6	6	6	6	6
Connecticut	3	3	3	3	3	3	3	3	3	3	3	3	3	3-4	4	4	4	4	4	4	4	4
Delaware	3	3-4	4	4	4	4	4	4	4	4	4	4	4	4	4	4-5	5	5	5	5	5	5
Florida	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Georgia	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6-7	7	7	7	7	7	7
Idaho	5	5	5	5	5	5.1	5.1	5.1	5.1	5.1	5.1	5.1-5	6	6	6	6	6	6	6	6	6	6
Illinois	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3-4	4	4	4	4
Indiana	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Iowa	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Kansas	5	5	5	5	5	5	5	5	5	5	5	5	5	3-4	4	4	4	4	4	4	4	4
Kentucky	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4-5	5	5	5	5	5	5
Louisiana	5	5	5-7	7	7	7	7	7	7	7	7	7	7	5	5-7	7	7	7	7	7	7	7
Maine	4	4	4	4	4	4	4	4	4	4	4	4	4	4-6	6	6	6	6	6	6	6	6
Maryland	4	4	4	4	4	4	4	4	4	4	4	4	4	4-5	5	5	5	5	5	5	5	5
Massachusetts	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3-4	4	4	4	4
Michigan	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3-4.5	4.5	4.5	4.5	4.5
Minnesota	3	3	3	3-4	4	4	4	4	4	4	4	4	4	4	4	4-5	5	5	5	5	5	5
Mississippi	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6-7	7	7	7	7	7
Missouri	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2-3	3	3	3
Montana	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5-6	6	6	6	6	6	6
Nebraska	4	4-5	5	5-4	5	5	5	5	5	5	5	5	5	5	5	5-6	6	6	6	6	6	6
Nevada	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
New Hampshire	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4-4.5	4.5	4.5	4.5	4.5	4.5	4.5
New Jersey	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
New Mexico	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5-7	7	7	7	7	7	7
New York	3	3-4	4-3	3-4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
North Carolina	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
North Dakota	3	3	3	3	3	3-4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Ohio	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Oklahoma	4	4	4	4	4	4	4	4-5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Oregon	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
Pennsylvania	3	3-4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Rhode Island	2	2	2	2-3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
South Carolina	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
South Dakota	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Tennessee	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Texas	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Utah	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Vermont	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Virginia	5	5	5	5	5	5	5	5	5	5	5	5	5	4-4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Washington	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
West Virginia	4	4	4	4-5	5	5	5	5	5	5	5	5	5	5	5	5-6.5	6.5	6.5	6.5	6.5	6.5	6.5
Wisconsin	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Wyoming	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
District of Columbia	2	2	2	2	2	2	2	2	2	3	3	3	3	3-4	4	4	4	4	4	4	4	4
State average ²	3.66	3.80	3.85	3.91	3.96	3.96	3.96	3.99	3.99	4.05	4.06	4.10	4.16	4.25	4.35	4.52	4.65	4.74	4.83	5.10	5.10	5.10
Federal tax	1	1	1	1	1	1	1-1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5-2	2	2	2	2

¹ This table gives the tax rates at the beginning of each year, the changes during the year, and the rates in effect at the end of the year. For 1954, the final rates shown are those in effect Aug. 1. For tax rates in earlier years, see p. 2 of Highway Statistics, Summary to 1945.

² Weighted average rates based on the net gallons taxed.

Source: Department of Commerce, Bureau of Public Roads.

Estimated expenditures for highway and street purposes, 1953-54¹

(Table HF-2, preliminary, June 1954)

Expended on—	1953 preliminary estimate		1954 forecast	
	Million dollars	Percent	Million dollars	Percent
State highways: ²				
Capital outlay.....	2,276	39.5	2,740	42.8
Maintenance.....	628	10.9	660	10.3
Administration ³	130	2.2	135	2.1
Highway police.....	105	1.8	107	1.7
Interest.....	100	1.7	138	2.2
Total direct expenditures.....	3,239	56.1	3,789	59.1
Obligations retired ⁴	125	2.2	150	2.3
Total disbursements.....	3,364	58.3	3,930	61.4
County and other local rural roads:				
Capital outlay.....	463	8.0	488	7.6
Maintenance.....	634	11.0	639	10.0
Administration ³	55	1.0	56	.9
Interest.....	27	.5	28	.4
Total direct expenditures.....	1,179	20.5	1,211	18.9
Obligations retired ⁴	83	1.4	85	1.4
Total disbursements.....	1,262	21.9	1,296	20.3
Urban streets:				
Capital outlay.....	422	7.3	434	6.8
Maintenance.....	425	7.3	431	6.7
Administration ³	61	1.1	63	1.0
Interest.....	49	.8	51	.8
Total dir. ex. expenditures.....	957	16.5	979	15.3
Obligations retired ⁴	125	2.2	130	2.0
Total disbursements.....	1,082	18.7	1,109	17.3
Federal expenditures not classified by system⁵:	61	1.1	67	1.0
All roads and streets:				
Capital outlay.....	3,222	55.9	3,729	58.2
Maintenance.....	1,687	29.2	1,730	27.0
Administration.....	246	4.3	254	4.0
Highway police.....	105	1.8	107	1.7
Interest.....	176	3.0	217	3.4
Total direct expenditures.....	5,436	94.2	6,037	94.3
Obligations retired.....	333	5.8	365	5.7
Grand total.....	5,769	100.0	6,402	100.0

¹ Federal and State data are for calendar year; local data are for varying fiscal years.² Includes expenditures by States on transit connections of State highways.³ Includes engineering and equipment costs not charged to capital outlay and maintenance, and other miscellaneous expenditures.⁴ Redemptions by refunding not included.⁵ Includes funds of other agencies expended directly by Public Roads as well as funds expended by those agencies. Expenditures were principally for capital outlay and are included as such in the totals.

Source: Department of Commerce, Bureau of Public Roads.

Estimated long-term highway obligations issued, redeemed, and outstanding, 1953-54¹

(Table HB-1, preliminary, June 1954)

[Million dollars]

Item	1953 preliminary estimate	1954 forecast
Issued during year: ²		
State obligations.....	1,539	1,602
County and other local rural obligations.....	73	80
Urban obligations.....	220	240
Total.....	1,832	1,922
Less duplicated and interunit obligations:		
State-assumed local debt duplicated.....	1	1
Interunit obligations not public debt.....		
Total public long-term highway debt issued.....	1,831	1,921
Retired during year: ³		
State obligations.....	125	150
County and other local rural obligations.....	83	85
Urban obligations.....	125	130
Total.....	333	365
Less duplicated and interunit obligations:		
State-assumed local debt duplicated.....	5	5
Interunit obligations not public debt.....	1	1
Total public highway debt redeemed.....	327	359
Outstanding at end of year:		
State obligations.....	4,530	5,982
County and other local rural obligations.....	823	818
Urban obligations.....	1,982	2,092
Total.....	7,335	8,892
Less duplicated and interunit obligations:		
State-assumed local debt duplicated.....	24	20
Interunit obligations not public debt.....	9	8
Total public highway debt outstanding.....	7,302	8,864

¹ State data are for calendar year; local data are for varying fiscal years.² Refunding issues not included.³ Redemptions by refunding not included.

Source: Department of Commerce, Bureau of Public Roads.

[U. S. Department of Commerce, Bureau of Public Roads, June 1954]

ESTIMATE OF HIGHWAY RECEIPTS AND EXPENDITURES, 1953

Total disbursements for highway purposes are expected to reach \$6.4 billion in 1954, an increase of \$0.6 billion over 1953 and \$1.1 billion over 1952.

All expenditure items will show increases during 1954, but it is expected that capital outlay expenditures will account for the major portion of the increase. Estimated capital outlays of \$3,729 million will exceed the 1953 total by \$507 million and the 1952 total by almost \$1 billion.

Maintenance, administration, and highway police expenditures will show only nominal increases in 1954, but interest payments will be up \$41 million over 1953 and thus will continue to show the impact of the large-scale use of credit financing.

Principal payments of \$333 million in 1953 and \$365 million in 1954 are higher than the 1952 payments, but still do not reflect the greatly accelerated use of bond issues in the highway field. This expenditure item can be expected to increase materially during the next few years, however.

Total receipts for highway purposes are expected to exceed \$7 billion in 1954, while estimated receipts for 1953 were just under that figure. The 1954 forecast of \$7,250 million is \$370 million greater than the 1953 estimate of \$6,880 million and approximately \$1.5 billion more than the 1952 receipts.

All receipt items for both years, however, show fairly substantial increases over 1952. For 1954 Federal aid is up over \$100 million; highway-user imposts up \$392 million; property taxes, general revenue, and miscellaneous receipts up over \$100 million; and toll receipts up \$21 million over 1952. Further increases in Federal funds and toll receipts can be expected during the next few years.

The tremendous amount of bonds issued during 1953 and 1954 account for the major portion of the increase of total receipts over 1952. Bond issues of \$1,832 million in 1953 and \$1,922 million in 1954 are \$500 million and \$800 million greater, respectively, than the 1952 issues. Toll facility revenue bonds totaling over \$1.3 billion were issued in 1953, and it is anticipated that over \$1.4 billion will be issued in 1954.

Highway debt outstanding at the end of 1954 is expected to approach the \$9 billion mark, an increase of \$1.5 billion over 1953 and a little more than \$3.0 billion over 1952. This spectacular increase in debt outstanding is due, of course, to the issuance of toll-revenue bonds. At the end of 1952 it was estimated that approximately \$1.8 billion of toll-revenue bonds were outstanding. To that can be added the \$2.7 billion issued during 1953 and 1954, making a total of about \$4.5 billion of toll-facility bonds outstanding, of which about \$4.0 billion are not full faith and credit obligations of the governmental units. Thus, the outstanding highway debt of the governmental units remains relatively low as compared to revenues. However, the entire debt outstanding for highway purposes has to be repaid by the highway user, regardless of whether the credit of the issuing government is pledged.

It will be noted in the estimates for the 2 years included in this bulletin that the cumulative receipts are almost \$2.0 billion greater than the estimated disbursements, which indicates that there is little possibility that 1955 activities in the highway field will decline appreciably.

Estimated revenues for highway and street purposes, 1953-54¹

[Table HF-1, preliminary, June 1954]

Source	1953 preliminary estimate		1954 forecast	
	Million dollars	Percent	Million dollars	Percent
Federal Government:				
Funds expended under the supervision of Bureau of Public Roads:				
Major funds.....	535	7.8	564	7.8
Forest, park, and public lands.....	37	.5	38	.5
Other.....	1	—	6	.1
Subtotal.....	573	8.3	608	8.4
Other Federal funds.....	40	.6	40	.5
Total Federal Government.....	613	8.9	648	8.9
State governments:				
Highway-user imposts.....	2,957	43.0	3,151	43.4
Toll receipts.....	143	2.1	150	2.1
Property taxes and general revenues.....	56	.8	58	.8
Miscellaneous.....	19	.3	19	.3
Total revenues.....	3,175	46.2	3,378	46.6
Bond issue proceeds ²	1,539	22.3	1,602	22.1
Total receipts.....	4,714	68.5	4,980	68.7
Counties and other local rural units:				
Highway-user imposts.....	4	.1	5	.1
Toll receipts.....	15	.2	17	.2
Property taxes and general revenues.....	480	7.0	495	6.8
Miscellaneous.....	38	.5	40	.6
Total revenues.....	537	7.8	557	7.7
Bond issue proceeds ²	73	1.1	80	1.1
Total receipts.....	610	8.9	637	8.8
Urban places:				
Highway-user imposts.....	37	.5	40	.6
Toll receipts.....	42	.6	44	.6
Property taxes and general revenues.....	575	8.4	590	8.2
Miscellaneous.....	69	1.0	71	.9
Total revenues.....	723	10.5	745	10.3
Bond issue proceeds ²	220	3.2	240	3.3
Total receipts.....	943	13.7	985	13.6
Summary:				
Federal funds.....	613	8.9	648	8.9
Highway-user imposts.....	2,998	43.6	3,196	44.1
Toll receipts.....	200	2.9	211	2.9
Property taxes and general revenues.....	1,111	16.2	1,143	15.8
Miscellaneous.....	126	1.8	130	1.8
Grand total revenues.....	5,048	73.4	5,328	73.5
Bond issue proceeds.....	1,832	26.6	1,922	26.5
Grand total receipts.....	6,880	100.0	7,250	100.0

¹ Federal and State data are for calendar year; local data are for varying fiscal years.² Refunding issues not included.

Source: Department of Commerce, Bureau of Public Roads.

NATIONAL HIGHWAY PROGRAM

System	10-year total construction needs, 1955-64	Amount
Interstate:		
Rural	-----	\$13,052,000,000
Urban	-----	10,862,000,000
Other Federal-aid primary:		
Rural	-----	19,887,000,000
Urban	-----	10,035,000,000
Federal-aid secondary	-----	14,876,000,000
Other rural roads	-----	17,073,000,000
Other city streets	-----	15,580,000,000
Grand total, all roads and streets	-----	101,365,000,000

NOTE.—These figures represent the preliminary accumulation of estimates made by the State highway departments in response to Bureau of Public Roads memorandum of July 16, 1954. This memorandum requested estimates of the costs of completing the several systems of highways as directed by sec. 13 of the Federal-aid Highway Act of 1954. They should be considered in conjunction with that memorandum in order to be properly interpreted.

Typical motor vehicle registration fees¹ status as of Jan. 1, 1954

State	Auto- mobile	Nonfarm single-unit truck	Farm single-unit truck	Tractor trucks ²	Semitrail- ers ²	Combina- tion
Alabama	\$3.00	\$22.50	\$22.50	\$100.00	\$50.00	\$150.00
Arizona	3.50	30.00	30.00	69.50	50.95	120.45
Arkansas	13.00	42.00	36.00	200.00	5.00	205.00
California	8.00	48.00	48.00	88.00	108.00	196.00
Colorado	5.90	17.50	17.50	25.00	20.00	45.00
Connecticut	7.00	37.50	37.50	200.00	-----	200.00
Delaware	10.00	52.00	26.00	95.70	77.30	173.00
Florida	15.00	58.30	58.30	96.80	109.50	206.30
Georgia	3.50	10.00	10.00	50.00	100.00	150.00
Idaho	5.00	30.00	30.00	50.00	40.00	90.00
Illinois	10.50	86.00	86.00	640.00	-----	640.00
Indiana	11.00	35.00	35.00	215.00	-----	215.00
Iowa	27.00	95.00	95.00	435.00	60.00	495.00
Kansas	13.50	100.00	100.00	250.00	125.00	375.00
Kentucky	4.50	32.00	4.50	350.00	-----	350.00
Louisiana	3.00	60.00	10.00	140.00	100.00	240.00
Maine	14.00	60.00	60.00	300.00	5.00	305.00
Maryland	10.00	35.00	10.00	35.00	100.00	135.00
Massachusetts	4.50	39.00	12.00	120.00	2.00	122.00
Michigan	10.85	53.00	26.50	154.00	127.75	281.75
Minnesota	18.60	40.00	25.92	280.00	10.00	290.00
Mississippi	9.30	37.00	21.40	271.00	11.00	282.00
Missouri	11.00	50.00	50.00	300.00	7.00	307.00
Montana	10.00	28.00	14.00	60.00	32.50	92.50
Nebraska	8.00	80.00	12.00	380.00	1.00	381.00
Nevada	5.00	23.85	23.85	39.60	32.85	72.45
New Hampshire	15.50	75.00	25.00	240.00	-----	240.00
New Jersey	10.00	60.00	30.00	110.00	90.00	200.00
New Mexico	14.00	43.50	43.50	99.00	74.00	173.00
New York	15.50	62.50	43.75	88.00	157.50	245.50
North Carolina	10.00	62.50	31.25	160.00	160.00	320.00
North Dakota	20.00	32.00	32.00	350.00	-----	350.00
Ohio	10.00	81.60	34.60	177.20	135.20	312.40
Oklahoma	24.79	95.00	17.92	65.00	295.00	360.00
Oregon	10.00	37.80	26.50	62.30	51.80	114.10
Pennsylvania	10.00	45.00	45.00	120.00	75.00	195.00
Rhode Island	14.00	39.00	39.00	127.00	2.00	129.00
South Carolina	5.00	66.00	66.00	66.00	96.00	162.00
South Dakota	25.00	52.50	52.50	187.50	81.00	268.50
Tennessee	7.50	25.00	12.50	275.00	-----	275.00
Texas	11.88	81.25	40.63	154.00	117.00	271.00
Utah	5.00	25.00	25.00	60.00	90.00	150.00
Vermont	26.00	118.75	32.00	420.00	15.00	435.00
Virginia	10.00	19.50	19.50	30.00	150.00	180.00
Washington	5.00	30.00	17.50	105.00	55.00	160.00
West Virginia	18.20	38.00	38.00	227.00	15.00	242.00
Wisconsin	16.00	140.00	46.67	475.00	10.00	485.00
Wyoming	5.00	15.00	15.00	50.00	40.00	90.00
District of Columbia	5.00	35.00	35.00	65.00	50.00	115.00

¹ A 1951 model 4-door sedan was used as a typical passenger car. A 1951 stake body truck of 5,320 pounds empty weight, and 12,500 pounds gross vehicle weight was used as the typical single-unit truck. A tractor of 8,825 pounds empty weight and a semitrailer of 7,320 pounds empty weight, registered for 40,000 pounds gross weight, were selected as a typical combination.

² For States registering the tractor and semitrailer as a unit, the fee for the combination is given in the "tractor" column.