Bayonne Water and Wastewater Concession Agreement

After a period of underfunding and deferred maintenance, the Bayonne Water and Wastewater Concession Agreement monetized existing assets, restructured debt, and transferred asset management responsibility to the private sector. The agreement led to improved service efficiency, stronger general government financial condition and modestly higher rates.

The Bayonne Water and Wastewater Concession transformed the Bayonne water and wastewater utility from a utility struggling with a backlog of capital needs, high debt, and a history of deferred maintenance to a utility where annual maintenance and capital investment is contractually specified. This agreement was structured to improve the overall financial condition of Bayonne as well as improving water and wastewater services. In this concession, the cost of capital contributed by Bayonne Water Joint Venture is based on a combination of interest on taxable debt and private equity rate of return requirements. The capital investment is contractually regulated, regularly monitored, and offers comparable rates of return to the regulated utility sector. The resulting contract created a schedule of revenue needs, or “revenue path”, and requires recurring rate increases to meet those revenue needs. However, rate increases have been higher than initially predicted due to lower than projected water sales and the reallocation of some of the initial concession fee funds from rate stabilization purposes to general governmental purposes.

Table 1. Key Project Details

Project Title:	Bayonne Water and Wastewater Concession Agreement
Primary Facility/Service:	Water, wastewater, and stormwater distribution and collection network
Local Government Entity:	City of Bayonne operating through Bayonne Municipal Utilities Authority
Primary Partner(s):	Bayonne Water Joint Venture (Partnership between Suez/United Water and Kohlberg Kravitz & Roberts)
Delivery Model:	Concession
Contract Period:	40 years
Population Served:	12,000+ meter accounts[1]
Major Initial Outlays	Upfront concession fee ($150 million),[2] project development and misc. reserves ($16.3 million) plus contractually required capital investments over the first 3 years including $7.5 million in meter and billing upgrades
Flow of Revenues:	Concessionaire collects revenues (bills) directly from users; rates are set by public entity to meet contractual annual revenue requirements

Background

The Bayonne Municipal Utilities Authority (the Authority) is the water and sewer utility created and managed by the City of Bayonne, New Jersey to provide its residents with water, wastewater, and stormwater collection/transmission services. The City of Bayonne currently has a population of approximately 66,000 people. The population has remained relatively steady since 2000, but had been experiencing a slow decline since 1950 when the population was 77,203.[3]

The Authority does not operate its own treatment plants. Instead, it purchases treated water through a contract with the North Jersey District Water Supply Commission and receives wholesale wastewater treatment through the Passaic Valley Sewerage Commission. As the New Jersey Board of Public Utilities has noted, historically the Authority did not always increase water and wastewater rates in proportion to the increased costs of running the system, thus incurring unsustainable debt and significant backlogs for necessary capital improvements.

Prior to the concession agreement being signed in 2012, the Authority had not raised rates since October 2006, when it passed a 27 percent increase.[4] Since then, the Authority experienced financial stress from decreased revenue resulting from water conservation, loss of a major industrial customer, an aging system with increased capital and maintenance costs, loss of key staff members the Authority could not afford to replace, and deferred debt obligations which came due at the same time revenue decreased.[5] The Authority was also troubled by a number of operational challenges, including a very high level of non-revenue water that is typically attributed to leaks and poor metering processes.[6]

The City of Bayonne was also experiencing significant financial pressure outside of its water and wastewater services. Between 2008 and 2010, the city relied on borrowing to meet as much as 40% of its basic annual revenue needs and

[1] Patrick Cairo (Senior Vice President, Corporate Development, Suez), email correspondence with author. August 31, 2016
[2] *Bayonne Water & Wastewater Concession Project Overview.* KKR. Presentation to New Jersey Board of Public Utilities. August 7, 2012.
[3] US Census 2014. http://www.census.gov/
[4] *State of New Jersey Board of Public Utilities Agenda*. Agenda Item 5B. October 23, 2012.
[5] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.
[6] *A Tale of Two Public-private Partnership Cities.* Knowledge@Wharton. June 10, 2015. http://knowledge.wharton.upenn.edu/article/a-tale-of-two-public-private-partnership-cities/.

received a low General Obligation credit rating (Baa1) with a "Negative Outlook" from Moody's.[7] This operational and financial stress led the City of Bayonne to pursue a public private partnership.

Project Development and Procurement

The Authority issued a draft Request for Qualifications and Proposals in March of 2011 seeking comments from potential operators. The Authority considered comments and issued a final Request for Qualifications and Proposals. The Request called for two service options: the first, a 20 year contract that was to include at least a $10 million dollar concession fee; the second, a 40 year contract that would allow the operator to retain all water and wastewater fees while paying concession fees at least large enough to pay off the Authority's outstanding debt.[8] Prior to the final solicitation due date, eight companies expressed interest, but for unclear reasons, only one group proceeded with a formal response. Under the 40 year proposal, United (now doing business as Suez) proposed a joint venture between United Water and Kohlberg Kravitz & Roberts (KKR), named the Bayonne Water Joint Venture (Bayonne Water). The Authority considered and analyzed Bayonne Water's proposal against the option to continue to operate the system internally.

The procurement process was dominated by extended negotiations between the Bayonne Water and public representatives throughout 2011 and most of 2012. The negotiations were underpinned by analyses designed to assure that both parties were able to meet their objectives. The City's main priorities were to keep rate increases to the minimum that would allow the project to be self-sufficient and to transfer responsibility (through debt retirement and refinancing) for $125 million in city-backed debt to the private sector. The Bayonne Water team developed the Revenue Path Model (see details below), which was the option that the Authority ultimately chose to achieve these objectives.[9]

The procurement process and negotiations involved individuals and organizations representing both public sector and private sector interests. Both the public and private sector engaged outside financial advisors, legal counsel, and engineering/technical advisors. The mayor in office during the development and initiation of the agreement lost a close election in 2014, resulting in a new mayor and administration taking over several years into the agreement.

Table 2. Select Project Milestones[10]

Date	Milestone
March 2011	The Authority issues Draft Request for Qualifications and Proposals seeking comments
June 2, 2011	The Authority releases Final Request for Qualifications and Proposals
August 19, 2011	Responses due for Request for Qualifications and Proposals
September 11, 2011	The Authority qualified United Water as selected respondent and began negotiations
March 20, 2012	Memorandum of Understanding reached
August 8, 2012	KKR and United Water acting as Bayonne Water Joint Venture signed 40-year concession with the Authority to operate the city's water and sewerage systems
December 2015	Revenue shortfall from existing rates requires a higher than expected rate increase (13.25% instead of 3.5-4%)

7 *Ratings Update: Moody's Affirms the City of Bayonne's Baa1 Rating and Negative Outlook. Moody's Investor Service. November 5, 2010. https://www.moodys.com/research/MOODYS-AFFIRMS-THE-CITY-OF-BAYONNES-NJ-Baa1-GO-RATING-Rating-Update--RU_16711782.*

8 *State of New Jersey Board of Public Utilities Agenda*. Agenda Item 5B. October 23, 2012.

9 *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

10 Bayonne Water & Wastewater Concession | InfraDeals "Project History". Infra-deals. September 15, 2015. http://www.infra-deals.com/deals/950558/bayonne-water-and-wastewater-concession.html

Key Financial Features and Outcomes

One of the defining characteristics of the model in Bayonne is the structure of concession payments, which include a large upfront concession payment ($150 million) and annual concession fees ($500,000 each year).[11] The upfront outlay was effectively a method of restructuring much of the city's existing utility and general government debt while at the same time generating a modest cash influx for the city. Approximately $125 million of the initial concession fee went towards refunding existing debt, $6.5 million was returned to the concessionaire to cover transaction costs, and the remaining $18.5 was used to support general governmental needs and tax stabilization.[12] Several reports on the project (including a report by one of the Authority's financial advisors) mention the possible creation of a rate stabilization fund using part of the concession fee proceeds; however, according to the City[13], the funds that were available after paying off the outstanding debt were eventually used entirely to meet general fund needs.

Under the terms of the deal, Bayonne Water is responsible for operations, meeting specific operating standards, maintenance up to $500,000 per year, and $2.5 million per year (adjusted by inflation) of capital improvements over the term of the contract. These contractually specified capital investment requirements were one of the key service improvement benefits of this model. Bayonne Water was also required to install approximately $7.5 million in new meter equipment in the first two years to improve billing services and increase revenue capture.[14]

> **"What the partnership does is remove the need for political will for the maintenance of the system. It's hard to imagine politicians committing an equal amount of money to maintaining our water supply."**
>
> *- Tim Boyle, Executive Director, Bayonne Municipal Utilities Authority*[15]

Bayonne Water committed to continuing employment for the Authority's 30 employees for a year after the agreement and to retain 19 employees thereafter. The employees also had the opportunity to take other positions within United Water.[16] Bayonne Water was also required to cover any employee termination costs for up to 12 months. The Authority maintains oversight and monitoring for the system with its remaining staff. The annual concession fee of $500,000 covers this work, along with other costs such as insurance and pension contributions for remaining staff.[17]

To pay for the deal, Bayonne Water issued approximately $110 million in privately placed taxable bonds with a final maturity date of November 2037 and an average life of 18 years. The bonds were priced at par with a fixed 5.07% coupon. Bayonne Water covered the balance of the upfront payment and initial capital obligations with $63.8 million in equity – 90 percent from KKR, and 10 percent from United Water.[18] The cost of capital that will eventually be incurred by ratepayers for the initial outlay under this model includes the debt costs associated with the taxable bonds and the

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[11]Bowen, Mick. *KKR, United Water Price Private Placement Bonds for Bayonne Water Concession*. InfraAmericas. November 21, 2012. Accessed April 18, 2016. http://www.infra-americas.com/registration/login.php?lastUri=/news/usa/1137378/kkr-united-water-price-private-placement-bonds-for-bayonne-water-concession.thtml.

[12] *Order Approving an Agreement to Establish a Public-Private Contract Between the Bayonne Municipal Utilities Authority and United Water Joint Venture, LLC.* New Jersey Board of Public Utilities. Agenda Item 5B. October 23, 2012.

[13] Tim Boyle (Executive Director, Executive Director of the Bayonne Municipal Utilities Authority), phone correspondence with author. April 19, 2016.

[14] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

[15] *A Tale of Two Public-private Partnership Cities.* Knowledge@Wharton. June 10, 2015. http://knowledge.wharton.upenn.edu/article/a-tale-of-two-public-private-partnership-cities/.

[16] Baumann, Joseph. *Public Private Partnerships Case Study: Bayonne Municipal Utilities Authority*. American Water Intelligence Summit Infrastructure Finance Panel. November 14, 2012.

[17] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

[18] Bayonne Water & Wastewater Concession | InfraDeals "Funding Details". Infra-deals. September 15, 2015. http://www.infra-deals.com/deals/950558/bayonne-water-and-wastewater-concession.html

scheduled return on equity to the private partners (reported as being in the “low” double digits).[19] Appendix A shows the key relationships between the public and private partners and the financial flows between the different groups that support the provided services.

The agreement’s structure is founded on a revenue model referred to as the “Revenue Path” model, which is guided by a schedule of revenue requirements to be generated through water and sewer rates. Under the agreement, the concessionaire (Bayonne Water) collects and retains the user fees; however, the Authority is responsible for adjusting rates to generate the required revenues. Under the terms of the initial agreement, the Authority was required to raise rates by 8.5% the first year and then freeze rates for two years.

It was widely reported and presented that beginning in 2015, annual rate increases in the range of 3.5% would be required for the City to meet its contractual revenue requirements. However, after raising rates approximately 4% in 2015, the City was obligated to raise rates 13.25% in 2016 to meet their contractual revenue requirements. This rate increase triggered considerable political debate and media coverage.

Several confounding factors led to the discrepancy between the original projected rate increase and the actual rate increase. First, the agreement is based on required revenues, so if water sales are lower than projected, rates must increase faster and higher than predicted to generate the same amount of revenue. In addition, Bayonne Water’s modeling may have also overestimated the revenue gains that the contractually required meter improvement initiative would generate. According to a representative from the concessionaire, the investments in new meter technology, while reducing water loss, improving meter reading accuracy and customer service, may have actually led to a short term reduction in revenue because of the technology enabled customers to identify and repair leaks and therefore reduce their water purchases.[20] Finally, it appears that the Authority had less access to rate stabilization funds than originally anticipated because the City used the balance of the concession fee for general-purpose uses rather than for rate stabilization purposes. Presentations and articles about the agreement consistently mentioned that $6.5 million of the original concession fee was supposed to be deposited in a rate stabilization fund and that $18.5 million was to be provided to the City of Bayonne for general purposes. According to the Authority’s executive director, Tim Boyle, who began working several years into the agreement, the City ended up not being able to use any of the concession fees to offset rate increases; instead the City used concession fees to meet general fund shortfalls.[21] The Authority’s service area is concurrent with the city taxpayer boundaries such that there is considerable overlap between taxpayers and water and wastewater customers.

The discrepancy in promised (or at least perceived to be promised) rate adjustments and actual rate adjustments highlights the difference between revenue risk and rate setting/demand risk. The agreement did not change the Authority’s exposure to revenue risk. Prior to the agreement, if demand fell the Authority would have had to increase rates to maintain stable revenues. Under the agreement, the Authority is obligated to generate specific revenue levels, and if current customer demand falls or if the Authority loses customers, the Authority is still responsible for adjusting the rates to generate contractually set revenue limits.[22] Risk transfer by definition leads to the potential that one party can incur significant costs if certain outcomes occur. In the case of Bayonne, it was never envisioned that demand risk was transferred to the private party since the City maintained ownership, yet high profile promises of “rate” stability as an outcome of the agreement may have masked the fact that demand risk was not transferred. Strong disagreements remain over why the projected revenues were so much lower than expected.

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[19] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

[20] Patrick Cairo (Senior Vice President, Corporate Development, Suez), email correspondence with author. August 31, 2016.

[21] Tim Boyle (Executive Director, Executive Director of the Bayonne Municipal Utilities Authority), phone correspondence with author. April 19, 2016.

[22] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

It is important to note that the public sector also retains the upside of demand variation if it occurs – if demands increase and lead to rate revenues that are greater than the required amount, a portion of the surplus returns to the Authority. In many respects, the Revenue Path Model is conceptually closer to a regulated Rate of Return Model than a comprehensive concession agreement in capital investments. Investor return (profit) on the part of the private entity is very closely monitored and bounded. The "sharing model" approach used in Bayonne takes advantage of some of the incentives described in a recent paper prepared by the US Treasury Department that specifically examined new hybrid models for crafting partnerships.[23] The Executive Director of the Authority stressed that the Bayonne model, while similar to a private regulated model, has a significant differences in that the City of Bayonne will benefit from years of required capital investment during the contract, but at the end of the contract will have full ownership of the assets, which would not be the case with full privatization.[24]

The agreement does shift some risks to the private entity (see Table 3). Some of the risks shifted to Bayonne Water include: cost overruns for meter replacement, cost of service and other costs related to the system (including repayment of any debt relating to the agreement), and increases in operating costs.[25] Other risks that remain with the Authority (and ratepayers) include capital expenses greater than $2.5 million per year, pass through third party water and wastewater treatment cost increases above 2% per year, and force majeure events (new regulations, etc.) causing costs to increase more than $3 million in one year. These shared risks also make the Revenue Path Model similar to a Utility Commission regulated water utility model, with the ability to pass some costs on to ratepayers and an embedded target rate of return within the contract calculations. Bayonne Water has relatively little risk that its return will fall dramatically; however, it also has limited ability to generate any type of windfall profits. It can only increase its profits by decreasing operational or debt service costs.[26]

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[23] *Expanding the Market for Infrastructure Public-Private Partnerships: Alternative Risk and Profit Sharing Approaches to Align Sponsor and Investor Interests.* Report. April 2015. https://www.treasury.gov/connect/blog/Documents/Treasury%20Infrastructure%20White%20Paper%20042215.pdf.

[24] Tim Boyle (Executive Director, Executive Director of the Bayonne Municipal Utilities Authority), phone correspondence with author. April 19, 2016.

[25] Rogoza, Rafal. "Bayonne Approves 40-year Deal with United Water; Water Rates to Rise 8.5%." The Jersey Journal. August 07, 2012. http://www.nj.com/jjournal-news/index.ssf/2012/08/bayonne_municipal_utilities_au.html

[26] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

Table 3. Select Risk Responsibilities under the Bayonne Water and Wastewater Concession Agreement

Risk Category	Responsible Parties	Description
O&M	Bayonne Water	Responsible for most operational costs, capital expenses up to $2.5 M / year, and cost overruns for meter replacement
	Ratepayers	Responsible for increases in water and wastewater treatment costs in excess of 2% per year, capital expenses over $2.5 million per year, increases in operating costs over 2% per year, and pass through water purchase and wastewater treatment costs
Performance	Bayonne Water	Required to meet contractual performance standards
Law / Regulation changes	Bayonne Water	Responsible for changes causing cost increases up to $3 million per year
	Rate payers	Responsible for changes causing increases over $3 million per year
Demand	Rate payers	Bayonne Water is assured aggregate revenue levels; if demand is lower than projected that could lead to higher than projected rate increases
Debt/Financial	Bayonne Water	Responsible for debt related to concession fee; payment for concession fee is converted to contractually required annual revenue payments
Catastrophic	Bayonne Water	Responsible for events causing cost increases up to $3 million per year
	Rate payers	Responsible for events causing increases over $3 million per year
Oversight and monitoring	Rate payers	Responsible for a fixed fee that is incorporated into revenue requirements

One of the major selling points of this arrangement was that it would smooth out rate increases in a way that would lead to lower customer rates than if the utility provided similar services without the concession agreement (Figure 1). Based on an initial analysis carried out by the City's financial advisor, the rates under the public private partnership model were projected to eventually surpass what they may have been under public management, but this would not occur until far out into the contract (year 25).[27] While the rate increase in 2016 was higher than projected, the average rate increase over the first 5 years of the contract of just over 5% is still comparable to rate increases in many utilities across the country.

[27] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.

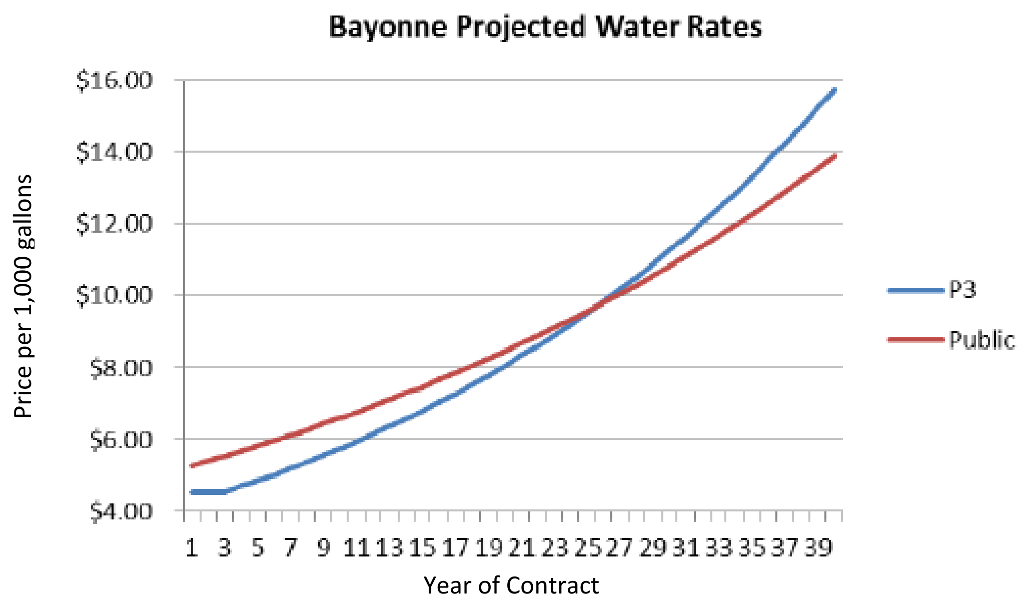

Figure 1: Bayonne Projected Water Rates[28]

What is not measurable is the increased reliability of the system, which can be attributed to the required annual investments that would not be assured if O&M responsibility remained with the Authority.

Despite controversy over resulting rate increases, the deal has led to some positive changes in the City's overall financial health. For example, the City's credit rating was shifted to stable from negative almost immediately after the deal closed and has improved since entering into the agreement (currently A3 by Moody's). According to a recent Moody's Rating, the upgrade to A3 from Baa1 reflects the elimination of the City's reliance on cash flow borrowing which was partially made possible by the concession agreement. The rating also incorporates the City's continued heavy reliance on one-time revenues to fill its structural gap.[29]

[28] *Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded*. NW Financial Group LLC. April 1, 2013. http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf.
[29] "Rating Action: Moody's Upgrades Bayonne, NJ's GO to A3." Moody's Investor Service. March 07, 2016. https://www.moodys.com/research/Moodys-Upgrades-Bayonne-NJs-GO-to-A3--PR_903128471.

Appendix A. Simplified Project Financial Flows

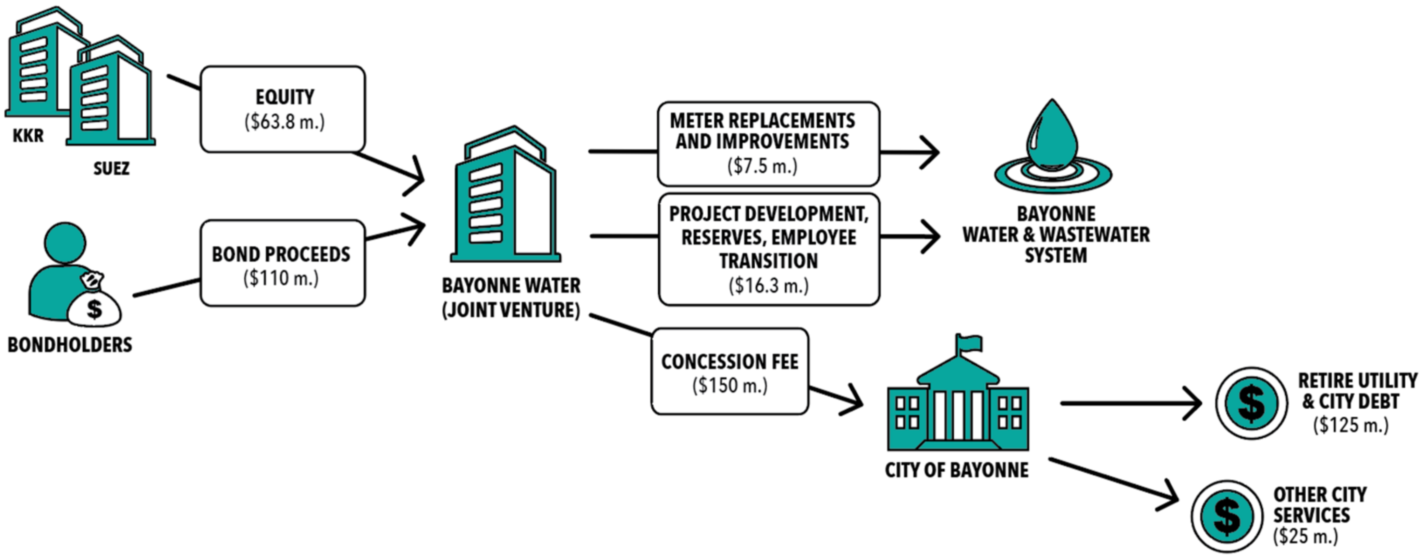

Figure 2. Flow of Initial Project Outlays

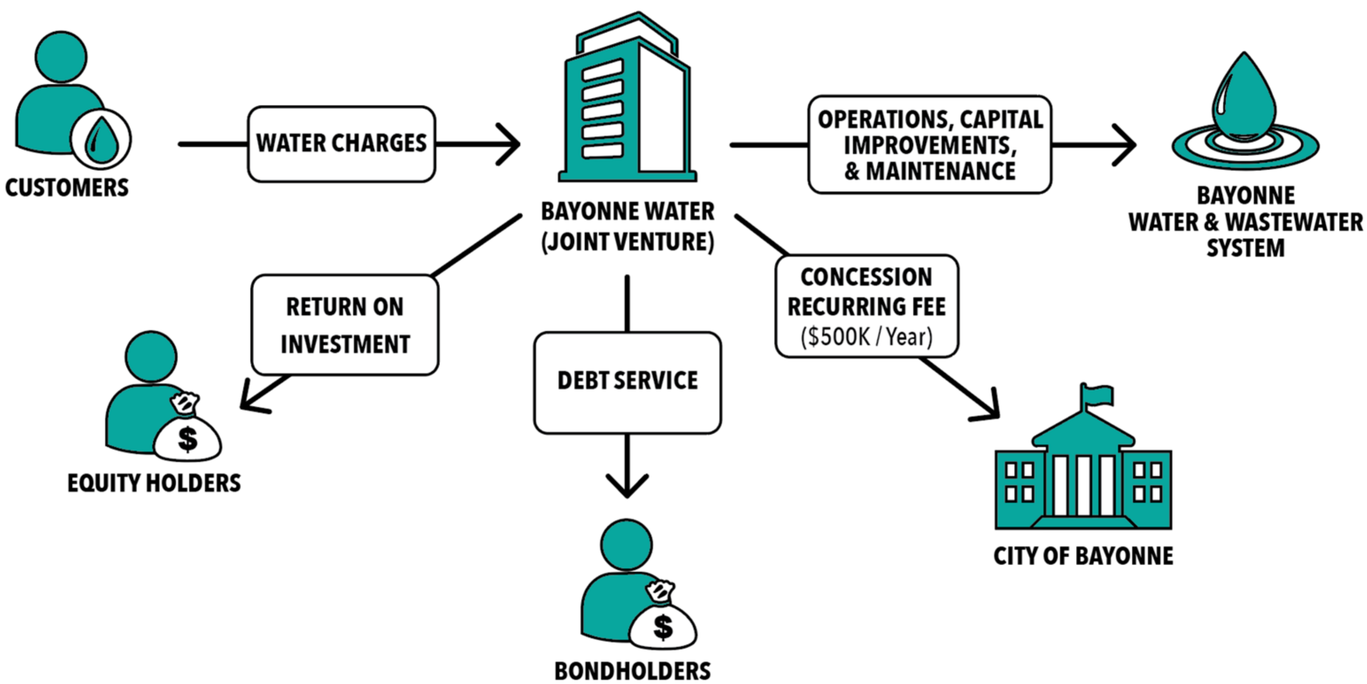

Figure 3. Recurring Financial Flows

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The Water Infrastructure and Resiliency Finance Center identifies financing approaches to help communities make better informed decisions for drinking water, wastewater, and stormwater infrastructure that are consistent with local needs.
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