

FINAL REPORT | July 2021



WATER/SEWER SERVICES COMPREHENSIVE BUSINESS PROCESS REVIEW

Baltimore County and Baltimore City



PREPARED BY:



IN ASSOCIATION WITH:



EXECUTIVE SUMMARY

BACKGROUND

Baltimore City provides water and wastewater services to approximately 1.8 million people in Baltimore City, Baltimore County and portions of Anne Arundel, Carroll, Howard and Harford Counties. The system's service area of 220 square miles encompasses the entirety of Baltimore City and 140 square miles outside of the City's limits. The water system produces approximately 72.1 billion gallons of treated water annually. The City's two regional wastewater treatment facilities have the capacity to treat up to 250 million gallons of wastewater per day.

The water system provides potable water to City and County customers at retail rates and to Howard and Anne Arundel Counties on a wholesale basis. Harford and Carroll have agreements to purchase raw water from Baltimore City.

Since the passage of the Metropolitan District Act in 1924 (which obligated Baltimore City to provide water to certain areas of Baltimore County) and subsequent adoption of inter-jurisdictional agreements in the early 1970s, a complex relationship has evolved between the two jurisdictions. This relationship involves the planning, management, maintenance and funding of the shared facilities that make up the regional water and wastewater systems.

Leaders from Baltimore City and Baltimore County (the "Leadership Team") have developed a shared vision of creating the "Utility of the Future." To achieve this vision, the City and County desire to enhance the intergovernmental coordination and business processes and policies required to efficiently, effectively and sustainably provide customers with high-quality water and sewerage services.

As a first step toward achieving that vision, the City and County have jointly undertaken this comprehensive business process review. The review identifies the strengths and weaknesses of the current governance framework of the utilities. It also identifies potential opportunities to improve how the two jurisdictions work together to provide high-quality, affordable water and wastewater services.

The Leadership Team desires to understand the current state of the structures and processes involved with coordinating the delivery of water and wastewater services between the City and County. In light of these findings and observations, the Team would like the areas requiring further assessment and initiatives to enhance the overall system's efficiency and effectiveness identified.

The comprehensive business process review of the City/County water and wastewater system was organized into the following tasks:

- Task 1 – Evaluate City-County Existing Service Agreements for Water/Sewer Services
- Task 2 – Review the City and County Organizational Structure and Governance Models
- Task 3 – Review Staffing
- Task 4 – Evaluate Water and Sewer System Planning and Management
- Task 5 – Assess Meter to Cash Operations
- Task 6 – Review Field Operation

Per the project requirements, our review results in each of these functional task areas were documented in a series of standalone task reports and transmitted to the City and County under separate cover.

This executive summary presents a high-level overview of key findings and observations identified in all six task reports and summary conclusions and recommended next steps.

PROJECT APPROACH

Our proposed approach to this business process review study consisted of four phases encompassing the programs and functional areas included in the project scope.

- **Phase I – Preliminary Investigations:** The project team makes initial contact and performs investigations to obtain a general understanding of how the organizations are structured, how they operate and how well they perform, as evidenced by operating and financial records.
- **Phase II – On-Site Investigations:** The project team performs on-site investigations of the organizations' management and the daily operation and support functions associated with their operations. Internal and external drivers are identified.
- **Phase III – Functional Evaluations:** The project team performs an assessment and evaluation of each of the management, support and operational functions of the organizations, identifying potential problem areas within the various functions.
- **Phase IV – Report Preparation:** The project team prepares an analysis report summarizing the findings of the functional evaluation.

Due to the ongoing impacts of COVID-19 (which limited the project team's ability to interact in-person with City and County staff, review information on-site and efficiently access documents and data), our project approach had to be substantially modified over the last several months. In place of in-person meetings, workshops and interviews with individual staff, we relied exclusively on a smaller number of virtual meetings conducted with multiple participants.

The project team submitted a substantial information request at the beginning of this project that consisted of historical documents and reports, much of which existed only as paper files in City and County offices. As most of the City and County staff that we relied on to respond to this information request were working remotely in the early phases of this project, their ability to search for, copy and transmit information electronically was greatly hampered. As a result, the data collection phases of this project took, in some cases, several months longer than anticipated.

As a result of these limitations and constraints, we relied heavily on the comments, insights, and perspectives gathered through staff interviews and surveys to fill in any gaps in data, reports and documentation. This is evident in cases where our findings and observations could not be independently confirmed with data analysis.

Finally, there have been several personnel changes since project initiation in April: the County Department of Public Works Director position, the City DPW Chief of Staff position, the City Utility Maintenance Chief position, the City Utility Billing Chief position and the City Meter Shop Chief position. The reader is cautioned that some findings and observations might not reflect current philosophies, processes or policies that have been changed as new people come on board.

SUMMARY OF KEY FINDINGS AND OBSERVATIONS

Based on the Leadership Team's goals and objectives for the project, we have organized the major findings from each of the six task reports into three groups:

- **Operational** – These are key findings and observations related to the discrete operational areas identified in Tasks 4, 5 and 6.

- **Organizational** – These are key findings and observations related to how each jurisdiction is organized to provide utility services in the City and County and how these organizations are managed and staffed. These are primarily findings and observations that were developed during Tasks 2 and 3.
- **Governance** – These are key findings and observations related to the span of control exercised by the City and County, how decision-making authority is assigned under the existing legal frameworks, how the jurisdictions communicate, collaborate, coordinate and cooperate across functional and geographic boundaries, and how the utility is governed.

OPERATIONAL FINDINGS AND OBSERVATIONS

Our reviews of core business processes related to system planning and management, meter to cash and field operations are captured in the Task 4, 5 and 6 reports. These reviews spanned 16 discrete operational areas and generated dozens of findings and observations. The most significant and consequential of these findings are summarized in the three exhibits below:

Exhibit E-1. System Planning and Management Findings

Program Element	Key Observations
Capital Programs	<ul style="list-style-type: none"> ▪ Both jurisdictions manage capital project delivery "competently." ▪ Each jurisdiction scored a 3 (Competent) out of 5 on a capital program management self-assessment survey. (1 = Basic, 3=Competent, 5=World Class). ▪ A lack of an effective joint planning capability is constraining capital program efficiency. ▪ The Water Analyzer Office is understaffed. ▪ City and County are not using metrics to evaluate program performance.
Water Loss Management	<ul style="list-style-type: none"> ▪ Water loss ranged from 16% to over 35% between 2010 and 2019. ▪ The City conducts regular water audits following industry-standard methods and practices. ▪ The program has no long-term water loss reduction plan. ▪ There is no clear delineation of City and County roles and responsibilities related to water loss management efforts.
Drought Response Planning	<ul style="list-style-type: none"> ▪ No drought response plan has been developed. ▪ There is little understanding within each organization of roles and responsibilities during a drought. ▪ There is a decision-making framework for actions that should be taken before, during and after the declaration of a drought. ▪ There is a plan for coordinating drought management activities between jurisdictions.
Safety Programs and Risk Mitigation Planning	<ul style="list-style-type: none"> ▪ Baltimore City has an effective safety program. ▪ Additional leadership/professional resources and organizational streamlining would aid program effectiveness. ▪ The program would benefit from implementing more transparent safety policies/procedures and providing training on best practices. ▪ The County's Safety Office is simultaneously accountable to three separate County departments. ▪ Neither jurisdiction was able to demonstrate that they use data to review overall safety trends or assess performance. ▪ There is little oversight and coordination on safety issues for workers operating across jurisdictional boundaries.
Source Water Protection and Land Use Management Planning	<ul style="list-style-type: none"> ▪ The current framework for source water protection is consistent with industry standards and best practices, but it is ten years old and should be updated. ▪ The City and County need to improve coordination on management of the deer population and recreational use in reservoir areas.

Exhibit E-1. System Planning and Management Findings

Program Element	Key Observations
Performance Management and Continuous Improvement	<ul style="list-style-type: none"> ▪ The County maintains a robust and multifaceted source water protection program integrated with its watershed protection and restoration strategy. ▪ Current land-use policies are in place that support source water protection goals. ▪ City DPW maintains the semblance of a performance management program through its Office of Strategy and Performance. ▪ DPW's program is not linked to an up-to-date strategic plan. ▪ DPW's program does not maintain a robust set of performance measures or a structured reporting process. ▪ DPW's program does not regularly review performance to establish goals and targets. ▪ The County's framework for performance management and continuous improvement is outlined in the County's new strategic plan, but the plan only peripherally impacts water and sewer operations. ▪ Neither jurisdiction's water and sewer operations can be considered "performance-driven" since they cannot document that they maintain formal programs to track and monitor performance or actively support continuous improvement through programs or processes.
Inter-jurisdictional Communication	<ul style="list-style-type: none"> ▪ The City and County have no formal communications procedures for any of the core functions included in this business process review. ▪ With few exceptions, most senior staff who were interviewed during the functional review part of this study indicated that they did not maintain any form of an ongoing relationship with their counterparts, did not have regular coordination meetings and did not have a clear understanding of when and how issues or concerns should be escalated. ▪ Communications on inter-jurisdictional issues primarily take place at the Director level. ▪ Except for meetings and discussions between the City and County about the annual water and sewer settlements, regular coordination meetings are not taking place at the Bureau or Division level. ▪ There are no standing inter-jurisdictional task forces, workgroups or committees that have been formed around any other functions.
Information Technology (IT) Systems Review and Disaster Recovery	<ul style="list-style-type: none"> ▪ City IT staff verbally confirmed the existence of disaster recovery procedures for critical systems but did not provide written documentation of any plans or policies. ▪ Staff believes that the Legacy billing system is viable over the short term, but an eventual migration of all customers to the new UMAX billing system is expected. ▪ There is no clear dissemination of IT oversight and management responsibilities between CSSD, DPW's IT Office and Baltimore City's IT Department. ▪ There was a lack of planning and coordination between the City and County during the development and rollout of the UMAX system. ▪ The City and County's GIS systems are not integrated, so City maintenance staff do not have access to County utility GIS data. ▪ County Bureau of Utilities staff does not have access to the City's Cityworks work order system.
Sewer Capacity Planning	<ul style="list-style-type: none"> ▪ There is consensus that the 1974 Sewer Agreement needs to be updated. ▪ There is no documentation of Baltimore County's allocation of capacity at the Back River WWTP. ▪ Re-establishing the Wastewater Analyzer Office would improve how the City and County communicate and coordinate on sewer capacity planning issues.

Exhibit E-2. Meter to Cash Findings

Program Element	Key Observations
Metering & Billing Operations	<ul style="list-style-type: none"> ▪ The City is operating two different meter to cash processes at the same time. ▪ SOPs have been established for all facets of the customer metering and billing process, but adherence to SOPs is not documented. ▪ The 2019 ransomware attack and 2020 pandemic resulted in major interruptions to customer billing functions. ▪ There are large backlogs of work orders and unresolved repairs to water meters. ▪ The City lacks an effective QA/QC process to ensure that accurate bills are issued regularly. ▪ Billing adjustments and customer account changes are not being documented consistently and in a manner that adequately supports the County's sewer billing processes. ▪ There has been a dramatic increase in delinquent accounts since 2017.
County Revenue Collection & Annual Reconciliation	<ul style="list-style-type: none"> ▪ Unresolved disputes date back to Fiscal Year 2014. ▪ There have been large, unexplained changes in billed revenue and allocated costs over the past six fiscal years. ▪ Deficiencies and issues identified in past audits and reviews have not been fixed. ▪ Little expertise and institutional knowledge remain in either organization regarding the legal and technical requirements of the annual water settlement process. ▪ There are known issues and problems with the current Cost Allocation Model. ▪ There is no structured QA/QC element in the financial settlement process.
City-County Data Transfer	<ul style="list-style-type: none"> ▪ The County's sewer billing process is dependent on inputs from the City's outdated, unsupported legacy billing system. ▪ There is no continuity of operations plan to ensure the data transfer process can recover from unforeseen disruptions. ▪ The timing of data transfers and critical reviews is not aligned with the County's sewer billing schedule. ▪ The City's approach to water bill adjustments is inconsistent with the County's sewer bill dispute resolution process. ▪ There is no QA/QC process in place to ensure that accurate billing data is being transmitted. ▪ There are no performance standards in place for the data transfer process.
Customer Service Performance	<ul style="list-style-type: none"> ▪ There is a significant backlog of unresolved County escalations. ▪ Water bill adjustments are being poorly documented. ▪ There are breakdowns in communication between CSSD and Metro Billing. ▪ There is no documentation that customer service-related SOPs are being followed. ▪ Past reviews and audit findings have not been addressed. ▪ Neither organization is measuring customer service performance or customer satisfaction.
County Sewer Billing & Meter Applications Permitting	<ul style="list-style-type: none"> ▪ The current meter application process is reliant on the transmittal of paper applications and forms. ▪ The current process is overly complicated and is not being managed by a single entity. ▪ The meter installation process lacks a robust post-installation inspection and certification element. ▪ There are no documented SOPs.

Exhibit E-3. Field Operations Findings

Program Element	Key Observations
City/County Field Operations Coordination	<ul style="list-style-type: none"> ▪ There are no quantitative or qualitative service level measures between the City and County on field operations. ▪ There are no target performance measures for work that is performed in the County by City maintenance forces. ▪ There is a duplicate investigation process in place but no coordinated information-sharing mechanism. ▪ Both the City and County's utility maintenance operations are overly reactive. ▪ There are no standard operating procedures to address coordination of restoration work, notification of work order status and customer communications. ▪ Work crews are unaware of ongoing work within an area by the other jurisdiction. ▪ City utility crews cannot access County utility data in GIS. ▪ City utility maintenance is not notified when County contractors are performing water utility work. ▪ City work order documentation is often deficient and cannot be relied on to support sewer billing adjustments.
Customer Complaint Resolution	<ul style="list-style-type: none"> ▪ County customers have to call multiple phone numbers, depending on what problem they are trying to address. The number listed for water meter issues is the City Hall operator. ▪ The complaint resolution process does not emphasize resolving issues on the "first call," which is an industry best practice. ▪ Customer complaint resolution performance metrics are not being tracked. ▪ There are no performance targets for work performed by City crews in the County. ▪ County Bureau of Utilities personnel do not have access to the City's Salesforce customer complaint system or the Cityworks work order system, so they cannot investigate County customer's complaint status. ▪ Neither jurisdiction conducts surveys of customer satisfaction with service call response.

ORGANIZATIONAL FINDINGS AND OBSERVATIONS

In our review of the City and County departments, bureaus, and divisions responsible for the operation and management of the regional water and sewer systems, we found that both jurisdictions have done a commendable job of effectively communicating objectives and priorities to their employees. City and County supervisors are generally satisfied with their jobs, and most believe that their job specifications are accurate. It was also apparent that the City and County have done a commendable job of maintaining critical services under the extraordinary challenges that both Departments of Public Works have had to face through the COVID-19 pandemic.

However, both organizations face several significant constraints that will impede their collective ability to operate the utility efficiently and effectively now and into the future. These constraints include:

- **Higher than average vacancy rates** – The vacancy rates for DPW employees (18% in the City and 12% in the County) are worse than industry averages and support the need for effective workforce succession planning.
- **High turnover rates in key positions** – The City has experienced a high turnover rate in several critical operational positions, including the Chief of the Customer Services & Support Division, the Chief of Engineering and Construction, Chief of Asset Management and Chief of Utility Services.
- **Changes in senior leadership** – Both the City and County are searching for a permanent Director of Public Works position. The lack of a permanent position has led to some critical decisions being postponed. Several senior managers in both organizations are in an acting capacity.

- **Lack of an effective succession planning effort** – There is a lack of succession planning, with several employees eligible to retire within the next five years. The knowledge capture process is lacking, with little documentation of standard operating procedures. An over-reliance on contractors and consultants for essential water and wastewater functions has diminished the knowledge maintained in-house.
- **Starting and top salaries for several positions are not competitive with surrounding utilities and private firms** – The salary survey data indicates that both City and County starting and top salaries for many technical classifications (such as utilities supervisors and engineers) are significantly below surrounding counties and other regional utilities, such as WSSC.

We challenged City and County managers to provide feedback on how they thought many of these organizational constraints could be addressed. Their responses to our survey questions provided many useful insights about improvements to current utility-related business processes in the City and County, including:

- Improved internal and external communication
- A clearer definition of roles and responsibilities
- Independence from politics
- Better technology and software
- A strong, long-term vision unaffected by transitions in administrations
- "Servant leadership" in which managers and leaders need to focus on serving their teams
- Modification as to how the HR, procurement and training support functions work with operations staff
- Increased staffing and opportunities for employees to grow in their careers
- Facilitated strategic planning sessions at the department level
- Adjustments to salaries to make them competitive with that of other utilities and private firms

We identified several opportunities to align the City and County's current organizational structures with a best practice utility organization. The most significant and far-reaching opportunities are summarized in the exhibit below.

Exhibit E-4. Opportunities to Strengthen the Existing Organizational Structure

Characteristic	Best Practice Alignment
Staffing	Staffing goals should be established and regularly tracked and reviewed by both operations and senior management. Data measured and reported should include vacancies, employee retention, job satisfaction, workforce succession preparedness, training hours, etc.
Succession Planning	A three to five year succession plan should be created for critical operations and management staff to prepare future leaders to seamlessly assume key leadership positions. The process should include internal and external education, training and the opportunity to learn in various areas of responsibility. The plan should be reviewed on a semi-annual basis and modified as necessary.
Knowledge Capture	A formal knowledge capture process should be implemented to capture the experience and expertise of employees retiring or otherwise leaving the organization. The process should be applied to water and wastewater operations, utility finance, billing, safety and other related functions. Knowledge captured should be incorporated into centrally managed standard operating procedures. Key retired staff should be interviewed to add their experience and expertise to the SOPs or procedures.
Salary Study	An independent study of salaries for key water and wastewater employees should be performed. The study should analyze data from utilities across the nation along with national databases. Action should be taken to establish competitive salaries, and the results of the study should be presented to employees.

Exhibit E-4. Opportunities to Strengthen the Existing Organizational Structure

Characteristic	Best Practice Alignment
Strategic Planning	Management should continue to ensure that employees at all levels of the organization understand their role in achieving its mission and strategic goals. Strategic plans should be kept up to date, and steps should be taken to achieve the goals outlined.
Communications	Top management should establish an open, collaborative culture and blend the organization into a single, cohesive team focused on common objectives. Team building activities should be commissioned for teams that must work together to ensure high performance. The top organizational executives should issue timely communications to employees on the current state of affairs, new initiatives and positively encourage the workforce to better serve their customers. Holding small group meetings and periodic worksite visits should also be utilized to connect with the employees who work diligently to serve citizens' best interests.

GOVERNANCE FINDINGS AND OBSERVATIONS

Under the current governance framework, the City is responsible for the operation and maintenance of the water distribution system and related assets (pumps, storage, etc.) for both the City and the Metropolitan District, all water filtration facilities, the wastewater conveyance systems within the City and all wastewater treatment plants. The City is also responsible for billing and customer service for all water customers in the City and County. Water and wastewater rates, fees and charges for City customers are set by the City's Board of Estimates.

Baltimore County is responsible for the planning, design and construction of new water facilities that solely benefit County customers and the operation and maintenance of the County's wastewater conveyance system, including sewage pumping stations. The County is responsible for billing and customer service related to wastewater service for County residents. Water and wastewater rates, fees and charges for County customers are set by the County Executive.

These areas of functional responsibility are shown in the following exhibit.

Exhibit E-5. Current Water and Wastewater City/County Governance by Function

Service	Major Function	Responsibility
Water	Rate Setting	County establishes, City implements
	Customer Billing	County for its Water Distribution Charge, City for other rates
	Raw Water Supply & Treatment	City
	System Maintenance & Operation	City
	Development Approval	Handled independently by each jurisdiction
	Water Facility Master Planning	Handled jointly through Water Analyzer Office
Wastewater	CIP - Planning & Implementation	County for projects serving County customers, City for others
	Rate Setting	Set independently by each jurisdiction
	Customer Billing	Handled independently by each jurisdiction
	Wastewater Treatment	City
	System Maintenance & Operation	Handled independently by each jurisdiction
	Development Approval	Handled independently by each jurisdiction
	Wastewater Facility Master Planning	Handled independently by each jurisdiction
	CIP - Planning & Implementation	Handled independently by each jurisdiction

The City-centric governance framework established over 75 years ago gives the City's Director of Public Works exclusive authority to make decisions on almost every aspect of the water system, including billing and metering policies and procedures, budget and resource allocation, personnel hiring and terminations, organization structure, strategic priorities, management of the reservoirs and capital priorities.

Under the current governance framework, the City and the Director of Public Works are not accountable for County customer service delivery, system reliability or operational efficiency, even though Baltimore County has more than half of the system's customer accounts and is responsible for all demand growth.

As a result of the comprehensive review that examined all of the core business processes used by the City and County to operate and maintain the regional water and sewer systems, we have identified six significant shortcomings in the current governance structure:

1. The current governance framework has been ineffective in resolving long-standing disputes over customer billing issues and annual water reconciliation.
2. The current governance framework does not support a culture of continuous improvement and accountability regarding customer service delivery, system reliability and maintenance responsiveness.
3. The current structure does not support effective inter-jurisdictional communications across all levels of the two organizations. As a result, there is no evidence that true collaboration and cooperation occur between the City and County on essential matters such as strategic planning, long-range planning, capacity management, emergency response, regulatory compliance, service interruptions, service changes, safety issues or other emerging areas of concern.
4. The current governance structure does not support the high level of coordination needed to project, plan and execute system improvements to meet growing demand in Baltimore County and other jurisdictions. Although the current framework identifies a joint planning office to be staffed by City and County personnel for this purpose, there is no requirement for either jurisdiction to provide resources to ensure that this function is performed effectively and efficiently.
5. There is no oversight process defined in statute or agreement to ensure that the Director of Public Works' policies, procedures or decisions are in the best interest of both City and County customers. Many decisions made by the City's Director of Public Works have far-reaching implications for Baltimore County customers. These decisions often receive approval through the City Board of Estimates or oversight by the Baltimore City Council, but there is no mechanism for review by County elected officials.
6. The current governance structure has no requirement or mechanism to conduct strategic planning across jurisdictional boundaries. This means that planning functions within the utility are not aligned with the City or County's strategic goals and priorities.

THE PATH TO WORLD CLASS

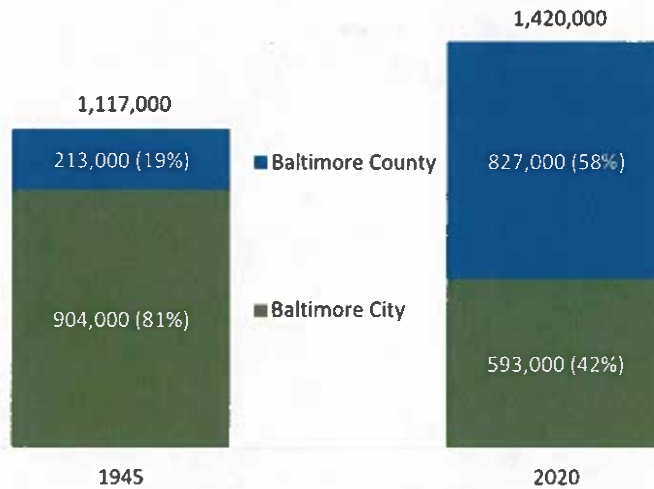
We have identified numerous opportunities to improve many of the City and County's core business processes to operate and manage the regional water and sewer systems. Each of the six task section details findings and observations that characterize the gap between the current City-County approach and a best-practice approach that might be used by a "world-class" utility.

While many of the issues and deficiencies that we have outlined in this report could be addressed by improving how the two jurisdictions cooperate, collaborate, coordinate and communicate, there are several structural shortcomings with the current form of utility governance that cannot be easily changed.

As the City and County's leadership consider how to best achieve their shared vision of a "Utility of the Future, some consideration of alternative governance structures may be necessary.

The current governance structure was adopted when Baltimore City was the State's primary center of industry and commerce and the most populous jurisdiction in Maryland. When the Acts of 1945 were adopted, Baltimore County had less than a quarter of the City's population and was largely undeveloped. No one could have anticipated the demographic shifts that would occur over the following 75 years. A new evaluation of City and County roles and responsibilities in the utility is long overdue.

Exhibit E-6. Change in City and County Population



To assist the Leadership Team in its consideration of potential next steps and options, we have developed detailed case studies for five utilities that have evolved from similar discussions about the need for a change in governance. These examples are summarized in the exhibit below.

Exhibit E-7. Governance Model Examples

Example	Organization Type	Governance Structure
Cape Fear Public Utility Authority, NC	Water and wastewater authority	<ul style="list-style-type: none"> Board of Directors consisting of five members appointed by each the City of Wilmington and New Hanover County. Ten members nominate an eleventh member acceptable to both the City and County and confirmed by both governments. The directors serve three-year staggered terms without compensation. The Board elects a Chairman, a Vice-Chairman, a Treasurer and a Secretary from the ranks of Board members. The Board has the authority to set rates and fees without approval by either the City or County. The Authority has no taxing ability and must depend solely on rates and fees for its revenues. The Authority can issue revenue bonds that are not backed by the City or County.

Exhibit E-7. Governance Model Examples

Example	Organization Type	Governance Structure
Washington Suburban Sanitary Commission	Water and sewer commission established by State law	<ul style="list-style-type: none"> Montgomery County and Prince George's County each appoint three commissioners to serve three-year terms as a commissioner. The Commissioners nominate a chair and vice-chair to serve a one-year term. The Commissioners hire a General Manager/Chief Executive Officer. The Commission recommends rates and charges, which must be approved by each County through the budget approval process.
DC Water	Water and sewer authority with a significant number of diverse wholesale and retail customers	<ul style="list-style-type: none"> DC Water is governed by a Board of Directors consisting of 11 principal members and 11 alternate members. Six Board members are District residents, appointed by the Mayor with the advice and consent of the Council. No more than four may be District employees or officials. One shall be the Director of the District Department of the Environment or a cabinet-level officer, as determined by the Mayor. The Mayor appoints persons recommended by the other participating jurisdictions to the remaining five Board positions. Of the five non-District Board members appointed by the Mayor, one Board member shall be recommended by Fairfax County, two shall be recommended by Montgomery County, and two shall be recommended by Prince George's County. All board members participate in the decisions directly affecting the management of the joint-use facilities. The District of Columbia members participate in those matters that affect District ratepayers and in setting fees for various services. DC Water may only take action on policy matters after receiving a favorable vote of no less than six members of the Board of Directors.
City of Richmond and Henrico County, VA	Wholesale and retail customer relationship which evolved into the retail customer becoming an independent water supplier	<ul style="list-style-type: none"> Utilities are operated and managed as municipal departments. Operating and financial relationship is governed by terms of the wholesale purchase agreement.
Rivanna Water & Sewer Authority, VA	Regional water and sewer authority	<ul style="list-style-type: none"> Seven member Board of Directors consisting of Albemarle County Executive, Albemarle County Supervisor, City of Charlottesville City Manager, City of Charlottesville City Councilor, City of Charlottesville Director of Utilities, Albemarle County Service Authority Executive Director, Appointee of City and County.

In our experience, there are many benefits that Baltimore City and Baltimore County could realize by consolidating management of the water and sewer system into a single entity. These benefits include:

- Improved supply reliability through risk pooling
- Lowered unit cost through economies of scale

- Sustained access to low-cost financing
- Standardized high-quality water
- Reduced negative social and environmental impacts
- Regional investment in conservation and local supplies
- Enhances technical expertise for problem-solving
- Amplifies voice in policy matters

The consolidation process can be complex and challenging, and any significant change in the business relationship between the City and County will ultimately require legislative changes and negotiation of new inter-jurisdictional agreements. In advance of any significant decisions about the structure of the regional water and sewer system, several preliminary steps should be taken to support future discussions about regionalization. These include:

- Updates to water and sewer asset inventories in the City and County
- Developing an updated valuation of assets in each jurisdiction
- Convening a stakeholder advisory group to explore pros/cons of regional options with a broad range of stakeholders
- Estimating unfunded regulatory costs for the water and sewer systems
- A detailed assessment of the current financial position of each utility, including an evaluation of unfunded pensions and post-employment benefits
- An assessment and analysis of outstanding water and sewer bills

CLOSING STATEMENT

The Baltimore metropolitan region has been blessed with an abundant supply of fresh water, which supports life, commerce and industry. With the water supply comes a requirement for stewardship. Based on the findings and conclusions of this study, it appears that stakeholder groups are not satisfied with the current status and performance of the water and sewer systems serving the City and County. There is a range of regional coordination and integration options that could be pursued, ranging from simply revising existing law and agreements to creating a regional management agency that contracts with the County and City to perform certain functions to an independent regional agency without taxing powers that would be dependent solely on rates and fees for income, and which would be limited in the range of services it could provide. Based on the extensive data collected during this study, the range of alternatives should be examined by a stakeholder group representing a wide range of perspectives and interests. The group could recommend to elected officials the "best" coordination and integration model for regional water and wastewater services.