

**Statement of
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**before the
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Infrastructure Financing**

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Financing for public works infrastructure stands at the crossroads of two major policy concerns: pressure to reduce the federal budget deficit and demand for an efficient network of facilities and services to support economic growth, public health, and safety. These concerns pull against one another, suggesting a need for financial mechanisms that make the most cost-effective use of the resources available for infrastructure investment.

In our testimony today, we will address:

- o The federal budget deficit, and its implications for federal infrastructure spending;
- o Recent trends in infrastructure spending; and
- o Some alternative federal approaches that could improve the cost-effectiveness of infrastructure investment at all levels of government.

THE FEDERAL BUDGET DEFICIT

The possibility of continuing annual deficits in the range of \$200 billion raises two difficulties for infrastructure financing. The first concerns capital formation and interest rates. If federal dissaving is not matched by greater savings elsewhere, less capital will be available to finance private or public investment. This scarcity would be reflected in capital markets by rising real interest rates, which would make infrastructure projects more costly and difficult to finance. On the other hand, actions to reduce the deficit have put special pressure on all federal spending. Discretionary spending, outside defense has been particularly affected, falling from 5.7 percent of GNP in 1975 to 4.6 percent in 1985--roughly the same level as 20 years ago. Federal infrastructure spending, however, has not fallen as much. In 1975, it equalled 0.9 percent of GNP; by 1985 it was 0.8 percent. Thus, infrastructure programs, which total about one-sixth of all discretion-

ary spending outside defense (see Figure 1), are likely to receive considerable scrutiny.

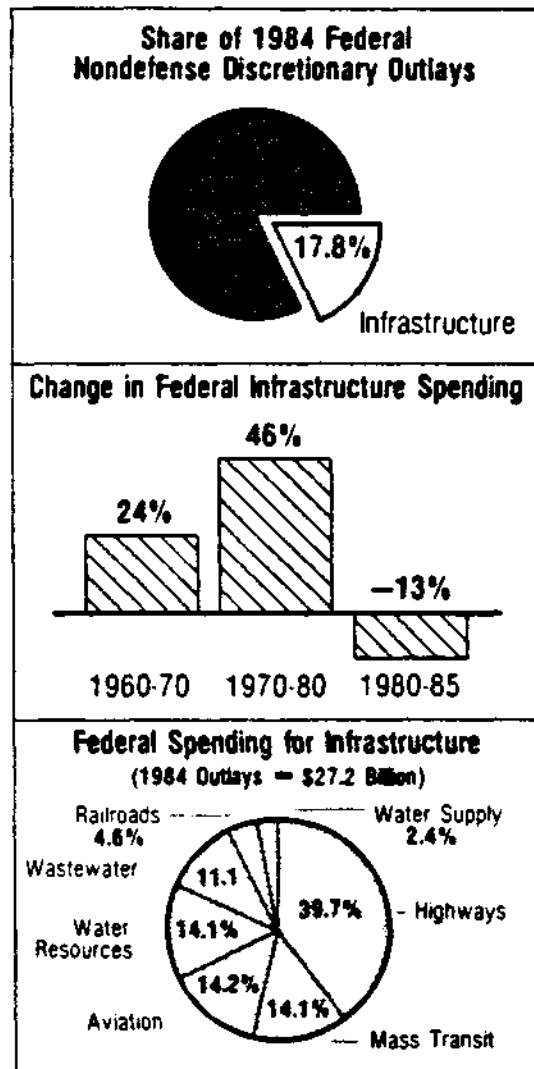
CBO's forecast of federal spending and receipts for 1986 was released just last week.^{1/} CBO estimates a deficit of \$220.9 billion for 1986. The Balanced Budget and Emergency Deficit Control Act of 1985 (or the Balanced Budget Act) would cut outlays for the remainder of the year by about \$11.7 billion. For fiscal year 1987, this act requires reducing the deficit to \$144 billion and eliminating the deficit entirely by 1991.

In order to meet the Balanced Budget Act's target for 1986, new federal spending authority for public works infrastructure will have to be reduced by 4.3 percent or some \$1.3 billion (see Table 1). Because of the normal lag between the start of a new construction project and its completion, outlays for 1986 may only be reduced by some \$400 million (or 1.3 percent), with about one-half of this sum representing reduced spending on operations. Even so, overall federal spending on infrastructure will be above that for last year and some 12 percent, or \$4 billion, above 1984.

It is too early to be precise about the magnitude of future cuts called for by the Balanced Budget Act. Nevertheless, in the absence of significant

1. Congressional Budget Office and Office of Management and Budget, "Sequestration Report for Fiscal Year 1986," Federal Register, Vol. 51, no. 10, January 15, 1986.

FIGURE 1



Annual direct federal spending for infrastructure dropped 13% from 1980-1985, following increases of 24% (1960-1970) and 46% (1970-1980). Federal spending for infrastructure accounted for nearly 18% of federal nondefense discretionary outlays in 1984. Almost 40% of federal infrastructure spending in 1984 was for highways.

**TABLE 1. EFFECT OF THE BALANCED BUDGET ACT
ON FEDERAL INFRASTRUCTURE PROGRAMS FOR 1986
(in millions of current dollars)**

Infrastructure Sector	Reduction in Spending Authority	Reduction in Outlays
Highways	662	97
Airports and Airways	215	123
Mass Transit	160	38
Wastewater Treatment	26	<u>a/</u>
Water Resources	164	116
Railroads	<u>30</u>	<u>27</u>
TOTAL <u>b/</u>	1,257	401

SOURCE: Congressional Budget Office.

- a. Less than \$0.5 million.
- b. Because federal aid for water supply is funded through several block grant-type programs, no attempt has been made to estimate the portion that might affect water supply. Spending by the Corps of Engineers and the Bureau of Reclamation on water supply has been included under water resources.

Congressional action to cut other programs or to increase revenues, the percentage cut for 1987 will probably be several times as large as that for 1986.

RECENT TRENDS

The current budgetary constraints need to be viewed in the context of recent trends in infrastructure spending.^{2/} Between 1960 and 1977, federal spending on infrastructure showed steady growth, increasing by 60 percent from about \$19 billion (in 1984 dollars) in 1960 to a peak of some \$34 billion in 1977. After declining to \$27 billion in 1983, federal spending has picked up again to more than \$30 billion in fiscal year 1985, as greater highway spending offset cuts in Conrail, wastewater treatment, and transit. By contrast, state and local governments spent about \$60 billion in 1985. Thus, the federal share of infrastructure spending is only one-third of the government total, but it exerts a decisive influence on investment for two reasons.

The first reason stems from the changing pattern of spending for national infrastructure. In general, expenditures at all levels of government

2. For more details, see Congressional Budget Office, The Federal Budget for Public Works Infrastructure (July 1985). The term public works infrastructure includes highways, airports and airways, public transit, wastewater treatment, water resources, water supply, and railroads.

have shifted from capital investment to operations and maintenance (see Figure 2). This reflects the maturation of national infrastructure systems; the shift in priority from establishing new facilities to the efficient use and upkeep of what is already there. But this shift has been greater for state and local governments than for the federal government. As a result, federal infrastructure programs now finance as much capital investment as do non-federal governments, a change from 10 or 15 years ago when state and local governments dominated.

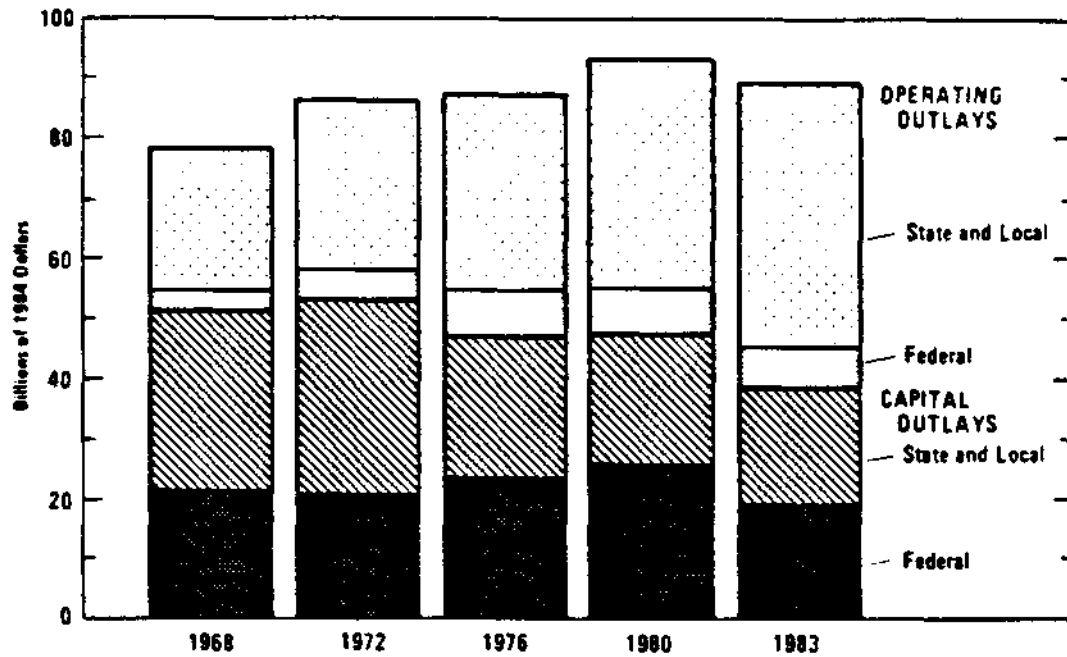
Second, most federal aid is provided in the form of grants that not only require nonfederal spending but also carry restrictions on how those monies can be used. Thus, federal requirements directly influence the decisions of the state and local managers who commit almost all of the capital invested in public works infrastructure.

OPTIONS FOR MORE COST-EFFECTIVE INVESTMENTS

The current budgetary pressures suggest the need for financial mechanisms that select the most cost-effective projects. Rate of return is one measure of cost-effectiveness that is particularly useful in capital management. In highways, for example, more than one-half the remaining gaps in the Interstate Highway System have rates of return of 7 percent or less. Using the Office of Management and Budget standard of 10 percent, these road

FIGURE 2

Public Spending for Infrastructure by Purpose and Level of Government, Fiscal Years 1968-1983



SOURCE: Congressional Budget Office from data in *Budget of the United States Government*, and in Department of Commerce, Bureau of the Census, *Annual Survey of Government Finances*.

segments should either be scaled back or have their construction deferred beyond 1990, or until such time as the demand for them justifies their construction. At the same time, many Interstate gaps show rates of return well above 10 percent, indicating that construction is overdue.

To be sure, there are difficulties in quantifying all the benefits and costs associated with new projects, particularly those with long lives. There are also problems in comparing rates of return in the private sector of the economy with public projects. Nonetheless, this approach suggests a number of techniques that offer improved cost-effectiveness for infrastructure investments by all levels of government.

The financial incentives provided to state and local managers are central to such improvement. Although the federal government provides 50 percent of the capital for infrastructure, state and local agencies make virtually all investment decisions. More cost-effective decisions are likely to be made if financial responsibility more closely matches decisionmaking authority. This result could be achieved by lowering the federal matching share, by allowing greater flexibility in the use of investment funds, or making use of certain types of infrastructure revolving funds. All of these actions would be consistent with the budgetary limitations now before the federal government.

Reduced Federal Match

The current high federal match for infrastructure (90 percent for Interstate highways, 80 percent for mass transit, and nearly 100 percent for most Corps of Engineers work) encourages localities to propose large-scale, capital-intensive projects without fully considering other solutions. A reduced match could have a significant impact on these incentives. For example, CBO's analysis of the Environmental Protection Agency's (EPA) wastewater treatment grant program showed that facilities built without federal grants were much more cost-effective than those that used federal funds. The evidence suggests that reducing the federal match for secondary treatment plants from 75 percent to 55 percent, a change approved by the Congress for 1985, could lower the overall cost of these facilities by up to 30 percent.^{3/}

Reduced federal aid would also encourage greater use of revenue bonds. This would provide a "market" test of a project's feasibility as riskier projects would require higher returns to attract investors and some high-risk projects might become too costly to undertake. On the other hand, reduced federal aid is not without cost to the federal budget. If additional tax exempt bonds are issued, the tax expenditure associated with these bonds

3. Congressional Budget Office, Efficient Investments in Wastewater Treatment Plants (June 1985). This finding is based on a statistical analysis of secondary treatment plants built with varying levels of federal aid. In particular, the high federal match encourages localities to build treatment plants with a capacity that exceeds their immediate needs.

can cost the federal treasury an amount equivalent to a grant with a 40 percent federal match.

Greater Flexibility

Federal financing rarely permits funds to be transferred from one type of investment to another. This lack of flexibility limits the trade-offs that can be made among alternative investments. Greater flexibility, as is provided through block grants, can encourage localities to select the best available projects rather than attempting to make the maximum use of each federal categorical grant. On the other hand, block grants may not ensure adequate attention to beneficial spillovers, such as clean water for downstream communities.

Infrastructure Revolving Funds

A revolving fund differs from a grant in that the recipient must repay the funds. A public subsidy is still involved since the loans are made either at zero interest or at below market rates. The fund "revolves" since any excess cash is reloaned to finance additional projects. Initial capitalization would generally be provided by a combination of federal or state and local grants, or perhaps by bonds. While revolving funds have been used to

finance activities in some states, they have not yet been applied to federal infrastructure programs. ^{4/}

In structuring an infrastructure fund, three key variables determine the level of subsidy to be provided by the federal government. First, and perhaps most important, is who provides the capital. For example, if the federal government provides funds with an interest-free, 20-year loan, the loans made for infrastructure are in effect equivalent to a grant with a 60 percent federal share. The implied federal match would be reduced if state and local governments provide part of the initial capital, but would be increased if defaults occurred. This sharing of responsibility also creates greater leverage for federal spending, since more projects can be built for each federal dollar. Further leverage can be provided if the fund can issue bonds, although this would mean less attractive terms for infrastructure loans. Sharing the initial capital also spreads the risk of default.

Second, the rate of interest charged on project loans from the fund has a big impact on its financial soundness, since interest provides another

4. H.R. 1776 and S. 849, for example, would establish a National Infrastructure Fund to make interest-free loans. The initial capitalization would be phased in over ten years through \$30 billion in federal interest-free loans, repayable in 20 years. H.R. 2818 and S. 1552 would establish a bank to make similar loans, but at below market interest rates. Capitalization would be shared among federal and state grants and taxable bonds issued by the bank. For a discussion of some of the general financial principles behind such funds, see Congressional Budget Office, "Infrastructure Revolving Funds: A First Review" (May 1985).

source of income that can then be reloaned. Charging interest also shifts more of the burden of financing to the local government, thus encouraging better selection of projects. But higher interest, of course, also reduces the attractiveness of a revolving fund. Charging interest on the initial federal loan to the fund, however, has relatively little effect on its overall soundness, It acts mainly to reduce the number of projects that can be financed.

Third, the payback period for the loans is an important determinant of both the types of projects that are financed and the number of projects financed. A short payback, say 10 years, would result in a higher cash flow for the fund than a 20-year payback, thus permitting more loans to be made. It would, however, force the fund to focus on rehabilitation projects rather than major new construction.

One option for reducing the net federal costs would be to provide part or all of the seed capital for a revolving fund through the transfer of existing federal programs into the fund.^{5/} This approach would provide localities with greater flexibility in making trade-offs among different

5. Similar, but not identical, legislation approved by both the House and the Senate calls for the replacement of EPA's wastewater treatment grant program with a series of state revolving funds. Capitalization for these funds would be provided in part by federal grants that would be phased out over several years.

infrastructure sectors and different types of projects. While not increasing the level of federal funds for public works infrastructure, it could increase the effectiveness of existing funds.

CONCLUSION

With national attention directed toward reducing the federal budget deficit, the Congress as well as all who benefit from federal infrastructure programs will have to make difficult choices. But these pressures also offer opportunities to improve the effectiveness of each dollar spent on infrastructure, with the ultimate goal of providing well-funded, cost-effective service.