

The State of U.S. Infrastructure

NATIONAL COUNCIL ON PUBLIC WORKS IMPROVEMENT

The Public Works Improvement Act of 1984 created the National Council on Public Works Improvement to assess the condition of U.S. infrastructure. The Council's conclusion, in brief, is that this infrastructure will not sustain a stable and growing economy. The nation needs to renew its commitment to the future by making significant investments now. The following summarizes those parts of the Council's latest and final report to President Reagan and Congress—*Fragile Foundations; A Report on America's Public Works*—that are of the greatest interest to the development community.

Convincing Evidence of Need

After two years of study, the Council has found convincing evidence that the quality of America's infrastructure is barely adequate to fulfill current requirements, and insufficient to meet the demands of future economic growth and development. Most major categories of public works in the United States are performing at only passable levels. A few, such as water supply and water resources, remain in reasonably good shape. But others, such as solid waste and hazardous waste disposal, have serious and growing problems. In addition, smaller systems—in all categories and in nearly all regions of the country—face especially acute difficulties.

Part of the problem is financial. Overall investment in public works has slowed in the last two decades in relation to the demands of growth and environmental concerns. The pattern of decline in investment is shown in Figure 1. With nearly \$1 trillion of public works assets (the approximate

cumulative depreciated value of highway, mass transit, aviation, water resources, water supply, wastewater, solid waste, and hazardous waste facilities), infrastructure collapse is not imminent. But a declining infrastructure inevitably will jeopardize economic productivity and quality of life.

The current level of capital investment is barely enough to offset annual depreciation, much less meet new demands. The U.S. Department of Commerce estimates that infrastructure use by industry alone will increase by at least 30% over the next 10 years as a result of economic growth, the dispersion of population and economic activity, and technological and structural changes. Infrastructure capacity must keep pace with this increase. Better service—

reduced congestion, improved water quality, higher safety levels—will require even greater capacity expansion, as well as extensive operational improvements.

The Council recommends a commitment to vastly improve the infrastructure, a commitment that could require an increase of up to 100% in the amount of capital the nation invests each year in new and existing public works. In 1985, this amount was approximately \$45 billion. Upgrading U.S. infrastructure will require, in addition to increased investment, clarification of the respective roles of the federal, state, and local governments in the construction and management of facilities; performance improvements in existing facilities; a rational capital budgeting process at all levels of government; strong incentives for adequate maintenance and for the adoption of new technologies; and the more rigorous and widespread use of low capital techniques—such as demand management, land use planning, and waste recycling—for meeting service needs.

Finding the Money

Financing options—revolving loan funds, intergovernmental grants, tax-exempt debt techniques, or various forms of privatization—may differ in terms of their attractiveness to public officials, but they all draw on two basic sources of funds; general tax revenues and user fees. Mobilizing adequate financing requires participation by all levels of government. The Coun-

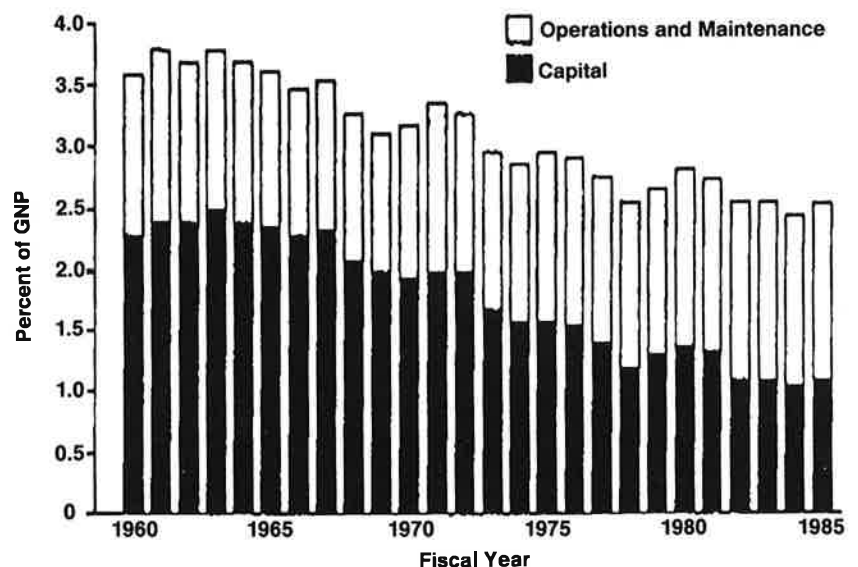


Figure 1. Public works outlays as a percent of GNP. Sources: U.S. Office of Management and Budget, Budget Appendices of the United States; U.S. Department of Commerce, Bureau of the Census, Government Expenditure Series; and The Economic Report of the President, for various years.

REPORT CARD ON THE NATION'S PUBLIC WORKS

Subject Category	Grade	Successes/ Recent Changes	Problems/ Future Weaknesses
Highways	C +	Federal and state gas tax increases have injected new capital into the system. This, along with increased operations and maintenance spending, has improved pavement conditions. However, quality of service in terms of congestion is declining.	Spending for system expansion has fallen short of need in high-growth urban and suburban areas. Many roadways and bridges are aging and require major work. Needs of most rural and smaller systems exceed available resources. The Highway Trust Fund has a sizable cash balance.
Mass Transit	C -	Federal capital grants have helped improve quality of service in some areas, but overall productivity of the system has declined. Growth of transit vehicles is double the rate of increase in ridership.	Mass transit is overcapitalized in many smaller cities and inadequate in large, older cities. Systems rarely are linked to land use planning and broader transportation goals. Maintenance has been erratic and inadequate, especially in older cities.
Aviation	B -	In general, the aviation system has handled rapid increases in demand safely and effectively. Service has begun to decline in the face of increasing congestion as a result of strong traffic growth. The air traffic control system is undergoing a \$16 billion modernization.	Congestion is the system's primary problem. Despite recent increases in authorizations, a sizable cash balance remains unspent in the Airport and Airway Trust Fund. The air traffic control system needs substantial upgrading to maintain safety.
Water Resources	B	The Water Resources Act of 1986 made cost-sharing mandatory for many types of water projects. This change should improve the selection of projects and reduce overall project costs.	Cost-sharing will improve efficiency but also increase local costs of water projects. Poorer communities may find it difficult to finance projects. Implementation is often excessively slow.
Water Supply	B -	While regional performance varies, water supply stands out as an effective, locally operated program. Strict new standards created by the 1986 Safe Drinking Water Act will require drastic increases in water rates over the next decade.	Many public water systems suffer from pricing below costs, inability to meet purity standards, or source contamination. Storage and distribution systems are deteriorating in some older cities and supplies are limited in some parts of the country.
Wastewater	C	Over 75 percent of the U.S. population is served by secondary treatment plants. The shift from federal grants to state revolving loans may improve efficiency of plant construction. Broadened focus on nonpoint source pollution and groundwater contamination may accelerate progress toward cleaner water.	Despite a \$44 billion federal investment in sewage treatment since 1972, water quality has not improved significantly. This is due in part to uncontrolled sources of pollution, such as runoff from farmland and roadways. Overall productivity of secondary treatment facilities is declining, resulting in an increase in water quality violations.
Solid Waste	C -	Testing and monitoring of solid waste facilities are more rigorous as a result of tougher environmental standards. Waste-to-energy technology is growing as an alternative to landfills. More aggressive waste reduction, separation, and recycling efforts are beginning at the local level.	The nation faces significant costs for adequate and safe facilities. Limited data suggest trends toward fewer but safer landfills, rapid growth in resource recovery, and little progress toward waste reduction. Public opposition to siting all types of facilities is a major problem.
Hazardous Waste	D	Funding for site cleanup has increased fivefold since 1986, but progress has been slower than expected. Only a small fraction of the two tons of waste per capital produced in America each year is being treated safely. Major challenges are still ahead of us.	The nation has forfeited much of its opportunity to reduce waste before it is produced. Waste control legislation promotes "end-of-pipe" rather than source reduction solutions. Congressional mandates and schedules may be overly optimistic, given administrative resources. A massive backlog of poisons and projects needing cleanup exists.

Source: National Council of Public Works Improvements.

cil endorses four principles to guide this effort;

- Users and other beneficiaries should pay a greater share of the cost of infrastructure service.

- The federal government should be a reliable partner in financing public works.
- States should develop comprehensive strategies for financing infrastructure.

- Local governments should give budgetary priority to funding the maintenance of existing facilities.

Significant elements of transportation, water supply, waste-water treatment, and