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With conservation, city could delay $330 million water plant

Yes, city projections show, but city officials say plant must be built by 2013.

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Ten years ago the town of Cary, N.C., realized it needed more water.

Cary's fast-growing population was straining its limited water supply from a local lake. So it passed tough new rules to save water.

Since then, the town of 117,000 has deferred a water plant expansion (saving $55 million) and cut its average water use 10 percent.

Cary is much smaller than Austin, but its water woes mirror ours. Austin officials say that even with new water conservation rules, the city must build a $330 million water plant by 2013 to keep pace with growth.

But the success of conservation efforts in other cities raises the question of whether Austin's plant could be put off even longer.

The City of Austin's own projections on conservation show a plant could wait until 2017, and cities such as Seattle and El Paso say they've deferred water infrastructure projects through conservation.

Austin's plant will take six years to design and build, and the city must start now to leave wiggle room for problems later, such as construction delays, Council Member Lee Leffingwell said.

Austin environmental groups say delaying the plant would save money (as much as $14.3 million each year it's deferred) and give the city time to find a better plant site than the one it chose, an environmentally fragile piece of land in Northwest Austin.

"I don't think we could delay forever. But if you look at the numbers, there is time to wait," said Jennifer Walker, a water resources specialist at the Texas chapter of the Sierra Club.

Acting on the plan

Austin draws water from the Colorado River at two plants that can treat and produce 285 million gallons a day. A third smaller, older plant will be shut down soon.

Austin plans its water needs around peaks: hot summer days when water use spikes. The usual culprits are homeowners watering too much, trying to revive parched lawns.

In the past few years, peak use has crept closer to Austin's water capacity, hitting a record high of 247 million gallons in September 2005.

If Austin cracks down on wasteful lawn watering, environmental groups say, it could slash use and defer the plant.

"There is a lot of room for improvement, but (the city) hasn't tried hard enough to get people to cut down on irrigation," environmental activist Chris Lehman said.

Lawn watering rules are part of a conservation plan that a task force recently finished writing.

Austin's existing conservation programs have already cut peak-day water demand 5 percent since 1993. But the new plan will, among other things, ban homeowners from watering their lawns more than twice a week in the summer (Austin now has a voluntary watering schedule), create new standards for automatic sprinkler systems and charge heavy water users a higher rate.

The plan — which the City Council will vote on in April — is expected to save 1 percent of water usage a year over the next 10 years. City projections show that, by saving that much water (25 to 30 million gallons a day), Austin would not exceed its water capacity until 2017 and could delay a plant until then.

But if the estimated water savings from conservation don't pan out, Austin can't risk water shortages, said Teresa Lutz, a water planning division manager. That uncertainty is one reason the city wants the plant up and running by 2013.

Key parts of the conservation plan — the lawn-watering rules and an education campaign — would start this summer and could show water savings by the fall, said Austin water conservation manager Tony Gregg.

"But we can't be sure about water savings until we put the programs in place," he said.

Austin could meet or surpass its goal if it takes enforcement and education seriously, said Chris Brown, a national water conservation consultant.

"We don't live in a world anymore where people tote buckets of water back from the river. When we had to work for water, we were frugal about it," he said. "Successful conservation programs remind people how much water they waste on a daily basis."

Following others' lead

Seattle might seem rainy and water-abundant, but the hot, dry summers can rival those of Southern cities, straining the water supply, said Seattle water conservation manager Al Dietemann.

Tapping into Seattle's environmental awareness — its "green ethic," as Dietemann calls it — the conservation department encourages, but does not require, wise water use.

The city offers rebates for efficient fixtures such as toilets and rain sensors for sprinklers and then gets the word out through community groups, irrigators and housewares stores instead of costly ad campaigns. It also charges very high rates.

A monthly bill for 20,000 gallons of water in Seattle would be $141.74; in Austin, it would be $80.94. In El Paso, it would be $52.57.

"That sends a message about the importance of the resource," Dietemann said.

Seattle cut its water use 4 percent from 1999 to 2005 and has put off building any big water projects, he said.

He cautions that Austin, though similar in size, might not reap the same results.

"It's difficult to compare city to city when it comes to water. Many people here live in apartments instead of homes, and we don't have a lot of big industrial customers or industries that need a lot of water."

A study in the mid-'70s predicted that El Paso would run out of water by 2020. That set city officials who wanted to attract growth and jobs on a conservation path.

Unlike other cities, El Paso mandates a lawn watering schedule (no more than three days a week) and offers generous rebates to residents who replace water-guzzling plants such as turf grass with efficient landscapes, conservation manager Anai Padilla said. It aggressively educates the public about water waste.

"Every year, we run television ads, even during wet years. We constantly remind the customer that we live in the desert, and our water resources are valuable," Padilla said.

The city has cut its peak-day water use 17 percent since 1990 and deferred an estimated $300 million worth of water infrastructure projects.

The first phase of Austin's plant would cost the most: $330 million to produce 50 million gallons a day. Other phases, spanning 60 years, would add up to $475 millionand produce an additional 250 million gallons a day.

Each year the plant's first phase is deferred could save $4.9 million in operating costs and as much as $14.3 million long-term if bond debts are factored in, said David Anders, the water utility's acting assistant finance director.

But waiting could cost more in other ways, he said, because inflation would drive up the price of construction materials.

The water utility won't have a clear picture of how well conservation rules work for a few years, Lutz said. So Austin must build the plant, but it could probably delay future expansion, she said.

Starting the plant now would also leave time to handle unexpected snags, she said. Austin's most recent water project — expanding the Ullrich water plant — was scheduled to be finished in May 2006. It's not done yet.

"Suppose we start planning the plant now, everything goes better than expected with conservation, and the (new water plant) is late finishing up. We'd have a safety margin to get things done. If we wait a few more years to start and there's an unforeseen problem, then we're stuck," Gregg said.

Enticed to conserve

Austin wouldn't face that dilemma if it focused on cutting its per-capita water use of 179 gallons per day, said Colin Clark of the Save Our Springs Alliance. That number — which is basically the average amount of water an Austinite uses each day — has remained steady in the past few years, even as the city has conserved water overall.

The new conservation rules are expected to lower the average to 161 gallonsa day, but state standards urge a tougher goal of 140 gallons, Clark said.

He pointed to the success of Los Angeles, which has grown by 1 million people since 1981 but kept its water use flat. It was one of the first U.S. cities to start a rebate program and pay residents to replace old plumbing fixtures.

Still, conservation can't be counted on to reap consistent rewards, said L.A. water conservation manager Thomas Gackstetter. "In the long term, we've been able to mitigate our water demand, but year to year, it goes up and down," he said.

Replacing an old toilet saves the same amount of water every year, but the outcome of asking customers to change their water behaviors is trickier to predict, he said.

Conservation is rarely a quick fix, he said: "It's that behavioral component that varies the most."

San Antonio must compel residents to conserve. By law it can only draw a limited amount of water from its source, the Edwards Aquifer, or risk fines.

"We're under the gun, so we track our programs very carefully, and if one's not working, we drop it and try something else," conservation manager Karen Guz said.

San Antonio stays creative. It holds an efficient-toilet giveaway one day each year instead of just offering rebates. It pays to replace inefficient fixtures at big commercial customers, such as Sea World San Antonio, so they can see dramatic water savings quickly. It has a law against wasting water and employs five part-time police officers to enforce it. They write about 13,000 warnings last year.

Austin already has a rule against wasting water but no employees dedicated to enforcing it. The new conservation plan would add three inspectors.

San Antonio has trimmed its average household water use 30 percent since 1995.

Austin's goal is aggressive and realistic, Guz said, but only if residents and city leaders dedicate themselves to achieving it.

"You can put money into a lot of education," she said, "but fundamentally, the community has to decide, 'This is the right thing to do.' "

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A sampling of water conservation programs in the U.S.

Los Angeles

Water conservation budget: $14.5 million

Average water use: 138 gallons per capita per day

Peak water use: 188 gallons per capita per day

Number of accounts: 680,000 accounts, serving 3.9 million residents

Rates: Varies by ZIP code and lot size; for peak month of October, a monthly water bill would range from $56 to $68.

Enforcement: Inspectors hired only in times of drought.

Seattle

Water conservation budget: $5 million

Average water use: 131 million gallons a day

Peak water use: 237 million gallons a day

Customers: Serves 1.4 million people

Rates: For using 20,000 gallons, the monthly bill is $141.74.

Enforcement: No inspectors for water waste

El Paso

Water conservation budget: $4 million

Average water use: 97 million gallons a day

Peak water use: 162 million gallons a day

Customers: 191,563 accounts; serves 714,726 customers

Rates: For using 20,000 gallons, a monthly bill is about $52.57.

Enforcement: Two full-time inspectors

San Antonio

Water conservation budget: $4.3 million

Average water use: 173 million gallons a day

Peak water use: 270 million gallons a day in 2006

Customers: 320,000 accounts; serves 1.2 million customers

Rates: For using 20,000 gallons, a monthly bill is $73.10.

Enforcement: Five part-time police officers enforce irrigation rules.

Austin

Water conservation budget: $2.9 million. New conservation rules would cost $3.3 million more.

Average water use: 143 million gallons a day

Peak water use: 247 million gallons a day

Customers: 190,000 accounts; serves 815,000 customers

Rates: For using 20,000 gallons, a monthly bill is $80.94.

Enforcement: No inspectors dedicated to enforcement; would add three inspectors with new conservation rules.