Smart Meters Detect Leaks

By Dr. Larry Sunn and Dr. Steven Grainger

A class we deliver from 12:00 to 1:30 at the Bulverde Mammen Family Library on Monday, July 7th, titled *Finding & Fixing Household Leaks*, focuses on the things we all can do around our home to reduce our respective family's water use. How would you like to also have leaks detected automatically by your water meter? Yup, when we experience the water-conserving benefits of the Texas Water Company's (TWC) new smart meters, we'll welcome all this innovative system has to offer.

Currently, about 75% of the meters in TWC's seven-county service area have been upgraded with smart meter capabilities and full implementation is expected by the end of 2026. The transition to smart meters is part of a broader water industry shift to reshape how water is more accurately measured, billed, and conserved. The meters automatically record and transmit water use data gathered via automatic transmissions that refresh frequently all day long. This data provides a detailed view of our water consumption, gives TWC more accurate billing information, and provides customizable alerts for things like leaks in our homes.

TWC's move to smart meters began with a 2021 pilot program that installed and tested 800 smart meters. That pilot validated that TWC was able to transition away from their costly and labor-intensive drive-by system, where meter readers collected data manually. The new smart meter system uses a model of strategically placed neighborhood receivers that wirelessly transmit water use data. In addition to better accuracy in customer billing, a superb benefit of this conservationist shift is that it reduces vehicle emissions, minimizes road wear, and improves overall operational efficiency, allowing TWC to focus more resources on infrastructure upgrades, service reliability, and long-term water supply.

Three years ago, TWC started installing smart meters for all newly installed services and for all meter replacements. Installations expanded in 2023 and 2024 to cover more areas, including Canyon Lake, Bulverde, Kendall County's western area, and Bandera County's eastern region.

Today, TWC collects about 20,000-meter readings every day from the installed smart meters, but the benefits go well beyond convenience—easily identifying undetected water leaks. One conservation success story involves a customer who knew their irrigation system was not running, yet their usage data showed higher water consumption. Interested in reducing their bill and complying with water restrictions, they checked their usage online and discovered they had a leak. The problem was quickly fixed thanks to their smart meter's detailed portal data.

"That's the kind of immediate data retrieval and water use insight customers didn't have before," said Robbie White, Customer Service Field Supervisor. He continues, "Meter reads are collected more frequently and with fewer errors, helping our customers gain more accurate water use data and better targeted billing; the new smart meters can rapidly generate alerts that help prevent wasted water and costly surprise bills."

An additional cost-saving benefit that is passed on to us lies in TWC's altered personnel assignments. With fewer manual readings to make, their staff spend less time driving around, allowing far more time to work on system infrastructure maintenance. Although the smart meter initiative was designed to streamline meter reading and reduce costs, its broader benefits quickly became clear. The system supports TWC's conservation agenda by detecting leaks early, helping customers manage their consumption, while markedly improving the utility's ability to oversee system-wide resources.

"Conservation is an important benefit of this program," said Suzanne Williams, Water Conservation Supervisor. "Customers are catching issues they never would have noticed with traditional meters, helping us save every drop."