Overview
The water sector is one of the most capital-intensive utilities in the United States, more so than other regulated utilities such as electric, gas, and telecommunications. It is estimated that capital needs will continue to climb until 2040 and will translate into increased rates of 3% or more above inflation on an annual basis. The reasons for these increases include the need to replace deteriorating infrastructure (such as facilities and distribution systems), new and more stringent regulatory requirements, and population growth (Olstein et al. 2009).

The American Water Works Association (AWWA) found that investment needs for buried drinking water infrastructure could total more than $1 trillion nationwide over the next 25 years (AWWA. n.d.). In the early 1970s, the federal government funded major infrastructure investments, but now utilities will have to fund infrastructure projects on their own by justifying their needs to their governing boards and stakeholders. The federal government helps by providing funding through the Drinking Water State Revolving Fund and Clean Water State Revolving Fund. Total funding available through the revolving loan programs varies each year. However, the

Quick Facts
• Investment needs in buried assets in the United States could total more than $1 trillion over the next 25 years
• New revenue is needed to compensate for decreasing government funding and loans
• Utility implementation of integrated planning processes can be key to establishing financial sustainability
• Conducting a 4-step financial planning strategy can help utilities meet future funding needs

UTILITY FINANCE
Financial Planning

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amounts fall far short of what is needed on a national scale to fund necessary drinking water projects.

To meet these challenges, water utilities should conduct an integrated planning process that consists of three important components: strategic business planning, capital planning, and financial planning.

**Strategic Business Planning**
A strategic business plan addresses a water utility’s mission and goals, and identifies the organization’s key business challenges. These challenges typically include customer demand and economic development, political factors, conservation and demand management, deteriorating infrastructure, environmental regulations, and human resources considerations, among other topics (Raftelis 2005).

A strategic business plan incorporates specific implementation steps and is usually written for a scope of 3 to 10 years, though it should be updated annually. The planning process should also include opportunities for stakeholder participation and education (Raftelis 2005).

**Capital Planning**
A capital plan, also called a capital improvement plan or capital investment plan, addresses the major investments needed to fulfill the strategic business plan for the long term (typically through a 20- to 30-year facilities master plan). The plan identifies the most important capital items in which to invest (Raftelis 2005).

A number of problems can affect a water utility’s capital program. These include rising materials costs, rising construction costs, increased energy costs, project timing, and project selection. In addition, many water utilities say they are shorthanded in their capital program and have difficulty finding new hires. Possibly the biggest cost driver is the risk-averse nature of municipal utility contracts that places most of the risk on contractors (Olstein et al. 2009).

According to a 2001 survey, most water utilities create capital plans with 5-year time frames. Senior management is involved in all key steps of the plan. In addition, most capital plans are updated annually during the utility’s overall budget development process (Beaudet et al. 2001).

A capital plan should identify a uniform approach to developing and managing the capital program. For instance, one area of focus should be how the water utility selects projects for funding. One solution would be to adopt a consistent and transparent process, develop a business case for each project—including an economic analysis—and then rank each project to establish priorities. Seattle Public Utilities, for example, has implemented a similar process for projects costing more than $250,000, resulting in a 20% reduction in capital spending (GWRC 2009).

Along with establishing a uniform process for selecting capital projects, water utilities can improve capital planning by adopting construction best practices, implementing benchmarks and performance metrics, and using lighter construction alternatives, among other approaches (Olstein et al. 2012).

**Financial Planning**
Given that water utilities face difficult challenges in meeting future funding needs while assistance from many traditional sources is declining, it is critical for water utilities to develop effective financial planning strategies. These strategies have four steps:

**Step 1. Generate a capital financing plan.** Water utilities should assess options for financing the facilities identified as part of the capital plan. Financing alternatives include bonds, state revolving funds, grants, short-term financing, and developer contributions, among other options.

**Step 2. Establish annual operating and capital revenue requirements.** Water utilities should estimate annual revenue requirements, along with expenses to implement the business strategy and the costs for financing alternatives, for a 5-year period.

**Step 3. Determine fees and charges.** Customer fees and charges can be determined based on the estimated revenue requirements. For instance, water utilities may assess one-time fees to upgrade, expand, or develop new facilities.
An integrated planning process helps utilities face the challenges of necessary upgrades, scarce funding, added regulatory requirements, and revenue declines from a decrease in customers’ water use.

**Step 4. Assess the impact on customers.** As part of this assessment, utilities should factor in that different customer classes will consume varying amounts of water. This will help gauge how many customers will be affected by the capital programs (Raftelis 2005).

**References**


