THE INTERSTATE HIGHWAY SYSTEM:

ISSUES AND OPTIONS

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Congressional Budget Office

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NOTES

Unless otherwise indicated, all dollar amounts in this report are in current dollars.

All 1979 dollars in this paper were deflated using the U. S. Department of Transportation's Composite Index of Federal-Aid Highway Construction.

PREFACE

During this session, the Congress probably will consider legislation to finance the completion and repair of the Interstate Highway System. Escalating completion costs, mounting repair needs, and declining financial resources have created major financial problems for the Interstate program. To alleviate these constraints, the Congress may decide to increase highway user fees, curtail low-priority Interstate projects, and phase out some highway programs that support essentially local roads. At the request of the Senate Environment and Public Works Committee, the Congressional Budget Office (CBO) has prepared this report, which analyzes these alternatives. In keeping with CBO's mandate to provide objective and impartial analysis, the study offers no recommendations.

David L. Lewis, of CBO's Natural Resources and Commerce Division prepared the paper under the supervision of Damian J. Kulash and David L. Bodde. Charles Kamp and Suzanne Schneider assisted in preparing the report. Valuable comments were received from Kenneth J. Dueker of the Portland State University and Fred Salvucci of the Massachusetts Institute of Technology, and from John Hamre, Patrick J. McCann, and Richard R. Mudge of the Congressional Budget Office.

Patricia H. Johnston edited the manuscript, Nancy Brooks provided editorial assistance, and Kathryn Quattrone prepared the paper for publication.

Alice M. Rivlin
Director

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SUMMARY

Although 5 percent of its mileage still is uncompleted, the Interstate Highway System essentially has accomplished what it was designed to do: link the nation's cities with a high-speed, high-quality road network, necessary for commerce, personal mobility, and national defense. In the 25 years since construction began, the Interstate System has profoundly reshaped where Americans live, work, and shop.

The history of the Interstate program contrasts sharply with its future prospects, however. Several converging factors are fundamentally changing the continuous, largely self-adjusting method in which this program traditionally has operated. These are:

- Mounting Repair Needs. As the Interstate System passes its 25th anniversary, many of its early routes are at or nearing the end of the period they were built to last (called "design life"). As a result, massive repairs are needed that are projected to cost about $16 billion (in 1979 dollars) between calendar years 1980 and 1990.

- Escalating Completion Costs. Although all but 1,575 miles of the system's 42,944 miles have been built or are under construction, completing the system will cost $38.8 billion (in 1979 dollars), because much of the remaining mileage is in urban areas where construction is particularly costly, and because completion now includes upgrading some existing routes.

- Declining Financial Resources. In recent years, the growth in highway travel has slowed from its peak levels, and vehicles are more fuel efficient. As a result, receipts from the motor fuels tax--the chief revenue source for the Highway Trust Fund which finances the Interstate program--have leveled off. At the same time, high inflation in construction costs has actually shrunk the amount of construction that can be financed from existing highway user taxes.

Several features of the Interstate program have contributed to these financial pressures. When the federal government began the Interstate program, it provided extraordinary financial support. It authorized more for this program than for all other highway programs together; it provided an

unusually large share (90 percent) of project costs; and it created the Highway Trust Fund to ensure a stable, continuous source of financing for all highway programs. These relatively generous financial terms have probably encouraged system expansion, particularly the upgrading of existing Interstate routes. The federal government also exerted strong central control on the system, designating 41,000 miles and apportioning funds to states in proportion to their share of total costs. Throughout its 25-year history, the Interstate program has concentrated almost exclusively on constructing the planned system (and a few routes added in the intervening years), and only recently has it focused on the problem of mounting repair needs, a problem that was generally neglected in early Interstate legislation.

The financial pressures on the program are further intensified by the dual national and local emphasis of the program. Although the chief purpose of the Interstate program is to build an interconnected system of high-quality roads linking the nation's principal cities and industrial centers, it also includes many routes of predominantly local importance, such as heavily travelled commuter roads. Because of the high construction costs of these locally important projects, they are a major component of total system costs and use program funds that otherwise might be devoted to essential repairs.

Although the Federal-Aid Highway Act of 1981 made some adjustments in response to these pressures, the basic problems remain and will require resolution in one or more of the following ways:

- Shift program emphasis to trim spending on new construction and increase funding for needed repairs;

- Increase the tax on motor fuels and other highway user taxes to pay for an expanded Interstate program that includes repairs; and

- Restructure the overall highway programs, shifting funds into the Interstate program from other highway activities, which account for more than half of all federal spending on roads.

Two bills recently reported by the House of Representatives (H. R. 6211) and the Senate (S. 2574) take some initial steps in these areas. Both bills increase the resources devoted to repairs. The Senate bill increases funding for repairs from $800 million in fiscal year 1982 to $1.1 billion in 1983; the House bill increases this funding to $2.1 billion. Neither bill reduces the amount of new construction. Although neither bill specifically increases highway user taxes, the House bill raises authorization levels by $3.5 billion between fiscal years 1982 and 1983, which clearly anticipate such an increase. Secretary of Transportation Drew Lewis has proposed an increase in highway user fees equivalent to an increase of 5 cents per gallon in the tax on motor fuels, which is now 4 cents per gallon, although President Reagan did not support this proposal. Nevertheless, all of these developments portend a major review of highway programs, and the Interstate program in particular, during the coming year.

PROGRAM ALTERNATIVES

Under existing legislation, the federal government would authorize $3.6 billion for new Interstate highway construction and $0.8 billion on repair and reconstruction in fiscal year 1983, for a total of $4.4 billion. These authorizations would fall far short of the projected costs of current programs, however. Currently planned new construction projects would cost around $5.1 billion a year between fiscal years 1983 and 1990; repairs would cost about $2.9 billion a year; and reconstruction would add $4.4 billion. Current policy programs are trying to do too much with too little. Completion of all of the construction, reconstruction, and repair projects that qualify for federal support under current programs would require an increase in annual authorizations of $8.0 billion. To support such an increase, the current tax on motor fuels would need to be nearly triple its current level of 4 cents per gallon.

The Interstate program could be reoriented in various ways to shift from the historical focus on new construction to the growing need for system repairs. This paper explores three such possibilities:

- o Current Programs. This option would continue the provisions of the 1981 highway act, under which all 1,575 miles of unbuilt Interstate routes would be completed.

- o Minimum System. The only new Interstate routes constructed under this option would be those that are essential to a national, interconnected highway system. Routes of predominantly local importance and upgrading of existing Interstate routes would be removed from the system plan. Instead, such projects would be eligible for financing under the reconstruction program, although funds for this program would be sufficient to finance only relatively high-priority reconstruction projects (about 50 percent).

- o Intermediate System. This option would construct not only the nationally important routes included under the Minimum System, but also include both certain locally important projects that have

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reached the final stages of the planning process and upgrading needed to meet Interstate standards for the minimum number of lanes.

Under all three program options, it is assumed that the federal government will complete the Interstate System (according to the definition of completion associated with each option), will keep the Interstate system in repair, and will fund some, but not all, reconstruction projects. In particular, following the approach of the Federal-Aid Highway Act of 1981, this paper assumes that any relatively inessential projects that are removed from the complete system plan because of program redefinition will be eligible for reconstruction funds, but that reconstruction funding levels will be sufficient to build only half of all eligible projects. While states would have greater latitude to determine their own reconstruction priorities, the financial incentive to create reconstruction projects would be reduced. This incentive, which arises because funds for new construction are now apportioned to states in proportion to their share of the total cost of completing the system, would be eliminated if a state's apportionment of reconstruction funds was not increased by the creation of additional projects.

If the Congress decides to complete the currently planned Interstate System and provides for repair and reconstruction as discussed above, this continuation of the Current Program option would require $5.8 billion per year more than the $4.4 billion currently authorized annually for fiscal year 1983 and beyond. This massive financing requirement could be reduced substantially if system completion was scaled back to the Minimum System option, which would require additional financing of $3.9 billion annually. Similarly, the Intermediate System would require an increase of $4.5 billion per year.

FINANCING OPTIONS

In order to fund the program alternatives discussed above, this report presents three financing options. Although each option could be implemented separately, some combination probably would be more effective in meeting the goals of completing and repairing the Interstate Highway System. The three financing options are as follows:

- Increase highway user taxes. This method would maintain the present 90/10 federal financing share for new construction, repair, and reconstruction activities.

- Reduce the federal matching share for repairs and reconstruction. This approach would also require some increase in highway user taxes, but, because of the assumed lower level of federal cost sharing, the necessary tax increases would be smaller.

- Restructure federal aid for highway programs by transferring responsibilities for projects of local importance to the states.

Increase User Taxes. If the additional funds were obtained by raising the federal tax on motor fuels, they would require increases of 5.3 cents per gallon for the Current Program option; 3.5 cents per gallon for the Minimum System; and 4.1 cents per gallon for the Intermediate System (see Summary Table).

Reduce Federal Share for Reconstruction and Repairs. Reducing the federal share of reconstruction and repair costs would provide further relief from current financial pressures. This change could also dampen an expansionary incentive embodied in the present arrangement, under which the federal government pays 90 percent of these costs. With these terms, the project costs to a state may be small compared to larger benefits for the construction industry and other sectors of the state's economy. This encourages states to have as many reconstruction projects approved as possible in order to obtain the maximum amount of aid.

If the federal share of reconstruction projects was reduced to 50 percent and the federal share of repair projects to 75 percent, then the increases in highway user taxes needed to support the program could be reduced to 3.9 cents per gallon for Current Programs, 1.3 cents per gallon for the Minimum System, and 2.1 cents per gallon for the Intermediate System (see Summary Table).

Restructure Federal Aid to Highways. The Interstate Highway Program will be reauthorized with numerous other highway programs and as part of the act that extends the Highway Trust Fund to pay for these programs. In addition to examining the national interest in the Interstate System and the financial implications of restructuring that program, discussion of the reauthorization bill provides a natural forum in which to examine the national interest and financing methods of other highway programs as well. While federal aid to the primary highway system, like aid to the Interstate System, helps to support a national arterial network that carries goods and people from place to place, the federal interest in many other highway activities is less compelling. For example, federal aid to secondary and urban roads and bridges on these systems has become effectively a form of revenue sharing. These projects are important to states and localities,

SUMMARY TABLE. INCREASES IN FEDERAL TAX ON MOTOR FUELS REQUIRED TO FUND ALTERNATIVE INTERSTATE PROGRAMS UNDER VARIOUS FINANCING CONDITIONS (In cents per gallon) a/

Program Alternative	Increase Taxes Only	Reduce Federal Share of Repair and Reconstruction Costs	Eliminate Federal Support for Several Revenue-Sharing Highway Programs	Focus Federal Aid Exclusively on the Interstate and Primary Systems
Current Programs (as defined in Federal-Aid Highway Act of 1981)	5.3	3.9	3.1	1.6
Minimum System (Complete only those routes required for an interconnected, national network)	3.5	1.3	1.3	0.0
Intermediate System (Complete national routes and those local routes that already have federal approval and bring all routes to four-lane standard)	4.1	2.1	1.9	0.4

a. Table entries show the number of cents per gallon needed in addition to the present 4 cents per gallon in order to complete the Interstate System between fiscal years 1983 and 1990, make all projected repairs, and finance half of all reconstruction projects.