United States General Accounting Office

GAO

Report to the Honorable
William F. Clinger, Jr.,
House of Representatives

September 1995

RURAL DEVELOPMENT

USDA's Approach to Funding Water and Sewer Projects

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GAO

United States
General Accounting Office
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Resources, Community, and
Economic Development Division

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September 22, 1995

The Honorable William F. Clinger, Jr.
House of Representatives

Dear Mr. Clinger:

This report responds to your request that we review the U.S. Department of Agriculture's process for allocating and distributing loan and grant funds for water and sewer projects. We examined (1) funding levels for the program and the projects supported, (2) the formula that the Department uses to allocate loan and grant funds among its state offices, and (3) the approach that the Department's state and district offices use to distribute funds within states.

We are sending copies of this report to interested congressional committees; the Secretary of Agriculture; the Director, Office of Management and Budget; and other interested parties. Copies are available to others upon request.

Please contact me at (202) 512-5138 if you or your staff have any questions. Major contributors to this report are listed in appendix III.

Sincerely yours,

John W. Harman
Director, Food and
Agriculture Issues

Executive Summary

Purpose

Many of the 62 million people living in over 2,300 rural counties in the United States still lack access to a supply of clean water and sanitary waste disposal facilities. Continuing a long-standing effort, the U.S. Department of Agriculture's (USDA) Water and Waste Disposal Program provides funding for water and sewer projects to rural communities. The program is now the major source of federal funds targeted to water and sewer projects in rural areas. In fiscal year 1994, USDA provided about $1.3 billion for the program.

Representative William F. Clinger, Jr., asked GAO to review USDA's process for allocating loan and grant funds for water and sewer projects. This report provides information on (1) funding levels for the program and the projects supported, (2) the formula that USDA uses to allocate loan and grant funds among its state offices, and (3) the approach that USDA state and district offices use to distribute funds within states.

Background

USDA administers the Water and Waste Disposal Program by allocating grant and loan funds to its state offices. Each state's allocation is determined by a formula established by USDA regulation. The state offices then make the funds available to their district offices to support rural water and sewer projects proposed by local communities. All 50 states, Puerto Rico, the U.S. Virgin Islands, and the Western Pacific territories receive funds. Before the initial allocation, USDA sets aside about 10 percent of both loan and grant funds as a reserve for emergencies, cost overruns, and other unforeseen problems. In addition, state offices must return unobligated funds to USDA headquarters twice a year. USDA makes set-aside and unobligated funds available to the states for specific projects.

The type of assistance (either loan funds or a combination of loan and grant funds) provided is governed by each community's financial situation. USDA's program regulations stipulate that grant funds are to be provided for projects serving financially needy communities to reduce user charges to a reasonable level. USDA headquarters officials consider a "reasonable" user charge to be one that the community can afford. The loans are repaid to the U.S. Treasury, not to USDA.

USDA state and district offices determine affordability on the basis of the (1) community's median household income or (2) user charges for similar systems in the area. USDA has the discretion to decide which approach will be used to determine the amount of grant funds provided. With respect to

the median household income criterion, USDA assumes that a community can pay no more than 1 percent of the median household income for servicing the debt on the USDA loan, as well as other outstanding debt owed to USDA. If the community's payment based on median household income cannot support the project and outstanding debt, USDA supplements its assistance with a grant. With respect to the second criterion, USDA examines the average user charges paid by residents of comparable communities for similar water and/or sewer services and determines a similar, affordable user charge for the project under consideration. This user charge in turn determines the mix of grants and loans awarded for the project.

Communities may also supplement USDA water and sewer funds with their own funds and funds from other federal, state, or private sources.

GAO visited USDA state and district offices in four states—Mississippi, North Carolina, Ohio, and Pennsylvania—to examine the distribution of water and sewer funds within each state. These states were four of the five largest recipients of water and sewer program funds over the past 30 years. GAO reviewed a total of 120 projects in these states.

Results in Brief

Since fiscal year 1965, USDA's water and sewer program has provided loan and grant support totaling about $28 billion (in fiscal year 1994 dollars) through June 1995. These funds have supported almost 17,000 projects that assisted over 12,500 communities throughout the United States and its territories.

USDA's allocation formula for water and sewer funds considers three weighted factors—rural population (50 percent), rural poverty (25 percent), and rural unemployment (25 percent). USDA's formula is easy to administer and is based primarily on readily available data from the Bureau of the Census and the Bureau of Labor Statistics. No state can receive more than 5 percent of the total available funds in the initial allocation. The formula may partially reflect states' needs and ability to pay; it does not reflect cost differences between states.

Under the current approach used to distribute funds within states, USDA state and district offices have considerable flexibility in determining the amount of grant assistance, if any, for individual projects. In some instances, this flexibility results in differing funding decisions for similar

communities. We identified these differences in funding decisions between and within the four states we visited.

Principal Findings

Water and Sewer Program Has Provided Assistance for Thousands of Projects

Almost 17,000 projects serving over 12,500 communities have received USDA funds for water, sewer, and combined projects since fiscal year 1965. Over this time, the water and sewer program has provided more than $20.4 billion in loans and about $7.3 billion in grants for these projects (in fiscal year 1994 dollars).

The number and costs of projects funded vary by state. For example, USDA's Mississippi office funded, on average, 28 projects annually from fiscal year 1965 through June 1995, while USDA's Ohio office funded an average of 13 projects annually over the same period. Differences in the number of projects funded are due in part to the types of projects funded. In Mississippi, more funding went to water projects, which are generally less costly to fund than the sewer projects funded in Ohio.

Current Allocation Formula to Determine State Funding Is Easy to Administer and May Partially Reflect Need and Ability to Pay

USDA's current allocation formula used to determine the amount of funds provided to the states has the advantage of being easy to administer because it is based on readily available data and is easy to understand. In addition, the data (on rural population, rural poverty, and rural unemployment) are specifically directed toward rural areas. Experts in public finance generally agree that certain other criteria are important in formulas for allocating federal funds. These criteria include (1) communities' needs for services, (2) a state's ability to pay for such services without federal aid, and (3) variations in project costs such as labor or construction costs among states.

USDA's current formula may partially reflect states' needs and ability to pay; it does not reflect cost differences among states. Data are available to more fully address these criteria, but any change to the formula could alter the amounts of loan and grant funds that states receive. GAO did not analyze how potential changes would affect individual states.

Award Determination Approach Provides Flexibility While Resulting in Differing Funding Decisions for Similar Communities

Under USDA guidelines, state and district offices have the authority to vary the amount of grant and loan funds that they award to communities eligible to receive funding for water and sewer projects. Officials may base their funding decisions on an applicant community's median household income or on the user charges for similar water and sewer systems in the area. According to USDA officials, most decisions are based on the user charges for similar systems. The flexibility permitted by USDA guidance allows the Department to vary the mix of funds among competing projects. This flexibility results in differing funding decisions for similar communities.

Recommendations

GAO is making no recommendations in this report.

Agency Comments

GAO provided copies of a draft of this report to USDA's Rural Utilities Service for its comments. GAO met with several agency officials, including the Deputy Administrator and the Director of the Water and Waste Disposal Division, who agreed that the information presented in the report is accurate. They provided new or clarifying information that GAO incorporated as appropriate.

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EPA	Environmental Protection Agency
GAO	General Accounting Office
MHI	median household income
USDA	U.S. Department of Agriculture

Introduction

Many of the 62 million people living in over 2,300 rural counties in the United States lack access to a supply of clean water and sanitary waste disposal facilities. In 1937, the Congress created a program that provided low-cost loans to ranchers, farmers, and rural residents of 17 arid and semiarid western states for water storage projects. Since that time, the Congress has changed the program to also fund water distribution systems and waste disposal facilities and to provide grant funds in addition to loans. Currently, the program, known as the Water and Waste Disposal Program, offers grants and loans to construct or modify water and/or sewer systems in rural communities that cannot obtain funding from other sources.[1] Administered by the U.S. Department of Agriculture (USDA), this program is now the major federal program providing such loan and grant funds to rural America.

USDA Allocates Loan and Grant Funds to State Offices Through a Formula

USDA administers the Water and Waste Disposal Program—referred to in this report as the water and sewer program—through its Rural Utilities Service.[2] To be eligible for this program, a rural community must have a population of 10,000 or less and be financially needy, meeting low-income criteria.

USDA headquarters allocates both loan and grant funds to its state offices through an allocation formula that it established through regulations.[3] The formula consists of three weighted factors: rural population (50 percent), rural poverty (25 percent), and rural unemployment (25 percent). No state may receive more than 5 percent of the total loan and grant funds initially allocated. About 10 percent of both loan and grant funds are set aside in a reserve pool for emergencies, cost overruns, and other unforeseen problems. Furthermore, twice a year, USDA headquarters withdraws to its reserve pool a portion of the unobligated loan and grant funds that may remain in a state's accounts. State offices can request pooled funds and receive funding above a state's initial allocation; USDA headquarters

[1]In 1990, the Congress also made solid waste disposal facilities eligible for assistance. This report only addresses assistance for water and/or sewer facilities.

[2]Among other functions, the Rural Utilities Service administers one of several programs that were under USDA's Rural Development Administration. These programs, in large part, originated under USDA's Farmers Home Administration. Both of these agencies were abolished under the Department's recent reorganization, and their functions were transferred to newly created agencies.

[3]Before allocating funds to the 50 states, Puerto Rico, the U.S. Virgin Islands, and the Western Pacific territories, USDA headquarters sets aside funds as directed by the Congress for communities with specific water and sewer needs. Examples of such communities include the Colonias—generally referred to as rural communities along the U.S.-Mexican border that have substandard living conditions, including water and sewer facilities. Usually, more grant funds than loan funds are set aside.

determines how pooled funds will be distributed. Generally, these pooled funds are used to provide supplemental funding for projects that are ready to be approved. In the following fiscal year, the states receive their allocations on the basis of the formula, not on whether they spent the prior year's allocation. In fiscal year 1995, USDA headquarters withdrew about $60 million in loan and grant funds as a result of the pooling process.

The water and sewer program has been funded at an average of $1 billion per year for the last 6 fiscal years; funding in fiscal year 1994 was about $1.3 billion.

USDA Administers the Water and Sewer Program Through State and District Offices

USDA administers the water and sewer program through a network of state and district offices. USDA headquarters allocates the program's funds to the state offices, which are responsible for general oversight of the program, including approval of district offices' project and funding recommendations. District offices administer the loan and grant program at the local level and serve as the point of contact for communities seeking assistance. Through a preapplication process, a district office obtains preliminary information to determine a community's eligibility for assistance and the proposed project's feasibility. If the community meets these requirements and funds are available, the district office asks the community to prepare a full application package.

The district office provides the state office with data on the project, including the application package and the district office's recommendation for approval. Most state offices have approval authority for loans of up to about $3 million; they can approve grants of any dollar amount. Under certain conditions, state offices must obtain final approval through USDA headquarters.

USDA Offices Base Loans and Grants on the Estimated Amount a Community Can Afford to Pay

Generally, USDA finances water and sewer projects through a combination of loans and grants. In addition, other funds—such as those from federal or state agencies or the applicant community—may be combined with financing from USDA.

USDA state and district offices determine the applicant's eligibility and the project's feasibility, including the reasonableness of user charges, which USDA headquarters officials interpret as an affordable charge. USDA state and district offices determine the community's ability to repay a loan,

including consideration of the community's outstanding debt to USDA. These offices initially attempt to finance the project through a loan. Since USDA expects its loans to be fully repaid,[4] district and state offices estimate what the average monthly user charges for the water and/or sewer services would have to be in order to sufficiently cover anticipated costs and avoid defaulting on the loan.[5] Typically, a community repays its loan through monthly charges collected from the residents who use these services.

If USDA state and district offices conclude that the loan amount would result in an onerous user charge, they consider replacing a portion of the loan with a grant to bring the user charge down to a more manageable level. In addition, officials in some states encourage the local community to obtain funding from other sources, such as state and/or other federal agencies, to reduce the amount of the USDA loan and grant funds needed. The grant amount that USDA state and district offices provide for a specific project can vary for several reasons—for example, the amount of grant funds on hand, the urgency for the project, and competing demands for grant funds within the district and across the state.

There are two principal limits on the grant provided for a particular project. First, legislation limits the amount of the grant to 75 percent of the project development costs[6] and provides for higher grants for projects in communities that have lower population and income levels. By regulation, USDA limits some communities having a somewhat higher median household income to a maximum grant of 55 percent of the project development costs. Second, under USDA regulations, grants cannot be so large that they cause average monthly user charges to be lower than those prevailing in the area. A state office may also fund a project at less than the allowable amount if its grant allocations are not sufficient to provide maximum grant funds for that project.

To determine the yearly user charge for a project, USDA state and district offices consider costs in four categories: debt service, operations and maintenance, reserve fund, and other costs. These offices add the yearly debt service calculation—including outstanding USDA debt—to the yearly costs for operations and maintenance to arrive at the total yearly cost.

[4]Loans are repaid to the U.S. Treasury, not to USDA.

[5]According to USDA headquarters officials, the program has a very low default and delinquency rate. USDA reported that only 0.1 percent of the total principal loaned had been lost to default since the program's inception. The delinquency rate is less than 2 percent of the total loans made.

[6]Development costs include costs for constructing, expanding, extending, or otherwise improving water or waste disposal facilities.

When applicable, these offices also add the cost of maintaining a reserve fund (generally 10 percent of debt service), which is used to replace certain types of equipment that have a relatively short useful life. This reserve fund should not be large enough to build a substantial surplus. Ordinarily, the total reserve will be equal to one average annual loan installment, accumulating at a rate of one-tenth of the total each year. In addition, USDA state and district offices may consider other costs, such as funded depreciation and delinquent accounts. To arrive at the total grant amount, these offices determine how much debt service a community can afford. They then factor in amortization over a period of time, usually 40 years.

Estimated User Charges Can Be Adjusted on the Basis of Comparisons With Similar Communities

In deciding on the mix of loan and grant funds to award for water and sewer projects, USDA state and district officials estimate the maximum size of the grant on the basis of a comparison of a community's median household income with the state's poverty level.[7] A community may not receive the maximum grant if further calculations of the debt service amount that the community can afford reveal that the grant should be less. A key factor in estimating affordability is determining how much the average customer can pay for water and/or sewer service on the basis of a community's median household income. USDA officials may override this affordability measure and increase or decrease the grant amount to bring the user charge in line with the average charges paid by comparable communities for similar systems.[8] However, officials may not change the grant amount if the change will result in user charges that are lower than those charged to customers in nearby communities.

Objectives, Scope, and Methodology

Representative William F. Clinger, Jr., asked us to review certain aspects of USDA's Water and Waste Disposal Program. This report provides information on (1) funding levels for the program and the projects supported, (2) the formula that USDA uses to allocate loan and grant funds among its state offices, and (3) the approach that USDA state and district offices use to distribute funds within states.

[7]State and district offices consider providing a grant when the debt service portion of the average annual user charge exceeds certain percentages of the median household income. These percentages are 0.5 percent when the median household income of the service area is below the poverty level or below 80 percent (whichever is higher) of the statewide nonmetropolitan median household income and 1 percent when it exceeds 80 percent but is not more than 100 percent of the statewide nonmetropolitan household income.

[8]USDA regulations define similar system charges as "the cost of a community having similar economic conditions, being served by the same type of established system, constructed at similar cost per user. Similar system cost shall include all charges, taxes, and assessments attributable to the system."

To address the first objective, we obtained access to the USDA database that contains information on the water and sewer program since its inception in the 1930s. We analyzed data for projects begun from fiscal year 1965 through June 1995—the period during which USDA was authorized to provide both grants and loans for water and sewer projects. We excluded (1) about 4,000 projects (with a value of about $1.3 billion in nominal dollars) from our analysis because USDA's database did not provide the year in which the projects were begun and (2) about 3,000 additional projects because the database did not provide the dollar amounts for these loans and/or grants. We summarized, by state, information on USDA's loans and grants and on other sources of funding. We converted amounts in the database to constant fiscal year 1994 dollars. We did not perform a reliability assessment of USDA's database.

To respond to the second objective, we reviewed the literature on allocation formulas used for distributing federal funds and spoke with experts in other federal and private agencies. We identified generally accepted criteria for the factors that should go into an allocation formula and compared these factors with those used for the current water and sewer allocation formula. We also analyzed allocation formulas used to distribute funding for other federal programs.

To address the third objective, we reviewed files at USDA headquarters for a random sample of 120 projects receiving funding from fiscal year 1992 through fiscal year 1994. We selected 30 cases each from four of the five states that are the largest recipients of loan and grant funds (Mississippi, North Carolina, Ohio, and Pennsylvania). We analyzed the approach used to distribute funds within the states and identified variations in funding decisions. We visited these four states and talked with USDA water and sewer officials at the state level and with officials in 12 of USDA's districts. We also talked with nine borrowers who had received grants or loans from USDA for water or sewer projects in two of these states.

We performed our work from September 1994 through August 1995 in accordance with generally accepted government auditing standards.

Agency Comments

We provided copies of a draft of this report to USDA's Rural Utilities Service for its comments. We met with several agency officials, including the Deputy Administrator of the Rural Utilities Service and the Director of the Water and Waste Disposal Division. These officials agreed that the

information presented in the report is accurate. They provided new or clarifying information that we incorporated as appropriate.

USDA Has Helped to Fund Thousands of Water and Sewer Projects for Rural Communities

From fiscal year 1965 through June 1995, USDA supported the development of water and sewer projects in thousands of rural communities. The expenditures, number of projects, and average costs varied by state. On average, the water and sewer program provided about 70 percent of the funds for the projects that it supported. The remainder of the funds came from other sources such as the Environmental Protection Agency (EPA), states, and counties.

Expenditures, Number of Projects, and Average Costs Varied by State

Since fiscal year 1965, USDA has provided financial assistance to over 12,500 rural communities and almost 17,000 water and sewer projects. The number of projects supported and the amount of loan and grant funds provided varied, ranging from a low of two projects and about $5.6 million in the Western Pacific Territories to a high of more than 1,100 projects and $1.8 billion in expenditures in Texas. Furthermore, the average expenditure per project varied widely among the states.

Table 2.1 shows the top five states in total expenditures and the average expenditure for each project in those states since fiscal year 1965.

Table 2.1: Top Five States Receiving Funding, Fiscal Year 1965 Through June 1995

State	Number of projects	Total expenditures (in billions)	Average expenditure per project (in millions)	Average annual number of projects
Texas	1,116	$1.9	$1.7	36
North Carolina	562	1.4	2.5	18
Ohio	390	1.1	2.9	13
Pennsylvania	439	1.1	2.5	14
Mississippi	879	1.0	1.2	28

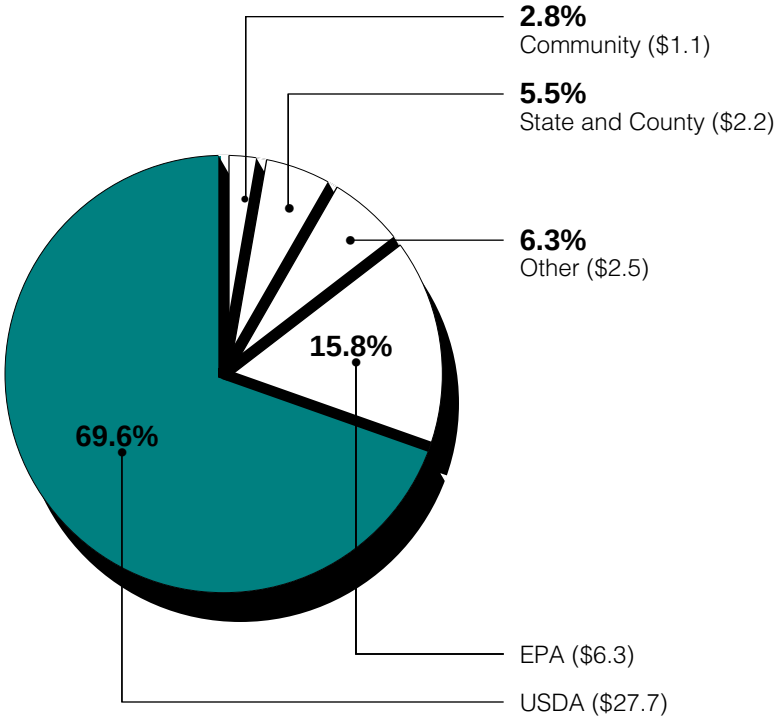
Source: USDA's data.

As table 2.1 shows, while total expenditures were comparable for three of the five states, the average expenditure per project and the average annual number of projects varied considerably. For example, the average expenditure per project in Ohio was about 2-1/2 times the expenditure in Mississippi. This occurs in part because the USDA office in Mississippi funded more water projects than did the USDA office in Ohio, which funded more sewer projects. In general, water projects are less costly than sewer projects. (App. I provides information on projects and expenditures by state.)

Projects Also Received Funding From Other Sources

Many projects that the water and sewer program supported also received funding from sources other than USDA, including the community itself, the state and county, and other federal sources, such as EPA. Figure 2.1 shows the amount and percentage of support provided by these sources and USDA.

Figure 2.1: Sources of Support for Water and Sewer Projects, Fiscal Year 1965 Through June 1995



Note: Some funds provided by the community, state and county, and other categories may have originated from federal sources that provide funds to localities for multiple purposes.

Source: USDA's data.

The $27.7 billion provided by USDA's water and sewer program represents about 70 percent of the total expenditures on these projects from fiscal

year 1965 through June 1995. The extent of all other funding sources varied widely by state—from 8 percent in New Jersey to 62 percent in Vermont. According to USDA officials in one of the four states we visited, they encouraged and aided applicants for the projects in soliciting funds outside of the USDA program. Projects in that state and in two others that we visited averaged over 30 percent in all other sources of funding. Conversely, the fourth state we visited relied more heavily on USDA's water and sewer funds, obtaining only 15 percent of funding from all other sources. (See app. I for sources of funding by state.)

Current Allocation Formula Is Easy to Administer and May Partially Reflect States' Needs and Ability to Pay

The current water and sewer formula—which is based on rural population, poverty, and unemployment—is easy to administer and draws on data that are readily available and directed toward rural areas. As we have reported on a number of previous occasions,[9] experts in public finance have identified three criteria—need, ability to pay, and differences in cost—that are commonly considered in allocation formulas aimed at producing an equitable distribution of funds among states. USDA's current formula may partially satisfy the first two criteria but does not address the third. Data on need, on the ability to pay, and on certain cost differences are available from the Bureau of the Census, EPA, the Department of the Treasury, and the Bureau of Labor Statistics.

The Water and Sewer Formula Is Easy to Administer and Draws on Readily Available Data

USDA's water and sewer formula is easy to administer because of its simplicity and its use of factors that are based on readily available data. It consists of three weighted factors for each state: rural population (50 percent), rural poverty (25 percent), and rural unemployment (25 percent). Rural population is measured by a state's rural share of population as a percentage of the national rural population. Rural poverty is measured by the state's rural population below the poverty level as a percentage of the national rural population below the poverty level. Rural unemployment is measured by the state's nonmetropolitan unemployed population as a percentage of the national nonmetropolitan unemployed population.

USDA officials informed us that they use rural population, poverty, and unemployment in the allocation formula because the data are readily available from the Bureau of the Census and Bureau of Labor Statistics and do not require any further alterations. (For population and poverty levels, data are collected every 10 years; for unemployment rates, data are collected annually.) In addition, the data are directed toward rural areas.

Need, Ability to Pay, and Cost Differences Are Recognized Allocation Criteria

Public finance experts have identified three criteria that are commonly considered in allocation formulas aimed at producing an equitable distribution of funds among states. These criteria are the (1) need for services or projects, (2) ability of states to fund projects from their own resources, and (3) differences between the states in the cost of providing these services. Some federal allocation formulas consider one or more of

[9]See Maternal and Child Health: Block Grant Funds Should Be Distributed More Equitably (GAO/HRD-92-5, Apr. 2, 1992), Older Americans Act: Funding Formula Could Better Reflect State Needs (GAO/HEHS-94-41, May 12, 1994), and Federal Aid: Revising Poverty Statistics Affects Fairness of Allocation Formulas (GAO/HEHS-94-165, May 20, 1994).

these criteria in distributing program funding to the states, as discussed below.

Need for Services

The Advisory Commission on Intergovernmental Relations,[10] reported that the "need for services" is the most common criterion used to allocate federal funds.[11] Some formulas use direct indicators of this need. For example, the formula for the Highway Bridge Replacement and Rehabilitation Program is based on the number of a state's bridges that are eligible for replacement or rehabilitation. Similarly, the formula for the Hazardous Waste Management State Program is based in part on a direct indicator of need—the number of hazardous waste management facilities in the state. This program assists states in transporting, treating, storing, and disposing of hazardous wastes.

Indirect indicators of need, or proxies, may be used when direct factors are not available. For example, the Highway Planning and Construction, Interstate 4R Program formula contains a factor for vehicle miles traveled on interstate routes in a calendar year. This factor serves as a proxy for those interstate highways that are in the greatest need of repair. Indirect indicators of need often have the advantage of objectivity and prevent any perverse incentive effects that may result from the formula itself. However, when direct indicators of need are available, their use may more precisely target funds.

Ability to Pay

A state's ability to raise revenues from its own resources—its fiscal capacity—is also an important factor found in many federal allocation formulas. The rationale for including an ability-to-pay factor is that a greater share of funds should go to recipients who are least able to finance their needs from their own resources. Many federal and state grant programs over the past decade have included a measure of ability to pay in their formulas.

Because it is readily available information, per capita income is the factor used almost exclusively to account for ability to pay. However, according to economists and other analysts, per capita income is not a

[10]The Congress created the Commission in 1959 to monitor the operation of the federal system and to recommend improvements. The Commission is an independent, bipartisan commission with 26 members—9 representing the federal government; 14, state and local government; and 3, the general public.

[11]Categorical Grants: Their Role and Design, Advisory Commission on Intergovernmental Relations, A-52 (Washington, D.C.: May 1977).

comprehensive measure of ability to pay because it does not include other sources of income, such as corporate income and taxes paid by nonresidents (e.g., hotel and sales taxes). Therefore, using an indicator such as per capita income may understate states' ability to pay.

Several other factors could be used to develop a more comprehensive indicator of ability to pay, such as total taxable resources.[12] This indicator, developed by the Department of the Treasury, is an average of per capita income and per capita gross state product.[13] By averaging gross state product with personal income, total taxable resources covers more types of income than does personal income alone, including income received by nonresidents. This measure is used in the formula specified in the 1987 reauthorization of the block grant for the Alcohol, Drug Abuse, and Mental Health Program.

Geographic Cost Differences

Many allocation formulas include an adjustment for cost disparities across states. Ideally, for these formulas to reflect cost differences fairly, they must incorporate factors that reflect differences between states in costs that are beyond the states' direct control. One formula that includes an indicator to adjust for costs is the formula for the Highway Bridge Replacement and Rehabilitation Program. This formula considers the costs of replacing or improving bridges in different states.

USDA's Water and Sewer Formula May Partially Satisfy Allocation Criteria

The current formula may partially reflect the need for services and the ability to pay for such services, but it does not reflect cost differences between the states. First, to the extent that a state's relative need for services is proportional to rural population and poverty, the population and poverty factors may serve as a proxy for need. But the formula's reliance on poverty data can result in more funding to a state that has more resources to help itself than its poverty data would indicate. Such a state may have both a relatively high average income and a high level of

[12]Other such indicators of ability to pay include the Representative Tax System and the Representative Revenue System, both developed by the Advisory Commission on Intergovernmental Relations. The Representative Tax System is an alternative to per capita income and measures the potential ability of states to raise taxes from their own sources. The Representative Revenue System, a parallel measure to the Representative Tax System, includes the capacity to collect nontax revenues, such as user charges, in addition to tax revenues. For both of these measures, an index is calculated that measures the potential revenue-raising ability of each state in relation to a national average of 100. However, neither of these indicators is collected on a regular basis—they were last measured in 1991. Currently, they are not used in the United States in grant formulas. However, Canada has used the Representative Tax System in its program of federal-provincial equalization assistance.

[13]Gross State Product measures all income produced within a state, whether received by residents or nonresidents or retained by business corporations.

poverty. Also, poverty data are not adjusted for cost-of-living differences across states.

Second, the formula partially provides a means for measuring a state's ability to pay for needed water or sewer services. The current formula's unemployment factor provides an indirect measure of a state's financial capacity but does not directly address a state's ability to pay for services. In addition, the use of the unemployment rate as a targeting mechanism cannot be expected to reflect the economic conditions of rural areas. According to USDA, rural workers are more likely to rely on two or more part-time jobs rather than one full-time job. These part-time jobs do not show up in unemployment statistics. Also, the unemployment rate may not be representative of the economic condition of self-employed farmers, whose employment status is unlikely to change in good or bad times.

On the other hand, the current formula does not adjust for cost differences. It does not recognize that the costs for building and maintaining water and sewer projects differ from one state to another. These costs can differ because of state-to-state differences in labor costs or other inputs as well as the amount of resources needed to accomplish the project. For example, costs may be higher because of a harsh winter climate or the topography of certain states, making it necessary to bury water or sewer pipes more deeply or to drill through rocky terrain.

Data on Need, Ability to Pay, and Cost Differences Are Generally Available

Most data that could be incorporated into a formula that addresses a community's need, ability to pay, and cost differences are currently available. Appendix II provides details on the availability of such data. Any changes that would incorporate such data, however, could alter the amounts of loan and grant funds that states receive. Depending on the factors selected and their respective assigned weights, changes could be significant. The ultimate results of any changes would depend upon assumptions about the relative importance of factors. We did not analyze how potential changes would affect individual states.

Award Determination Approach Provides Flexibility While Resulting in Differing Funding Decisions for Similar Communities

USDA state and district officials have the authority to vary the amount of grant and loan funds that they award to communities eligible to receive funding for water and sewer projects. The officials may base their decisions on either the applicant communities' median household income (MHI) or the user rates for similar systems. This flexibility in funding decisions has the advantage of allowing state and district offices to vary the mix of grant and loan funds among competing projects. This same flexibility results in different funding decisions for similar communities.

Award Determination Approach Allows Officials to Adjust Mixture of Grant and Loan Funding Among Competing Projects

USDA state and district officials decide on whether to provide only a loan or a mix of loan and grant funds for water and sewer projects by determining what constitutes an affordable payment or average user charge. As discussed in chapter 1, if a loan by itself would result in a user charge that is too high, officials can reduce the loan's amount by providing grant funds. The amount of the grant is ultimately determined by considering a community's MHI or the results of a comparison between the proposed system and other similar systems. USDA officials advised us that most funding decisions are based on user charges for similar systems in the area, rather than on the community's MHI.

According to a number of USDA state and district officials with whom we spoke, the option of comparing similar communities and systems provides them with latitude in distributing funds within the state. This option allows them to provide more or less funds to projects, depending on the number and cost of projects competing for funds. Accordingly, these states could either fund multiple projects at reduced grant levels or fewer projects at higher levels.

USDA offices in all four states chose the latter—assisting a larger number of projects with relatively lower amounts of grants. For example, USDA officials in one state told us that they had a 4- to 5-year backlog of projects totaling about $220 million. In this state, when choosing similar systems for comparison, officials were more likely to pick systems with higher user charges, thus establishing a lower grant amount for the project under consideration and spreading grant funds among competing projects.

According to USDA headquarters, state, and district officials, selecting comparable communities and user charges is inherently judgmental. Water and sewer systems and user charges can differ because of such factors as the type and age of the system and the size and density of the population served.

Flexibility in Choosing Similar Systems Results in Differing Funding Decisions for Similar Communities

While the flexibility for selecting similar systems provides latitude in determining the amount of a grant that a particular project will receive, it also means that differing funding decisions may be made for similar communities. We identified variations in funding decisions both between and within the four states we visited.

Variations in Funding Decisions Between the Four States

Table 4.1 provides information on four communities—one from each of the four states we visited. The district and state offices in each of the states based their funding decisions for these communities on the user charges for similar water and/or sewer systems in comparable communities within their respective states. The table presents project development costs, the community's MHI, the community's maximum grant eligibility, the grant's amount based on MHI, the amount of the grant awarded, the annual user charges, and the community's user charges used for comparison.

Table 4.1: Variations in Funding Decisions for Water or Sewer Systems in Four States

Borrower community	Project development cost (in millions)	MHI	Maximum allowable grant [a] (in millions)	Grant estimate based on MHI (in millions)	Actual grant award (in millions)	Annual user charge	User charges in similar communities
State 1	$6.2	$17,627	$3.4	$ 0	$3.4	$147	$114 127 146
State 2	7.6	17,738	5.5	2.1	0	376	360 365 396
State 3	3.8	15,000	2.8	1.1	2.4	182	222 258 82
State 4	2.0	19,654	1.5	0	0.4	204	240 215 228

[a]The maximum allowable grant is based on a community's MHI as compared with the state's poverty level.

Source: USDA's data.

The community in State 1 was eligible for a grant of up to 55 percent of its project development costs, on the basis of its median household income

when compared with the state's median household income. As table 4.1 shows, USDA provided this community with the maximum grant, about $3.4 million. USDA arrived at an annual user charge of $147, which was comparable with the annual charges of three other communities. In contrast, the community in State 2 was eligible for a 75-percent grant but received no grant funds even though it had a median household income similar to that of the first community. Without a grant, the community in State 2 projected a user charge of $376 annually, which was 2-1/2 times higher than the user charge for the first community. However, this user charge was comparable with the three communities that the district office had selected for comparison in that state. USDA made differing funding decisions for these two communities. While the community in State 2 was eligible for a larger grant than the community in State 1, it received no grant at all.

Similarly, the communities in the other two states were each eligible for a grant of 75 percent, but the grant amounts differed. One community's annual user charge of $182 was close to an average of the three communities selected for comparison, while the other community received a grant amount that resulted in an annual user charge lower than that of any of the three systems identified as similar.

Variations in Funding Decisions Within One State

We also found variations in the approaches used within individual states to determine how much grant funding, if any, USDA would provide to a particular community. Table 4.2 presents information similar to that in table 4.1 for four communities within the same state. For these communities, USDA based its decisions on user charges in similar communities.

Table 4.2: Variations in Funding Decisions for Borrowers Having Similar Water or Sewer Systems in One State

Borrower community	Project development cost (in millions)	MHI	Maximum allowable grant [a] (in millions)	Grant estimate based on MHI (in millions)	Actual grant award (in millions)	Annual user charge	User charges in similar communities
Community A							$384
							384
	$3.3	$27,202	$1.8	$0.5	$0.6	$396	360
Community B							360
							365
	7.6	17,738	5.5	2.1	0	376	396
Community C							300
							288
	3.3	17,818	2.4	2.8	2.3	353	334
Community D							241
							264
	0.9	24,038	0.7	0.4	0.3	348	288

[a]The maximum allowable grant is based on a community's MHI compared with the state's poverty level.

Source: USDA's data.

On the basis of its MHI, Community A was eligible for a grant of up to 55 percent of its project development costs and received a grant of $572,000. In contrast, Community B was eligible for a 75-percent grant but received no grant funds. For Community A, the annual user charge was $396, which was higher than the annual user charges for the three communities used for comparison. For Community B, the annual user charge was $376, which was higher than two of the communities used for comparison. USDA made differing funding decisions for Communities A and B. Community A, which had a higher MHI than Community B, received a grant, while Community B received no grant.

Our analysis also showed that Communities B, C, and D were eligible for grants up to 75 percent ($5.5 million, $2.4 million, and $657,000, respectively). While USDA compared similar communities to arrive at projected user charges for these three applicants, it provided no grant to Community B, almost the maximum grant to Community C ($2.3 million), and less than half the maximum grant to Community D ($300,000).

Several USDA district officials in this state told us that they regularly choose systems for comparison that support a $30 to $35 monthly charge because they believe that user charges in this range are necessary to get the state

office's approval for the project. However, USDA state officials disagreed with the district officials' views that a $30 to $35 monthly charge was expected. Nonetheless, in another state, USDA state and district officials told us that they emphasize having a consistent outcome for user charges in their state. They informed us that they expected the awards to projects to result in monthly user charges of about $30 for water projects and about $35 for sewer projects.

Also, within each of the four states visited, USDA's rationale for making grant determination decisions was often not documented in the files. For example, files on the projects frequently showed that the similar systems approach was used but the communities and user charges selected for comparison were not identified.

Number of Water and Sewer Projects and Dollar Value of Loans and Grants Funded by USDA and Other Sources

Table I.1: Number of Water and Sewer Projects and USDA Loan/Grant Totals by State for Projects Started From Fiscal Year 1965 Through June 1995

Dollars in millions

States and territories	Number of projects	Loan amount	Grant amount	Loan and grant amount	Average cost per project
Alabama	321	$450.9	$179.0	$629.9	$2.0
Alaska	74	54.6	36.2	90.7	1.2
Arizona	160	172.7	52.1	224.8	1.4
Arkansas	707	580.6	285.2	865.8	1.2
California	423	513.5	219.1	732.7	1.7
Colorado	239	181.3	96.2	277.5	1.2
Connecticut	80	149.8	38.9	188.7	2.4
Delaware	35	89.6	15.7	105.2	3.0
Florida	280	706.5	206.5	913.0	3.3
Georgia	516	612.6	269.4	882.0	1.7
Hawaii	7	8.7	10.2	18.9	2.7
Idaho	255	113.8	62.0	175.8	0.7
Illinois	729	586.6	240.3	826.9	1.1
Indiana	401	537.4	179.0	716.4	1.8
Iowa	676	764.3	195.6	960.0	1.4
Kansas	369	362.0	142.8	504.8	1.4
Kentucky	415	724.9	287.7	1,012.5	2.4
Louisiana	544	550.1	181.4	731.6	1.3
Maine	224	305.5	120.3	425.8	1.9
Maryland	161	180.2	79.5	259.6	1.6
Massachusetts	168	309.6	70.5	380.2	2.3
Michigan	407	691.9	232.4	924.3	2.3
Minnesota	466	344.6	155.3	499.8	1.1
Mississippi	879	806.4	212.4	1,018.8	1.2
Missouri	452	433.3	200.8	634.1	1.4
Montana	100	50.6	24.6	75.2	0.8
Nebraska	205	106.6	57.9	164.5	0.8
Nevada	63	42.9	15.4	58.3	0.9
New Hampshire	105	132.2	49.3	181.5	1.7
New Jersey	80	263.7	62.8	326.5	4.1
New Mexico	174	83.6	43.6	127.2	0.7
New York	525	560.5	182.1	742.6	1.4
North Carolina	562	1,035.3	346.1	1,381.3	2.5
North Dakota	176	194.2	77.6	271.8	1.5
Ohio	390	879.4	267.8	1,147.2	2.9

(continued)

Dollars in millions

States and territories	Number of projects	Loan amount	Grant amount	Loan and grant amount	Average cost per project
Oklahoma	560	442.7	172.8	615.5	1.1
Oregon	231	211.1	100.4	311.6	1.3
Pennsylvania	439	777.1	302.3	1,079.4	2.5
Puerto Rico	330	432.2	219.7	651.9	2.0
Rhode Island	25	63.9	9.0	73.0	2.9
South Carolina	285	663.3	159.1	822.5	2.9
South Dakota	247	260.8	115.6	376.4	1.5
Tennessee	449	703.5	181.2	884.7	2.0
Texas	1,116	1,459.6	415.1	1,874.7	1.7
Utah	206	133.8	45.3	179.1	0.9
Vermont	170	132.4	43.9	176.3	1.0
U.S. Virgin Islands	2	5.8	0.4	6.3	3.1
Virginia	349	551.5	216.6	768.1	2.2
Washington	353	215.3	88.8	304.0	0.9
West Virginia	345	502.9	183.5	686.5	2.0
Western Pacific Territories	2	1.4	4.2	5.6	2.8
Wisconsin	300	207.0	134.9	341.9	1.1
Wyoming	132	57.2	58.4	115.5	0.9
Total	16,909	$20,401.9	$7,347.0	$27,748.8	$1.6

Notes: All dollar amounts are expressed in fiscal year 1994 dollars. Figures may not total because of rounding.

Table I.2: Funding for Water and Sewer Projects From USDA and Other Sources, by State, Fiscal Year 1965 Through June 1995

Dollars in millions

States and territories	Community	State/County	EPA	Other	Total non-USDA	USDA
Alabama	$11.1	$8.5	$52.3	$58.7	$130.5	$629.9
Alaska	4.8	54.6	63.8	22.8	146.0	90.7
Arizona	27.3	0.6	58.1	39.1	125.0	224.8
Arkansas	13.6	118.0	98.6	90.1	320.2	865.8
California	21.9	91.5	239.1	69.7	422.1	732.7
Colorado	34.7	30.6	20.2	23.9	109.4	277.5
Connecticut	5.8	34.1	104.7	10.4	154.9	188.7

(continued)

Dollars in millions

States and territories	Community	State/County	EPA	Other	Total non-USDA	USDA
Delaware	3.3	32.9	85.5	24.5	146.1	105.2
Florida	24.7	70.2	72.9	35.1	202.9	913.0
Georgia	8.7	10.1	45.9	72.1	136.8	882.0
Hawaii	1.1	3.7	6.1	0.0	10.9	18.9
Idaho	13.2	30.6	36.3	28.4	108.5	175.8
Illinois	45.9	2.1	283.3	85.3	416.6	826.9
Indiana	23.7	43.2	257.9	21.6	346.4	716.4
Iowa	31.0	21.2	76.1	48.4	176.8	960.0
Kansas	40.5	22.5	13.2	13.7	90.0	504.8
Kentucky	43.3	22.7	189.6	232.0	487.5	1,012.5
Louisiana	13.5	6.5	112.8	23.7	156.4	731.6
Maine	9.3	85.3	224.3	26.4	345.2	425.8
Maryland	9.4	71.9	157.2	47.4	285.9	259.6
Massachusetts	29.0	97.6	241.9	11.2	379.6	380.2
Michigan	13.0	36.0	526.9	60.3	636.3	924.3
Minnesota	6.6	24.7	71.0	28.3	130.5	499.8
Mississippi	9.9	17.0	103.1	54.0	184.0	1,018.8
Missouri	27.4	78.1	54.9	37.5	197.9	634.1
Montana	2.1	3.9	16.6	5.2	27.8	75.2
Nebraska	8.9	4.8	3.3	16.8	33.8	164.5
Nevada	3.9	3.1	26.4	7.8	41.2	58.3
New Hampshire	3.7	49.2	109.2	24.6	186.6	181.5
New Jersey	3.1	7.5	13.2	5.8	29.6	326.5
New Mexico	12.4	20.7	19.2	20.2	72.5	127.2
New York	10.4	56.6	509.0	71.1	647.2	742.6
North Carolina	40.9	204.7	260.5	106.2	612.4	1,381.3
North Dakota	9.1	30.8	17.8	19.9	77.7	271.8
Ohio	56.5	24.7	371.0	84.5	536.7	1,147.2
Oklahoma	13.5	10.1	65.8	44.0	133.4	615.5
Oregon	29.2	10.2	66.0	41.6	147.0	311.6
Pennsylvania	86.9	57.1	475.3	65.4	684.5	1,079.4
Puerto Rico	69.7	43.9	18.3	65.4	197.3	651.9
Rhode Island	10.4	8.1	24.9	0.4	43.7	73.0
South Carolina	32.8	7.5	254.4	50.9	345.6	822.5
South Dakota	17.5	20.2	32.6	54.3	124.7	376.4
Tennessee	34.0	30.9	63.7	127.9	256.6	884.7
Texas	69.4	60.5	59.9	47.1	236.8	1,874.7

(continued)

Dollars in millions

States and territories	Community	State/County	EPA	Other	Total non-USDA	USDA
Utah	15.1	36.4	54.1	39.5	145.1	179.1
Vermont	2.0	116.4	157.1	17.1	292.7	176.3
U.S. Virgin Islands	0.0	0.0	0.0	1.8	1.8	6.3
Virginia	25.3	25.5	109.5	113.5	273.9	768.1
Washington	14.7	88.4	106.6	29.8	239.5	304.0
West Virginia	9.5	52.0	269.0	174.2	504.7	686.5
Western Pacific Territories	0.0	0.0	0.0	1.5	1.5	5.6
Wisconsin	41.6	108.3	29.2	39.6	218.8	341.9
Wyoming	14.4	88.5	19.7	65.7	188.3	115.5
Total	$1,109.8	$2,184.0	$6,347.5	$2,506.6	$12,147.9	$27,748.8

Notes: All figures are expressed in fiscal year 1994 dollars. Figures may not total because of rounding.

Availability of Data on States' Needs for Water and Sewer Services, Ability to Pay, and Cost Indices

This appendix presents information on the data that are available on need, ability to pay, and cost differences across states.

Availability of Data on Need

A direct measure of need for the water and sewer program could be the number of rural households or other units that either do not have water and sewer facilities or need system modifications. Considerable information on states' needs for water and sewer systems is now or will soon be available.

Both the Bureau of the Census and the Environmental Protection Agency (EPA) collect data that reflect the need for rural water and sewer systems. The Bureau's decennial "Census of Population and Housing" reports on households that lack public water and sewer systems at the county level. As shown in table II.1, an average of 9 percent of households in communities with populations under 10,000 lacked public or private water systems in 1990 and an average of 20 percent lacked public sewer systems.

Table II.1: Percentage of Households With Population Under 10,000 Lacking Water and Sewer Systems in 1990, by State

State	Percent lacking public or private water system	Percent lacking public sewer system
Alabama	4	43
Alaska	40	50
Arizona	11	41
Arkansas	3	20
California	6	22
Colorado	4	8
Connecticut	19	31
Delaware	13	12
Florida	11	31
Georgia	5	24
Hawaii	4	43
Idaho	5	11
Illinois	7	14
Indiana	12	15
Iowa	4	7
Kansas	3	4
Kentucky	2	15
Louisiana	4	20
Maine	12	21
Maryland	14	15

(continued)

State	Percent lacking public or private water system	Percent lacking public sewer system
Massachusetts	7	55
Michigan	14	12
Minnesota	16	15
Mississippi	5	14
Missouri	4	12
Montana	12	15
Nebraska	3	4
Nevada	16	25
New Hampshire	9	18
New Jersey	9	10
New Mexico	16	31
New York	11	31
North Carolina	13	34
North Dakota	6	5
Ohio	8	15
Oklahoma	6	16
Oregon	6	13
Pennsylvania	6	10
Rhode Island	12	39
South Carolina	6	23
South Dakota	4	7
Tennessee	4	32
Texas	5	18
Utah	2	20
Vermont	6	12
Virginia	7	17
Washington	7	30
West Virginia	4	14
Wisconsin	16	9
Wyoming	6	8
Average	9	20

Source: GAO's analysis of data from the Bureau of the Census' 1990 Census of Population and Housing.

EPA surveys small communities (with populations of under 10,000) biennially to determine whether their publicly owned wastewater treatment facilities need to be replaced or upgraded to meet the

requirements of the Clean Water Act. As shown in table II.2, EPA found that of the 21,834 communities surveyed in 1992, about 7,258 had documented needs for sewer facilities—an average of 34 percent within each state.[14] This average can be misleading, however, in assessing needs and costs. For example, while only 33 percent of Pennsylvania's small communities have documented needs, the absolute number of communities needing funding in Pennsylvania is the second largest in the nation—539 communities. In contrast, while Tennessee had a much higher percentage of communities with documented needs—69 percent—this percentage translated to only 170 communities.

EPA is also collecting information on water needs. These data are expected to be available in 1996.

Table II.2: Small Communities' Needs for Sewer Facilities, by State, 1992

State	Number of sewer facilities in small communities	Number of small communities with documented needs	Percent of small communities with documented needs
Alabama	458	241	53
Alaska	46	11	24
Arizona	309	37	12
Arkansas	694	166	24
California	543	175	32
Colorado	295	72	24
Connecticut	120	43	36
Delaware	31	10	32
Florida	120	35	29
Georgia	615	120	20
Hawaii	16	11	69
Idaho	209	33	16
Illinois	840	375	45
Indiana	391	283	72
Iowa	895	18	2
Kansas	565	108	19
Kentucky	411	238	58
Louisiana	448	211	47
Maine	210	60	29
Maryland	359	149	42

(continued)

[14]Documented needs consist of facilities and activities, including the conveyance, storage, treatment, recycling, and reclamation of municipal wastewater in which a water quality or public health problem exists.

State	Number of sewer facilities in small communities	Number of small communities with documented needs	Percent of small communities with documented needs
Massachusetts	96	51	53
Michigan	538	180	33
Minnesota	626	117	19
Mississippi	622	222	36
Missouri	752	174	23
Montana	192	19	10
Nebraska	487	34	7
Nevada	63	21	33
New Hampshire	92	58	63
New Jersey	379	208	55
New Mexico	79	15	19
New York	1,005	403	40
North Carolina	566	343	61
North Dakota	372	14	4
Ohio	1,033	336	33
Oklahoma	453	91	20
Oregon	185	44	24
Pennsylvania	1,636	539	33
Rhode Island	7	2	29
South Carolina	198	98	49
South Dakota	344	124	36
Tennessee	246	170	69
Texas	1,549	592	38
Utah	371	18	5
Vermont	90	26	29
Virginia	386	207	54
Washington	260	84	32
West Virginia	743	341	46
Wisconsin	770	323	42
Wyoming	119	8	7
Total	21,834	7,258	34

Source: GAO's analysis of EPA data in 1992 Needs Survey Report to Congress.

Availability of Data on States' Ability to Pay

Data are also available that could be used to address a state's ability to pay for water and sewer projects. For example, the total taxable resources indicator provides a complete picture of a state's ability to pay and is readily available on an annual basis from the Department of the Treasury. This indicator is more comprehensive than the other leading measure of ability to pay—per capita income. While these indicators yield different results for a state's ability to pay, either one could result in the receipt of proportionately more funding by states with lower fiscal capacities from the water and sewer program than they currently receive. Each of these indicators looks at an individual state's ability to pay in relationship to a national average index of 100. For example, as shown in table II.3, total taxable resources ranges from 70 for Mississippi to 156 for Alaska, while per capita income ranges from 72 in Mississippi to 140 in Connecticut. States that are resource rich, such as Alaska and Wyoming, score higher on the total taxable resource index than the per capita income index.

Table II.3: Ability to Pay Indicators, by State, 1991-93 Average

State	Total taxable resources	Per capita income
Alabama	81	85
Alaska	156	115
Arizona	84	90
Arkansas	76	79
California	109	111
Colorado	101	107
Connecticut	133	140
Delaware	122	109
Florida	92	103
Georgia	94	95
Hawaii	116	116
Idaho	82	86
Illinois	108	112
Indiana	91	94
Iowa	89	92
Kansas	95	99
Kentucky	82	84
Louisiana	90	82
Maine	87	94
Maryland	109	120
Massachusetts	117	122
Michigan	94	102
Minnesota	102	105

(continued)

State	Total taxable resources	Per capita income
Mississippi	70	72
Missouri	93	98
Montana	81	86
Nebraska	97	98
Nevada	110	113
New Hampshire	103	112
New Jersey	125	134
New Mexico	82	80
New York	119	124
North Carolina	93	92
North Dakota	84	86
Ohio	93	98
Oklahoma	81	85
Oregon	91	96
Pennsylvania	99	106
Rhode Island	97	105
South Carolina	82	84
South Dakota	86	89
Tennessee	89	91
Texas	96	95
Utah	79	80
Vermont	91	97
Virginia	103	108
Washington	105	109
West Virginia	74	80
Wisconsin	93	98
Wyoming	110	98

Source: GAO's analysis of Department of the Treasury data.

Availability of Data on Cost Differences

Some data are available to account for differences in construction costs across states. For example, state-by-state labor cost data for constructing water, sewer, and utility projects are available on an annual basis from the Bureau of Labor Statistics. As shown in table II.4, these data show significant state-by-state differences in relationship to a national average index of 100. Arkansas and Mississippi had the lowest labor costs, with indexes of 68, while Alaska had the highest, with an index of 219. These

data could be used, in conjunction with other cost data, to develop an overall cost index for water and sewer projects.

Several studies have shown that although state-by-state data on capital costs are extremely limited, capital costs closely follow labor cost data, which are widely available. In the context of water and sewer capital costs, however, this connection may not hold. In addition, the unit cost of labor or capital does not take into account the other cost aspect mentioned previously—the state-by-state differences in costs resulting from the amount of resources needed to accomplish these projects because of such factors as climate or topography. Therefore, data on both capital costs and costs representing resource use are currently not available and could only be obtained by directly surveying states to ascertain what these cost differences are.

Table II.4: Labor Cost Differences for Constructing Water and Sewer Facilities, by State

State	Labor cost index
Alabama	75
Alaska	219
Arizona	84
Arkansas	68
California	125
Colorado	98
Connecticut	130
Delaware	93
Florida	81
Georgia	77
Hawaii	149
Idaho	118
Illinois	142
Indiana	96
Iowa	95
Kansas	89
Kentucky	82
Louisiana	88
Maine	[a]
Maryland	94
Massachusetts	126
Michigan	123
Minnesota	116
Mississippi	68

(continued)

State	Labor cost index
Missouri	94
Montana	113
Nebraska	93
Nevada	109
New Hampshire	90
New Jersey	156
New Mexico	73
New York	143
North Carolina	76
North Dakota	[a]
Ohio	106
Oklahoma	82
Oregon	127
Pennsylvania	108
Rhode Island	133
South Carolina	70
South Dakota	86
Tennessee	72
Texas	88
Utah	82
Vermont	78
Virginia	82
Washington	110
West Virginia	89
Wisconsin	122
Wyoming	83

[a]Not available.

Source: GAO's analysis of Bureau of Labor Statistics data.

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