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Mr. Chairman, I am pleased to have this opportunity to discuss the nation's investment in public works infrastructure. In my remarks this morning, I will focus on the nature of the current problems and the costs of dealing with them, and on several strategies that could improve the cost effectiveness of infrastructure investment.

In a recent analysis of seven major infrastructure systems, the Congressional Budget Office has found that the level of current federal spending is not far below reasonable estimates of needs. 1/ The structure of federal programs, however, is not well suited to those needs. Many programs do not address highest-priority problems, nor do they always lead to the most cost-effective investments. The Congress has already recognized this problem in enacting the Surface Transportation Assistance Act of 1982. That legislation is part of a major reorientation from the past emphasis on building new facilities to today's greatest needs--repair, replacement, and modernization of the facilities already in place. Budgetary pressures give particular urgency to this transition.

Three approaches analyzed by the CBO may help to guide the shift toward more productive investments--greater application of user fees,

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1. See Congressional Budget Office, Public Works Infrastructure: Policy Considerations for the 1980s (April 1983), which examines highways, public transit, wastewater treatment, water resources, air traffic control, airports, and municipal water supply.

greater local responsibility for facilities of local interest, and redirection of federal aid toward less capital-intensive investments. If steps in these directions were taken, annual federal expenditures might actually fall as much as $4 billion below the current level of $24 billion (in 1982 dollars) while still meeting national needs. More important, with the cost effectiveness of investment improved, the resulting public infrastructure would better support the continued economic growth of the nation. At the same time, though, such a transition raises other issues: state and local expenditures might have to rise, users of infrastructure-based services might have to pay more, and some services might have to be reduced.

CURRENT INFRASTRUCTURE PROBLEMS AND COSTS

With the nation's public works infrastructure largely in place, the main problem now is physical deterioration, compounded by the effects of aging and inadequate maintenance. Technological obsolescence and insufficient capacity to serve growth also cause problems.

The CBO estimates that, to meet a reasonable definition of needs, annual capital outlays by all levels of government would have to increase from $42 billion (again, in 1982 dollars) to roughly $53 billion between 1983 and 1990. Under current programs, the federal share of these higher outlays

would average $28 billion a year--somewhat above current federal spending of $24 billion a year (see Table 1). For highways and, to a lesser extent, public transit, estimated needs for federal spending are not greatly different from the current level, owing largely to the almost $6 billion increase provided by the 1982 legislation. For other programs, however, the percentage increase would be significant. For water resources, for example, annual federal spending would have to rise by roughly two-thirds; for wastewater treatment, the increase would be one-third. These estimates presuppose continuation of the current federal share of each type of infrastructure spending.

If needs were interpreted as requiring broader federal responsibility than under current policy, however, calls for even higher federal spending could result. For example, if the full shortfall in wastewater treatment needs were met with federal dollars--instead of roughly half, as under current law--an additional $1.6 billion in annual outlays would be required. More strikingly, if the projected capital costs in municipal water supply were paid entirely with increased federal dollars, annual outlays would increase from about $1 billion to about $8 billion.

TABLE 1. ANNUAL FEDERAL CAPITAL INVESTMENT UNDER CURRENT AND REVISED POLICIES, BY SYSTEM, 1983-1990 (In billions of 1982 dollars)

Infrastructure System	Current Annual Spending Level	Annual Outlays to Meet Alternative Measures of Need	
		Under Current Program Structure	Under Revised Programs
Highways	12.7	13.1	9.3
Public Transit	3.7	4.1	2.2
Wastewater Treatment	3.2	4.2	3.7
Water Resources	2.3	3.7	3.1
Air Traffic Control	0.8	0.8	0.7
Airports	0.8	0.9	0.3
Municipal Water Supply	0.9	1.4	1.0
Total	24.4	28.2	20.3

SOURCE: Congressional Budget Office.

FEDERAL APPROACHES TO IMPROVE PUBLIC WORKS INVESTMENT

Today, many of the purposes that originally motivated federal involvement in public works have been largely achieved--the need to establish a basic infrastructure, to promote regional development through public works,

and to rely on federal initiative and financial strength. For example, developing entire river basins was a concern of the 1930s that prompted creation of the Tennessee Valley Authority. Today, the Tennessee and other major river basins are largely developed, and construction of smaller intrastate water projects is gaining in importance. Similarly, to accelerate the settlement of the West, the federal government subsidized irrigation for western agriculture. Today, agriculture in western states has become a mature industry far more capable of supporting itself. The federal government also helped stimulate commercial aviation by making capital grants for airport development, with the result that every major city now has an airport. Most large airports, however, appear able to raise further investment capital on their own.

In the light of these accomplished goals and emerging needs for repair, replacement, and modernization, the CBO has analyzed three approaches that could help align public works investment with new priorities:

- **Raising user fees** to help guide federal spending toward the types and levels of services that are most in demand, while also raising funds for needed investments.
- **Limiting the federal role** to infrastructure investments with clear national importance; and
- **Redirecting existing federal aid** to alter the current bias toward capital-intensive investment decisions.

Raising User Fees

Though private users of many infrastructure facilities now pay some fees, most such fees are set far below the levels needed to recover public costs. The resulting subsidies stimulate demand and lead to exaggerated perceptions of the need for services. A good example is the inland waterway system, which the Army Corps of Engineers constructs and operates. At present, users repay only about 6 percent of the system's cost. This results in a subsidy from the general taxpayer of almost 30 percent of the total cost of moving freight by inland barge--many times the value of federal subsidies to trucks and railroads. Such a large subsidy encourages demand for new capacity and invites further subsidized construction. Continuing a shift begun under the 1978 Inland Waterway Revenue Act, the Administration recently proposed (in S. 1554) user fees that would recover 70 percent of the costs of building and operating the inland waterway system. For new construction, fees would be levied on a segment-by-segment basis; this would help assure that only facilities expected to have adequate traffic were built. Operating costs would be covered by system-wide charges, which would assure that all segments now operating remained open.

Similarly, in municipal water supply, low water rates encourage overconsumption, leading to high estimates of future needs. Higher charges

for water would reduce demand, in turn reducing capital needs for new sources of supply and increasing municipal revenues. These factors together would permit municipalities to satisfy about 95 percent of projected water supply needs.

Higher user fees would also apply to aviation. At present, air traffic congestion, and hence pressure to expand airport capacity, commonly occurs at certain hub airports and during daily periods of peak demand. Only rarely, however, are user fees structured to reflect the high capital costs of congestion--the costs of building new runways, terminals, and other facilities. If peak-hour user fees were raised to cover such costs, some traffic would shift to off-peak hours and to less-crowded airports, thereby reducing the need for airport expansion. At the same time, users willing to pay the price of the extra capacity would provide the necessary revenue through their fees.

Finally, financing backed by user fees can be critical to the start of new projects. With severe budgetary pressures facing all levels of government, the absence of such financing can sometimes block needed investment. For example, new deep-draft ports appear likely to provide cost savings for coal exports. Yet dredging has not proceeded because of disagreement among the Congress, the Administration, and the port opera-

tors regarding the size and type of user fees best suited to finance this work.

Limiting the Federal Role

When a rationale no longer exists for federal involvement in local projects, federal funding can distort economic choices and divert funds from more pressing national needs. Highways offer a good example. Originally, the financial advantage to states through 90 percent federal matching shares for Interstate highway construction assured the Interstate System's completion. With nearly all nationally important segments built, that high match now encourages states to build projects of primarily local concern--projects they might not undertake if more state money had to be spent for them. Lower matching ratios might reduce demand for such construction and release resources for needed repairs. A more drastic approach would be to eliminate urban highways and other locally oriented roads from the federal program. This would require $3.4 billion less a year than would current policies, while making more federal dollars available for the repair of nationally important routes.

Today, states appear better able than in the past to meet the financial challenges that would come with greater responsibility. State and local

financing mechanisms now in common use--earmarked revenues, local user fees, state bond issues, and state bond guarantees--can generate significant sums. Over the past three years, for example, the states issued almost $8 billion in general obligation and revenue bonds for water resources alone. With access to these financial instruments, states and localities may no longer require substantial federal aid to finance large, up-front capital investments. Many airports, for example, still drawing 90 percent federal grants for capital improvements, are rated in the municipal bond market as premium investments, and they might find ways to finance their own capital development.

The long-run economic benefits of limiting the federal role would have to be balanced against the transition costs borne by state economies. Moving too quickly toward greater state responsibility could make this transition more difficult. Some states could be constrained by depressed economic conditions and would either require assistance or be forced to forgo public works spending until conditions improved. Two types of states would be at a relative disadvantage: those that have relied most heavily on federal subsidies, and those with less capacity to raise development capital. To avoid dislocations, even in more prosperous states, the federal government might reduce its support for local projects gradually, allowing states and localities time to explore locally available options. In aviation and highways, for example, the federal government might consider an interim

policy of either turning back user fee revenues to states or reducing federal user fees to allow states and localities to phase in their own higher taxes.

The federal government could also ease this transition by helping the states set up self-sustaining financing institutions. State infrastructure banks, for example, could be capitalized initially with federal seed money, an approach proposed in the Public Investment Incentive Act of 1983 (S. 532). Alternatively, a combination of federal infrastructure block grants and state matching funds could be used, as is suggested in the Public Capital Investment Act of 1983 (S. 1330). States or localities would make investment decisions, according to their own priorities, from a revolving loan fund. Such a fund would be replenished with user fee revenues or other payments from local governments, ensuring a future source of public infrastructure capital.

Redirecting Federal Assistance

Federal aid to some types of public works projects could be made more cost effective if the current federal match on capital grants were reduced or if more federal funds could be used for purposes other than new construction. In public transit, for example, high federal capital grants have encouraged many cities to start new capital-intensive systems, particularly

rail. At the same time, local financial constraints have forced other transit authorities to neglect the worsening physical condition of older-generation rail systems. Not enough of the $3.7 billion a year now available for federal capital grants goes toward repair and rehabilitation in the most transit-dependent cities, although the overall sum appears within range of estimated transit needs through 1990. Further, a smaller federal match--perhaps 60 percent, rather than the current 75 percent--would encourage cities to pursue low-cost transit options, such as express buses and carpool lanes. Finally, federal spending could be better targeted if a larger proportion of funds were distributed according to transit use rather than population size and density, and if federal regulations were reduced. These policy changes offer the potential to reduce federal spending to around $2.2 billion a year.

Changes in federal regulations might also result in meeting infrastructure needs at less federal expense. If the Environmental Protection Agency's national standards for minimum wastewater treatment were made flexible enough to accommodate local conditions, perhaps as much as $8 billion could be saved over a 20-year period, at no expense to local ambient water quality.

CONCLUSION

In summary, Mr. Chairman, the infrastructure problem is a manageable one. The current level of federal infrastructure spending appears within reach of the nation's investment needs in the areas included in CBO's study. More important, however, are the significant opportunities available for channeling federal spending into more cost-effective investments. Greater reliance on user fees, greater state and local responsibilities, and redirected federal aid can be part of the transition already under way to promote more effective public works investment at any level of spending.