

## HIGHWAY EXPENDITURES FOR ECONOMIC GROWTH AND STABILITY

Richard M. Zettel, research economist, Institute of Transportation and  
Traffic Engineering, University of California

On the basis of rather broad estimates, it appears that annual expenditures for transportation in the United States were about \$70 billion in 1955—a figure that approximated 18 percent of the gross national product. The annual expenditure for highway transportation was on the order of \$55 billion, representing about 80 percent of total expenditures for the movement of persons and goods. Expenditures for the movement of persons alone were in the neighborhood of \$44 billion, of which 95 percent was expended for automobility.

These few figures give some notion of the current role of transportation generally and highway transportation particularly in the American economy.

I can claim no special competence as a forecaster. But using what appear to me to be reasonable and perhaps the more conservative estimates of those who have ability in predicting population and economic trends, I can suggest that total expenditures for transportation will be on the order of \$140 billion in 1975 (at 1955 prices). Of this amount, perhaps \$112 billion will be spent for highway transportation of goods and persons.

If these figures are approximately correct, in dealing with transportation we are dealing with about one-fifth of the total economy and highway transportation alone will represent about one-sixth of our economy. It is not unlikely that we will have 100 million motor vehicles traveling 1,000 billion vehicle-miles on highways by 1975.

### FACTORS AFFECTING FUTURE HIGHWAY TRANSPORT DEMAND

Forecasting total transportation movements is hazardous at best. Certain factors may be noted that might increase our demand for travel at a faster rate than general economic trends would indicate. Among these I would note:

1. With increased incomes and changes in income distribution the share we can devote to services including transportation is likely to increase.
2. Widely predicted increases in leisure time (extended vacations or shorter workweeks) may increase travel demands.
3. Urban decentralization and industrial dispersal are likely to increase the need for transportation.
4. The high rate of family formation to be expected in the 1960's should cause a substantial upsurge in demand for travel, especially on the highways.
5. An increase in the relative number of women drivers and the amount of driving they do may be anticipated.

Considerations of this nature appear to bolster the recent forecast of the Aeronautical Research Foundation, in which it was indicated that expenditures for personal transportation would increase 108 percent in 20 years, while population would increase only 34.5 percent and gross product 92.5 percent.<sup>1</sup> As an important sidelight here, it should be noted that this group estimated that expenditures for automobile transportation would increase at a faster rate than expenditures for other forms of personal transportation. Also significant is their conclusion that "air carrier activities will, in the future as in the past, center largely about the transportation of passengers."<sup>2</sup> In short, with respect to freight movements, air activity, while expected to grow, is not expected to make serious inroads into the demand for surface transportation of goods during the next 20 years.

It is concluded that highway transportation will more than hold its own in the next 20 years or so. In analyzing forces supporting this conclusion it is convenient to break highway transportation into segments. With respect to rural, rural-city, and intercity movements, both of goods and persons, it seems rather clear that present trends will continue and perhaps be accentuated. With respect to intraurban movements, no effective substitute for the transportation of property on highways is contemplated in any quarter.

Perhaps the largest question involving the future of highway transportation concerns the movement of persons in our larger heavily concentrated urban areas. A considerable body of respectable opinion believes that urban transportation problems cannot be solved by highway improvements. Some in this school hold that freeway development merely compounds problems by pouring more vehicles onto already congested streets and into inadequate terminal areas. The extremists would go so far as virtually to ban automobile traffic or to make it so costly as to curtail drastically its use in larger central cities. At the other extreme are those who visualize an almost complete rebuilding of our urban economies around an improved system of highway transportation, including (not to hopefully) improved mass transit in buses.

A middle course is more likely. It is my view that we are not dealing with an "either-or" proposition in the large majority of cases. In many cases decentralization and suburbanization will continue and we will have increasing dependence on highway transportation. In other cases, the need for mass transit to take care of peak-hour commuting traffic, especially in larger metropolitan concentrations, will become so apparent that improvements will have to be made, but not to the exclusion of highway improvements which will be needed to accommodate freight movements, essential personal movements at all times, and substantial volumes of nonpeak hour movements. If I interpret recent comprehensive studies of urban transportation problems correctly, they do not deny the need for the highway improvements in contemplation. They indicate the need for rapid mass transit in addition and raise concern about the apparent preference and priority currently given to highway programs.

All in all, forecasts of 100 million vehicles and 1,000 billion vehicle miles in 1975 are on the conservative side in my opinion. But for

---

<sup>1</sup> U. S. Office of Aviation Facilities Planning, National Requirements for Aviation Facilities: 1956-75: Vol. IV, Forecast of Aviation Activity, June 1957, pp. 1-3.

<sup>2</sup> Op. cit., p. 4.

what they are worth they represent an increase of 58 percent in motor vehicles and 71 percent in highway travel in 20 years. They suggest the large demands that will be placed on a highway plant that is even now widely regarded as woefully inadequate. They suggest also that our highway problem is not merely a matter of "catching up" on accumulated deficiencies as is often thought to be the case, but is also one of meeting the demands of our economic growth.

As a matter of fact, predictions of this sort put the cart before the horse in a sense, because the number of vehicles and the amount of travel we will have will depend in considerable measure on the kind of highway plant that is provided and perhaps also on the kind of vehicles that are produced. Improved highways and improved vehicles may lead to considerable increases in the demand for highway travel.

#### HIGHWAY NEEDS

In recent months much has been said about our \$101 billion highway program. Actually, no such program was considered by the Congress either in 1955 or 1956. The \$101 billion figure refers to an estimate of "needs" made by the Bureau of Public Roads in cooperation with the States in 1954, with projections only to 1964 for all highways, roads, and streets of the Nation, except for the Interstate System (then 40,000 miles) for which needs were projected to 1974 and which it was hoped might be met within 10 years. Congress actually provided for an increase in Federal financing of approximately \$25 billion to be spread over 16 years.

It is not our purpose here to evaluate the new Federal program in detail nor to appraise "needs" estimates. It should be observed, however, that a new estimate which will shortly be before the Congress will show highway needs that undoubtedly will be considerably higher than any previous estimates for a number of reasons. Since 1954, (1) highway costs have increased and continuing increases are in prospect, (2) the standards finally adopted for the Interstate System were higher than most of the States had used in previous estimates, (3) the Interstate System was increased by 1,000 miles (and pressures continue for further enlargement), (4) many States that had little experience with freeway and expressway development in 1954 will now provide more realistic estimates, and (5) needs on highway systems other than the Interstate System are being more carefully made and are being projected to 1971.

The highway needs estimates with which we are now becoming familiar are often thought to be rather precise engineering determinations. It is only fair to say, however, that such estimates are based on projections of traffic which in turn are dependent on population and economic trends with which this committee is concerned. They are also based on economic assumptions as to the standards of highway service for which the people are able and willing to pay. Such assumptions are unavoidable. It is clearly necessary to establish certain standards for the design and construction of highway facilities. These standards are self-continuing in large degree. When a long-range highway program is undertaken it is not possible to materially change design speeds or structural standards to accommodate faster or heavier vehicles, without rendering recently completed segments of the highway plant functionally obsolete.

It seems probable that the engineers in establishing standards which can be used for highway design and as a basis for establishing highway needs have made a shrewd estimate of the effective demand for highway service. Their judgment may be fortified by calculations of savings in vehicle operating costs, time, and accidents resulting from highway improvements, which may be set off against the costs of the improvements. A word of caution is indicated however. To the extent that intangible savings (or benefits), such as comfort, convenience, or even savings of personal (noncommercial) time are included in benefit-cost equations, we are dealing not with engineering findings, but with value judgments which are proper subjects of economic determination when possible and legislative consensus when not.

These notes of qualification on needs estimates do not dispel the fact that vast highway improvement is necessary if motor-vehicle travel is to be made convenient, safe, and economical.

Nor should anyone be under the illusion that the Federal highway program of 1956 has once and for all solved the Nation's highway problems. Even as an approximate goal the \$101 billion figure of 1954 was probably low. Moreover, the assumed Federal share (about 30 percent) of the burden was stretched out from 10 to 15 or 16 years during which time additional "needs" will accumulate. Then, too, the States have responded rather slowly in increasing their levels of highway financing, and some have made reductions in view of the increased Federal funds. We are led, therefore, to reconsider some of the issues that will tend to cut out the nature and size of the highway job we have to do.

#### HIGHWAY-USER FINANCE

One of the major issues of highway finance, involving both tax and expenditure policy, involves the conceptual nature of highway-user charges. In some circles they are regarded simply as selective excises adopted primarily as an expedient to get revenues for highways.

##### *Objectives of user taxation*

User taxation, properly regarded, is something more than a popular and convenient vehicle of highway finance. In large measure, it is the outgrowth of a conscious decision to distribute the burden of highways along lines that prevail in the private sector of the economy. User charges are a crude form of pricing services which are distributed unevenly through society in a roughly measurable fashion. In the light of the modern function of highways—that is, to serve traffic—society does not deem it necessary or desirable to underwrite this uneven distribution of services through normal tax channels. Owen puts the question as whether it is desirable to include transportation facilities in the same category with general governmental services such as education and defense, or whether transportation should rather be looked upon as similar to the supplying of food and clothing, of which it is a part, and therefore, financed by the user.<sup>3</sup> It may be added that highway users are expected to pay for their vehicles, fuel, and the like, and there seems little reason why they should not also

<sup>3</sup> Owen, Wilfred, *Transportation and Public Promotional Policy*, in *Transportation and National Policy*, issued by U. S. National Resources Board. Washington, D. C., Government Printing Office, 1942, p. 257.

pay directly for the highway services which constitute but a small fraction of total highway-transportation costs.

There is a rather more compelling ground for distinguishing the highway function from many other governmental functions. Government is furnishing one element of a full-scale transportation service competitive in major respects with other transportation mediums that are privately managed and financed. In the absence of overriding considerations to the contrary, ordinary economic prudence dictates that each transportation alternative bear full economic costs so that traffic may be allocated among them in relation to the economy and fitness of each. The assessment of user charges is a direct means of recovering the costs of highway service. Thus, user charges may be designed to remove all or the major subsidy elements involved in government provision of highways, thereby promoting the economic allocation of resources.

Although equity among taxpayers and neutrality among transportation alternatives are the more obvious objectives of user taxation, its rational use may serve other purposes. Government is faced constantly with difficult expenditure questions, with respect (1) to the level of all governmental services and (2) to the allocation of funds among its various functions. In most areas, the decisions must be sociopolitical rather than economic in nature, for there is no direct connection between those called upon to pay the bill and those enjoying the services. Highway-user taxation tends to establish a direct connection between the costs of supply and the effective demand for highway services.

Not only is it possible to establish in a general way the relation between benefits or savings to users from a given highway program for which they will be expected to pay, but the users themselves will react to proposed programs through the legislative channels. Taxation that bears directly upon those who demand services furnishes a test of their willingness to pay. It provides a built-in restraint to highway demands that might well be absent if only general taxation were used for highway support. Highway-user groups themselves, by following their self-interest, will play an active part in highway management and investment programs, and thereby aid in the development of enlightened highway policy.

#### *Division of the highway burden*

In general, there is wide acceptance of the idea that user taxation should be used to defray some part of the costs of highway programs, at least for the major facilities. The main argument concerns the extent to which others may be called upon to share in the burden through either general taxation or special levies of one kind or another.

On the one side are those who, reflecting on the traditional patterns of highway finance and on the continued wide diffusion of highway benefits through the economy, believe that user taxation should be used rather sparingly. Everybody benefits, it is argued, so everybody should pay.<sup>4</sup>

---

<sup>4</sup> One danger of benefit analysis receiving increasing recognition lies in the fact that benefits often accrue to highway users but are subsequently shifted to others. Not infrequently in the past such benefits have been counted twice. For example, highway improvements may lower motor-vehicle operating costs which may be regarded as a user benefit, but the lower costs may be reflected in lower freight charges and thus, ultimately, be shifted to consumers.

At the other extreme are those who would have users bear the full burden of highway provision, perhaps excepting new roads and streets in subdivisions. They would embrace a public-utility-system concept of the highway function. They would argue that wide diffusion of benefits is no more relevant to the highway pricing problem than is the fact that investments in other undertakings may have sequential effects that benefit others than the customers of the products produced. They point out that many other products and services supported entirely by prices aid in the performance of governmental functions, enhance our capacity for defense, and promote the development of land and other resources.

Many students of the problem take a position between the extremes. They base an allocation of highway costs between users and others on observations of the nature of the plant and the services provided by it. The key lies in classification of highways and services.

Those who lean toward the benefit argument observe that the purpose of major arterials is service of traffic, in the main, while the purpose of local roads and streets is primarily the provision of access to land. Roads between the extremes serve community purposes. Based on such classifications of the highway plant, reasonable, if somewhat arbitrary, assignments of cost responsibility may be made. Generally, all or most of the costs of major traffic facilities are assigned to users. Generally, all or most of the costs of less traveled local roads and streets are regarded as the responsibility of property owners or other general taxpayers.

Another approach to the assignment of costs is advanced by those not entirely persuaded by the benefit-diffusion analysis but still bothered enough by the weaknesses of user taxes themselves that they cannot embrace the public-utility concept in its entirety. It is observed that while user taxes as now employed must be uniform throughout the taxing jurisdiction, the costs of highways vary considerably. When comparisons are made between highway costs per vehicle-mile and user payments per vehicle-mile, it is found that many roads, aggregating a large mileage, particularly those whose main purpose is the provision of access, do not generate enough in user taxes to defray their costs. In short, they either have to draw earnings from other segments of the highway plant or receive support from general taxes or special levies.

Such a line of reasoning might lead to the establishment of levels of user charges which would enable the major highway systems to be fully self-supporting from earnings; other road systems would be credited with their earnings, and the deficiencies would be met from other taxes, if at all. The decision to make up the earnings deficiencies would be predicated on the interests of those directly concerned with the roads in question; for example, the affected property owners.

Whatever the theory, the general trend of recent years is to require ever-increasing share of the highway burden to be paid by the users themselves. While rural governments continue to get larger allocations for their roads, cities are making headway, not only in securing larger direct user-tax allocations, but also in getting more and more State participation in State highways within their borders. The most dramatic move in recent times was the decision of the National Government in 1956 to follow the pattern established by the States and

finance its greatly expanded highway program by taxes specifically recognized and earmarked as highway-user charges.

*Expenditure of user-charge proceeds*

A major issue of expenditure policy is whether it is appropriate to use taxes levied on highway users for nonhighway functions of government. The so-called diversion controversy has often engendered bitter debate. In general, specialists in public finance regard the earmarking of public revenues as inimical to sound budgetary policy for obvious reasons that need not be repeated here.

In my view, additional considerations are involved in the case of true highway-user charges. A bona fide user-tax structure is superimposed on the general-tax structure, and users are expected to defray all general-tax obligations. That is to say, they will be subject to general sales, property, and income taxes without consideration for the fact that they pay user charges. In such case, the user charge is justified only in its relation to the highway function. In the absence of cost pricing much more sophisticated than we have yet developed, the proceeds should be used for highways, as a general rule.<sup>5</sup>

Two notes of qualification may be made. If it is deemed by legislative consensus that a larger share of aggregate income should be channeled to certain governmental functions other than highways, it may be found appropriate in some circumstances to reduce user taxes (or not raise them as high as the interests of users might indicate), thereby increasing the taxable capacity of the people and making it easier for them to contribute to such other functions through normal tax channels.

A second issue involves the appropriateness of selective excises that bear on highway users as an element of the general tax structure. It may be found advisable to impose such taxes rather than any of the possible alternatives. But in this event the taxes should be appraised solely on their merits as general excises with no consideration given to the highway function. Such taxes would be imposed in addition to user charges. On the one hand, questions may be raised (1) as to the desirability of singling out the particular commodities or activities for additional taxation, and (2) as to the effect of such taxation on competitive transportation alternatives. On the other hand, it may be argued that selective taxes on gasoline and the like for general purposes may be less regressive or have less effect on incentive or capital formation than possible alternatives. When the issues are decided forthrightly, the use of proceeds of taxes so imposed for general purposes is quite a different matter than the imposition of user charges as compensation for highway service and subsequent use of the proceeds for nonhighway purposes.

#### CREDIT FINANCING OF HIGHWAYS

An important issue of highway finance involves the use of credit as against pay-as-you-go financing. Much may be said for the use of credit in the financing of capital facilities of long lives. There is equity in spreading out the costs over the useful lives of the projects.

---

<sup>5</sup> If user charges were geared to costs rather than to expenditure requirements, a case could be made for diversion of interest and possibly property-tax equivalents included in the user-tax structure of the general revenues.

Neutrality of public policy for competing carriers is also promoted when the users of a publicly provided facility are required only to meet the economic costs rather than the burdens of a particular expenditure program which may be more or less than costs in any particular year. The tax requirements for financing a credit program are likely to be closer to cost than tax requirements for a pay-as-you-go program.

When there is need for a crash program to overcome accumulated deficiencies the use of credit may permit a larger program than would be possible with current taxes, with the result that the savings associated with highway improvements will develop at an earlier time. Larger available sums may also eliminate the need for interim or stopgap improvements which are uneconomic in the long run.

Certain practical arguments against the use of credit deserve recognition. There is always question as to our ability to predict future highway needs and rates of obsolescence. In numerous cases States and local governments have found themselves paying for capital facilities long after they have outlived their usefulness. In recent experience every estimate of future needs seems to be considerably higher than the previous one. People are led to wonder whether by using credit to pass to the future a part of the burden, they will not compound problems by requiring future users, not only to pay for past improvements, but also to meet burdens of even greater magnitude in providing for their own needs.

Highway finance is still closely tied, and properly so, to general fiscal considerations. The use of credit by State and local governments may depend on the general financial positions of such governments. Constitutional and statutory debt limits may be involved. It may be thought necessary to reserve whatever margin of credit may be available for other purposes (school construction, for example), for which ready sources of current revenue are not available. In short, credit financing may be rejected for highways if it is at all feasible to finance a reasonable program from current revenues, so that credit may be used for other purposes without encountering legal debt limits or practical limitations of the bond market.

The use of credit at the Federal level involves other thorny problems. Here involved is a potential conflict between general economic policy, including the important matter of stabilization, and a neat theory of user financing.

It may be noted that the Clay committee in 1955 proposed financing the recommended expansion in the Federal highway program with bonds, apparently thinking primarily of equity among users. Shortly thereafter, the Commission on Intergovernmental Relations, among others, urged that the expanded highway program be financed substantially on a pay-as-you-go basis.

An interesting compromise was suggested by the research and policy committee of the Committee on Economic Development. The committee "rejected immediate payment out of user charges for the Federal share of improvements on the Interstate System in favor of balancing construction costs and revenue from user charges over a period of about 20 years."<sup>6</sup> But to permit acceleration of the program during

---

<sup>6</sup>The research and policy committee of the Committee for Economic Development, *Modernizing the Nation's Highways*, January 1956, p. 15.

the initial catching-up years, it proposed use of general taxes. In effect, general taxes would be borrowed temporarily but would be repaid to the General Treasury out of user charges collected in the later years of the program. This intermediate approach, the committee felt, would be a means of reconciling the case for credit for highways with "a stabilizing budget policy—a policy of setting tax rates so that the Government's cash expenditures are balanced each year at a high level of employment."<sup>7</sup>

### INTERGOVERNMENTAL RELATIONS

Prior to 1954 there was considerable debate over the role of the National Government in the highway function. There is no question as to the constitutional authority of the National Government to engage in highway activities, either directly or indirectly. There is little question but what the National Government has some degree of interest in highways. In recent years, there has been rather general agreement that substantial acceleration of the rate of highway improvement throughout the Nation was required in order to overcome accumulated highway deficiencies and to accommodate the future growth of highway traffic. The only real debate concerned the ability and willingness of the States and their subdivisions, with or without repeal of the Federal gasoline tax, to make needed improvements at a rate that would satisfy national objectives at the same time. The ultimate decision is recorded in the expanded Federal highway program of 1956.

By no means does the adoption of this particular piece of legislation end our concern with intergovernmental relations in highway affairs. In fact, there is not yet agreement as to its significance. It is taken in some quarters to be nothing more than a crash program to meet an immediate crisis; others see it as a new departure in Federal-State relations whose full dimensions are not now clear; while still others believe it may be the first step toward a truly National System of Highways which ultimately will be administered and financed entirely by the Federal Government. Certainly, there will be arguments to contain the Federal program within its present confines, if not to cut it back. Just as surely, there will be counterarguments to enlarge the Federal role both in administration and financing, perhaps as a first step by enlarging the Interstate System.

#### *Classification for division of responsibility*

In the opinion of many students of the problem, the key to division of responsibility for highway provision between the National Government and the States, and indeed between the States and their subdivisions, lies in classification of the highway plant in accordance with its service characteristics. The highway study committee of the Commission on Intergovernmental Relations expressed it this way:

When highways are classified according to purposes served, the allocation of responsibilities becomes quite involved. We can envision a system of major highways in which the national interest is exceedingly strong because of defense and interstate commerce requirements, pass through a penumbra

<sup>7</sup> Loc. cit.

in which national interest gradually dims, and finally arrive at those local roads and streets in which the national interest is so remote, if it exists at all, that it may be completely overshadowed by other considerations.<sup>8</sup>

Following this line of reasoning, the Committee concluded that "the greatest national responsibility for highways centers in expeditions development of the designated National System of Interstate Highways of some 40,000 miles (both urban and rural), not only now but in the future."<sup>9</sup> The President's Highway Advisory Committee, headed by General Clay, found also that "the interstate network is preponderantly national in scope and function."<sup>10</sup>

It must be recognized that there may be wide disagreement over the composition of any given highway systems designed to establish degrees of interest of the several levels of government; also that established systems need not remain static. "Over time," said the highway study committee, "the segment of the highway plant in which national interest is strongest may increase as highway transportation develops and needs for interstate commerce and national defense increase."<sup>11</sup> Even so, reasonable classification of highways is an important step toward the rational division of highway responsibilities. It is a useful toll for determining where each level of government should concentrate its energies and resources. This is especially true because of the somewhat reciprocal interests of governments in different classes of highways.<sup>12</sup>

Even after classification of the most discerning kind, many real problems of administration involving important policy decisions remain.

In the highway field, the course of cooperation with the States rather than direct performance by the National Government has been accepted. Moneys are made available as grants-in-aid to the States for specified purposes under stipulated conditions. Both purposes and conditions are spelled out to assure that the National Government's objectives in making the grants are fulfilled. There is always a problem, however, as to how far conditions and controls should be carried.

On the one hand the government making the grant is responsible to the people, not only for attaining the objective but also for doing it efficiently and economically. It might therefore be tempted to provide extensive controls, particularly if, as is widely believed, there is a tendency to exercise less care in expenditure of outside funds than of funds raised by taxes imposed by the spending government. Yet excessive detail may be stultifying to the receiving government, sapping its initiative, and perhaps undermining the very motive of choosing the cooperative path in the first place: Building up local responsibility while relieving the higher level of some of the burdens of administration. The dilemma is not easily resolved and is likely to be subject to continuing experimentation.

<sup>8</sup> Federal Aid to Highways, June 1955, p. 21.

<sup>9</sup> Op. cit., pp. 22-23.

<sup>10</sup> President's Advisory Committee on a National Highway Program, A Ten-Year National Highway Program, January 1955, p. v.

<sup>11</sup> Op. cit., p. 1.

<sup>12</sup> "We have suggested that the national interest diminishes as we proceed from highways of interstate importance to local access roads and streets. Local and State interests increase in the opposite direction." Highway Study Committee of the Commission on Intergovernmental Relations, op. cit., p. 24.

*Some immediate problems*

A few immediate problems in connection with the new Federal program warrant comment.

1. The National System of Interstate and Defense Highways for which the Federal Government is providing 90 percent of the funds (and more in some States) is to be built to freeway and expressway standards with full control of access. Clearly such requirement is imperative if the huge investment in highways is to be protected. But the location of such superhighways, especially in urban areas, involves extremely delicate matters of intergovernmental relations since considerable disruption of established communities is inevitable. Not infrequently the community interest will appear to be, and in some cases may actually be, in direct conflict with the State and the national interests which may be confined primarily to the most expeditious movement of traffic. A high order of statesmanship will be required to steer a proper course between the Scylla of abject capitulation to local pressures and the Charybdis of utter disregard of community values, either of which may lead to a scuttling of the highway program.

2. Entry of the National Government into the user-tax field introduces new complications in highway financing. Not only is the familiar question of tax overlapping involved, but a problem arises in meshing of tax-policy decisions between Nation and States so as to recover fair and reasonable compensation for highway use. Should each level act independently of the other or can a way be found to coordinate the user tax structures of the States and the Federal Government? Is there an opportunity for development of one or more tax-sharing schemes, particularly in regard to the taxation of commercial vehicles in interstate operation?

3. The basis of apportionment of Federal-highway grants among the States deserves additional attention. The highway-aid programs of the Federal Government have not been designed with equalization, as the term is strictly defined, as a primary objective. That is to say, fiscal capacity in relation to needs of the recipient governments is not considered. The objective of an equalizing grant would be to equalize local tax efforts. In principle, that unit of government that could meet its needs with the least tax effort would get no grant at all. The grant to all others would be calculated by deducting from their estimated needs the amounts which a tax effort equivalent to that of the first would produce. The formulas used in highway finance are not directed to this end. Whatever equalization is achieved is incidental and largely accidental.

If we accept the national decision that the Federal Government should be responsible for financing 90 percent and more of construction of the Interstate System, the proper basis of apportionment would seem clearly to be estimated needs of the system in each of the States. Any other formula, unless its factors are so selected and weighted that they too accurately reflect relative needs, would provide an uneven rate of development of the Interstate System. Congress has wisely provided that needs will become the basis of apportionment for 1959 and subsequent fiscal years. It is to be hoped that principle will prevail when the new needs estimates are presented to Congress for approval in 1959.

4. Congress will also be faced in 1958 with reconsideration of grant programs for other eligible highways—the Federal-aid primary and

secondary systems and their urban extensions. One can hope that these programs will be reappraised critically. Perhaps in this area there lies an opportunity for readjustment. For example, these programs might be scaled back and turned in the direction of true equalization, thus increasing the responsibility of the States and their subdivisions for all but the National System of Interstate and Defense Highways. Continuation of these programs at present or, what is more likely, increased levels, will slow up development of the Interstate System—that system in which the national interest is greatest. The alternative is an increase in levels of Federal highway financing which again would adversely affect the abilities of the States to meet their highway problems.

### ECONOMIC STABILIZATION

Our discussion of highway issues to this point has been predicated on assumption of a high level of employment of men and other resources. What has been said, it is hoped, demonstrates that efficient highway transport, which depends in turn on adequate highways, is so intimately related to economic growth of the Nation that it is fair to assert that basic highway programs cannot be turned on and off at will for purposes of economic stabilization. To question the frequent but casual shelf-of-public-works concept of the problem, however, is not to say that potentials for adjustment to meet stabilization objectives do not exist.

A certain paradox is evident. The type of national highway program we have envisioned as most nearly meeting the appropriate Federal role in a high-level economy, that is to say, a program confined primarily, if not exclusively, to a very limited system of highways of interstate and defense importance, is the very program that is least susceptible to adept manipulation for purposes of general economic stabilization. This sort of highway program involves hard and careful planning. It involves long lead times between authorizations of funds and actual beginning of work.<sup>23</sup> It involves disruption of established communities and dislocation of thousands of homes and businesses. Currently in California, public hearings are being held involving as many as a dozen or more alternatives for location of comparatively short stretches of freeway. Many months will be required before some of these locations will be finally determined. Only then can the precise engineering design of the project begin, after which the acquisition of rights-of-way and removal or demolition of buildings can get underway. As the easier projects are completed the problems will become increasingly complicated and time consuming. They would be further compounded in times of economic stress when the disruption of communities and dislocation of people and businesses will create greater economic hardships.

Further limitations of this type of program for quick economic stimulation are to be found in its concentration in comparatively few locations within each of the States and also in the rather high skills of labor involved in high-standard highway construction.

---

<sup>23</sup> Lead times are currently reported to average 21 months for Federal-aid projects. American Road Builders' Association, *The Highway Construction Industry in a Long Range National Highway Program*, July 1957, p. 6.

This rather pessimistic view should be tempered in some respects. Continuation of the basic program at a high level will be a stabilizing force in itself. Moreover, there will be limited opportunities for acceleration. These may be availed of (1) by increasing Federal authorizations, (2) by reducing or eliminating matching requirements so that State resources may be directed to other highways, and (3) by using the Federal credit to finance the increased authorizations with the provision that the debt incurred ultimately be recovered from user-charge earnings.

In addition, consideration may be given to a broader type of Federal highway program which is specifically designed for purposes of economic stimulation. This might be a program that would temporarily extend to work on county roads, city streets, and lesser State highways. It would be concentrated on relatively simple projects that do not require involved planning and engineering, that would have comparatively short lead times, that would not disrupt communities nor require extensive relocation of businesses and families. If National and State effort is concentrated primarily on major highway facilities during high level employment, a considerable backlog of simpler highway, road, and street work projects is likely to be available throughout the country at all times in the foreseeable future.

Obviously expansion of Federal expenditures for highways in this direction will be less concerned with interstate commerce and defense requirements (and with the primary interests of highway users) than it will be with the objectives of the Employment Act. Credit financing might appropriately be used, but users should not be expected to repay the full costs. The program should be discounted as an employment-providing measure.

If a supplemental and rather distinct highway program of this sort does become necessary the nation may seize upon the opportunity to catch up and in some cases even to get ahead of its overall highway needs. Every possible effort should be made to insure that work of lasting quality is provided.

Many of us have been rather critical of the fact that much of the emergency highway work made possible by the Federal Government during the 1930's completely bypassed the Bureau of Public Roads. It is recognized that the Bureau is primarily an engineering force dedicated to high-standard construction, for which it is to be commended. But if the need for a broad-based highway program for economic stimulation arises, it is to be hoped that the Bureau will be flexible enough in its thinking and in its operations to give effective direction to such a program, while at the same time carrying on with the regular program of providing high-standard major arterials within the National Highway System.

#### CONCLUSION

Prospective growth of the national economy will need, as well as depend on, efficient highway transport which of course requires an adequate highway plant. A considerable economic effort which can be furnished only through government channels will be required to catch up and to keep up with our highway needs.

The heavy reliance on user charges currently practiced in financing the National and State highway programs now underway makes considerable sense in our competitive economy, from the standpoint of tax equity and neutrality. User charges also furnish a rough test of effective demand for highway service.

Concentration of national effort on a limited system of highways of prime importance to interstate commerce and defense can best fulfill the national interest in time of high-level employment. An early critical reappraisal of other Federal-aid highway programs seems to be in order.

Attention should be given (1) to the resolution of potential conflicts between community interest, on the one side, and State and National interest, on the other; (2) to National-State coordination in the development and administration of highway-user charges; and (3) to the bases of apportionment of Federal funds among the States.

In event of need for economic stimulation, the suggested Federal program, with high concentration on the Interstate System, has limited potential for expansion but consideration may be given to higher authorizations, the use of credit backed by user charges, and reduction or elimination of matching requirements. In addition, a broad-based program of project stimulation on county roads, city streets, and lesser State highways may be indicated. Such a program not only may provide employment opportunities, but, properly managed, can produce improvements of lasting quality.