

## WSSC Commissioners Scholarship (Prompt 3)

By: Johnell McConnell

Interconnectedness is essential when addressing natural resources, social inclusion, and economic efficiency, as these elements influence one another. Natural resources like water are vital for life, but access to clean water can vary significantly, often affecting disadvantaged communities. WSSC Water, as a major utility provider, plays a crucial role in ensuring equitable access to safe and affordable drinking water.

Equity in water access – especially in disadvantaged and underserved communities- can be achieved through a combination of data-driven insights, public participation, and innovation. For data-insight, we must first clearly understand which communities are being affected. Customer data should be collected and then mapped using a GIS program to better visualize where the socioeconomically challenged and disadvantaged areas are located. Additional heat mapping layers can be added based on bill delinquency rate, critical customers, usage data, as well as infrastructure age and reliability. This information would provide a better understanding of where the water inequities exist, and which areas are in critical need for infrastructure improvements.

Once we understand where the needs are, we can develop effective methods for public participation. This is essential for crafting solutions and ensuring social inclusion, allowing WSSC Water to hear from socioeconomically challenged and underserved customers. Meaningful participation means involving affected communities early and incorporating diverse viewpoints, which helps build strong relationships. It is a continuous process that should adapt as necessary. For example, if a town hall meeting has low attendance, a block party-style gathering might be more effective.

The ultimate measure of a successful public participation campaign is when underserved communities feel empowered to advocate for their own needs and when everyone feels respected and supported.

Moreover, WSSC Water must cultivate a culture of social inclusion within its organization by building a diverse workforce that reflects the communities it serves. A diverse and inclusive workforce creates a larger pool of experiences that can be shared which results in better and deeper understanding of possible obstacles to social inclusion and water inequities. In addition, during public outreach events, representation can also make people feel valued, understood, and included.

Building trust within communities is crucial for the success of any public participation initiative. When communities feel heard, they are more likely to embrace solutions such as conservation efforts and home repairs.

Conservation is the simplest method to reduce a water bill. WSSC Water can develop an inclusive outreach program educating customers the simple ways to reduce water usage such as turning off faucets when not in use and shortening showers. More elaborate water reduction programs could be developed based on the effects of being in a low socio-economic status. For many individuals in low socio-economic status, home repairs are often overlooked, yet small fixes—such as replacing a leaky toilet flapper—can have a significant impact on water conservation. WSSC Water could implement a “Toilet Flapper Take-Back” program, which would educate residents on how to replace faulty flappers and offer a trade-in program for old parts. This could lead to substantial savings for residents (possible savings from \$300 to \$9000 a year) and reduce water waste.

Although customers being more efficient with their water usage can be a double-edged sword for a utility company because of less revenue and funds to spend on infrastructure projects. It can also be said, however, that improved water conservation can also reduce or delay the need to expand water treatment facilities. The cost of infrastructure improvements can be costly so if expansions are not needed then this would result in savings for the utility. Even if the expansions were delayed, this would give the utility additional time to evaluate its needs more fully.

Regardless of whether water treatment systems will need an upgrade, WSSC Water should proactively find ways to be more economically efficient. One way to become more economically efficient is through innovation. Innovation should not only be new technologies and practices to increase productivity, but WSSC Water should also connect innovation with creation of new products available to sell as well as innovative ways to bill for water and sewer services.

WSSC Water has potential revenue sources beyond drinking water and sewer treatment. Even though WSSC Water already has a new source of revenue through its bioenergy facility with the creation of energy through methane gas, WSSC Water’s treated effluent from its WRRFs and the Class A biosolids from its bioenergy facility present untapped opportunities. According to EPA regulations, Class A EQ (Exceptional Quality) biosolids can be sold directly to the public for home gardens, providing potential revenue. Additionally, WRRF effluent could be supplied to businesses that do not need drinking water for its processes or needs, such as irrigation of non-food crops and other landscaping, or in certain industrial processes. By utilizing treated effluent rather than drinking water, this would reduce the demand for drinking water and associated costs.

WSSC Water can also consider alternative billing structures to balance affordability, conservation, and revenue stability. Currently, the billing structure is based on usage and the unit price. While this method of billing is equal to all users, it is not necessarily equitable. By

mapping customer data and infrastructure reliability, WSSC Water could develop targeted billing options. For example, customers whose income falls below an established threshold (e.g., incomes at or below the federal poverty level) could receive a discount directly related to their income. Or a different billing structure can be developed for residential, commercial, and industrial customers. An evaluation can be made to examine whether larger commercial and industrial users incur higher costs for water supply, which may warrant higher rates.

Clean water is a fundamental need that connects all of us, and ensuring equitable access to it is key to fostering social inclusion. By embracing innovation, data-driven insights, and community engagement, WSSC Water can provide affordable clean water for generations to come. Economic efficiency, through better resource management, public engagement, and innovative revenue strategies, will ensure the sustainability and effectiveness of the utility.