Robbins Residential Drinking Water: Seeking Sustainable Solutions

The Center for Neighborhood Technology
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Residents in the Village of Robbins - a primarily African American community in deindustrialized Cook County, just south of Chicago, IL – are concerned about the affordability of their drinking water. The Center for Neighborhood Technology (CNT) contacted the RainReady Robbins Steering Committee, a committee of residents committed to raising Village quality of life, for assistance in identifying sustainable solutions to chronic problems with their municipal water system.

Like many other suburban municipalities in Cook County, IL, Robbins purchases treated Lake Michigan water from the City of Chicago.[1] However, Robbins resident water bills are higher than 80% of all municipalities that purchase from the City of Chicago.[2] Adding insult to injury, Village bills are soon to increase due to a recent lawsuit filed by Chicago against Robbins. The judgment requires that the Village accelerate payment of the $15 million owed to the City for years of past due water supply bills, late fees, and the judgment balance.[3] IL statute requires that the City of Chicago must continue to deliver drinking water to Robbins, meaning the Village will continue to be billed for water services and will likely continue to accumulate debt.

Nationally, and counterintuitively, per-gallon water bills in low-income communities are on the rise, largely due to decreased water sales resulting from local population decreases based on lack of local opportunity. With fewer people, each household must pay more to maintain the same infrastructure. Per-gallon charges are greater because the base cost of water is not the largest cost to the consumer. Further, legacy infrastructure nearing the end of its service life coupled with historically low levels of investment in infrastructure inflates costs of water service. The resultant water bill increases create issues of consumer unaffordability or an inability to pay, citywide water shut-offs, and even evictions or foreclosures due to unpaid bills.[4] Many water utilities work to offset the water bill burden by offering short-term bill assistance programs, and helping income-eligible homeowners identify leaks

[1] Holland, S. (2018) Chicago Says Robbins, Dolton diverted water funds, owe millions in unpaid Lake Michigan water bills. https://cookcountyrecord.com/stories/511381161-chicago-says-robbins-dolton-diverted-water-funds-owe-millions-in-unpaid-lake-michigan-water-bills

[2] Gregory, T., Reyes, C., O'Connell, P. M., Caputo, A. (2017) Same Lake, Unequal Rates. Why our water rates are surging—and why black and poor suburbs pay more. https://graphics.chicagotribune.com/news/lake-michigan-drinking-water-rates/index.html

[3] Holland, S. (2018) Chicago Says Robbins, Dolton diverted water funds, owe millions in unpaid Lake Michigan water bills. https://cookcountyrecord.com/stories/511381161-chicago-says-robbins-dolton-diverted-water-funds-owe-millions-in-unpaid-lake-michigan-water-bills

[4] Center for Neighborhood Technology (2018) Great Lakes Water Infrastructure Project Issue Brief: Lead in Drinking Water. https://www.cnt.org/sites/default/files/pdf/IssueBrief_Lead.pdf

and other inefficiencies in home systems to reduce overall water use and lower the usage portion of water bills.[5, 6]

Robbins' ability to provide its own customers with some bill relief is limited. The Village's water system is unmetered, meaning that there is no mechanism to track customer usage, so it must rely on a flat rate to collect revenue. Older Americans living in Robbins do have a reduced flat monthly rate, but that is the extent of Village assistance programs. This means that although customers throughout the Village may use significantly different volumes of water, all pay the same monthly rate.[7] Without meters and usage-based rates, or even fixed rates that are based on income and an ability to pay, Robbins water consumers have limited control over improving the affordability of their monthly water bills.

It is significant to note that the majority of Robbins residents have kept up with their water bill payments to the Village which indicates that individuals remain engaged and committed to their community. While disappointment over the Village's legal predicament and obligations to Chicago are significant, Robbins may be able to recover some residential confidence with proactive, progressive policy and practice to reduce the water-cost burden on rate payers.

Over the past year, the Center for Neighborhood Technology (CNT) initiated the search for solutions in this case by first reviewing water and other utility rate structures in Cook County and in the US generally, then looking at ways that the Village may reduce water distribution through use of renewable energy, and finally, reviewing actions that residents of Robbins might take to improve overall household affordability, beyond their water bills. This is what CNT found:

Utility Rate Structures

In *Cost Allocation and Rate Design for Water Utilities* [i8] Beecher et. al. identified three major stakeholders in rate-setting discussions: The utility; the consumer; and society. The article outlines the gold standard for rate setting, which balances 1) the utility's need to recover a fair return of revenue sufficient to cover the continued operation and future capital investment, 2) the consumer's desire to have a fair rate that is affordable and 3) society's desire to have an equitable and sustainable use of water resources for current and future generations. Beecher et. al., goes on to say, ideally, "this means setting rates that generate revenues from each user group equal to the cost of serving that group." Though it is controversial and freighted with larger questions in the current global economic climate, commodification of the full costs for delivering water for residential use appears necessary to set an effective price for end users. In other words, many individuals have qualms about charging a price for something so essential to life, but we have to establish a way to pay the full costs of this service or vulnerable communities will suffer great harm.

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[5] Wayne Metropolitan Community Action Agency (2019) Water Residential Assistance Program http://www.waynemetro.org/wrap/

[6] USEPA (2016) Drinking Water and Waste Water Utility. Customer Assistance Programs. https://www.epa.gov/sites/production/files/2016-04/documents/dw-ww_utilities_cap_combined_508.pdf

[7] *Your Water Is Changing.* (n.d.) The Village of Robbins Office of Administration. Retrieved from www.mywaterbill.org

[8] Beecher, J. A. (1994). *Revenue effects of water conservation and conservation pricing: Issues and practices*. Columbus, OH: National Regulatory Research Institute. Retrieved from http://ipu.msu.edu/wp-content/uploads/2016/12/Beecher-Mann-Hegazy-NRRI-Revenue-Effects-1.pdf

Two examples of US urban communities that have attempted to tackle the problem of delivering water to diverse populations are Denver and Philadelphia.[9] [10] Denver Water (DW) recognized the need to fund capital improvements while enhancing affordability for low-income residents. DW restructured their rate scale by using increasing block rates which charge a greater rate per gallon for those customers who use greater amounts of water. DW set by-the-household baselines for essential indoor water use (e.g. drinking, cooking, and cleaning) during winter months to compare with less-essential outdoor use. DW also sought to account for larger households and the resulting rates increased the fixed rate and the per-gallon rate for every customer.

Despite Philadelphia Water Department (PWD) initiatives to support a substantial low-income community through financial and conservation efforts, rate payers owed $170 M in unpaid water bills. PWD collaborated with consumer advocates to develop a Tiered Assistance Program (TAP) which limited water bills to a defined percentage of monthly household income. Further, PWD partnered with a network of Philadelphia NGOs to market TAP to the target users and simplified the application process to avoid the barriers seen in earlier programs.

Recommendation: Engage Financial Professionals to Establish a Sustainable and Flexible Rate Structure

Setting an equitable and economically accurate per-unit price for residential drinking water is a deceptively complex undertaking. As Beecher, Mann, and Hegazy[11]point out, pricing that accounts for long-term investment in water infrastructure, provides discount flexibility to serve low-income residents, ensures constant delivery of a wholesome product, and requires specialized knowledge and capacity to collect and examine community water-use data. As Robbins moves to reform its water pricing, we strongly recommend contracting with a firm that specializes in water/utility pricing.

Reducing Water Distribution Costs to the Village of Robbins

CNT sought ways to reduce water distribution costs to the Village – and, ultimately, the rate payers – through use of renewable energy. Illinois' massive Future Energy Jobs Act (FEJA), reforms renewable energy production and delivery while specifically supporting low-income communities with funds to establish community solar projects. We received advice from a variety of energy consultants and entrepreneurs strongly suggesting that using solar arrays to supply power for water distribution was an excellent choice. Peak demand for electricity for water distribution matches well with peak production of photovoltaic cells.

Solar Power for Water Distribution

Adding a solar energy component to Robbins' water-distribution portfolio offers a significant and attainable financial benefit for the Village and, ultimately, for residential rate payers. New Illinois

[9] Center for Neighborhood Technology (2018) Integrated Water Resource Management Case Study: Denver Water Rate Setting. https://www.cnt.org/sites/default/files/pdf/CaseStudy_Denver.pdf

[10] Center for Neighborhood Technology (2018) Integrated Water Resource Management Case Study: Philadelphia Water Rate Setting. http://www.cnt.org/sites/default/files/pdf/CaseStudy_Philadelphia.pdf

[11] Beecher, J. A. (1994). *Revenue effects of water conservation and conservation pricing: Issues and practices*. Columbus, OH: National Regulatory Research Institute. Retrieved from http://ipu.msu.edu/wp-content/uploads/2016/12/Beecher-Mann-Hegazy-NRRI-Revenue-Effects-1.pdf

legislation, FEJA, provides remarkable incentives for communities to install solar panels. FEJA specifies financial, administrative and technical support for low-income communities in its Community Solar and Solar for All aspects which make it feasible for Robbins to operate and gain benefit from installation without unrealistic up-front costs. There are dynamic, emerging capital groups with expertise in establishing solar arrays for the applications we describe here and they are quite eager to serve a community like Robbins.

As a result of our research, CNT also makes the following recommendations for establishing a long-term sustainable system for Robbins water delivery:

Install Water Meters

Unmetered residences give no useful feedback to help rate payers conserve water or reduce costs. Giving control and information to water end-users through accurate and trusted water-meter readings is a significant long-term strategy for Robbins to get on top of its water usage. Improved access to this fundamental technology will greatly enhance resident ownership of their use, especially if accompanied by a strong public-service marketing campaign.

Repair Leaks

Water loss caused by leaks in the municipal system not only wastes a great deal of water, but burdens Robbins as the Village cannot recover the cost of water that is lost before it reaches homes. Modern leak-detection equipment can frequently pinpoint locations of many underground service defects so that they may be repaired efficiently. Ultimately, a Village-wide program to repair leaks in and around homes can reduce costs for residents as well as the Village.

Improving Household Affordability

In addition to lowering water bills through metering and leak repair, residents can apply some of the same principles to reduce household gas and electricity costs through weatherization and adding smart thermostats and appliances. Many of these energy-efficiency enhancements are subsidized by the utilities that serve customers as well as through grants and state statute.

Conclusion

Robbins faces challenges to relieve its municipal debt and to continue to deliver affordable water service to residents. Enhanced statutory financial incentives as well as upgraded private and public infrastructure can help move the village toward a stable and more resilient foundation.

FEJA's many incentives for low-income communities make possible solar arrays for precisely the kind of renewable energy project to power Robbins' residential water distribution. There are many for-profit and non-profit firms available to partner with the village and bring substantial solar power online. Such an installation would reduce overall costs for Robbins as well as the opportunity for construction and operation training and jobs.

Robbins' un-metered, flat water rate, one of the highest per household in the region,[12] offers no incentive for rate-payers to conserve water. This lack of market information results in greater water

[12]Gregory, T., Reyes, C., O'Connell, P. M., Caputo, A. (2017) Same Lake, Unequal Rates. Why our water rates are surging—and why black and poor suburbs pay more. https://graphics.chicagotribune.com/news/lake-michigan-drinking-water-rates/index.html

consumption for the village and thus higher costs than would be incurred if metered rates were in force. Adding meters to all residences should be a top objective of any sustainable strategy.

Robbins water rate-payers have consistently paid their bills on time in and their desire to meet personal obligations should be considered a very strong asset as the village seeks long-term equity and sustainability. When formulating water and other municipal rates going forward, Robbins community leaders should avoid relying too heavily on the good will of residents. If over-burdened with unsustainable utility rates, Robbins risks having this good will evaporate as monthly bills go unpaid.