



Mary Taylor, CPA  
Auditor of State

# CITY OF COSHOCTON WATER DEPARTMENT PERFORMANCE AUDIT

JUNE 24, 2008



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To the Mayor, City Council and Residents of the City of Coshocton:

On September 17, 2007, members of the Coshocton City Council asked the Auditor of State to conduct an independent assessment of its water treatment operations. This performance audit was designed to assist the City in addressing concerns related to excess production capacity; capital costs and related cost recovery options; production costs and billing rates; and overall operational efficiency and effectiveness.

The performance audit contains recommendations which identify the potential for cost savings and efficiency improvements. The performance audit also provides an independent assessment of the water treatment operation's current financial situation and a framework for monitoring its ongoing financial situation. While the recommendations contained in the audit report are resources intended to assist in developing and refining operational efficacies, the City is also encouraged to assess overall operations and develop other alternatives independent of the performance audit.

An executive summary has been prepared which includes the project history; an overview of the City and its water treatment operations; the scope, objectives and methodology of the performance audit; and key recommendations. This report has been provided to the City, and its contents discussed with the appropriate officials. The City has been encouraged to use the results of the performance audit as a resource in further improving its overall operations, service delivery, and financial stability.

Additional copies of this report can be requested by calling the Clerk of the Bureau's office at (614) 466-2310 or toll free at (800) 282-0370. In addition, this performance audit can be accessed online through the Auditor of State of Ohio website at <http://www.auditor.state.oh.us/> by choosing the "On-Line Audit Search" option.

Sincerely,

A handwritten signature in cursive script that reads "Mary Taylor".

Mary Taylor, CPA  
Auditor of State

June 24, 2008





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# Executive Summary

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## Project History

The City of Coshocton (or the City) engaged the Auditor of State's Office (AOS) to conduct a performance audit of its water treatment operations within the City of Coshocton Water Department (CWD). The performance audit was designed to assess the selected areas of the City's water operations and develop recommendations based on comparisons with peer cities and other benchmarks.

## Overview

The City of Coshocton is located in central Coshocton County in the east central region of the State, and covers 24 square miles. During the 2000 census, the City's population was approximately 11,682 with a median family income of \$34,700. The unemployment rate was 6.9 percent in 2006.

The City is governed by a locally elected seven member Council. The Council members serve two-year terms and are entrusted by the community to protect and preserve the community's investment. In this capacity, the Council members must assign competent personnel and establish efficient procedures to ensure sound management of fiscal affairs. The Mayor is an elected official and is responsible for overall City operations. The City Auditor is a full-time elected position and works closely with the Mayor and Council members to manage the financial operations of the City.

The City offers many general government services that include a full-service Water Department, consisting of billing, distribution maintenance, and treatment operations. The Water Department has 15 full-time equivalent (FTE) employees who are managed by the Water Superintendent, and overseen by the Public Works Director.

The City provides treated water to residential and commercial customers within the city limits. It also provides treated water to several residents who reside in an unincorporated area outside the City limits (County residents), managed by Coshocton County (County). The City provides meter reading services and repairs the County's infrastructure, which serves as the distribution system for the unincorporated area, when needed. County residents are charged a user fee, which is collected by the City and distributed to the County (see *County Surcharge* within the five-year forecast **assumptions** for more information). Since the City has excess water treatment capacity, the County has expressed interest in expanding its distribution system to provide service to other areas where private wells cannot produce a sufficient amount of water and/or where the water

quality is poor. The County has proposed a plan, the North Corridor Water Agreement, to purchase water at a bulk discounted rate from the City and handle the billing and maintenance of its own water main. The County has explored other options for obtaining treated water and has researched plans to construct its own water treatment plant.

Prior to 2004, the City of Coshocton produced 8 million gallons daily (MGD) with a total capacity of 9.6 MGD. The City was concerned that it could not produce enough water to put out fires at its maximum capacity level. In addition, the City had plans to expand its customer base. Because of the City's maximum water treatment capacity level, the Ohio Environmental Protection Agency (OEPA) began imposing minimum capacity requirements on the City of Coshocton starting in 1999. Also, the OEPA would not approve the City's proposal to extend its customer base without increasing its water treatment capacity. As a result of the OEPA requirements, a Water Treatment Plant Expansion Study was performed by the City's engineering consulting firm in 2001, using water use information collected at the time of the study. Based on the study, the City decided to increase capacity. In 2004 the City of Coshocton commenced the expansion project to increase water treatment plant capacity to 15 MGD. However, after the expansion project began, General Electric (GE) ceased operations on July 30, 2004, while Smurfit-Stone Container Corporation (Stone) sharply reduced its water usage. Although the City's water treatment plant now has a production capacity of 15 MGD, its average daily demand in 2007 fell to approximately 4.1 MGD.

The change in consumption coupled with an increase in debt for the expansion has placed the City's Water Department finances in a precarious position. The City instituted a debt service fee of \$5.00 per month on each account in 2006. The fee was increased to \$7.50 in 2007 along with increases in its water use rates to help service the debt. However, it has been determined that the current fee will not cover the debt payments. See **financial forecast** for further analysis.

Although the City of Coshocton has encountered financial hurdles associated with its water treatment plant expansion, it has the opportunity to develop a valuable working relationship with the County. However, it will need to ensure that in the future, it improves record keeping so that it can exercise better oversight of plant functions and billing operations, while improving controls over water loss and hydrant use.

## Objectives

A performance audit is defined as engagements that provide assurance or conclusions based on an evaluation of sufficient, appropriate evidence against stated criteria, such as specific requirements, measures, or defined business practices. Performance audits provide objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability. The overall objective of this performance audit is to assess the Water Department operations of the City of Coshocton. The following assessments were conducted in this performance audit:

- **Water Treatment Administration**, which included developing five-year financial projections to determine the appropriateness of rates and production levels, an examination of rate structure and appropriateness, an evaluation of cost recovery options, and an analysis of options for partnering with the county. The specific objectives were as follows:
  - Has the City developed a five-year forecast that is incorporated into budget, strategic, and capital planning?
  - Is the City's rate structure appropriate when compared to the peer average and to address any future deficits?
  - Would both the City and County benefit from the sale of water services to County residents?
  
- **Water Treatment Operations**, which examined the Department's personnel expenses and overhead in comparison to like-sized facilities; examined water losses; and identified the actual cost to produce 1,000 gallons of water. Specific objectives were as follows:
  - Are salaries and benefits comparable to peers or the area?
  - Are the staffing levels comparable to the peer average, and would additional personnel be needed to meet the demands of the county residents if a partnership was developed?
  - Has the City implemented cost saving strategies to reduce operational overhead?
  - Has the City implemented a maintenance and repair schedule to avoid water loss?

The performance audit was designed to develop recommendations providing cost savings, revenue enhancements, and/or efficiency improvements. The recommendations comprise options that the City can consider in its continuing efforts to stabilize financial conditions.

## **Scope and Methodology**

This performance audit was conducted in accordance with Generally Accepted Government Auditing Standards (GAGAS). Those standards require that AOS plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for findings and conclusions based on audit objectives. The data obtained from the peer cities was not tested for reliability, although it was reviewed in detail for reasonableness. Also, external organizations and sources were used to provide comparative information and benchmarks.

This performance audit was conducted between October 2007 and February 2008 and data was drawn from fiscal years 2004 through 2007. To complete this report, the auditors gathered a significant amount of data, conducted interviews with numerous individuals associated with the various divisions internally and externally, and reviewed and assessed available information.

The performance audit process involved significant information sharing with the City, including preliminary drafts of findings and proposed recommendations related to the identified audit areas. Furthermore, periodic status meetings were held throughout the engagement to inform the City about key issues impacting selected areas, and share proposed recommendations to improve or enhance operations. Throughout the audit process, input from the City was solicited and considered when assessing the selected areas and framing recommendations. Finally, the City provided verbal and written comments in response to various recommendations, which were taken into consideration during the reporting process. Where warranted, the report was modified based on the City's comments.

The cities of Cambridge, Dover, and Ironton were selected to provide benchmark comparisons for the areas assessed in the performance audit. These cities were selected based upon demographic and operational data. Furthermore, external organizations and sources were used to provide comparative information and benchmarks, including the following:

- Government Finance Officers' Association (GFOA);
- State Employment Relations Board (SERB),
- Society for Human Resource Management (SHRM),
- American Public Works Association (APWA);
- National State Auditors Association (NSAA); and
- Ohio Department of Administrative Services (DAS).

The Auditor of State and staff express their appreciation to City of Coshocton and the peer cities for their cooperation and assistance throughout this audit.



## **Conclusions and Key Recommendations**

The following items provide brief descriptions of the key recommendations from the report:

In the area of *Water Administration*, the City should:

- Consider restructuring its water rate schedule to a flat rate for all inside residential consumers and revise the rate schedule at steps four, five and six for all high volume consumers (industrial/commercial) to ensure it covers the cost of production.
- Continue to negotiate with the County in an effort to agree upon a water rate structure that is fair and equitable for the residents of both the City and County.
  - Negotiate a rate structure for the County's bulk rate business that is equitable to new outside and existing inside consumers and recoups the cost of production; and
  - Include clauses that extend the responsibilities to County officials for the maintenance and repairs of the County's infrastructure, as well as monthly billing of its clients.
- Consider increasing debt service fees for repayment of the Ohio Water Development Authority loan (OWDA).
- Develop financial polices and procedures pertaining to fiscal planning, including development of a five-year financial forecast.
- Develop a formal water audit program for treatment and distribution operations to assist in identifying and addressing water loss.

## **Summary of Financial Implications**

The following table summarizes the performance audit recommendations which contain financial implications. These recommendations provide a series of ideas or suggestions which the City of Coshocton should consider. Some of the recommendations depend on labor negotiations and collective bargaining agreements. Detailed information concerning the financial implications, including assumptions, is contained within the specific recommendations of the performance audit.

### **Summary of Savings and Revenue Enhancements**

	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
<b>R2.1</b> Increase industrial/commercial water rates	\$71,000	\$76,000	\$82,000	\$89,000
<b>R2.2</b> Negotiate bulk water rates with County	\$28,000	\$28,000	\$28,000	\$28,000
<b>R2.3</b> Restructure OWDA debt payment charges	\$16,000	\$162,000	\$162,000	\$162,000
<b>R2.8</b> Reduce overtime and sick leave usage to the peer and state averages	\$25,500	\$26,000	\$27,000	\$28,000
<b>Total Financial Impact of Performance Audit Recommendations</b>	<b>\$140,000</b>	<b>\$292,000</b>	<b>\$299,000</b>	<b>\$307,000</b>

**Note:** Amounts may vary due to rounding.

**ADMINISTRATION AND  
OPERATIONS**

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# Administration and Operations

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## Background

This report focuses on administrative and operational aspects of the City of Coshocton Water Department (CWD); including water distribution and treatment, and billing processes. The current and future financial condition of CWD division was analyzed for the purpose of developing a five-year forecast. Processes were reviewed, evaluated, and compared to best practices, industry benchmarks, operational standards,<sup>1</sup> the Ohio Revised Code (ORC), and the average performance of three peer entities<sup>2</sup> for the purposes of developing recommendations to improve efficiency and business practices.

### *Water Department Staffing*

CWD consists of three divisions: Water Treatment, Water Distribution Maintenance, and Billing. CWD has 7.0 full-time equivalent (FTE) employees that include the Water Treatment Plant Superintendent, a Treatment Plant Supervisor, and 5.0 FTE operators. The Water Distribution Maintenance Division has 6.0 FTE employees that include a Supervisor, 4.0 FTE workers, and a Meter Reader. Lastly, the Billing Division has 2.0 FTE water Clerks who are responsible for maintaining customer water information and processing payments. **Table 2-1** shows a staffing comparison of the Water Department, by division, to the peers.

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<sup>1</sup> Best practices and industry standards were drawn from sources including the Government Finance Officers Association (GFOA), National State Auditors Association (NSAA), American Public Works Association, Ohio Department of Administrative Services (DAS), and Texas Water Department Board.

<sup>2</sup> Peer entities include the City of Dover (Tuscarawas County), the City of Cambridge (Guernsey County), and the City of Ironton (Lawrence County).

**Table 2-1: Water Department FTE Staffing Comparison (2007)**

<b>Divisions</b>	<b>City of Coshocton</b>	<b>City of Cambridge</b>	<b>City of Dover</b>	<b>City of Ironton</b>	<b>Peer Average</b>
<b>Billing</b>	2.0	4.0	5.0	2.0	3.7
<b>Treatment</b>	7.0	7.0	6.0	5.0	6.0
<b>Distribution</b>	6.0	8.0	5.0	6.0	6.3
<b>Total</b>	<b>15.0</b>	<b>19.0</b>	<b>16.0</b>	<b>13.0</b>	<b>16.0</b>
<b>Total Water Accounts <sup>1</sup></b>	<b>5,556</b>	<b>2,337</b>	<b>5,791</b>	<b>4,888</b>	<b>4,339</b>
<b>Accounts per FTE <sup>2</sup></b>	<b>2,778</b>	<b>584</b>	<b>1,158</b>	<b>2,444</b>	<b>1,395</b>
<b>Total Usage (MGD)</b>	<b>4.10</b>	<b>3.50</b>	<b>1.77</b>	<b>1.89</b>	<b>2.39</b>
<b>MGD per FTE <sup>3</sup></b>	<b>0.59</b>	<b>0.50</b>	<b>0.30</b>	<b>0.38</b>	<b>0.39</b>
<b>Total Maximum Capacity (MGD)</b>	<b>15.0</b>	<b>7.0</b>	<b>6.0</b>	<b>4.0</b>	<b>5.6</b>
<b>Percentage of Maximum Capacity Used</b>	<b>27%</b>	<b>50%</b>	<b>30%</b>	<b>47%</b>	<b>42%</b>

**Source:** The City of Coshocton Auditor's Office and the Peers.

**Note:** Million Gallons Daily (MGD)

<sup>1</sup> Includes residential, industrial, and commercial accounts, as of 2007.

<sup>2</sup> FTEs includes billing personnel only.

<sup>3</sup> FTEs includes treatment personnel only.

### Statistical Information

**Table 2-2** shows various financial and operational comparisons of the Water Department to the peers. Only Water Fund revenues and expenditures were assessed.

**Table 2-2: Selected Operational Statistics for 2006<sup>3</sup>**

	City of Coshocton (2006)	City of Coshocton (2007)	City of Cambridge (2006)	City of Dover (2006)	City of Ironton (2006)	Peer Average
Operational Revenue <sup>1</sup>	\$2.2	\$2.9	\$2.6	\$1.9	\$1.5	\$2.0
Operational Expenditures <sup>1</sup>	\$3.0	\$2.2	\$2.0	\$1.9	\$1.6	\$1.8
Gallons Sold <sup>2</sup>	1,403	1,245	689	683	691	688
Expenditures Per 1,000 Gallons <sup>3</sup>	\$2.16	\$1.77	\$2.94	\$2.84	\$2.35	\$2.71
• Cost to Produce 1 Gallon of Water	\$.0022	\$.0018	\$.0029	\$.0028	\$.0024	\$.0027
Dollars Collected Per 1,000 Gallons	\$1.60	\$2.37	\$3.72	\$2.76	\$2.23	\$2.90
Total FTE	15	15	19	16	13	16
Operating Expenditures Per FTE	\$202,020	\$146,774	\$106,723	\$121,326	\$124,958	\$117,669

**Source:** City of Coshocton, peer entities, and 2000 US Census.

**Note:** Revenue and expenditures may vary due to rounding. The total revenue and expenditures reported for the City of Coshocton for 2007 do not include a transaction of \$920,000 for the refinancing of the sale of notes. However, it includes other debt payments obligations made in 2006 and 2007, such as the OWDA loan.

<sup>1</sup> Expenditure and revenue figures represent millions of dollars.

<sup>2</sup> Gallons sold represents millions of gallons.

<sup>3</sup> Expenditures include all cost associated with filtration, distribution, and billing.

As shown in **Table: 2-2**, the Water Department has experienced dramatic changes in its Water Fund revenues and expenditures from 2006 to 2007. From 2006 to 2007, CWD's total revenues increased by approximately 31 percent, which is attributed to the City increasing water usage rates in 2007 and increasing its debt reduction fees (See **Debt Payment** in the forecast assumption and **R2.3** for more information).<sup>4</sup>

**Table 2-2** also shows that the majority of the expenditure difference resulted from the City of Coshocton renegotiating principal and interest payments with the Ohio Water Development Authority (OWDA) for the expansion of its water treatment facility. The City had made debt

<sup>3</sup> CWD's water consumption and rates are reported in cubic feet, whereas the peers report in gallons. Therefore, when applicable, CWD's statistical information was converted from cubic feet to gallons to assess using similar measures. According to the U.S. Coast Guard, Chemical Hazards Response Information Systems, *Conversion Factors*, 1 cubic feet equals 7.481 gallons.

<sup>4</sup> Debt reduction fees were increased from \$5 per meter to \$7.50 per unit.

payments to OWDA of approximately \$700,000 in 2006. However, it was able to defer payments in 2007, resulting in a large reduction in expenditures compared to 2006. Furthermore, the variance can be explained by the reduction of operational expenditures in the areas of employee benefits, contracted services, and the water contingency fund, which is reserved for certain debt payments or capital purchases. Excluding 2006 debt payments, the Water Department's total expenditures were 5.8 percent above the peer average. Although the cost per 1,000 gallons produced decreased from 2006 to 2007 as a result of the deferred OWDA debt payments, it is anticipated to increase by approximately 32 percent from 2007 to 2008 based on the debt payments alone. (See **forecast assumptions** for further details)

**Table 2-3** illustrates the water rate structure effective August 2007 for the City of Coshocton.

**Table 2-3: CWD Rate Structure and Consumer Pricing <sup>1</sup>**

2007	Gallons	Consumer Price per 1,000 Cubic Feet		Consumer price per 1,000 Gallons
<b>Inside Corporate Limits</b>				
<b>Step 1</b>	2,745	\$10.50	Minimum Charge	\$3.83
<b>Step 2</b>	2,244	\$23.12	per 7,480 gal <sup>2</sup>	\$3.09
<b>Step 3</b>	19,950	\$20.94	per 7,480 gal	\$2.80
<b>Step 4</b>	6,208,831	\$13.96	per 7,480 gal	\$1.87
<b>Step 5</b>	6,233,763	\$10.39	per 7,480 gal	\$1.39
<b>Step 6 / All Above</b>	748,051,937	\$7.28	per 7,480 gal	\$0.97
<b>Outside Corporate Limits</b>				
	Gallons	Consumer Price per 1,000 Cubic Feet		Consumer price per 1,000 Gallons
<b>Step 1</b>	2,745	\$15.76	Minimum Charge	\$5.74
<b>Step 2</b>	2,244	\$34.64	per 7,480 gal	\$4.63
<b>Step 3</b>	19,950	\$31.40	per 7,480 gal	\$4.20
<b>Step 4</b>	6,208,831	\$20.94	per 7,480 gal	\$2.80
<b>Step 5</b>	6,233,763	\$15.58	per 7,480 gal	\$2.08
<b>Step 6 / All Above</b>	748,051,937	\$10.89	per 7,480 gal	\$1.46

**Source:** City of Coshocton

<sup>1</sup> It is important to note that the second step within the City's rate scale is incorrectly stated. As illustrated in **Table 2-3**, after the original 2,745 gallons, consumers can use up to 2,244 gallons in the second step and be charged \$23.12 per 7,480 gallons. However, since the maximum number of gallons in this step (2,244) is lower than the per gallon amount (7,480), consumers can only be charged 30 percent of the \$23.12 (inside rate), for a maximum charge in this step of \$6.94. (See **Table 2-6** for proposed "inside" rate structure)

<sup>2</sup> 1 Cubic Feet = 7.48051945 gallons x 1,000 = 7,480

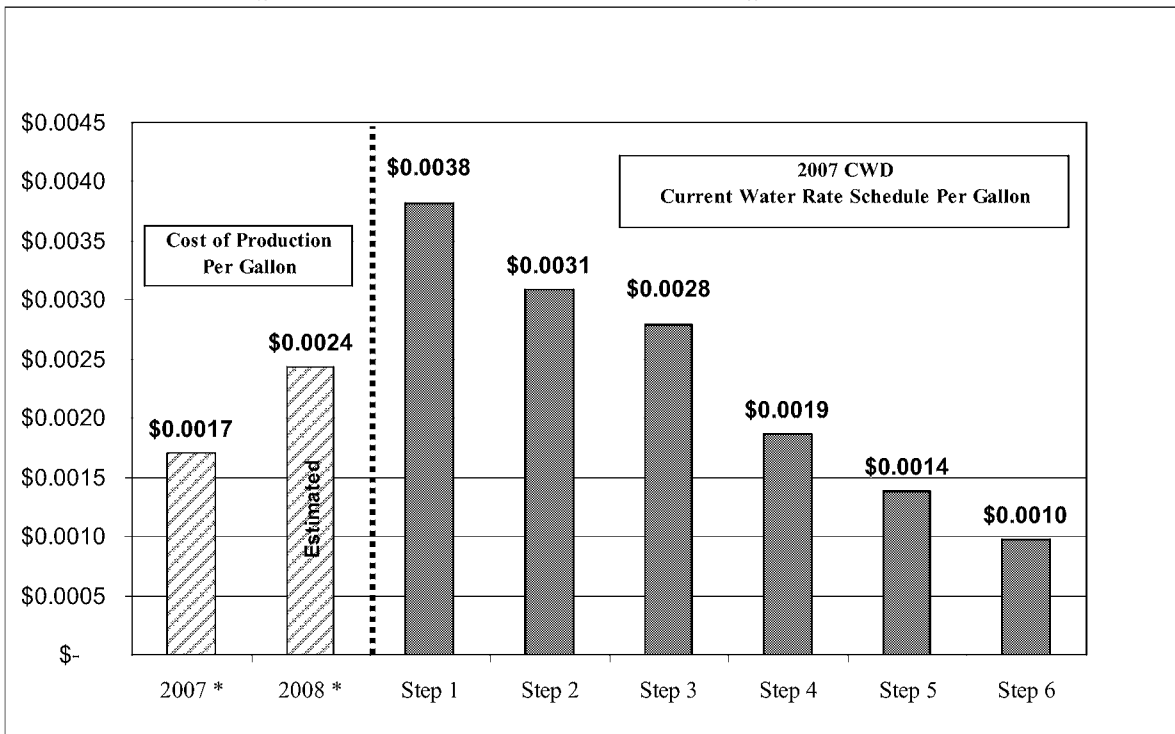
The City's water rates are only comparable to those of the peers for the first step within the rate scale. However, the peers' rate scales consist of only one or two steps, compared to CWD's six-step, declining rate scale. Furthermore, the peers' price per gallon does not dramatically decrease

and continues, even at the lowest rate, to recoup the production cost. CWD on the other hand, begins to subsidize use by industrial consumers in Steps 5 and 6 of its inside rates and Step 6 of its outside rates as the charges do not cover the cost of production.

While the City collected approximately \$200,000 more than the peer average, as shown in **Table 2-2**, it sold approximately 716 million gallons more during 2006. If the City had charged and collected for water at the peer average level of cost per gallon, its total collections would have increased by approximately \$900,000 in 2006. These discrepancies can be explained by CWD’s graduated rate structure and the low rate charged to high volume users (see **Chart 2-1** for more information).

**Chart 2-1** illustrates the 2007 and estimated 2008 cost of production, in addition to the chargeability rate per gallon through CWD’s current scale for inside rates, which applies to the majority of consumers.

**Chart 2-1: Operational Cost and Collections per Gallon (Inside Rates)**



**Source:** City of Coshocton’s water rate scale and year-end financial reports.  
**Note:** 2007\* actual and 2008\* estimated cost of production per gallon. The cost of production in 2008 will increase due to the repayment of debt.



As shown in **Chart 2-1**, in 2007, the cost for the City to produce one gallon of water was approximately \$.0017. (see **Table 2-2**). In 2008, the cost per gallon is expected to increase to \$.0024 per gallon, primarily to cover debt repayment (see **Forecast Assumption Water Debt** for more information). The City's water rate scale prevents it from recouping its costs of production, particularly at the fourth step and above. (**Table 2-3**). Since more than 50 percent of the water per day is consumed by large users (industrial), the majority of the City's chargeability rate falls between the fifth and sixth steps of the scale. In these two rate steps, the consumer is paying \$.00014 and \$.0010 per gallon, which is approximately 18 percent and 41 percent less respectively, than the actual cost of production in 2007. As a result, a greater proportion of the cost of production falls primarily on the consumers in the first two steps of the rate structure.

**Chart 2-1** also shows that the average margin of revenue over production costs per gallon decreases by approximately 23 percent per step. Therefore, the cost of production cannot be recouped by the City under the current rate structure, nor can it generate sufficient revenue to repay its debt obligations (see **R2.1** and **R2.3** for more information).

### *Financial Forecast*

**Table 2-4** presents the five-year financial forecast developed for the Water Fund at the request of the City. The forecast includes three years of historical data (2005 through 2007) and five years of projected data (2008 through 2012). Detailed assumptions are provided for each line item in the forecast to explain significant variances and to clarify the methodology used to project revenues and expenditures. The assumptions disclosed herein were developed in conjunction with City personnel.

**Table 2-4: Water Fund Forecast (in 000's)**

Object (Code #)	Actual			Forecasted				
	2005	2006	2007	2008	2009	2010	2011	2012
	<b>Revenue</b>							
<b>Water Income (701)</b>	\$1,820	\$1,968	\$2,309	\$2,356	\$2,403	\$2,451	\$2,500	\$2,550
<b>Water County Surcharge (701)</b>	\$75	\$94	\$106	\$103	\$105	\$107	\$110	\$112
<b>Water Service Report (701)</b>	\$8	\$15	\$3	\$3	\$3	\$3	\$3	\$3
<b>Water Debt Reduction (700)</b>	\$0	\$62	\$408	\$487	\$487	\$487	\$487	\$487
<b>Water Debt Services (701)</b>	\$0	\$0	\$920	\$0	\$0	\$0	\$0	\$0
<b>Water Contingency Fund (702)</b>	\$95	\$103	\$121	\$117	\$120	\$122	\$125	\$127
<b>Total Revenue</b>	<b>\$1,999</b>	<b>\$2,244</b>	<b>\$3,869</b>	<b>\$3,068</b>	<b>\$3,119</b>	<b>\$3,172</b>	<b>\$3,225</b>	<b>\$3,280</b>
	<b>Expenditures</b>							
<b>Personal Services (701)</b>	\$610	\$556	\$572	\$590	\$608	\$626	\$645	\$664
<b>Employees Retirement/Benefits (701)</b>	\$342	\$363	\$349	\$364	\$379	\$394	\$410	\$427
<b>Contracted Services (701)</b>	\$230	\$311	\$246	\$289	\$293	\$298	\$302	\$306
<b>Supplies / Materials (701)</b>	\$662	\$670	\$731	\$791	\$852	\$918	\$990	\$1,069
<b>Capital Outlay (701)</b>	\$0	\$0	\$194	\$200	\$200	\$200	\$200	\$200
<b>Other (701)</b>	\$1	\$1	\$1	\$1	\$1	\$1	\$1	\$1
<b>Water Debt Reduction (700)</b>	\$0	\$0	\$50	\$666	\$666	\$666	\$666	\$666
<b>Water Debt Services (701)</b>	\$304	\$657	\$920	\$0	\$0	\$0	\$0	\$0
<b>Water Contingency (702)</b>	\$48	\$469	\$55	\$100	\$100	\$100	\$100	\$100
<b>Total Expenditures</b>	<b>\$2,200</b>	<b>\$3,030</b>	<b>\$3,121</b>	<b>\$3,003</b>	<b>\$3,101</b>	<b>\$3,206</b>	<b>\$3,317</b>	<b>\$3,435</b>
<b>Expenditures Over / Under Revenue</b>	<b>(\$200)</b>	<b>(\$786)</b>	<b>\$747</b>	<b>\$64</b>	<b>\$18</b>	<b>(\$33)</b>	<b>(\$91)</b>	<b>(\$155)</b>
<b>Beginning Fund Balance</b>	\$822	\$622	(\$164)	\$583	\$648	\$666	\$632	\$541
<b>Ending Fund Balance</b>	<b>\$622</b>	<b>(\$164)</b>	<b>\$583</b>	<b>\$648</b>	<b>\$666</b>	<b>\$632</b>	<b>\$541</b>	<b>\$386</b>

Source: The City of Coshocton and AOS.

Note: Projected revenues do not include delinquent payments. Revenues may increase depending upon the success of collecting overdue balances.

### *Forecast Conclusions*

**Table 2-4** shows that the City is projected to maintain a positive ending fund balance through the forecasted period. However, this forecast is based on current situations being maintained through 2012. There are several likely scenarios that could negatively or positively impact the ending fund balance. These scenarios include implementing the performance audit recommendations, negotiating with County officials to provide water services, and increasing rates for industrial and commercial users. The performance audit considers these scenarios and has calculated potential financial impacts.

## Assumptions

The assumptions used in the Water Fund forecast are based on a combination of available information and judgments, including historical events and future plans. Financial forecasts may be affected by many factors, both internal and external. Therefore, it is important to note that assumptions may not accurately reflect future events, and the reliability of financial forecasts cannot be guaranteed. The City should closely monitor projections. When changes occur, projections should be adjusted to reflect the new information.

### Revenues

#### *Water Income*

Water income is directly related to water rates and water consumption. Water income has increased by approximately 8.0 percent from 2004 through 2007 largely because the City increased water rates in 2007. Because of recent declines in the manufacturing industry, total water consumption decreased from 2002 through part of 2005. However, water consumption has increased over the past two years.

The assumptions do not include a rate increase but do include an increase in water consumption, which would directly affect water income. Increases in water income are projected to be 2.0 percent per year through the forecasted period.

#### *County Surcharge*

County surcharges are fees imposed on County water users by CWD to pay for debt reduction and other services. County fees amounted to 4.4 percent of CWD's total water income from 2004 through 2007. Therefore, 4.4 percent was applied to the projected water income for 2008 through 2012 to forecast total anticipated revenue.

#### *Water Debt*<sup>5</sup>

Water debt revenue consists of receipts for the repayment of debt incurred for the recent construction and renovations to the water treatment plant. Revenue from a portion of the collections can also be used for capital purchases for CWD. The debt consists of a bond anticipation note of \$920,000 and a loan from the Ohio Water Development Authority (OWDA) of \$13,658,140, for a total of \$14,578,140. The bond anticipation note was refinanced in 2007 in order for the City to avoid a principal payment. However, \$38,991 was paid for the transaction

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<sup>5</sup> Total Water Debt was combined for explanation purposes. However, the forecast has broken the Bond Anticipation Note/Capital Outlay and the OWDA Loan into two separate line items.

refinancing fee and interest owed. The City was also able to defer the OWDA loan in 2007, after making two payments of approximately \$340,000 in 2006.

The following are assumptions made to project future revenues collected for debt service:

- Bond Anticipations Note / Capital Outlay

The City has established a set-aside fund for the repayment of debt and capital purchases for the Water Department. The practice has been that 5 percent of total water receipts are contributed to this fund. Therefore, the projections for the forecasted period include reserving 5 percent of projected water revenue for the repayment of debt and capital purchases (see **Debt Services** for allocation of this revenue).

- OWDA Loan

Revenues collected for this fund are used for repayment of the OWDA loan. Originally, the City charged consumers a debt service fee of \$5 per meter per month. This meant that an apartment complex with 5 units and 1 meter would only be charged \$5. However, in August of 2007, the City changed the fee schedule to \$7.50 per month per unit. Under this schedule, the City was able to capture additional revenue based on the actual number of users. However, based on the number of units, the carryover balance from deferred payments, and anticipated revenue collections, it was determined that the current debt service fee would not cover future debt payments, with shortfalls of approximately \$131,000 in 2010, \$311,000 in 2011, and \$490,000 in 2012. Therefore, the City may need to increase the debt service fee in 2009. The equilibrium point for collecting sufficient revenue to cover the debt may be as high as \$10.50 (see **R2.2** for additional information). **Table 2-5** shows the anticipated collections based on 5,411 units, increasing the debt service fee to \$9.75 in 2009, and \$10.50 through the remainder of the forecasted period.

**Table 2-5: Revenue Collections for the Repayment of Debt**

	2007	2008	2009	2010	2011	2012
<b>Debt Service Fee Revenue</b>	\$408,166	\$487,035	\$580,028	\$624,645	\$624,645	\$624,645
<b>Carry Over Balance</b>	\$0	\$408,166	\$228,445	\$141,717	\$99,606	\$57,495
<b>Balance</b>	<b>\$408,166</b>	<b>\$895,201</b>	<b>\$808,472</b>	<b>\$766,362</b>	<b>\$724,251</b>	<b>\$682,140</b>
<b>Payment of Debt</b>	\$0	\$666,756	\$666,756	\$666,756	\$666,756	\$666,756
<b>Ending Fund Balance</b>	<b>\$408,166</b>	<b>\$228,445</b>	<b>\$141,717</b>	<b>\$99,606</b>	<b>\$57,495</b>	<b>\$15,384</b>
<b>Current / Revised Charge</b>	\$7.50	\$7.50	\$9.75	\$10.50	\$10.50	\$10.50
<b>Number of Units</b> <sup>1</sup>	5,411	5,411	5,411	5,411	5,411	5,411

Source: City of Coshocton and AOS

Note: Numbers may vary due to rounding

<sup>1</sup> Currently the City is collecting debt payments on 5,411 water accounts, which includes both City (4,957) and County residents (454). The projections on the repayment of debt are based on collections for City residential accounts.

## Expenditures

### *Personal Services*

Personal services consist of salaries/wages and overtime expenditures for the Water Department clerks, and distribution maintenance and treatment personnel. The projections do not include severance pay due to the unpredictability of when an employee might retire or separate from employment. Therefore, the City should closely monitor these events and adjust the projections accordingly. Personal Services represented an average of approximately 27.8 percent of the Water Department's total expenditures<sup>6</sup> from 2004 through 2007. The following are key assumptions used in developing the projections for 2008 through 2012:

- Salaries and wages were projected by determining each employee's hourly rate and job title in their respective departments, based on the negotiated agreement<sup>7</sup> for 2007. The collective bargaining agreement also includes a 3 percent annual increase. Since the agreement expires in June of 2009, prior to the end of the forecast period, the projections include a 3 percent increase per year through 2012, based on historical wage increases. If the negotiated wage increase varies from 3 percent, the City should make the appropriate changes to the projections.
- Longevity pay is an annual lump sum payment, starting at \$125, for employees with five or more years of service. The payments increase by \$25 with each additional year of service, as determined by the longevity scale in the negotiated agreement. The projections for longevity payments were determined by matching the employees' years of service to

<sup>6</sup> Total expenditures exclude payments for debt service.

<sup>7</sup> The negotiated agreement is between the City of Coshocton and the American Federation of State, County and Municipal Employees, Local 2551 and Ohio Council 8, AFL-CIO, effective July 1, 2006 through June 30, 2009.

the payment schedule. For example, if an employee had five years of service in 2008, the \$125 would be included in the 2008 projection. This amount would increase each year to a maximum of \$300 in 2012.

- Overtime payments decreased by an average of 7.1 percent from 2004 through 2006. Although overtime has decreased, it is not reasonable to assume that decreases will continue through the forecasted period, due to the unpredictable nature of this type of expenditure. Therefore, the projections from 2008 through the remainder of the forecasted period include a 3.0 percent increase over 2007 actual overtime expenditures. Overtime expenditures will vary from year-to-year, so projections should be adjusted on an ongoing basis to reflect actual occurrences.

#### *Employees' Retirement / Insurance Benefits (ERIB)*

ERIB consists of health insurance benefits, retirement (Public Employees Retirement Systems (PERS)) contributions, and workers' compensation premiums for the Water Department billing clerks, distribution maintenance and treatment personnel. ERIB represented an average of approximately 16.4 percent of the Water Department's total expenditures<sup>8</sup> from 2004 through 2007. The following are key assumptions used in developing the projections for 2008 through 2012:

- Health insurance expenditures are claims made for medical expenses. Since the City is self-insured and personnel do not pay a monthly premium, all medical expenses are paid by the City and charged back to the respective department. Health insurance costs increased by an average of approximately 10.3 percent from 2004 to 2006. However, health insurance expenditures decreased slightly from 2006 to 2007. Although expenditures decreased in 2007, health insurance expenditures are projected to increase by 13 percent per year through the forecasted period. The projected 13 percent increases are conservative and should cover any unexpected increases during the forecast period.
- PERS contributions are made to the retirement system on behalf of government employees. Generally, both the employer and the employee are responsible for a portion of the PERS contribution. However, the City currently pays the 9.5 percent employee portion, which is referred to as a pick-up<sup>9</sup>. This practice increases the City's liability for total retirement payments. PERS payments represented an average of approximately 22.2 percent of total salaries from 2004 through 2007. Therefore, 22.2 percent was applied to the projected personal services to determine the anticipated PERS expenditures through the forecasted period (see **Issue for Further Study** for more information).

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<sup>8</sup> Total expenditures exclude payments for debt service.

<sup>9</sup> Pick-up typically means that an entity is paying a percentage of the employee contribution as an additional benefit.

- Workers' Compensation premiums are paid to the Ohio Bureau of Workers' Compensation (BWC), which provides medical and compensation benefits for work-related injuries, diseases, and deaths. Overall, BWC payments have decreased by approximately 8.9 percent from 2004 through 2007, but from 2006 to 2007, payments increased from approximately \$2,000 to approximately \$11,500 annually. Due to the volatility of BWC payments in recent years, projected payments were set at the higher rate of \$12,000 and held constant through the forecasted period.

### *Contracted Services*

Contracted services include expenditures related to insurance, Auditor's fees, Port Authority fees, lime sludge haul-away, and County surcharges. From 2004 through 2007, contracted services represented an average of approximately 12.8 percent of the Water Department's total expenditures.<sup>10</sup> The following are key assumptions used in developing the projections for 2008 through 2012:

- The City's liability insurance is charged back to each department on a per-employee basis. Insurance costs for the Water Department averaged approximately \$28,000 in 2004 and 2005, increased to approximately \$40,000 in 2006, and then decreased to \$31,000 in 2007. While the Water Department staffing levels have not materially changed in recent years, the staffing levels in other departments within the City have fluctuated. These fluctuations explain the changes in insurance costs for the Department in the past two years. The projections assume that insurance costs will remain constant based on the number of CWD employees. However, a 5 percent increase per year has been projected to account for inflation and any changes in staffing levels in other City departments. (See **R2.7** for an additional assessment on contracted services.)
- The City Auditor's Office charges a fee for processing the Water Department's financial information, and for processing items such as purchase orders and warrants. The Auditor's fees are based on the Water Department's total collections. In 2004 through 2007, the total Auditor's fees represented approximately 0.5 percent of total collections. Therefore, the projections for Auditor's fees equal 0.5 percent of total anticipated collections, amounting to approximately \$16,000 per year.
- The Port Authority acts as an economic development office for governmental agencies in Coshocton County, including the City. The City pays for services provided by the Port Authority. The water treatment plant has paid \$20,000 annually since 2004. Therefore, the projections include payments to the Port Authority of \$20,000 per year throughout the forecasted period.

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<sup>10</sup> Total expenditures exclude payments for debt services.

- Lime sludge hauling is a contracted service for the removal, transportation, and land application of liquefied lime, a byproduct of the water treatment process. The City pays a contractor \$.0469 per gallon for this service. The total cost of the service decreased by 53 percent from 2004 to 2005; increased by 92 percent in 2006, and decreased by 38 percent in 2007. The fluctuation is due to the timing of the service and the actual payment, which may span fiscal years. Therefore, the projections throughout the forecasted period reflect the average appropriation level from 2004 through 2007 of approximately \$117,500. (See **R2.7** for an additional assessment of contracted services)

### *Supplies / Materials*

Supplies and materials consist of Water Department purchases for such items as water treatment chemicals, utilities, routine improvements and repairs, and Environmental Protection Agency (EPA) fees. Supplies and materials represented approximately 24.5 percent of the Water Department's total expenditures<sup>11</sup> from 2004 through 2007. The following are assumptions for significant supply and material expenditures during the forecasted period:

- Water treatment chemicals used in the purification process include lime, calcium fluoride, and chlorine. Expenditures on these chemicals increased by 4.4 percent from 2004 through 2007, although costs fluctuated by as much as 23.5 percent from year to year. The increase in chemical costs is reportedly related to price increases in the past few years, rather than total usage by the City. Furthermore, the City was unable to obtain calcium fluoride in the latter part of 2007 but intends to purchase more once it becomes available. Therefore, a conservative annual increase of 10 percent was assumed through the forecast period to account for the high rate of inflation in this area.
- Utility costs for Water Department operations largely consist of electricity for pumping raw water and lime sludge, as well as the use of transfer pumps and high service pumps which require large amounts of electricity. These expenditures increased by an average of 8 percent from 2004 to 2007 but increased by 12.9 percent and 11.3 percent in 2006 and 2007, respectively. Since these large increases in 2006 and 2007 are included in the average, utilities are projected to increase by 8 percent annually through the remainder of the forecast period.
- Routine improvement and repair costs are related to supplies and materials for upkeep and maintenance of equipment within the Water Department. This line item decreased by approximately \$10,000 from 2005 to 2006, but increased slightly in 2007. The decrease can be explained by the discretionary nature of this line item and an effort to limit expenditures in 2006. Discretionary expenditures can be controlled in the short term.

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<sup>11</sup> Total expenditures exclude payments for debt service.



However, this practice defers maintenance and upkeep which is necessary to extend the life of equipment and ensure that the equipment is running properly. Therefore, the assumptions for 2008 include restoring water routine improvements and repairs expenditures to 2006 spending levels, with a 5 percent annual increase, which is carried through the forecasted period.

- The remaining items within supplies and materials, such as EPA charges, new water meters, and billing expenses were either held constant at 2007 spending levels or increased to reflect historical spending through the forecasted period.

#### *Capital Outlay*

Capital outlay includes purchases for infrastructure improvements to the water treatment plant and/or its distribution system. The City spent approximately \$91,000 in 2004, \$0 in 2005 and 2006, and \$195,000 in 2007 on capital outlay. The forecasted assumptions limit expenditures from the reserve fund to debt payment on the bond anticipation note (see **Debt Services / Bond Anticipation Note** for more information). Therefore, the projections assume all capital purchases will be paid from the capital outlay line item. Since neither the City nor the Water Department have a capital replacement and maintenance plan (see **R2.5**), annual expenditures of \$200,000 are projected for such costs. When the Water Department has formally developed a capital replacement and maintenance plan, the projections should reflect the identified expenditures.

#### *Other*

Other expenditures were projected at \$1,000 annually based on 2006 and 2007 actual expenditures.

#### *Debt Services (Bond Anticipations Notes / Capital Outlay)*

Although the City has established this fund for expenditures related to debt retirement and capital purchases, the revised projections only allocate funds for the repayment of the bond anticipation note. Since this debt is a bond anticipation note, the City is only required to make interest payments. Based on the ability of the City to repay this debt, the projections include anticipated expenditures for both principal and interest payments. The repayment of debt was based on a 4.2 percent interest rate and principal and interest payments of approximately \$100,000 a year. Assuming that forecast factors remain constant, the debt is anticipated to be paid by 2019.

## Issues for Further Study

Auditing standards require the disclosure of significant issues identified during an audit that are not reviewed in depth. These issues may not be directly related to the audit objectives or may be issues that the auditors do not have the time or resources to pursue. AOS has identified the following issues:

- **Billing Staffing:** Water Department staffing is 1.0 FTE below the peer average, which includes all treatment, distribution and billing personnel, as shown in **Table 2-1**. After a broad assessment of staffing, it was determined that the billing office would potentially benefit from additional personnel. However, the billing clerks were unable to retrieve key statistical information such as the number of water meters or number of residential, commercial, or industrial clients in each category to permit an assessment of billing staffing workloads. (see **R2.7** for assessment on benchmarking) Once this information has been collected, the City should examine workload statistics and determine if additional personnel are needed to support this function.
- **Outsourcing Billing:** The City should perform a cost-benefit analysis to determine the feasibility of outsourcing the Water Department billing and accounts receivables functions. This analysis should be conducted prior to changing staffing levels in the Billing Division.
- **PERS Contributions – Employee Share:** The City is making payments to the retirement system on behalf of all City government employees. Generally, both the employer and the employee are responsible for a portion of the PERS contribution. However, the City currently pays 9.5 percent of the employee’s portion, which is also referred to as a pick-up. The City should examine the feasibility of eliminating the practice of paying the employee’s share of retirement contributions for all employees.

## Recommendations

### *Water Revenue*

**R2.1 The City should consider restructuring its water rate schedule to a flat rate for all inside residential consumers and revise the rate schedule at steps four, five, and six for all high volume consumers (industrial/commercial) to ensure it recovers the cost of production. Any rate schedule increases at steps four, five, and six should be gradual to avoid large, one-time cost increases for its industrial and commercial water users. Adjusting the rate structure will help the City recoup its water treatment costs while maintaining a fair and equitable rate structure for all consumers. Finally, the rate schedule should be evaluated annually to ensure the City continues to cover the cost of production.**

Steps 4, 5, and 6 of the current water rate structure result in charges that are less than the 2007 cost of production, which was \$1.77 per 1,000 gallons (or \$0.0017 per gallon). In these steps, the average charge per gallon is \$1.41 per 1,000 gallons (or \$0.0014 per gallon) (See **Table 2-3** for the current rate scale). While it would be appropriate for the City to consider increasing water rates for these higher steps, it may not be reasonable to increase these steps to equal the production cost per 1,000 gallons in a single year due to the financial impact on its industrial and commercial consumers.

The cities of Cambridge and Ironton have a flat scale for all consumers regardless of water consumption. Therefore, it may be reasonable for the City to develop a flat rate scale for residential users and to increase commercial user rates to recoup the cost of production. **Table 2-6** shows a proposed “inside” (i.e., within the corporate limits) residential and industrial/commercial rate structure for 2009. The proposed rate structure, shown below, was developed by using the City’s original gallon price break points (Steps) for ease of comparison (see also **Table 2-3** for the City’s original rate structure). These rates would also be relevant at *rate and a half*<sup>12</sup> for consumers outside the corporate limits if an agreement to sell bulk water to Coshocton County is not reached. (see **R2.2** for further assessment of the County proposal)

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<sup>12</sup> Rate and a half refers to the cost per minimum gallons identified in **Table 2-6**, multiplied by 1.5.

**Table 2-6: Proposed “Inside” Rate Structure**

	Gallons	Cost per Gallon	Cost per 1,000 Gallons
<b>Residential</b>			
<b>Minimum</b>	2,745	\$0.0038	\$3.80
<b>Commercial</b>			
<b>Step 1</b>	2,745	\$0.0038	\$3.80
<b>Step 2</b>	2,244	\$0.0031	\$3.10
<b>Step 3</b>	19,951	\$0.0028	\$2.80
<b>Step 4</b>	6,208,831	\$0.0021	\$2.09
<b>Step 5</b>	6,233,764	\$0.0016	\$1.55
<b>Step 6 / All Above</b>	748,051,938	\$0.0011	\$1.09

Source: AOS

Note: Prices based on monthly charges. Amounts may vary due to rounding.

The City could gradually increase the bottom three steps of the industrial and commercial rate scale by approximately 6.5 percent per year through the forecasted period. Increasing the water rates for steps 4 through 6 would result in high volume users in step 6 paying less than the average cost of production of \$1.30 per 1,000 gallon (or \$0.0013 per gallon) by 2012, provided the assumptions within the forecast remain constant. In addition, the financial impact of increasing the bottom three steps may allow the City to forgo residential rate increases until 2011.<sup>13</sup>

*Financial Implication:* If water rates were increased to the proposed levels outlined in **Table 2-6**, the City could increase water revenue by approximately \$71,000 in 2009, or a total of \$765,000 during the forecast period (2012). This increase in revenues would help the water fund avoid any potential future deficits.

**R2.2 The City should continue to negotiate with the County in an effort to agree upon a water rate structure that is both fair and equitable for residents within and outside the City of Coshocton corporate limits. An agreement with the County to provide bulk water to those outside the City of Coshocton would be more cost effective for both entities than for the County to build, operate, and maintain its own water filtration and distribution system. Therefore, the City should negotiate a rate structure with the County similar to the County’s proposal of \$4 per 1,000 gallons (\$0.0040 per gallon) that takes into consideration the existing “inside” consumer rate and the cost of production. However, if the City increases its largest inside user rates**

<sup>13</sup> Note: At the outset of the audit, the City expressed concern about the cost of water to its largest industrial consumers, some of whom have multiple locations nationally. As a component of the audit, a limited scope comparison was conducted of the City’s rates and the water rates charged in other locations where these businesses may be located. The assessment found that the City’s rates were below those in other municipalities and, even with the proposed increase, would be below or comparable to the rates these industrial consumers were paying in other locations.

**to meet the cost of production (see R2.1), it could be more flexible in negotiating its bulk water rates with the County. Furthermore, the agreement should include clauses that extend the responsibilities to County officials for the maintenance and repair of infrastructure, as well as monthly billing of its clients.**

In order to improve and expand water service to users outside the City limits, the County has approached the City about purchasing bulk water. However, the City and County have not agreed upon a rate that is acceptable to both parties. The County's proposal is to purchase bulk water at the rate of \$4 per 1,000 gallons (\$.0040 per gallon) for up to one million gallons and \$2.50 per 1,000 gallons (\$.0025 per gallon) thereafter. This would impact outside consumer rates. Coshocton County feels that it would be able to treat and distribute its own water at a lower cost than the current City rate. Based on the County's water study, the estimated total project cost to develop a new well field and treatment plant is approximately \$5.2 million. The annual debt service costs may range from \$232,416 to \$325,982. Annual operating and maintenance costs for this new water treatment facility are estimated at \$170,000. The annualized 20-year present worth for the construction and operation for the well field, water treatment plant, and distribution system improvements is \$663,400. If the County decides to construct, operate, and maintain its own water treatment plant, it would need to charge consumers approximately \$5.50 per 1,000 gallon (or \$.0055 per gallon)<sup>14</sup> to cover operational costs.

If the City is able to reach an agreement with the County to sell bulk water, it should be able to maintain a positive fund balance through the forecasted period (**Table 2-4**). Furthermore, an agreement between the City and the County for water would result in less costly water rates for County residents of \$4 per 1,000 gallons (or \$.0040 per gallon), since a large start-up investment by the County would not be necessary. Also, an agreement with the County would eliminate the need for the City to read meters, maintain infrastructure, and bill individual County consumers. The City would only be required to read the master meters placed on each water main entrance point at the City boundaries, thereby freeing up more staff time to focus on reading meters, processing monthly water bills (*Issues for Further Study*), and developing a preventive maintenance program for its water infrastructure (**R2.6**).

*Financial Implication:* If the City is able to negotiate with County officials to sell bulk water, it could realize new revenues in 2009 of approximately \$28,000.

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<sup>14</sup> Estimated cost to County residents was based on information obtained from the Coshocton County water study and the actual consumption of outside users for 2007.

**R2.3 The City should consider increasing debt service fees for repayment of the Ohio Water Development Authority loan (OWDA). Increases should occur no later than 2009, with incremental increases if necessary to cover all principal and interest payments.**

The City charges users \$7.50 per commercial and residential unit per month for the repayment of its OWDA loan. This debt was incurred to generate the capital necessary for the water treatment expansion project. However, the City will not have a sufficient fund balance to make OWDA loan payments starting in 2010 based on current projections. Furthermore, depending upon the outcome of negotiations with County officials, future adjustment to the debt service fee may be needed to cover payments.

County officials feel that they should not be responsible for the debt which was incurred by the City. However, debt is part of the cost of doing business and should be considered in the cost of producing a gallon of water. When debt service is included in the recommended minimum charge for County residents, the minimum charge per 1,000 gallons would increase for County users above the \$4 dollars discussed in **R2.2**.

**Table 2-7** shows the estimated impact on the forecast ending fund balances based on the potential scenarios that face the City and the outcome of the negotiations with the County.

**Table 2-7: OWDA Debt Estimated Ending Fund Balance**

	2007	2008	2009	2010	2011	2012
<b>Scenario 1</b>						
<b>Ending Fund Balance</b>	\$408,166	\$228,400	\$48,634	(\$131,132)	(\$310,898)	(\$490,663)
<b>Scenario 2</b>						
<b>Ending Fund Balance</b>	\$408,166	\$208,015	\$141,717	\$99,606	\$57,495	\$15,384
<b>Scenario 3</b>						
<b>Ending Fund Balance</b>	\$408,166	\$208,015	\$64,959	\$47,583	\$30,207	\$12,831

**Source:** City of Coshocton year-end financial reports and AOS.

*Scenario 1:* If the City continues to receive debt service fees from both the County and City consumers at its current rate of \$7.50 without any increases, the OWDA debt payment could not be made beyond 2010 due to a deficit of \$131,132.

*Scenario 2:* If the City and County negotiate bulk rates (**R2.2**) and debt service fees are not included; fees for City consumers would need to increase to \$9.75 in 2009 and \$10.50 in 2010 through the remaining forecasted period.

*Scenario 3:* If the City is able to negotiate bulk rates which include debt service fees, and other conditions remain the same, fees would need to increase to \$7.75 in 2009, and to \$10 in 2010 through the remaining forecasted period.

Scenarios 2 and 3 would help the City to recoup a portion of the cost of debt incurred in the expansion projects. However, debt service fees for customers could be adjusted based on the implementation of the performance audit recommendations and the outcomes of future ending fund balances in the Water Department Fund.

### *Financial Policies and Procedures*

**R2.4 The Water Department should develop financial polices and procedures pertaining to fiscal planning by requiring the development of a five-year forecast.<sup>15</sup> A forecast would help the Water Department better understand and plan for varying economic conditions that affect water consumption. The policy should address key elements of the forecast, including responsibility for providing information to stakeholders, periods covered, supporting assumptions, presentation, and any outside consultation. In addition, the documented financial planning policies and procedures should be reviewed periodically and promptly updated when changes occur.**

The City and the Water Department do not currently have financial policies and procedures pertaining to fiscal planning and the development of a five-year forecast. Financial planning provides management with tools which can be used during the decision-making process. Furthermore, forecasts can expand a government's awareness of its financial options, potential problems, and opportunities. For instance, with advance knowledge of its future financial status, the City would be better equipped to make decisions to mitigate deficits, either by decreasing operating costs or increasing revenues using restructured fee schedules or other avenues. In addition, the long-term revenues, expenditures, and service implications of continuing or ending existing programs or adding new programs, services, and debt can also be identified through financial planning. Finally, the financial planning process helps officials make decisions and permits necessary and corrective action to be taken before financial problems become severe.

According to *Best Practices in Public Budgeting: Evaluate the Effect of Changes to Revenue Sources Rates and Base* (GFOA, 2000), entities should develop projections (like the five-year forecast) under alternative scenarios. Preparing projections under different assumptions, particularly in the development of a financial plan (forecast), allows

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<sup>15</sup> This recommendation could be implemented by developing five-year forecasts for all major City funds.

decision-makers to consider various levels of revenue, which can help define levels of services to be implemented, continued, or reduced.

By developing a five-year forecast and accompanying policies and procedures, entities can reasonably project future financial conditions and make appropriate adjustments in operational programs, services, and fee schedules to help avoid financial downturns. In addition, projecting revenues and other resources is critical in order to understand the level of funding available for services and capital acquisition. Finally, projections for future budget periods help determine the likelihood that services can be sustained and highlight future financial issues to be addressed.

**R2.5 The Water Department should establish and formally document its budgetary process. The formal document could be a financial manual which should also include general policy guidelines and budget preparation instructions for each budget cycle. This will help ensure that the budget is prepared in a manner consistent with best practices and reflects the desires of the Budget Commission, Mayor, City Council, and other stakeholders. The manual should also include a set of procedures that facilitate the review, discussion, modification, and adoption of proposed budgets.**

The Water Department has not established or documented its budgetary process in a formal manner, nor does it work under a financial policies and procedures manual. Although the City Auditor stated that the budgeting process follows ORC requirements, the processes used do not meet recommended practices. The City's processes consist of submitting the budget to the Budget Commission each year. Once it is approved by the Budget Commission, the budget becomes the department's appropriation measure. The Auditor also indicated that an attempt is made to obtain input from department heads when developing departmental budgets.

According to *Recommended Budget Practices - A Framework for Improved State and Local Government Budgeting* (GFOA, 1999), governments should establish an administrative structure that facilitates the preparation and approval of a budget in a timely manner. Procedures should be established for ensuring coordination of the budget process. In order for the budget to be adopted in a timely manner, processes should be developed to assist stakeholders in understanding tradeoffs and help decision-makers select from available options. The processes should include reporting to, communicating with, involving, and obtaining the support of stakeholders.



Recommended practices include:<sup>16</sup>

- Policies on balancing the operating budget;
- Mechanism for budgetary compliance;
- The type, presentation, and time period of the budget;
- A budget calendar;
- Budget guidelines and instructions;
- Mechanism for coordinating budget preparation and review;
- Procedures to facilitate budget review, discussion, modification, and adoption;
- Opportunities for stakeholder input;
- Presentation of a recommended budget;
- A budget summary;
- Presenting the budget in a clear, easy-to-use format;
- Monitor, measure, and evaluate budgetary performance; and
- Procedures for adopting the budget and adjusting the budget.

Developing formal policies and procedures would help ensure that all aspects of the budget process have been considered, adequate time has been provided, the budgets are prepared in an appropriate and consistent manner, and stakeholders participate in the process. A well designed budgeting process will help enable City officials, particularly in the Water Department, and other stakeholders to gain a clearer and more thorough understanding of the budget and the financial condition of the Water Department.

### *Capital Planning*

**R2.6 The Water Department should develop a formal capital improvement plan (CIP for capital asset acquisition, preventive maintenance, and replacement).<sup>17</sup> The CIP should address capital needs and ensure that they receive appropriate consideration during the budgeting and forecasting process (see R2.4 and R2.5). In addition, the Water Department should implement a system wide management system that will allow increased control over the maintenance of the infrastructure and equipment.**

The Water Department has not developed a formal CIP for capital asset acquisition, preventive maintenance, and replacement. Management stated that repairs and major purchases are made on an as needed basis and that formal planning is not conducted due to the financial constraints. While some funds for capital maintenance and replacement

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<sup>16</sup> For a detailed descriptions and examples of GFOA recommended policies, see <http://www.gfoa.org/services/nacslb/>

<sup>17</sup> This could be accomplished through City-wide capital asset policies and procedures.

are incorporated into the Water Department budget, the budget does not represent the comprehensive needs of the Department.

As stated in *Prepare Policies and Plans for Capital Asset Acquisition, Maintenance, Replacement, and Retirement* (GFOA, 2000), government bodies should adopt policies and plans for capital asset acquisitions, maintenance, and replacement. These policies help ensure capital assets or improvements receive appropriate consideration in the budgeting process and that older capital assets are considered for retirement or replacement. Furthermore, as a part of the overall capital plan, the *Public Works Management Practice Manual* (American Public Works Association, 2001) states that a preventive maintenance (PM) program should be developed for an entity's capital assets. The following are key areas that should be considered when developing a PM program:

- **PM Schedule** – A PM schedule should be developed for all equipment. PM schedules are developed for advanced scheduling of work and to provide a system to call in units from operations areas, order parts, and plan for breakdowns and emergencies.
- **PM Evaluation** – A routine evaluation of the PM program is performed to ensure timely and effective program administration.
- **Emergency Repairs** – A procedure is developed to respond to emergency repairs and breakdowns.
- **PM and Repair Priorities** – All preventive maintenance and repair activities are prioritized and scheduled for maximum operational use.
- **Repair Program Evaluation** – The maintenance program is evaluated to ensure the program is performed and administered in an effective manner.

Developing policies and formal plans governing the management of capital assets will allow the City to better plan for potential acquisition, maintenance, and replacement costs and to exercise the proper level of control over its capital asset programs. In addition, well-planned PM programs, which follow the manufacturer's recommendations and schedules, will result in extended equipment life with lower operation, maintenance, and repair costs and minimal deferred maintenance.

## Purchasing

**R2.7 The Water Department should develop and implement contracting policies and procedures that are in line with recommended practices. These should include policies and procedures for planning, making the decision to contract, developing performance requirements, implementing a bidding and request for proposal process (RFP), awarding contracts and monitoring vendors. This will allow the Water Department to effectively contract for services, such as lime sludge disposal and engineering services, while increasing accountability and ensuring the cost effectiveness of the contracts.**

The City entered into a contract for the disposal of lime sludge, a byproduct of the water treatment process. The three-year contract was put out for bid in early 2004, and a contract was awarded and signed in May 2004. Section 9.1 of the contract allows for extension of the service contract on a yearly basis with written mutual agreement of both parties. In February 2007, the City wrote the contractor expressing interest in extending the contract for an additional year, but a response from the contractor accepting the extension of the contract terms could not be located by the City. Although the City may be receiving a competitive price for this service, it is unable to determine if the services are being provided at the most advantageous cost. Furthermore, the City is not tracking the performance of its vendor. This contract amounts to approximately \$117,500 a year, and the contractor is one of the Water Department's larger service providers. Tracking the performance of this vendor would help ensure that the contract specifications are being fulfilled.

Since 2005, the City has paid an engineering firm approximately \$164,000<sup>18</sup> for various consulting services. However, the City has never issued an RFP for engineering consulting services. An RFP would normally outline the nature of the required services and the qualifications of the firm. While each of the individual projects conducted by the engineering firm were below the bidding requirements set forth by the ORC § 731.14 and § 731.141,<sup>19</sup> the aggregate amount exceeded bidding thresholds.

According to *Contracting for Services* (The National State Auditors Association, 2003) governments should develop policies and procedures for the procurement of contracted services. Policies and procedures should include the following:

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<sup>18</sup> This amount does not include approximately \$850,000 paid for engineering services during the contracting phase of the water treatment expansion project.

<sup>19</sup> Additional information can be found in the Auditor of State's 2006 Ohio Compliance Supplement, *Contracts and Expenditures* (Chapter 2).

- **Planning:** Proper planning provides the foundation for contract awarding and monitoring. Planning identifies what services are needed, when and how they should be provided, and what provisions should be in the contract. Planning also helps ensure proper information is collected to effectively structure a request for proposals (RFP). As a public entity, the City must adhere to the State's bidding and contracting laws and other relevant State laws, as well as any procedural guidelines it is obligated to follow. Timely planning is especially important in processes like issuing RFPs that can take a long period of time to execute.
- **Decision to Contract:** The agency needs to determine whether or not to contract for the services. This will determine whether outsourcing or keeping the service in-house is the most appropriate action.
- **Performance Requirements:** Once the decision to contract has been made, the agency should develop performance requirements that will hold contractors accountable for the delivery of quality services.
- **Request for Proposal Process (RFP):** The decision to employ an RFP commits an agency to a formal process based on fair and open competition and equal access to information. An RFP allows the agency to systematically define the acquisition process and the basis on which the proposal will be assessed. The RFP itself provides a standardized framework for contractor proposals and highlights the business, technical, and legal issues that must be included in the final contract.
- **Award Process:** Although evaluation methods vary, the contract award process should ensure contractor proposals are responsive to the agency's needs, consistently and objectively evaluated, and that contracts are awarded fairly to responsible contractors. Without proper awarding practices, there is little assurance that an agency is selecting the most qualified contractor at the best price.
- **Award Decision:** When making an award decision, an agency should:
  - Have appropriate procedures for handling late or incomplete proposals;
  - Ensure that an adequate number of proposals was received;
  - Use an evaluation committee, comprised of individuals who are trained on how to score and evaluate the proposals and who are free of impairments to independence;
  - Use fixed, clearly defined, and consistent scoring scales to measure the proposal against the criteria specified in the RFP;

- Carefully check contractor references;
  - Document the award decision and keep supporting materials; and
  - Carefully control bids upon receipt to ensure that bids are not opened prematurely to give late confidential pricing information, bids are not accepted after the due date, inferior bids are not given extra opportunities to cure deficiencies, etc.
- **Contract Provision:** A contract for the purchase of services must be formal, and contained in written documentation. The contract should (1) protect the interest of the agency, (2) identify the responsibilities of parties to the contract, (3) define what is to be delivered, and (4) document the mutual agreement, the substance, and the parameters of what was agreed upon.
  - **Monitoring:** Contract monitoring is an essential part of the contract process. Monitoring should ensure that contractors comply with contract terms, performance expectations are achieved, and any problems are identified and resolved. Without a sound monitoring process, the contracting agency does not have adequate assurance that it receives the services stated in the contracts.

Policies and procedures surrounding contracted services can be a useful tool to help ensure efficient, effective, and accountable contractors are selected. Proper execution of a competitive bidding/RFP process can ensure selection of the lowest cost vendor and increase government accountability. Furthermore, policies and procedures help ensure proper internal controls exist during the procurement process.

### *Performance Measures and Benchmarks*

**R2.8 The City should develop and use performance measures for functions, programs, and/or activities pertaining to the Water Department.<sup>20</sup> Performance measures can be a useful tool for making informed decisions based on measures of inputs, outputs, efficiency, and effectiveness. Furthermore, performance benchmarks should be developed as a basis against which to compare established performance measures. Performance benchmarks can provide valuable information and insight to policy makers, managers, and other stakeholders which can be used to guide the future direction of the Water Department.**

Neither the City nor the Water Department have developed performance measures or performance benchmarks which could be used to gauge operational efficiencies and effectiveness of CWD operations. During the performance audit, the City was unable to

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<sup>20</sup> This could be accomplished by implementing City-wide performance management practices.

provide basic operational information in several areas. For example, the Water Department was unable to provide the number of consumers inside and outside the City until the latter part of the performance audit process. This was mainly due to the inability of CWD to extract data from its software. Furthermore, the Water Department was unable to provide the number of water meters (capital assets) that it maintains, and the number of housing units it serves (see **Issues for Further Study**). The statistical value of this information is critical when making management decisions such as determining the appropriateness of rate structures (including debt service fees) and the financial effects on both the City and the end users.

According to *Develop Performance Measures* (GFOA, 2000), governments should use performance measures as a means of determining whether program goals are being met. Performance measures should be linked to specific program goals and objectives. The measures should be valid, reliable, and verifiable. Measures should be reported in periodic reviews of functions and programs and should be integral to resource allocation decisions. They should also be reported in the budget document (see **R2.5**) and may be reported in separate management reports to citizens. Different aggregations of performance measures may be appropriate for different audiences. *Develop Performance Benchmarks* (GFOA, 2000), states that a government entity should develop performance benchmarks as an aid in assessing comparative standards of performance and to provide a frame of reference for evaluating program and service quality and cost effectiveness.

For CWD, performance measures and benchmarks could include statistical information such as cost per gallon, water treated per month and per year, water pumped versus water sold, number of meters and units, number of delinquent payments, and total revenue per gallon sold. The City of Dover provides information in an annual report that includes the number of new water services and mains, hydrant checks, and disconnections. The City of Dover's report also includes water sampling results, which are used as a gauge and a reporting tool to citizens about compliance with State and federal drinking laws. The City of Newark's annual report contains information such as the number of active customers, total volume billed, total water produced, miles of water line, current debt, and total amount of delinquent payments. Newark's annual report also includes information on current and future capital/infrastructure projects, an organizational chart, and department goals and accomplishments.

Developing and using performance measures and benchmarks allows an entity to determine whether they are performing at, above, or below the level of their peers and provides the entity with a means for measuring the achievement of its departmental mission, goals, and objectives. In addition, performance measurement provides both accountability and information on which to base improvements or modify goals and objectives.

## Overtime

**R2.9 The Water Department should reduce overtime and sick leave use to the peer and State averages. This could be accomplished through cross training and expanding the range of certifications held by CWD employees.**

Table 2-8 illustrates overtime expenditures in relation to the Water Department's treatment and distribution operations.

**Table 2-8: Coshocton Water Treatment & Distribution Overtime Analysis**

	2004	2005	2006	Three-Year Change	Peer Average
Water Treatment Overtime	\$49,979	\$48,311	\$39,218	(11.42%)	N/A
Water Distribution Overtime	\$34,040	\$33,667	\$33,134	(1.34%)	N/A
Total Overtime Costs	\$84,019	\$81,978	\$72,352	(7.20%)	\$35,637
Total Salary Costs	\$515,876	\$505,865	\$459,838	(5.59%)	\$432,099
Overtime as a Percentage of Total Salary Costs	16.29%	16.21%	15.73%	(1.71%)	8.25%

Source: City of Coshocton Auditor's Office.

Note: The City of Coshocton Water Office (Billing) did not report overtime expenditures from 2004 to 2006.

Although the Water Department has experienced a consistent decrease in overtime expenditures from 2004 to 2006, Table 2-8 shows overtime expenditures as a percentage of total operations salary at a level that is nearly 7.5 percent above the peer average. The Superintendent explained that overtime expenditures are driven by employees' use of vacation leave, an issue reiterated among the peers. However, the level of automation in the treatment plant and the use of sick leave also impacts overtime usage. For example, the City of Dover is 100 percent automated and in 2006 reported overtime costs equivalent to 8 percent of total salary costs. This means that the water treatment plant operators can manage every aspect of the plant via a centralized location or through the phone lines with a supervisory controlled automated data acquisition (SCADA) system. The City of Coshocton, on the other hand, has only 50 percent automation. While the operators can view all treatment systems from a centralized location, they cannot control the treatment from this central location, and treatment systems must be manually operated.

The average tenure for treatment and distribution personnel is 24 and 18 years, respectively, resulting in an overall average tenure of 21 years. At this level, an employee accrues five weeks of vacation annually. The peers report average tenures for water

operations personnel ranging from 17 to 20 years, resulting in an average of 4 to 5 weeks of vacation per employee. Although the average number of vacation weeks per employee was similar for the Water Department and the peers, overtime was used 30 percent more often by CWD than the peers to cover vacation-related absences.<sup>21</sup> This illustrates the effect of higher degrees of automation between the cities.

In addition, sick leave use reported for the Water Department distribution operations slightly exceeds the State average reported by the Department of Administrative Services (DAS). Distribution personnel reported average sick leave use per employee of approximately 59 hours, which is about 7 hours above the State average. If the Department could reduce sick leave use to the State average of approximately 52 hours per employee, it would reduce overtime expenditures by 34 percent.

In an effort to expand the flexibility of CWD staff, the Water Distribution Supervisor has obtained the proper certifications to complete water treatment duties. Encouraging employees to obtain additional certifications allows the Department to more easily reassign responsibilities when staff are absent. If CWD implemented a comprehensive cross-training program, staff would be able to complete a wider range of duties. This would also allow for a smoother transition in the event of employee absence, potentially reducing the Department's need to authorize the use of overtime.

*Financial implication:* If the Coshocton Water Department reduced its overtime use to a level more consistent with the peers, it could save approximately \$25,000 annually. Furthermore, by reducing sick leave use in the distribution function to the state average, the Department could save an additional \$700, for a total savings of \$25,700.

### *Water Loss Prevention*

**R2.10 The Coshocton Water Department should develop a formal water audit program for its treatment and distribution operations to assist in identifying and addressing water loss. Conducting water audits would enable the Department to evaluate the efficiency of its systems by detecting existing and potential problem areas with greater accuracy. Furthermore, to ensure program effectiveness, the audits should be developed based on sound methodologies as established by recommended practices and should be formally documented. Additionally, the Water Department should consider purchasing water meters for its hydrants to aide in tracking and reducing water loss.**

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<sup>21</sup> The peer average consists of overtime and vacation information reported by the City of Cambridge and the City of Dover only.



CWD water loss varied substantially from 2004 to 2007, and exceeded the industry standard of 15 percent in each year except 2006. **Table 2-9** illustrates the water produced, sold, and the percent lost from 2004 to 2007.

**Table 2-9: Coshocton Water Department Four-Year Water Loss Analysis**

	2004	2005	2006	2007
<b>Water Treated</b>	1,854.57	1,836.98	1,649.08	1,496.15
<b>Water Sold</b>	1,461.28	1,157.98	1,403.89	1,245.75
<b>Water Loss</b>	21.2%	37.0%	14.9%	16.7%
<b>Industry Standard for Water Loss <sup>1</sup></b>				<b>15.0%</b>

**Source:** Coshocton Water Treatment Plant and Billing Office.

**Note:** Water figures in millions of gallons.

<sup>1</sup> *The Components of a Water Loss Prevention Plan* (Kentucky Rural Water Association, n.d.)

As shown in **Table 2-9**, in the last four years the Department has averaged approximately 22 percent water loss per year. Water loss equates to revenues lost. For example, the City's 2007 water loss of 16.7 percent equates to approximately \$400,000 in potential revenue loss.

According to the Water Treatment Superintendent, the decrease in water production in 2006 and 2007 was due in large part to the loss of local industry, the increased accuracy of new automated meter reading system, and a general decrease in customer water consumption. The City has no specific explanation for the high water loss in recent years. However, it has disclosed instances of customers using water from hydrants, which do not have meters or locks. Those instances include both authorized (by permit) and unauthorized uses of City water.

There are no formal agreements that outline how much unbilled water is allowable by an entity. The City allows the City High School to use unbilled water from a hydrant to maintain its athletic fields during the summer months. A non-profit organization that operates a local children's athletic association has also been allowed to use unbilled water. Furthermore, the Water Treatment Superintendent indicated that City firefighting operations also account for a portion water loss.

In addition, the City has noted specific instances where it believes there is unauthorized use of City water from fire hydrants. The City's Public Works Ordinance (52.03, Rule 9) regarding the use of hydrants includes annual charges ranging from \$125 to \$300 for a permit to use each hydrant located on the customer's property. However no limitations on the use of the hydrant or City water are specified in the ordinance. Because there are no meters installed on the hydrants, any water used from the hydrants is included in the

City's "water loss" or unbilled water. As a result, some customers are reportedly using water, for which they are not being billed, from the hydrants located on their property.

The City of Piqua requires customers using hydrants to rent a hydrant meter so the City can track water usage and charge accordingly. For a 5/8 inch hydrant meter, Piqua charges a \$30.00 non-refundable processing fee at the time the meter is rented and \$7.95 per month. An additional charge is levied for the water used at \$2.92 per 1,000 gallons. A 3 inch hydrant meter has the same non-refundable processing fee, but the customer is charged \$73.07 per month rental for the meter.

The City of Conneaut also uses hydrant meters. Its Water Treatment Department purchased two new hydrant meters in order to accurately record water usage for customers who want to use hydrants. In the past, customers wanting to use the hydrants for projects such as dust control during construction would be charged a flat fee of \$50. The first customer billed using the new hydrant metering system was charged a total of \$1,022.86 for water usage which paid for the \$972 cost of purchasing the two meters. According to the City of Conneaut, the hydrant meters will enable the Water Treatment Department to recover the actual costs for hydrant usage.

The *Water Loss Manual* (Texas Water Development Board, 2005) defines water loss as the difference between Corrected Input Volume<sup>22</sup> and Authorized Consumption.<sup>23</sup> This consists of two major sub-categories: real losses and apparent losses. Real losses are calculated at the marginal production cost of water and include all types of leaks, bursts, and storage tank overflows that occur before the customer's meter. Apparent loss is calculated at the retail rate because it occurs after the customer meter and may include accounting errors, inaccurate customer meters, illegal connections, and meter bypasses. The Manual also provides details for establishing a water audit system that includes:

- Audit methodology;
- Water audit worksheets and instructions;
- Water loss audit program;
- Methods to locate and minimize water loss; and
- Performance indicators.

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<sup>22</sup> Corrected input volume is the amount of water that is actually in the distribution system and available to sell. It is calculated by either adding or subtracting the master meter adjustment from the input volume.

<sup>23</sup> Authorized consumption consists of four sub-categories that include all authorized water use: billed metered, billed unmetered, unbilled metered, and unbilled unmetered.

Water audits help to ensure that all treated water is accounted for and tracked. It may enable the Department to compare its water loss to industry standards and benchmarks and develop adequate performance measures (see **R2.8**) for tracking water and identifying elements affecting water loss. In addition, water audits may provide management with critical information regarding the amount of each type of loss that occurs and the resulting financial impact. Overall, the audits are designed to guide the utility to the appropriate reasons for the water loss so that it can focus resources on those specific areas, thereby utilizing its resources more effectively. By establishing a water audit program, the Department would be aware of the issues that affect water loss and may be able to better address and diminish future instances of water loss. The City is currently unable to determine the number of unauthorized hydrants being used and the gallons of water consumed from authorized hydrants. Therefore, neither the total cost for hydrant meters nor the recovered costs from unbilled water usage can be calculated.

**R2.11 CWD should consider implementing the performance audit recommendations contained in this report to help offset deficit spending and allow the Department to maintain a positive year-end balance through the forecasted period.**

**Table 2-10** demonstrates the effect on the ending fund balances, assuming that all recommendations contained in this audit are implemented in 2009.

**Table 2-10: Revised Water Fund Ending Balance (in 000')**

	2009	2010	2011	2012
Total Revenue	\$3,119	\$3,172	\$3,225	\$3,280
Performance Audit Recommendations <sup>1</sup>	\$115	\$267	\$272	\$279
<b>New Total Revenue</b>	<b>\$3,235</b>	<b>\$3,439</b>	<b>\$3,498</b>	<b>\$3,559</b>
Total Expenditures	\$3,101	\$3,206	\$3,317	\$3,435
Performance Audit Recommendations	\$25	\$26	\$27	\$27
<b>New Total Expenditures Revised</b>	<b>\$3,075</b>	<b>\$3,179</b>	<b>\$3,290</b>	<b>\$3,407</b>
Expenditures Over Under Revenue	\$159	\$259	\$208	\$151
Beginning Fund Balance	\$648	\$807	\$1,066	\$1,275
<b>New Ending Fund Balance</b>	<b>\$807</b>	<b>\$1,066</b>	<b>\$1,275</b>	<b>\$1,427</b>

**Source:** The City of Coshocton and AOS

**Note:** Amounts may vary due to rounding.

<sup>1</sup> Performance Audit Recommendations includes revenues as outlined in *Scenario 3* of **R2.3**.



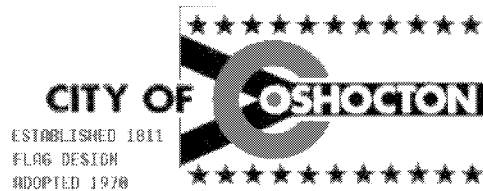
## **Client Response**

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The letter that follows is the City of Coshocton's official response to the performance audit. Throughout the audit process, staff met with City officials to ensure substantial agreement on the information presented in the report. Revisions were made when the City disagreed with information contained in the report and provided supporting documentation.

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STEVEN D. MERCER  
*Mayor*

JERRY STENNER  
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June 5, 2008

Mary Taylor, CPA  
Ohio Auditor of State  
615 Superior Ave., NW  
Cleveland, OH 44113-1801

Mary Taylor:

On behalf of the City of Coshocton I want to thank you and the team of auditors who participated in the performance review of the Coshocton Water Treatment Plant operations.

The request for this audit was driven by a number of water related issues the city has faced in recent years including the capital expenses incurred since 2001 for the expansion of our plant from a 9.98 Million Gallon/Day to 15 MGD capacity. With our multi-tier rate structure and heavy industrial base, Coshocton was unique in how several factors converged to compound an already complex issue.

As we reviewed these issues, we found this timeline helpful to understand the order of events.

- March 1992 and March 1993 the Ohio EPA advised us we often exceeded daily capacity and should be considering plant expansion.
- June 1999, Ohio EPA restated the need.
- June 2000, they added a restriction against adding any future water customers until a system capable of meeting the demand was implemented.
- Feb 2001, the City approved a contract with an engineering firm to provide an expansion design.
- May 2001, Ohio EPA restated no new additions until expansion.
- Nov 2001, the City approved loan for first phase of expansion, including installing a larger capacity supply line.
- June 2003, the City signed loan with OWDA with payoff of \$13,658,000.
- Nov 2003, construction began.

At the same time we went back and looked at production and rates.

- 1999: 27,921,500,000 gallons per year (peak usage)
- 2001: 23,045,100,000 gallons per year
- 2003: 20,715,900,000 gallons per year
- 2005: 20,569,900,000 gallons per year
- 2007: 19,821,700,000 gallons per year

The 2007 figure represents a 29% decrease from 1999 production.

Exploring the feasibility of the project, the engineering firm conducted a future water needs assessment of the industrial community that proved to be inaccurate. As business loss was reducing production, well intended efforts by the administration and council to minimize rate increases have proven to be insufficient in meeting the debt payments now coming due with completion of the plant

Mary Taylor, CPA  
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expansion. The loss of large industrial accounts, compounded by the expansion project cost and only modest rate increases have been the main factors of the projected payment shortfall.

Though the expansion costs are substantial and are a burden to bear in the short run, without such planning we would not have been able to provide service for the North Corridor, Kraft expansion, Organic Technologies, Airy View Heights addition, airport and National Guard Armory expansions, CR 55 and SR 541 East extensions and additional residential customers. The Water Treatment Plant expansion has positioned us well for future growth.

In spite of recent rate increases we remain 18% below our peer average and in the bottom one-half of the state average. In reviewing the range between residential, industrial and bulk rates, we recognize the "cost of service" factors, including individual billing, meter reading, line maintenance, taps, meters, bad debt collections, etc., that justify the quantity discount structure.

In 2007 the city began talks with the county commissioners on a bulk water rate. The proposed agreement would start by transferring the existing city customers in the North Corridor area to county-served customers and would create a cost effective partnership allowing the county to invest money in expanding water lines into new areas. A community development plan published recently called for a county water district. Our present plant capacity along with the county's investment will give the entire community the infrastructure required to attract much needed business and industry.

This Performance Audit provides the city with specific information necessary to make informed decisions and continue to evaluate comparisons with our peers in relation to the operational costs, staffing, salary and benefits. Projections are vital to plan cost-saving measures, future water rates and debt reduction.

We have already begun implementing ways to reduce expenses by:

- Examining staffing and overtime use;
- Working on developing a 5 year plan;
- Implementing more efficient billing/collection/payment procedures in Water Billing Office.

We are also:

- Examining regular rate adjustments for those under the current cost of production;
- Examining the debt reduction fees as applied to residential and industrial users;
- Evaluating our water rate (tier) structure.
- Exploring water loss through efforts to identify needed line maintenance, theft and unmetered use.

There is unanimous agreement among both the administration and city council that this was money well spent. The audit provides a working reference tool for improving department efficiency and for examining all areas of operation for cost effectiveness.

Thank you,



Steve Mercer  
Mayor

ly



**Auditor of State  
Mary Taylor, CPA**

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