

Public Spending on Transportation and Water Infrastructure

In fiscal year 2007—the most recent year for which data on combined spending by the federal government and by state and local governments are available—total public spending for transportation and water infrastructure was \$356 billion, or 2.4 percent of the nation’s economic output as measured by its gross domestic product. For the purposes of this study, transportation and water infrastructure encompasses infrastructure for all forms of surface transportation (highways, mass transit, rail, and waterways), aviation, water resources (such as dams and levees), and water distribution and wastewater treatment.

Recent Developments in Public Spending for Transportation and Water Infrastructure

Between 2003 and 2007, real (inflation-adjusted) public spending on transportation and water infrastructure declined by \$23 billion, or 6 percent. That decline, which reflects a decrease in real capital spending, especially by the federal government, stands in contrast to the fairly steady increase in spending for such infrastructure during the previous two decades. In particular, real capital spending on highways, mass transit, and aviation fell markedly even as capital spending on other types of infrastructure—such as rail and water transportation, water resources, and water supply and wastewater treatment—remained stable or rose. The drop in real capital spending for highways, mass transit, and aviation between 2003 and 2007 was primarily the result of a sharp increase in prices for materials used to build such infrastructure—an increase that outpaced the growth of nominal (current-dollar) spending on those types of infrastructure.

In 2009, the federal government spent \$87 billion on transportation and water infrastructure, an increase of \$6 billion over the amount spent in 2007. Of those outlays, about \$4 billion was made available through the American Recovery and Reinvestment Act of 2009 (ARRA). In total, lawmakers appropriated \$62 billion in funding for transportation and water infrastructure under that legislation. The Congressional Budget Office expects that, in nominal terms, federal spending for transportation and water infrastructure under ARRA will total \$54 billion through 2013, by which time almost 90 percent of the funds made available for infrastructure through ARRA will have been spent.

The Composition of Public Spending for Transportation and Water Infrastructure

The composition of public spending on transportation and water infrastructure can be represented in three ways: by the level of government providing the funding or other form of financial support; by the nature of the spending (whether it is designated for capital projects or for operation and maintenance); and by the type of infrastructure. State and local governments account for about 75 percent of total public spending on transportation and water infrastructure—even after subtracting from their gross spending the value of grants and loan subsidies that the federal government provides for such purposes—and the federal government accounts for the other 25 percent. That split has remained roughly constant over the past two decades.

In recent years, not quite half of total public funding for transportation and water infrastructure in the United States has been devoted to capital spending for activities

such as construction and equipment purchases. State and local governments have accounted for about 60 percent of those expenditures, and the federal government has accounted for about 40 percent. A little more than half of total public spending for such infrastructure has been used for operation and maintenance, of which state and local governments have provided about 90 percent. Although the federal government has played a limited role in the funding of operation and maintenance for transportation and water infrastructure as a whole, it has provided much of the funding for operating and maintaining the nation's air traffic control system.

Spending on highways at all levels of government accounted for 43 percent of expenditures for transportation and water infrastructure in 2007. Expenditures on water supply and wastewater treatment systems accounted for 28 percent of spending; aviation, mass transit and rail made up 23 percent; and the remaining categories of water transportation and water resources accounted for 5 percent.

The Role of Government in Funding Transportation and Water Infrastructure

In the United States, the public sector rather than the private sector typically provides funding for transportation and water infrastructure. Whether it is more efficient for the federal government to provide that funding depends on the type of infrastructure and the likelihood that such infrastructure will be undersupplied if its

provision is left to state and local governments or to the private sector.

Evidence suggests that spending for carefully selected infrastructure projects can contribute to long-term economic growth by increasing the capital stock and raising productivity. (During a prolonged economic downturn, infrastructure spending can also mitigate losses in output and employment.) Realizing the potential gains from public spending for transportation and water infrastructure depends crucially on identifying economically justifiable projects—those with benefits to society that are expected to outweigh costs—but a variety of factors make identifying such projects difficult. In addition, the demand for infrastructure could be better aligned with the existing supply by putting a price on those services that reflects the full cost of using infrastructure, including both the cost of providing infrastructure services and the costs that one person's use imposes on others. The federal government could make its current funding more effective by ensuring that the costs of infrastructure projects are allocated across levels of government on the basis of where the benefits are expected to accrue. Otherwise, for example, federal funding for infrastructure that provided benefits primarily at the local level could result in too many projects, or projects that are too expensive, being undertaken. In addition, individuals and businesses might consume too many infrastructure services relative to the cost of providing those services—because the federal share of that cost is largely borne not by local residents but by taxpayers throughout the country. ♦