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## TEXAS WATER DEVELOPMENT BOARD

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### EVALUATION OF FINANCIAL, LEGAL AND INSTITUTIONAL FACTORS AFFECTING THE PROVISION OF WATER AND SEWERAGE SERVICES

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*This research project was sponsored by the Texas Water  
Development Board's Research and Planning Fund.*

### EXECUTIVE SUMMARY

DECEMBER 1987



**Arthur Young**

A MEMBER OF ARTHUR YOUNG INTERNATIONAL



A MEMBER OF ARTHUR YOUNG INTERNATIONAL

# Arthur Young

1100 Norwood Tower  
114 West Seventh Street  
Austin, Texas 78701

December 31, 1987

Mr. M. Reginald Arnold II  
Executive Administrator  
Texas Water Development Board  
Post Office Box 13231  
Capital Station  
Austin, Texas 78711-3231

Dear Mr. Arnold:

Arthur Young & Company is pleased to submit this executive summary of our report evaluating the costs of water supply and sewerage facilities and services for different types of public and private utilities. The overall objective of this study was to evaluate the service costs of the various existing entities in order to present information essential in helping to determine the most cost-effective types of management arrangements and levels of service to meet future service needs throughout the state of Texas. This summary provides a brief overview of the results of our efforts. The reader should refer to the final report which contains an expanded discussion and analysis of the issues.

It has been our pleasure to have the opportunity of working with the Texas Water Development Board on this project. If there are any questions regarding either the executive summary or the final report, please feel free to call Tim Barnes at (404) 581-1300.

Very truly yours,

*Arthur Young & Company*



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**TEXAS WATER DEVELOPMENT BOARD**

**EVALUATION OF FINANCIAL, LEGAL AND INSTITUTIONAL FACTORS  
AFFECTING THE PROVISION OF WATER AND SEWERAGE SERVICES**

**EXECUTIVE SUMMARY**

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**TEXAS WATER DEVELOPMENT BOARD**  
**EVALUATION OF FINANCIAL, LEGAL AND INSTITUTIONAL FACTORS**  
**AFFECTING THE PROVISION OF WATER AND SEWERAGE SERVICES**

**EXECUTIVE SUMMARY**

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## **EXECUTIVE SUMMARY**

This executive summary presents an overview of the project goal, the study methodology, and a summary of key findings. This summary does not provide a complete picture of all the major issues confronted during the study and, as such, the final report should be referred to for further discussion and analysis.

### **A. PROJECT GOAL**

The goal of this project, sponsored by the Texas Water Development Board's Research and Planning Fund, has been to collect and evaluate cost of service and other operating information of various water and wastewater utilities throughout the state. Findings have been prepared concerning methods and institutional arrangements to deliver water and wastewater services to the citizens of Texas in the most cost-effective and efficient manner. The computation of capital, debt service, maintenance and operating costs for the various types of service arrangements and different regions of the state has been included. The institutional and legal basis for the creation or establishment of the different types of service provision arrangements has been examined and comparisons have been made among each of the utility types in developing the findings contained in the report.

### **B. STUDY METHODOLOGY**

The results of this project were accomplished primarily through an intensive survey process which included the mailing of 1,000 questionnaires to a sample of utilities all across the state and the completion of twenty on-site interviews with utility managers in each of the five regions identified in the report. This effort was followed by (1) the analysis of the financial and operating data collected through the survey process, (2) an evaluation of legal and institutional factors including legal

authority, powers, financing capabilities and service area limits, and (3) development of findings.

### **C. OVERVIEW OF WATER AND WASTEWATER SERVICE IN TEXAS**

The institutional framework for water and wastewater systems in Texas has evolved throughout the history of Texas. Early Spanish systems known as acequias were used mainly for irrigation purposes. Subsequently, private canal companies and privately-owned utility companies arose. Gradually, the role of municipalities increased in operating water and sewer systems for cities. Special purpose water districts authorized to be created by constitutional amendments were also formed in the early 1900s. Under those same constitutional amendments, river authorities were created in the late 1920s and early 1930s to implement vast public works projects to tame the major rivers of the state by constructing dams and reservoirs. Use of such special districts evolved further in the 1950s and 1960s as they were used to facilitate development of major metropolitan areas such as Houston. Proliferation of local districts, combined with other matters including the increased public awareness of water quality problems, led to an increasing state role beginning in the late 1950s in financing, planning and regulating water and wastewater facilities.

### **D. KEY FINDINGS**

#### **1. Water and Wastewater Service Providers**

During the course of this project, a summary of all active utilities was constructed by consolidating information obtained from the State Department of Health and the Texas Water Commission. Over 2,800 active utilities serving a minimum of 150 water connections or with wastewater plant capacities of 100,000 gal-

lons per day or more were identified. The breakdown of utilities by type and region, as shown in Exhibit 1, is as follows:

<u>Utility Type</u>	<u>Total Number Identified</u>	<u>Percentage</u>
Fresh Water Supply District	39	1.4%
Municipal Utility District	683	24.0
Municipality	888	31.2
Privately Held/Investor Owned	368	12.9
River Authority	15	0.5
Water Control & Improvement District	238	8.4
Water Improvement District	18	0.6
Water Supply Corporation	536	18.9
All Others	59	2.1
Total	<u>2,844</u>	<u>100.0%</u>

Exhibit 1 also identifies the number of entities responding to the survey questionnaire. A survey response rate of approximately 48% was achieved as 478 out of 1,000 questionnaires were returned.

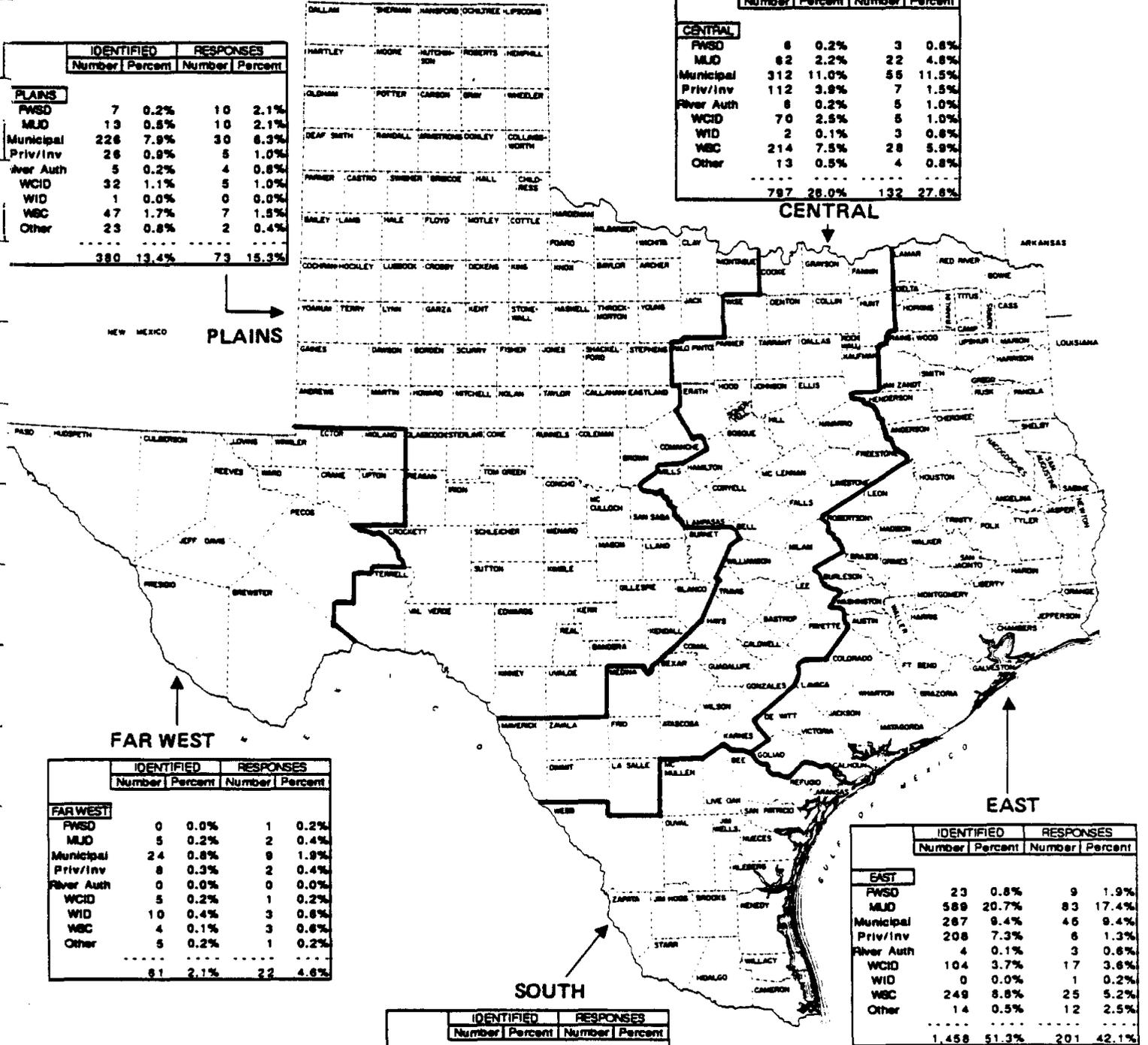
## 2. Financial and Operating Information

Comparing financial and operating data among various types of utilities can provide insight into the efficiency and effectiveness of various organizational forms. Care should be taken, however, in drawing conclusions solely from these comparisons. Given the wide variation of climate, natural resources, and demographics across the state, one would expect to see corresponding impacts on the cost of service and other aspects of utility operations. A multitude of other factors including customer constituency, age of facilities, receipt of different levels of grant funding, and varying treatment requirements also affect water and wastewater service delivery. Summarized below are a number of key statistics resulting from this research effort. Please note that this information is self-reported data voluntarily provided by the agencies participating in the survey and has not been

TEXAS REGIONS AND UTILITIES

	IDENTIFIED		RESPONSES	
	Number	Percent	Number	Percent
<b>PLAINS</b>				
PWSD	7	0.2%	10	2.1%
MUD	13	0.5%	10	2.1%
Municipal	226	7.9%	30	6.3%
Priv/Inv	26	0.9%	5	1.0%
River Auth	5	0.2%	4	0.8%
WCID	32	1.1%	5	1.0%
WID	1	0.0%	0	0.0%
WSC	47	1.7%	7	1.5%
Other	23	0.8%	2	0.4%
	380	13.4%	73	15.3%

	IDENTIFIED		RESPONSES	
	Number	Percent	Number	Percent
<b>CENTRAL</b>				
PWSD	6	0.2%	3	0.6%
MUD	62	2.2%	22	4.8%
Municipal	312	11.0%	56	11.5%
Priv/Inv	112	3.9%	7	1.5%
River Auth	6	0.2%	6	1.0%
WCID	70	2.5%	6	1.0%
WID	2	0.1%	3	0.6%
WSC	214	7.5%	28	5.9%
Other	13	0.5%	4	0.8%
	797	28.0%	132	27.6%



	IDENTIFIED		RESPONSES	
	Number	Percent	Number	Percent
<b>FAR WEST</b>				
PWSD	0	0.0%	1	0.2%
MUD	5	0.2%	2	0.4%
Municipal	24	0.8%	9	1.9%
Priv/Inv	8	0.3%	2	0.4%
River Auth	0	0.0%	0	0.0%
WCID	5	0.2%	1	0.2%
WID	10	0.4%	3	0.6%
WSC	4	0.1%	3	0.6%
Other	5	0.2%	1	0.2%
	61	2.1%	22	4.6%

	IDENTIFIED		RESPONSES	
	Number	Percent	Number	Percent
<b>SOUTH</b>				
PWSD	3	0.1%	2	0.4%
MUD	14	0.5%	8	1.7%
Municipal	59	2.1%	19	4.0%
Priv/Inv	14	0.5%	1	0.2%
River Auth	0	0.0%	0	0.0%
WCID	27	0.9%	9	1.9%
WID	5	0.2%	3	0.6%
WSC	22	0.8%	6	1.3%
Other	4	0.1%	2	0.4%
	148	5.2%	50	10.5%

	IDENTIFIED		RESPONSES	
	Number	Percent	Number	Percent
<b>EAST</b>				
PWSD	23	0.8%	9	1.9%
MUD	569	20.7%	83	17.4%
Municipal	267	9.4%	46	9.4%
Priv/Inv	208	7.3%	6	1.3%
River Auth	4	0.1%	3	0.6%
WCID	104	3.7%	17	3.6%
WID	0	0.0%	1	0.2%
WSC	249	8.8%	25	5.2%
Other	14	0.5%	12	2.5%
	1,458	51.3%	201	42.1%

audited by either Arthur Young or the Texas Water Development Board.

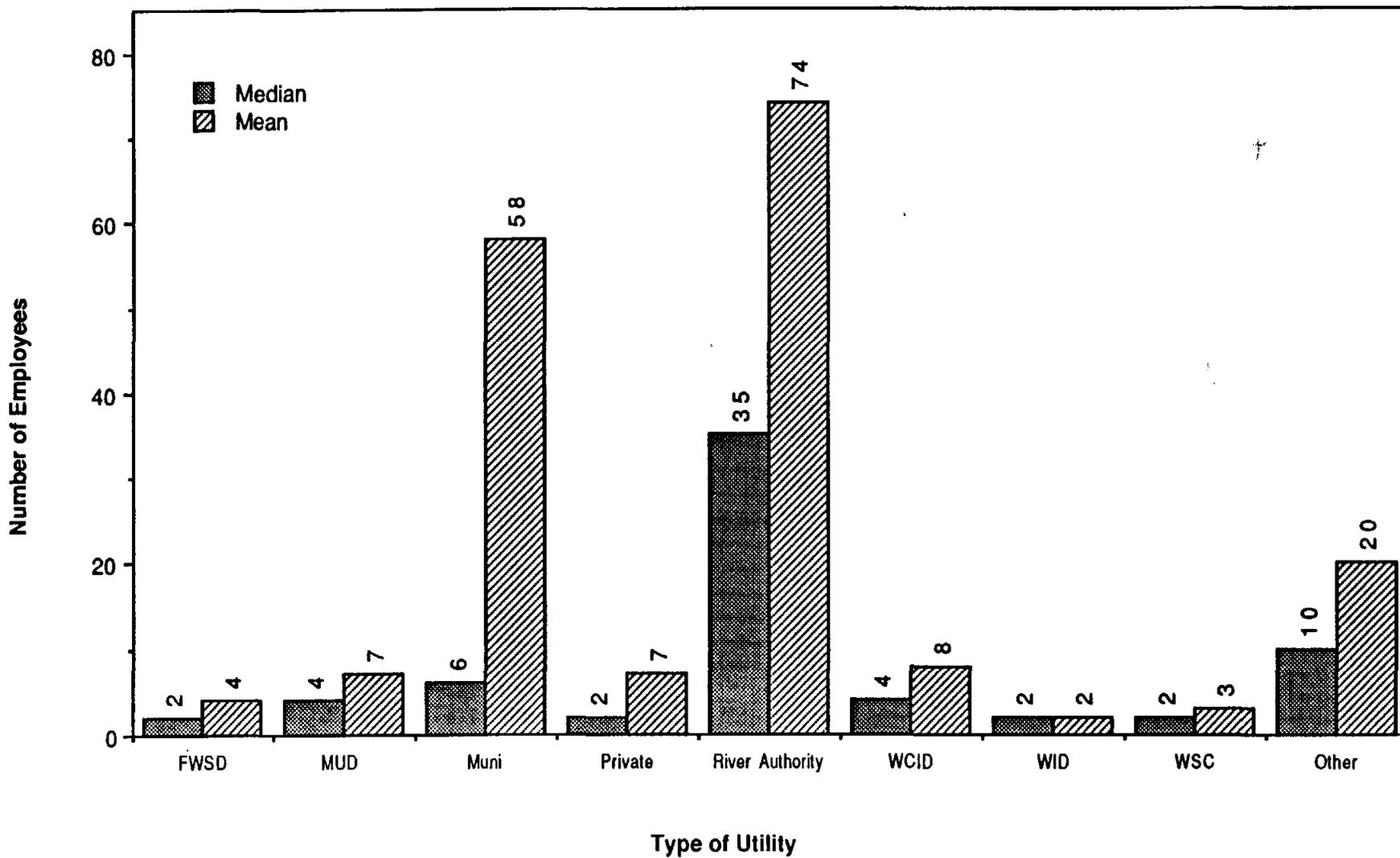
- As shown in Exhibit 2, the number of customers served per utility based on both the median and mean responses is generally quite low. For water and wastewater the percentage of utilities serving 1,000 or fewer customers is 63.2% and 54.8%, respectively. Over 95% of both water and wastewater service providers served 20,000 or fewer customers.
- The relatively small size of most utilities is confirmed by the data presented in Exhibit 3. The median number of employees devoted to water and/or wastewater operations is below ten per utility for all utility types except river authorities. Even when using the mean (average) number of employees, only municipalities, river authorities and "other" (primarily public utility agencies) exceed this amount.
- Approximately 53% of water systems and 65% of wastewater systems have capacities of 1,000,000 gallons per day or less.
- The great number of agencies who receive at least a portion of their annual revenues from taxes affects the analysis of cost of service and the matching of revenues with those costs. This is because tax revenues are most often available to jointly fund both water and wastewater operating expenses and capital improvements. As such, there is no uniform method by which to allocate these tax revenues between water and wastewater operations. Thus, while one may be able to comment about a utility's overall financial condition it is often less apparent whether water revenues are adequate to meet water costs, etc.
- As depicted in Exhibit 4, the allocation of total revenues (both water and wastewater) among the six major categories below best illustrates the varying degree to which operating rates and taxes support utility operations. The "not itemized" category results from an inability of some utilities to readily segregate their revenues into the indicated categories or the failure of the survey form to reflect revenue categories used by a particular utility.
- For utilities, the debt service coverage ratio (Exhibit 5) often serves as an important indicator of financial strength. This ratio, which is generally defined as total operating revenues less operating expenses

**NUMBER OF CUSTOMERS SERVED**

<u>Number of Customers</u>	<u>WATER</u>			<u>WASTEWATER</u>		
	<u>Number of Utilities Falling Within the Range</u>	<u>Percentage of Utilities Falling Within the Range</u>	<u>Cumulative Percentage</u>	<u>Number of Utilities Falling Within the Range</u>	<u>Percentage of Utilities Falling Within the Range</u>	<u>Cumulative Percentage</u>
0 - 100	46	11.1 %	11.1 %	23	8.1 %	8.1 %
101 - 500	134	32.5	43.6	92	32.3	40.4
501 - 1,000	81	19.6	63.2	41	14.4	54.8
1,001 - 5,000	120	29.1	92.3	99	34.7	89.5
5,001 - 20,000	20	4.8	97.1	18	6.3	95.8
> 20,000	<u>12</u>	<u>2.9</u>	100.0 %	<u>12</u>	<u>4.2</u>	100.0 %
<b>Totals</b>	<b>413</b>	<b>100.0 %</b>		<b>285</b>	<b>100.0 %</b>	

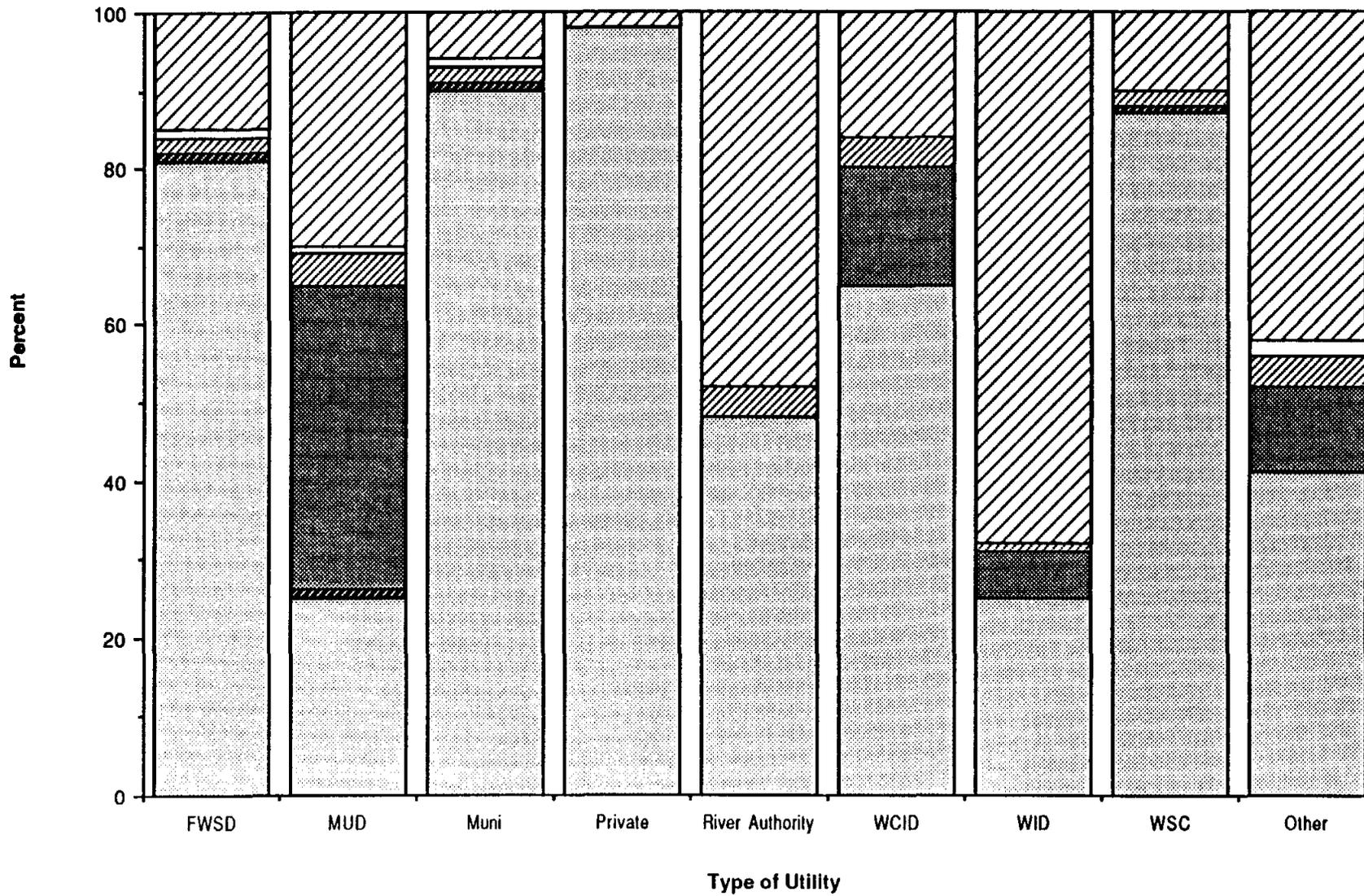
Note: Total number of utilities do not equal number of survey respondents because not all respondents provided customer data and not all utilities provide both water and wastewater service.

**Number of Employees by Type of Utility**

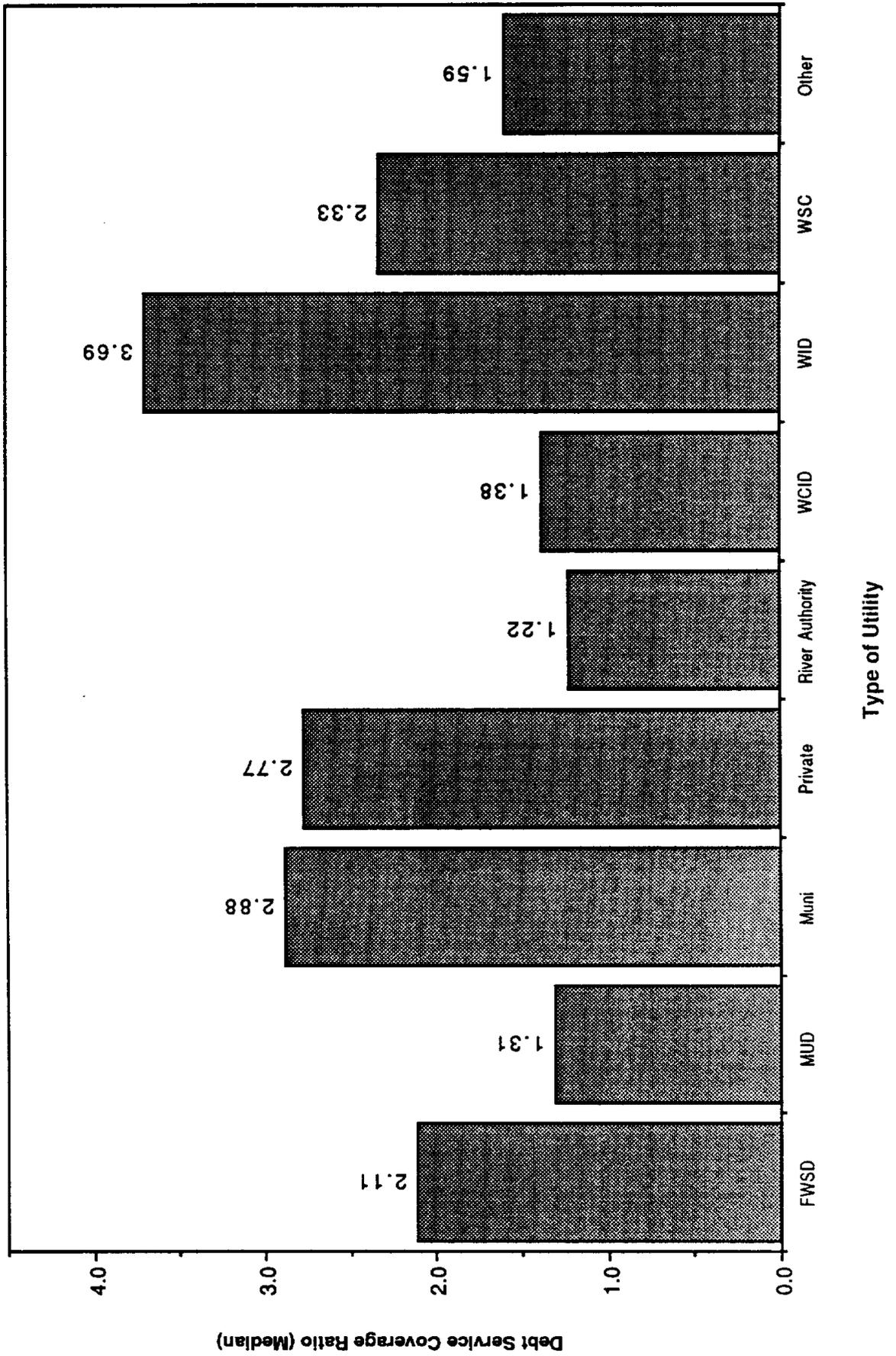


**Percentage of Total  
Revenue by Component**

-  Operating Rates
-  Capital Charges
-  Taxes
-  Interest Income
-  Other
-  Not Itemized



Debt Service Coverage Ratio by Type of Utility



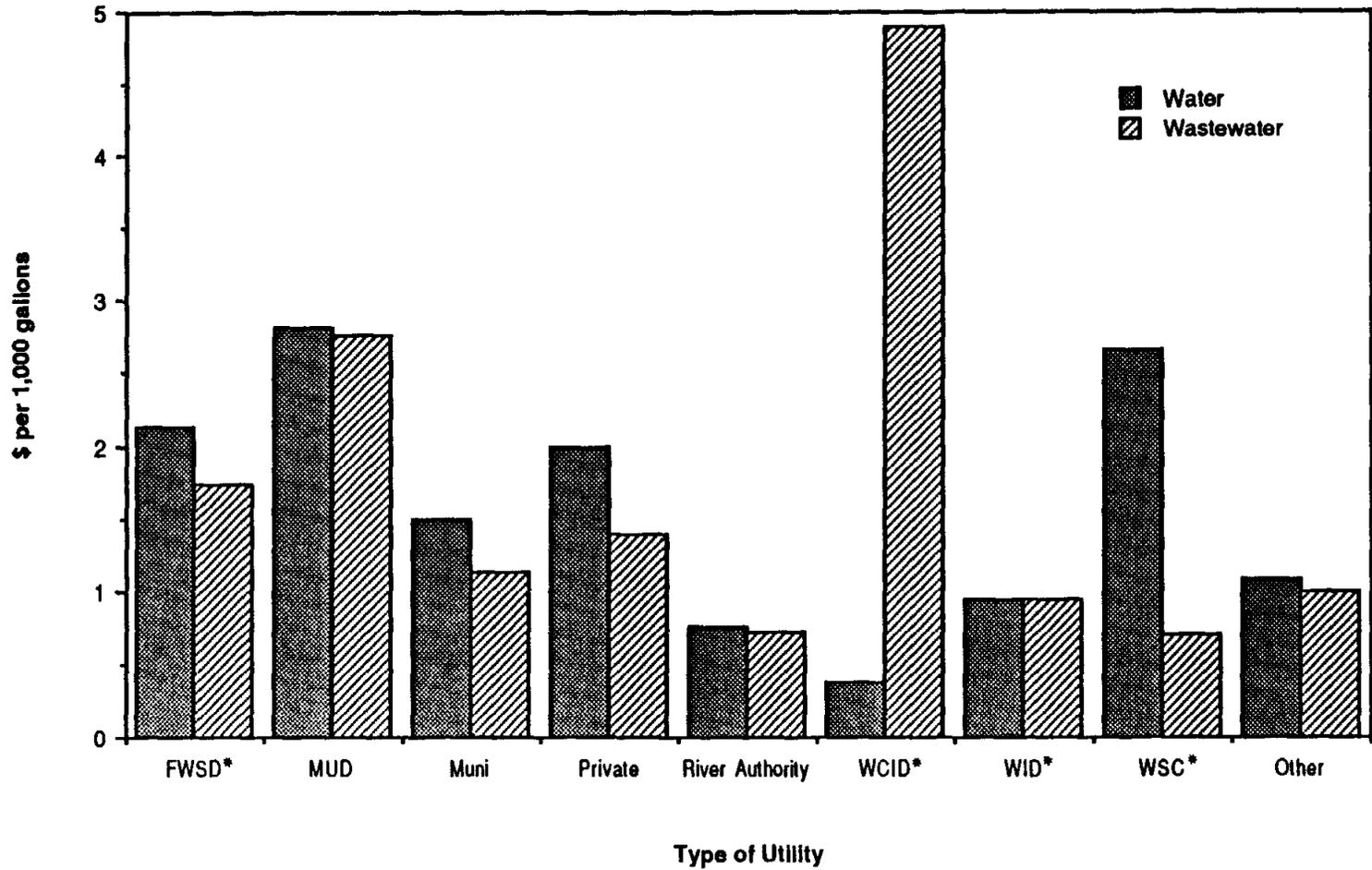
(excluding depreciation) divided by the annual debt service requirement (principal and interest), is an indicator of a utility's ability to meet its debt payments. For example, a utility with a 2.0 coverage ratio would have \$2,000,000 in net revenues after operating expenses to meet an annual debt service payment of \$1,000,000. The median ratios shown in this exhibit fall within the expected range for utilities although the lower numbers for MUDs, river authorities and WCIDs are likely reflective of their respective roles in (1) high growth areas, (2) financing agreements of river authorities which are often structured to exclude a specific coverage requirement and (3) the role of WCIDs in serving more costly rural areas.

- Total expenditures by utility type per 1,000 gallons of water delivered to the system or per 1,000 gallons of wastewater treated are depicted in Exhibit 6. The same statistics by region are:

	Water - Total Expenditures Per 1,000 Gallons Delivered	Wastewater - Total Expenditures Per 1,000 Gallons Treated
Far West	\$2.48	\$ .83
Plains	1.84	.86
Central	2.29	1.14
East	1.56	1.49
South	1.55	1.44
<b>Overall Median</b>	<b>\$1.87</b>	<b>\$1.26</b>

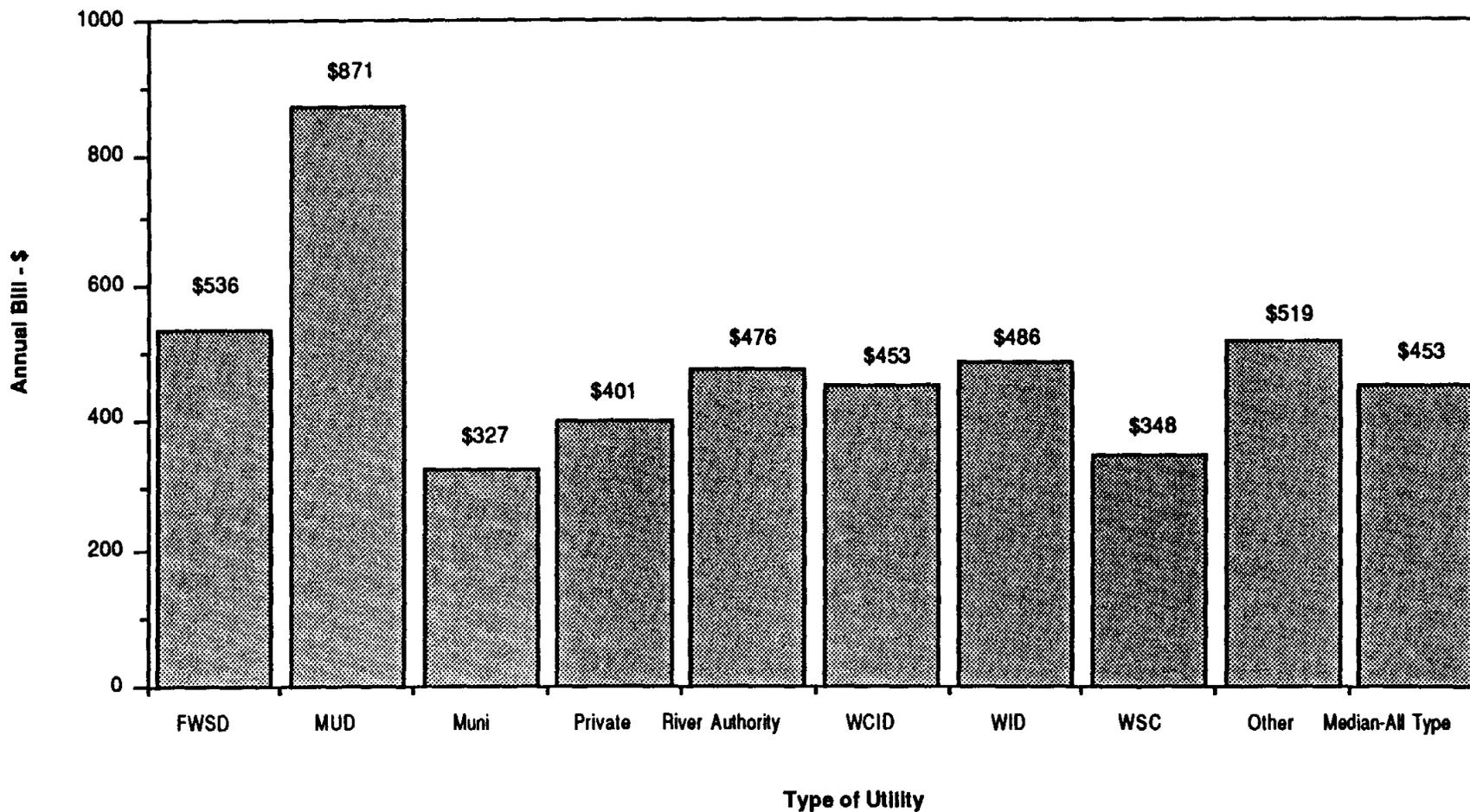
- As shown in Exhibit 7, the amount of money spent annually on water and wastewater services by a homeowner, assuming an average usage of 8,000 gallons per month, varies widely depending upon the type of utility and region within the state. The median water and wastewater bill for the entire state is approximately \$453 or slightly more than \$38 per month. This amount accounts for both water and wastewater bills as well as the portion of taxes devoted to utility services, where applicable. Tax figures were calculated assuming an \$80,000 value for a typical single-family dwelling. One should be careful in comparing these figures between types of utilities as, for example, municipal utility districts are the highest because of their role in developing services in high growth areas and their reliance on taxing powers for the funding of necessary capital improvements. In contrast, in a subdivision where the developer funds the construction of necessary water or wastewater improvements without the use of a MUD, the cost of these improvements gets recouped

**Total Expenditure per 1,000 Gallons**  
**Water Delivered or Wastewater Treated (Median)**



\*Wastewater number is based on only one observation.

**Annual Water and Wastewater Bill (Median) for  
Homeowner Using Average of 8,000 Gallons Per Month\***



\*Median bill representing combination of water and wastewater user rates plus taxes, where applicable. Tax amount based on single family dwelling valued at \$80,000.

Sample excludes utilities providing only one service (i.e., just water or just wastewater).

through the sale of the land and homes built on it. Therefore, while customers in this situation would experience lower water and wastewater bills they are indirectly paying for a portion of necessary utility improvements through their monthly mortgage payments rather than in a tax bill paid to a municipal utility district. This example is only one of the many variations in financing of capital improvements and annual cost recovery that affect the level of water and wastewater bills.

### 3. Qualitative Data

- Areas receiving the highest percentage of survey respondents indicating major problems were:
  - Wastewater - Infiltration/Inflow (22%)
  - Wastewater - Financial Capability (17%)
  - Water - Financial Capability (16%)
  - Wastewater - Plant Capacity (15%)
  - Water - Fire Protection (12%)
  - Water - Source of Supply (9%)

In response to self-evaluation questions included on the long-form survey questionnaire, those areas receiving the greatest percentage responding "needs improvement" or "poor" were:

- Office Automation and Data Processing (16%)
- Employee Compensation (16%)
- Personnel Policies (9%)
- Training and Education (9%)

### 4. Summary of Significant Comments

The following summary of significant comments resulted from the twenty on-site interviews with utility managers and comments made on the survey questionnaires. While they are not the results of a statistically valid sample, they do represent the consensus of comments which were received.

- There appears to be concern regarding the financial stability of some of the smaller utilities in the state -- many of these being municipal utility districts. The economic slowdown in the state has caught a number of districts in the early stages of development before the breakeven point has been reached. Because each district has its own separate financing structure, the

financial stability and resources available in larger organizations (municipalities, regional districts, public utility boards, etc.) does not exist.

- A number of individuals commented that the legal powers and various forms of utilities were well suited in promoting growth and development. Because utilities could be formed relatively easily to meet the needs of defined areas, commercial and residential development could occur more rapidly and over a broader land area than would be the case if, for example, water transmission mains and/or wastewater interceptor lines had to be constructed to connect these developments into a larger, existing utility. However, this ability to respond quickly to development needs has, in some instances, created problems including a proliferation of smaller package treatment plans, overuse of groundwater, the lack of a networked system to address fire protection or water quality problems and the maintenance of high levels of debt by some utilities to discourage annexation by an adjoining municipality.
- River authorities are taking a more active role in the delivery of water and wastewater services, but feel their abilities are constrained by legal or revenue-generating capabilities. Frustration was evident as to the ability of river authorities to address water quality concerns. While many expect river authorities to be the solution for water quality problems in the rivers and streams, authority personnel stated that there are no funds to pay for a solution, no taxing power exists, and water rates can not include the costs.
- Larger municipalities and regional utilities (i.e., public utilities agency, regional district) see themselves as having a significant role in addressing water supply and quality problems. For example, it was stated that only the larger utilities can "bankroll" the sums of monies necessary for larger water supply projects. They are also taking the lead in urbanized areas by consolidating the numerous smaller treatment plants and collector systems constructed during the earlier periods of high growth. Representatives of one larger municipality stated that while the concept of regionalizing utility service is an apparent solution, care must be taken to ensure that development incentives are not destroyed.
- Many of the smaller utilities (MUDs, WCIDs, etc.) felt they do a better job than, for example, an adjoining

municipality because they provide more personalized service, are more responsive than a city would be, and citizens have a better chance for input.

- Several utilities feel that current customers are getting bargain water and sewer rates. As water supplies become more costly and as wastewater treatment standards and enforcement are increased, those accustomed to relatively inexpensive water and sewer service will experience significant increases.
- Increasingly more stringent wastewater treatment standards will cause a movement towards a greater number of regional treatment facilities. In urbanized areas, it appears that the role of municipal utility districts and water control and improvement districts will move more towards the construction of local distribution and collection lines and connection of these to an adjoining utility which provides water treatment and transmission as well as wastewater treatment.
- Water supply corporations and private water companies appear to be experiencing the greatest amount of problems. Water supply corporations, usually located in rural areas, expressed significant concern over (1) their ability to fund improvements, (2) the need for monies necessary to put in larger line sizes to correct fire protection and supply problems caused by putting in 2-inch lines with FmHA funds, (3) their lack of exemption from ad valorem and sales taxes and (4) the high cost of serving customers in sparsely populated areas. Private water companies expressed frustration with regard to the rate approval process at the Public Utilities Commission, although hope was expressed that the Texas Water Commission would provide a simpler rate consideration process. It appears the recent passage of House Bill 1459, by simplifying the rate adjustment process, will play a large part in addressing this concern. An opinion was expressed that the new tax laws also serve as a significant detriment to the operation of private water companies since the only way to keep private systems healthy is to assure cash flow sufficient to fund improvements and adequate operating expenses.
- All forms of utilities appear to be putting an increasing share of the burden of capital improvements on the developer and, therefore, the parties buying new homes or commercial property. Most require developers to put in all necessary lines at their expense and construct

the lines necessary to connect the new development to the existing system. Also, many of the entities have substantial fees (\$250 to \$1,000 per home) to connect to the system.

## 5. Significant Issues and Proposed Changes

This section summarizes significant issues resulting from the study and presents proposed changes for consideration by the state in order to deliver water and sewerage service in the most cost-effective and beneficial manner.

### Issue No. 1

The institutional arrangements and legal powers afforded the various entities responsible for water and sewerage service appear to have played a major role in keeping up with the demand for new housing and commercial development during the last decade. Some, however, question whether these entities are best suited to meet the challenges of insufficient or poor quality water supply, increasingly stringent drinking water standards, and the need to protect water quality by proper collection and treatment of wastewater.

### Findings

Texas has at their disposal an extremely broad range of entities to provide water and sewerage service needs. These range from the rural, non-profit water supply corporations serving only a handful of customers to the major municipalities and regional utilities which have invested hundreds of millions of dollars in infrastructure improvements to serve thousands of customers. However, just four categories (municipal utility districts, municipalities, privately held/investor-owned, and water supply corporations) make up approximately 87 percent of the total utility systems within the state.

Exclusive of areas within municipal limits, there is no single political entity other than the state responsible for the planning and coordination of the use of the state's natural re-

sources. This leaves major portions of the state where the responsibility for water resource planning and development is met by any number of combinations of existing entities. While each of these entities has been developed to meet a specific need, no single local or regional entity exists to make sure that the wisest use is made of the state's natural resources. However, as problems have arisen, action has been taken to address those needs on a case-by-case basis. For example, in the Houston area the Harris-Galveston Coastal Subsidence District was formed to address the specific problem of subsidence due to overuse of the ground water resources. More recently, legislation has been enacted that allows for the creation of regional utility systems to address the water quality problems caused by a multitude of small package wastewater treatment plants.

Given the broad range of entities available to manage the state's water resources, no need is seen for any sweeping changes in how water and sewerage service is delivered. It appears that the state of Texas, through its existing utility organizations and its change of legal powers in response to demonstrated need, can better serve its citizens than would a "formula" approach to meeting water and sewerage needs that are so vastly different across the several regions.

This conclusion does not imply that all areas of the state are being efficiently served. There are clearly needs to improve the financial strength of certain utilities and to reduce the number of potential pollution sources by reducing the number of package treatment facilities, and there is the need to move towards coordinated supply and treatment where efficient use of scarce water supply sources and the need to protect both underground and surface waters is apparent.

## Issue No. 2

Is the recent emphasis on regionalization of utility service warranted and what are its advantages and disadvantages? How can the desire to encourage regional service be balanced with the desire to continue the encouragement of development. Does the size of a utility (i.e., number of customers served) correlate with the cost of service?

## Findings

An increasing awareness of the regional impacts of utility service and the need for increased regional planning is apparent within the state of Texas. This fact is evidenced by the laws and regulations that have been modified to address key environmental and water and sewerage service needs. Among these modifications are the formation of coastal subsidence districts and underground water conservation districts to address important groundwater problems. Additionally, the ability to form regional systems for wastewater collection and treatment has been addressed. Likewise, laws have been modified to make it easier for existing utilities to annex adjoining areas thereby promoting the formation of larger regional utilities versus a multitude of smaller, independent utilities.

While a number of advantages and disadvantages associated with regionalization are discussed in the main body of the report, in the final analysis, the major question is how the desire to encourage regional service can be balanced with the desire to continue the encouragement of development. Texas has made several modifications to its policies in order to promote a balance between these two issues. The first of these was a modification of the manner in which existing districts or municipalities can annex adjacent areas without increasing the costs of existing customers. This can be done by imposing a surcharge on the rates of annexed customers until the debt associated with their improvements is retired. Also, the Texas Water Code now allows the

formation of regional districts to provide wastewater service within any standard metropolitan statistical area in the state.

Other means by which the balance of regional needs versus developmental needs can be achieved would be the extension of the current six-month period that municipalities have to provide service in areas where they oppose the formation of districts. The extension of this time frame to, for example, one to two years, would provide a more flexible time frame for regional utilities to respond to the needs of development while still not drastically limiting the ability to develop areas in the extra-territorial jurisdiction (ETJ) of a municipality.

In areas where there are critical water supply or water pollution problems, the state might make provisions that within a municipality's boundaries and its ETJ the districts would be restricted from building water supply or wastewater treatment facilities but at the same time place a burden on the municipality or regional utility to both plan for and construct facilities to meet the needs of the region in a timely fashion.

The final item under this issue was whether the size of a utility (i.e., number of customers served) correlates with the cost of service. In a study conducted for the Office of Drinking Water of the United States Environmental Protection Agency in 1982, the results clearly showed that the cost of service does decrease with the increased size of the utility.

### Issue No. 3

The financial strength of a number of utilities has been impaired by the economic slowdown resulting from the oil industry crisis. Are there any steps which can be taken to improve the financial strength of utilities and should the burden of risk incurred when developing be shared differently?

## Findings

The financial strength of a number of utilities, particularly that of municipal utility districts, has been severely weakened by the recent economic slowdown within the state of Texas. MUDs have been most severely impacted in cases where only a few homes have been built, but the utility improvements constructed by the district are sufficient to serve several hundred homes. In these cases, the financial burden of servicing the district's debt and funding operating and maintenance expenses falls disproportionately on the owners of improved lots. In these cases, the economic slowdown and resulting reduction in home sales has prevented the district from reaching a breakeven point where the district's debt and operating expenses could be met by a combination of interest and sinking fund taxes, maintenance taxes, user fees or standby charges set at a reasonable level. In cases where the breakeven point has not yet been reached, it has been common practice for the developer to put up cash during the early stages to serve a portion of the debt and operating expenses. However, as the length of period increases, the financial resources of the developer may be exhausted. Thus arises the dilemma that a number of MUDs have experienced recently. Because the MUD's bonds are general obligation debt and carry with them an unlimited taxing pledge, the tax rate will need to be set at a level sufficient to service the debt. In a number of cases, this has resulted in tax rates for water and sewer which would exceed \$3,000 to \$4,000 per year on a \$100,000 home. This is in addition to any school district, county, or municipal taxes. Thus, through the issuance of tax-exempt debt, much of the risk of not reaching the breakeven point passes to the bondholders and, accordingly, to the owners of improved lots.

This situation arises only in those states where special-purpose districts are used as an aid to development. In other areas of the country where districts are not so prevalent, the

local government (city or county) generally dictates the construction materials and standards that will be followed by the developers, requires the developer to construct all subdivision utilities at his own expense and then have him deed the assets over to the local government for continued operation and maintenance. In most cases, there will be an additional requirement to either pay for in full or share in the construction of "off-site" utilities necessary to connect the area being developed with existing water and/or wastewater mains. In these cases, the ability of a developer to build his own water supply system or wastewater treatment facilities to service his development is greatly restricted. Thus, in comparison with those states where districts can construct independent stand-alone utilities, development may be less expedient. The ability to develop in areas where the use of districts is prevented or restricted is dependent upon the ability and willingness of existing entities to provide utility main and treatment capacity. Also, because the areas where water transmission or wastewater interceptors are available is limited, the land base which is suitable for development is greatly diminished and, therefore, can be expected to be more costly. On the other hand, this dependence on an existing entity prevents "leapfrogging" development and promotes a more coordinated and efficiently constructed series of utility lines and plants.

The desire to provide some control over the development process has been recognized, both by individual municipalities as well as through the state legislature by the enactment of laws outlining a process for the creation of regional or areawide systems to provide wastewater collection and treatment (Sections 26.08 through 26.987 of the Texas Water Code). Individual municipalities have restricted the use of MUDs by opposing their formation in their ETJ or requiring that, for example, wastewater treatment facilities be installed on an interim basis until interceptor lines are constructed to connect them to the larger

regional treatment facilities. At that time, the package plants would be taken off-line and the connection to the regional interceptors would be made. Opposition to MUD formation within the ETJ by a municipality carries with it an obligation. If a developer petitions the city to provide water and sewer service and such service is not made available within six months, then the MUD may be formed over the city's objections. Given the substantial size of the ETJ (five miles) for larger municipalities, it is often the case that lines will not be available in a particular area or they can not be made available within the six-month limit.

Because of the availability of tax-exempt public financing, it is apparent that some developments, if dependent on private (i.e., bank) financing or developer capital, have been undertaken that otherwise might not have been constructed. The TWC's 30 percent rule, which was adopted in 1974, requires developers to fund 30 percent of the cost of improvements which have only local benefit such as sewerage collection lines and water distribution lines. Water plants, sewage treatment facilities, and central mains are reimbursed 100 percent. This rule was enacted to ensure the viability of the MUD's bonds, much like a bank requires a prospective homeowner to make a downpayment in order to receive mortgage financing. In order to reduce the burden that falls on homeowners when development occurs at a slower pace than anticipated, consideration should be made to increase the percentage of local improvements from 30 percent to possibly 50 percent or 60 percent that must be funded through private financing or by the developer. In doing so, the financial exposure of persons purchasing property is limited. If a project does not reach the breakeven point in a timely fashion, this would place a greater portion of the burden on the developer or the party providing the private financing. Although this would reduce the amount of improvements financed at lower tax-exempt rates and likely raise home prices by some moderate amount, it would more appropriately

place the assessment of risk with the developer and private financiers, who are presumably best able to make this assessment.

#### Issue No. 4

Privately held/investor-owned utilities expressed significant concern over their ability to meet the needs of their customers given the current tax laws and the difficulty of the rate submittal and approval process. What might be done to improve the effectiveness with which these utilities serve customers?

#### Findings

The major concern expressed by the operators of privately held or investor-owned utilities was the ability to obtain approval of water and sewer rates at levels sufficient to fund operating and maintenance expenses plus an adequate return on the capital investment. This concern, which echoes the concerns of private utilities in other states where private for-profit utilities are a major factor, is brought about by the regulatory law, administrative procedures, and costs of rate filing and testimony. Until recently, these utilities fell under the jurisdiction of the Texas Public Utilities Commission and were subject to many of the rate consideration processes applicable to gas, electric and telecommunication utilities. With the transfer of the regulatory rate process to the Texas Water Commission, at least one utility manager held out hope that since "water and sewer is the TWC's business" the rate consideration process would be streamlined and be structured more for their smaller operations than for the larger utilities who typically have large, full-time staffs to handle the rate regulation process.

It appears, from our experience, that the concern over the costs and burden of the rate process for smaller, private utilities is justified. In several cases where Arthur Young has provided assistance to either private utilities or to state and local governments with regulatory powers, the costs of preparing

necessary filings and direct testimony as well as rebuttal testimony have exceeded well over \$250,000 in professional fees and expenses for a utility with fewer than 10,000 customers. Combining this expense with the regulatory lag inherent in such a process, one can easily see that full cost recovery can be a major problem for private utilities.

House Bill 1459, sponsored by the Texas Water Commission, resulted in legislation which became effective in September 1987 that should address many of the concerns raised by the private utilities. The legislation simplified the rate approval process by allowing private utilities to institute and implement rate increases automatically but no more often than once every twelve months. The rates are still subject to the regulatory review process based upon the Commission's own action or upon the desire of 10 percent or more of the customers for such a review.