Santa Fe Water Division

Fostering a long-standing culture of water efficiency

Project at a Glance

Utility Overview

- Utility: Santa Fe Water Division
- Location: Santa Fe, New Mexico
- Population served: 80,000
- Service area: 37 square miles

Challenges

- Declining water availability and reliability
- Anticipated rapid population growth
- Climate change

Solution

- Diversified water conservation and efficiency programs, projects, and regulations that promote decentralized infrastructure.

Costs and Funding Sources

- Total conservation program budget: ~$223,300
- Levee fund. The levee fund is a conservation fee collected from utility customers each billing cycle. These funds become part of the Division's operating budget.
- Conservation Fund. The conservation fund is fueled by an annual fee and can be used on any of the Division's various conservations program. Any unused funds from this annual fee roll over into the next year.

Benefits

Increases water supply reliability and availability

Reduces individual residential and commercial customer water and sewer bills

Reduces peak summer water demands

Reduces short and long-term system costs

Reduces energy consumption associated with water production, treatment, and distribution

Reduced per capita utility customer demand by 42% since 1995

Gallons per capita per day (GPCD) reduced from 163 in 1995 to 90 in 2017

Total water system demand is down ~30% as compared with 20 years ago

95% of Santa Fe citizens self-reported conserving water

BACKGROUND

The City of Santa Fe, New Mexico is located near the Rio Grande Valley at the Southern end of the Rocky Mountains and is surrounded by the foothills of the Sangre de Cristo Mountains. The city covers 37 square miles and has a semi-arid climate with hot summers and low-humidity winters. It averages over 300 days of sunshine a year.

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CHALLENGE

The City of Santa Fe's Water Division (the Division) is responsible for managing the city's drinking water supplies, including the distribution of drinking water within the city limits, the city's water reuse and water conservation programs, and municipal watershed management. The city relies on three water sources to meet its local demand: (1) the Santa Fe River, (2) the Rio Grande, and (3) groundwater from the Tesuque Formation Aquifer.

Santa Fe faces challenging water availability, reliability, and quality concerns:

- **Limited and variable surface water supplies;**
- **Declining aquifer levels from overreliance on groundwater supplies;**
- **Slow groundwater recharge;**
- **Climate change; and**
- **Expected rapid population growth.**

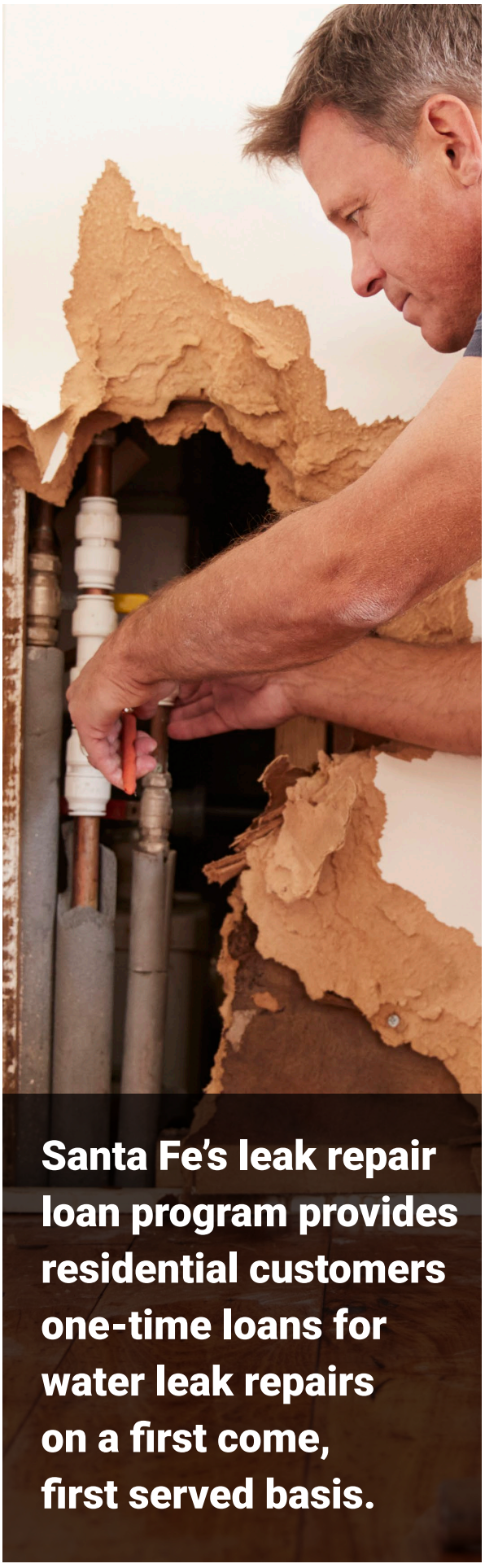
Due to these and other factors, in 2015 the Division's "Santa Fe Basin Study" found an average supply gap of 6,342 acre-feet per year (AFY) to 9,932 AFY by the year 2055 based on projected population increases and projected reductions in available surface water supply due to climate change.

SOLUTION

To address these water supply challenges, Santa Fe uses both regulatory and financial tools to implement water conservation and efficiency strategies in the community. This dual approach established conservation mandates and offered financial incentives for water-saving retrofits.

Regulatory Mandates

In 1997, Santa Fe adopted a "Comprehensive Water Conservation Requirements Ordinance" meant to reduce per capita water demands via water conservation regulations that apply to all water—potable or effluent—and all customers of city water or wastewater services.



Santa Fe's leak repair loan program provides residential customers one-time loans for water leak repairs on a first come, first served basis.

The ordinance establishes a range of water conservation requirements, including for:

- Conservation signage;
- Leak repair;
- Standards for plumbing fixtures (e.g., toilets, faucets, and shower heads, for new and remodeled construction and retrofit for all nonresidential water users);
- Restaurant customer water service by request only;
- Hotel customer linens service limitations;
- Daytime outdoor irrigation prohibitions from May 1 to October 31;
- Encouraged gray water use;
- Discouraged planting of cool season grass;
- Turf restrictions for sports fields and golf courses;
- Requirements that new projects offset their water demand.

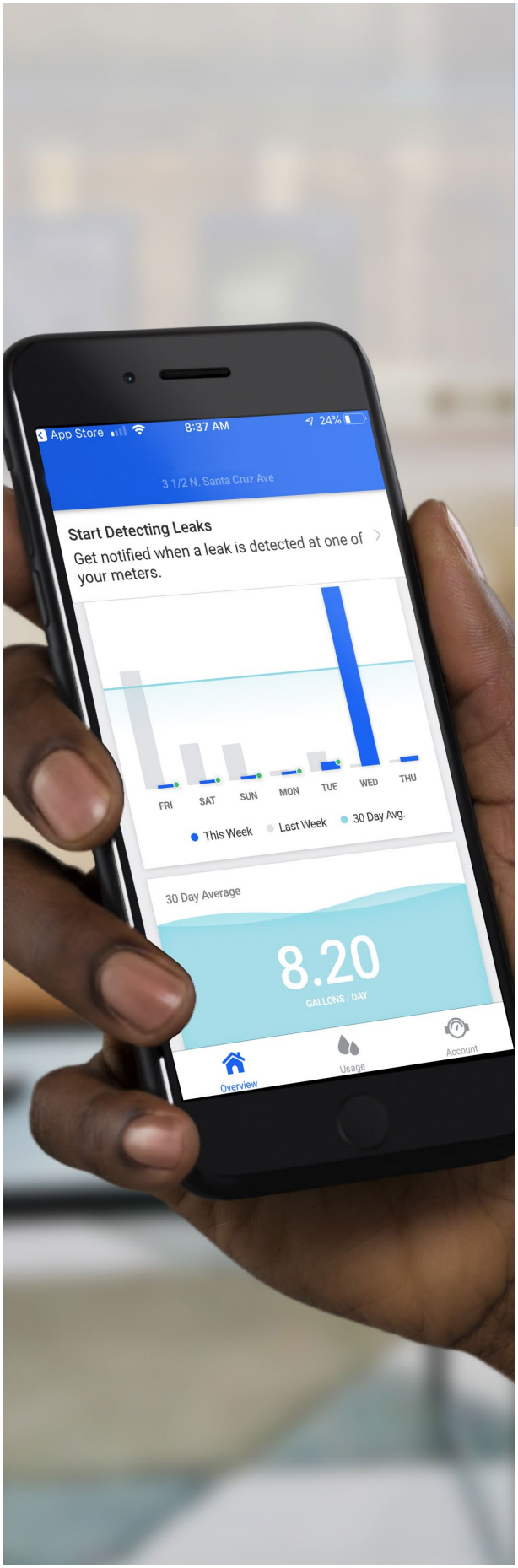
Financial Incentives

To implement Santa Fe's regulatory mandates, the Division also established multiple financial programs for ratepayers. The Division rolled out a domestic water leak repair loan program and comprehensive water conservation rebate programs.

Leaks are an avoidable drain on the city's limited clean water supply, but the cost of leak repairs can be prohibitively expensive for some residential customers. Santa Fe's leak repair loan program provides residential customers one-time loans for water leak repairs on a first come, first served basis. This helps residents meet conservation requirements and avoid penalties for noncompliance.

To support customers facing challenges paying for water conservation efforts, Santa Fe also covers the costs of meeting conservation regulatory requirements for developers building low-income housing, provides free efficient shower heads, and has a partial rebate available for high water bills caused by a leak that's been subsequently repaired.

Santa Fe's conservation rebates programs are available for residential and commercial customers' indoor and outdoor use. For example, customers can receive rebates for investments in everything from laundry to landscape systems, indoor appliances, smart irrigation controllers, and rain barrels.



Typical rebates are as follows:

- **$128 for 0.88 gallon per flush toilets;**
- **$285 for CEE Tier II or III model clothes washers;**
- **$36 for efficient dishwashers;**
- **$40 for rain sensors;**
- **$75 for soil moisture sensors;**
- **$750 for WaterSense labeled evapotranspiration controller if more than 12 stations are installed;**
- **$175 for laundry to landscape gray water systems;**
- **$50 each for rain barrels of 200 to 499 gallons; and**
- **$0.25 per gallon for cisterns.**

Educational Programs & One Water Planning

Highly variable water supplies, and therefore water conservation, have been a part of life in Santa Fe throughout the city's 400-year history. To empower local ratepayers to continue to take charge of their water use, the Santa Fe City Council and the Division also work to foster conservation as a part of the long-standing community culture with educational and outreach programs. These initiatives include "Project WET" and the Passport Programs, programs that engage elementary school children in water conservation projects; peer-to-peer water conservation education programs for higher level students; and the "Eye on Water" mobile app designed to alert customers about their water use and potential leaks.

The Santa Fe City Council tasked Sustainable Santa Fe Commission (SSFC)—a volunteer citizen advisory committee—with advising the council on sustainability-related programs, projects and policies. Mostly recently, the SSFC developed the Santa Fe Sustainability Plan adopted by Santa Fe City Council in October 2018 that addresses renewable energy, energy efficiency, land use, water use, carbon emission reduction efforts, and other areas of sustainability, to achieve the city's goal of being carbon neutral by 2040. This 25-year plan identifies water sustainability goals to deploy innovative technologies and drive long-range water and regional planning. With an integrated and resilient One Water approach, the Sustainability Plan will help inform how the Division can optimize water demand and supply for decades to come. Additional long-term goals for Santa Fe include expanding water conservation programs and developing neighborhood-scale water conservation projects.

In 2017, the Division issued rebates for more than 200 water saving devices including high efficiency toilets, clothes washers, and rain water harvesting systems, among others.

Sources

Santa Fe Water Division
Santa Fe Water Division: Where does our drinking water come from
Santa Fe Water Division: Water use restrictions
Santa Fe Water Division: Rebate programs
Santa Fe Water Division: Leak bill adjustment program
Santa Fe Water Division: Santa Fe Basin Study
Santa Fe Water Division: 2017 Annual Water Report
Santa Fe Municipal Code, Chpt. XXV § 25-2
Sustainable Santa Fe Plan
WaterNow Alliance November 27, 2018, Interview with Santa Fe Water Division Staff

RESULTS

Water Benefits

Santa Fe's regulatory mandates and financial incentives have **reduced per capita utility customer demand by 42% since 1995**. Despite a growing population, Santa Fe's total water production has decreased from 10,000 to 8,500 AFY since 2012. And GPCD has been reduced from 163 in 1995 to 90 in 2017. This demonstrates that successful conservation strategies can decouple water demand and population growth.

Economic Benefits

In 2017, the Division **issued rebates for more than 200 water saving devices** including high efficiency toilets, clothes washers, and rain water harvesting systems, among others. At the same time, the Division **launched an additional rebate program for commercial customers** and re-designed its outdoor irrigation rebate program. Reduced water use also saves the Division on annual operating costs. Total water system demand is down ~30% as compared with 20 years ago. The water conservation and efficiency initiatives have individually and cumulatively:

- Reduced individual residential and commercial customer water and sewer bills; and
- Reduced short and long-term system costs.

Environmental Benefits

Santa Fe's water conservation programs also have environmental benefits, including:

- Reduced contamination to surface and groundwater sources, and
- Decreased peak water demands during summer months (i.e., more water available for the environment).

Social Benefits

Santa Fe's focus on water conservation and efficiency has provided substantial water savings and fostered a community culture of water efficiency. In a recent survey, **95% of Santa Fe citizens self-reported conserving water over a 12-month period.**

Santa Fe's efforts over the past 25 years have been a critical jump-start to achieving its future sustainability goals. As the city looks ahead to the next 25 years, even in the face of a changing climate and continued population growth, Santa Fe can continue to improve water availability and reliability by further expanding its localized water strategies.