



‘The Perfect Storm’:

*Setting priorities at the Austin Water
Utility in a time of fiscal crisis*

By Scott Henson

June 9, 2010

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Executive Summary

Austinites are using less water per capita. Conservation is working. That should be cause for celebration. Saving water saves ratepayer money. It also means lower energy use and lawn-chemical consumption.

But at the Austin Water Utility (AWU) they're calling it a "Perfect Storm" of disaster because if people use less water, AWU won't generate enough revenue to pay for Water Treatment Plant 4 (WTP4), not to mention long-overdue maintenance costs. This analysis by the Save Our Springs Alliance demonstrates that residential water rates could nearly double if the City continues along its present path.

In the book and movie, "The Perfect Storm," a fishing boat captain (played on the big screen by George Clooney) steered his ship directly into the tempest in search of a big catch and everyone died. So city staff's use of the dire term is instructive. Like the sea captain in the story, AWU has recommended that the City Council charge ahead with WTP4 – costing ratepayers \$1.2 billion over the life of the project – regardless of the fiscal danger. But this is not a movie. Austin families can't afford large rate hikes during a recession and the City has alternatives to this expensive boondoggle.

Just last month AWU officials informed the City Council of an expected \$43.2 million revenue shortfall in FY 2010 due to lower than projected water sales. The water utility's revenue model had somehow failed to predict the "perfect storm" of reduced water use by residences and businesses due to rain and conservation. If current reduced water sales levels persist, Austin could be required to nearly double residential water rates by 2015, mostly to pay for the Water Treatment Plant #4.

Despite years of controversy and debate surrounding the project, residential rate payers have never been given a realistic estimate of WTP4's hit to consumer pocketbooks, particularly when combined with other ongoing debt-funded projects and the City Council's unpublicized decision to shift water-rate burdens from commercial to residential customers. This report attempts to quantify these global residential rate impacts.

Investment in WTP4 has been touted as Austin's "stimulus" for the local business community, albeit one financed by local rate payers instead of the federal government.¹ But Austin could also add jobs – real, long-term jobs - by repairing massive leaks in our existing water system—leaks that allow nearly 10 million gallons of water a day to just seep into the ground. It could and should also invest in "green jobs" in water conservation and efficiency that would pay long-term dividends while drought-proofing our economy.

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Recommendations:

- Estimate proposed rate increases based on data that includes implementation of new water conservation goals and the 2008 cost-of-service study, then tell residential rate payers exactly what their overall rate hikes will be through 2015.
- Constructing expensive new infrastructure while simultaneously shifting costs from commercial to residential customers puts too high a burden on residential water customers. Put off new construction until the cost-of-service adjustments are complete to avoid piling onto residential rate payers all at once.
- Before beginning construction on WTP4, evaluate cheaper plant options that would replace the decommissioned “Green Water Treatment plant” with a new plant located in the Desired Development Zone and drawing water from Lady Bird Lake.
- Continue to implement water conservation, including aggressive, summertime lawn watering restrictions, to limit peak-day water use and achieve recently adopted city-wide conservation goals.
- Prioritize fixing leaky pipes over a new intake for new revenue bond indebtedness so that millions of gallons of water aren’t uselessly seeping into the ground each day.

Introduction: The Perfect Storm and Austin Water Rates

At a recent meeting of the Water-Wastewater Commission Budget Subcommittee, Austin Water Utility (AWU) officials told commissioners they were experiencing a “Perfect Storm” of reduced water sales and income because of recent rain, the effects of conservation programs, and the economic downturn. Revenues are down more than 10% and AWU expects to take in \$43.2 million less this fiscal year than they’d budgeted. If, in that environment, the Austin City Council moves forward with construction of Water Treatment Plant 4, as they are scheduled to do at their meeting on Thursday, June 10, there’s every reason to believe they’ll be steering residential ratepayers into a hurricane of future water-rate hikes.

Austin homeowners already face large, projected rate hikes to pay for Water Treatment Plant #4, and if this “Perfect Storm” continues, they will be much larger than anyone has so far admitted. In 2009, the City of Austin began a series of multi-year water rate hikes aimed in large part at paying for the WTP4 project – dubbed the Billion Dollar Mistake on the Lake by local environmental groups - with its massive, miles-long tunnels under the Balcones Canyonlands Preserve. AWU has suggested raising rates continuously over six years beginning with a 10.1% residential rate increase approved and implemented last fall. But public discussions of rate hikes have *largely failed to consider the disparate impact on residential ratepayers*, and they certainly don’t take into account AWU’s new revenue reality in the short-to-medium term. If the utility sells less water and has the same debts to pay, they must charge consumers more per unit of water.

Projected Homeowner Water Rate Hikes Already Onerous

For residential consumers, proposed increases in the cost of water will rise much faster in the near future than implied by aggregated estimates from the utility.

AWU says that combined water-wastewater rates increased 4.5% overall in the FY 2010 budget, but that number is deceiving because residential customers took the brunt of the increase, witnessing a 10.1% boost in single-family residential water rates.²

The disparate impact on homeowners results from a city-sponsored cost of service study³ which placed Austin on a multi-year path toward shifting rate burdens from commercial and wholesale customers to residential users. AWU plans “to continue to phase out the remainder of the water rate subsidy of the residential customer class over the next 5-7 years,”⁴ meaning similar adjustments can be projected going forward.

Table 1 shows the aggregated “combined” water and wastewater rate increases for all classes suggested by AWU recently to the Budget Subcommittee of Austin’s Water-Wastewater Commission⁵:

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Table 1: Projected Combined Water Rate Hikes (2010 – 2015)

	2010	2011	2012	2013	2014	2015	Total
Water	5.70%	6.80%	5.50%	6.60%	5.70%	2.50%	34.19%
Wastewater	3.30%	2%	3.50%	4.30%	3.10%	2.50%	20.20%
Combined	4.50%	4.50%	4.50%	5.50%	4.50%	2.50%	28.96%

On its face, that results in a 28.96% overall increase. However, residential ratepayers took the brunt of the hit in the first year, seeing their water rates increase by 10.1%, not 5.7%. So residential water rates went up 77% more than the averaged amount because of the shift in burden from commercial and wholesale customers. If residential rates increase disproportionately over the next five years at the same rate as in last year’s budget, then logically residential increases will be higher than “combined” rate increases. How much higher? Assuming the shift in burden continues at the same pace as in 2010⁶, here are the projected residential water-rate increases over the same period:

Table 2: Residential Rate Hikes Including Cost of Service Adjustment (2010 - 2015)

	2010	2011	2012	2013	2014	2015	Total
Residential Water	10.10%	12.05%	9.75%	11.69%	10.10%	4.43%	73.82%

So between overall rate hikes and the shift in burden from industrial to residential ratepayers, Austin homeowners could see a 74% rate increase over this period – a number city staff have scrupulously avoided estimating by projecting forward only “combined” increases instead of including details about the cost-of-service reallocations.

AWU Revenue Models Flawed, Over-Optimistic

No one has told Austin’s residential water consumers their rates are scheduled to rise as much as 74% to pay for cost reallocations and Water Treatment Plant 4, but that’s already in the works. On top of that, the utility based those rates on the assumption that people would buy more water than has generally turned out to be the case.

The bonded indebtedness to pay for Water Treatment Plant 4 and other AWU projects is secured by revenues from AWU water sales,⁷ which are the only available revenue source to pay off the debt. If water sales don’t meet projected levels, bondholders can force the City to raise rates through a writ of mandamus,⁸ or bond houses might lower the ratings on City of Austin debt. Houston this year increased their combined water-wastewater rates by 30% because of an expanding bond-debt burden. Reported the Houston Chronicle, “Had [Houston] failed to raise rates, many noted, the system likely would face a

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downgrade in its debt, increasing costs and leading the city to continue running a deficit in the water-sewer utility. This year that shortfall is expected to exceed \$100 million.”⁹

Austin could easily find itself in the same situation. AWU’s assumptions underlying the written solicitation of bond debt for Water Treatment Plant 4 anticipate water sales and revenue rising indefinitely, but this year’s revenue decline belies those assumptions. AWU’s projected \$43.2 million shortfall demonstrates what happens when conservation combines with higher rainfall levels, a development that took AWU budget officials by surprise.

AWU’s budget and financial manager Rusty Cobern recently told an industry publication that “Rising conservation has contributed to revenue volatility at AWU” explaining that “We would have expected a revenue windfall during the [recent] drought” but that didn’t happen. He concluded that “Aggressive conservation pricing models can eliminate windfall opportunities.”¹⁰

So if AWU’s revenue model failed to predict the current shortfall, projecting just one year into the future, how firmly can we rely on their projections several years out? If current, lower usage levels persist into the future, thanks to expanded conservation and/or the alleviation of record drought conditions, rates must increase even more.

Austin recently adopted aggressive new water conservation goals which, upon implementation, will significantly reduce the total amount of water sold. Water-demand projections presented to the City Council in 2009 showing the need for WTP4 assumed Austinites would use 162 gallons per capita per day (gpcd) in 2020.¹¹ On May 13, 2010, the Austin City Council approved conservation goals aiming to reduce water use to 140 gpcp by 2020¹², thereby also reducing the volume of water sold and thus the revenue available to pay for Water Treatment Plant 4. What’s more, single-family residential water use per account has been declining, from a high of 10,258 gallons per month in 1999-2000 to 6,287 gallons in the 2008-2009 Fiscal Year.¹³

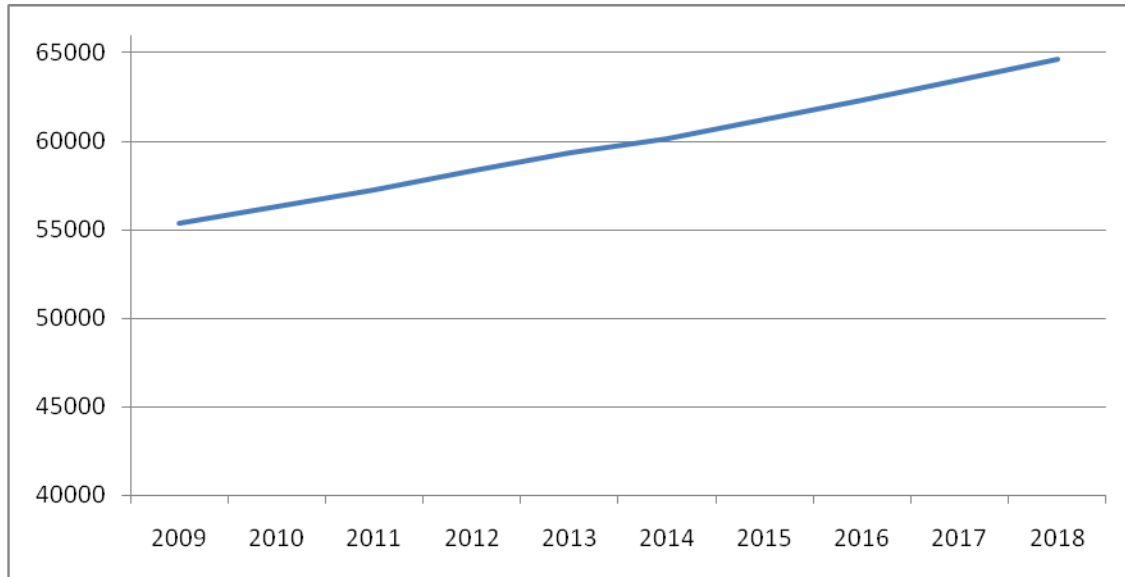
Overestimating Water Sales

These trends create a dilemma if WTP4 is constructed. If water use doesn’t increase steadily, then even the already-high projected rate hikes described above probably underestimate the amount AWU needs to cover WTP4-related debt, which will cost ratepayers \$1.2 billion including interest. AWU’s projected shortfall in the current fiscal year is 10.2% of projected revenue. The utility has sufficient reserves to cover that amount for one year¹⁴, but going forward if the situation continues, rates must increase even higher. In that case, instead of a 74% rate increase by 2015 for homeowners, *93.6% would be required*.¹⁵ Rates could go up even further depending on how badly AWU has overestimated future water use (and/or underestimated the cost of WTP4).

Using data derived from the bond prospectus associated with WTP4¹⁶, Chart 1 depicts the increases in total pumpage AWU told bondholders will occur to generate sufficient revenue to pay its debt:

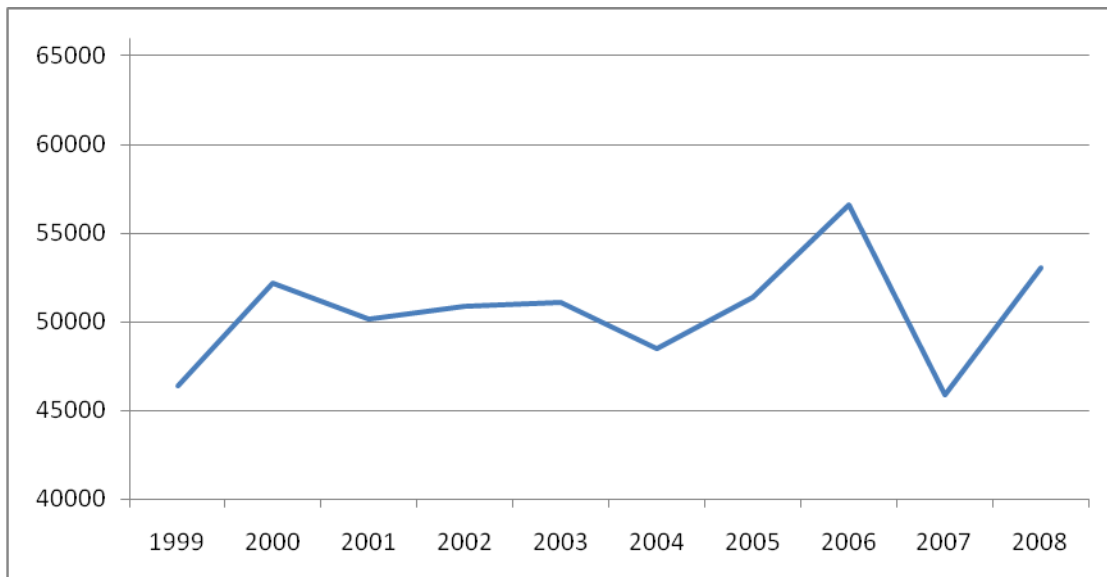
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Chart 1. Projected Total AWU Pumpage: 2009 - 2018



These projections certainly don't jibe with a \$43.2 million dip in 2010 water sales, but the trend also seems unrealistic compared to actual total pumpage data from the past decade, as reported by the City in the same source. According to the data depicted in Chart 1, AWU believes total pumpage will increase steadily over time. But that contradicts the City's recent experience, even during a period marked by dramatic economic and population growth, depicted in Chart 2:

Chart 2. Total AWU Annual Pumpage: 1999 - 2008

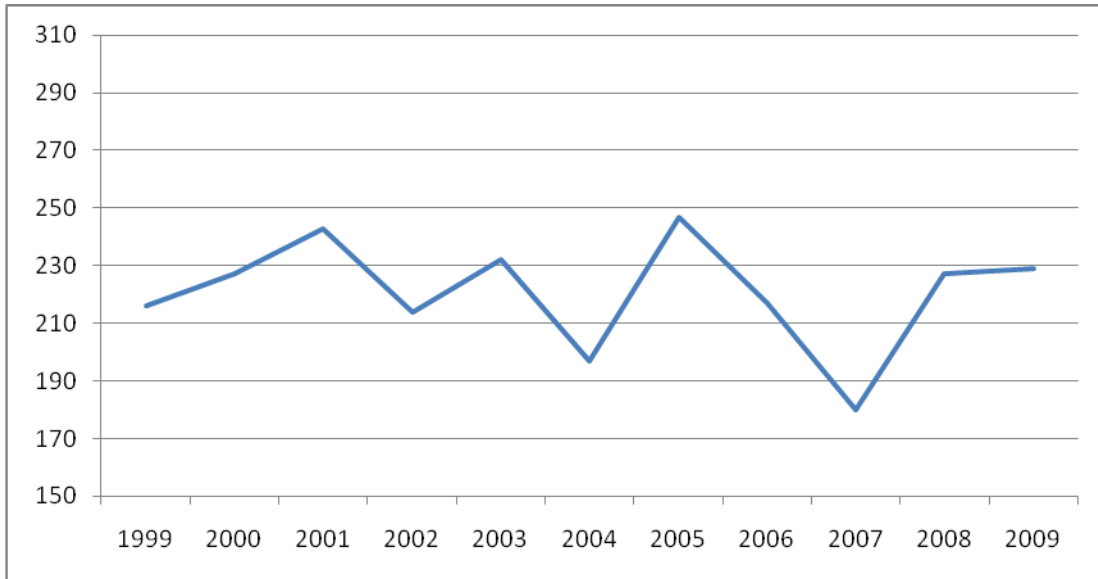


AWU has consistently overestimated Austinites' water use to project demand for water treatment facilities that never materialized. In 2002, when the Austin City Council first authorized hiring Carollo

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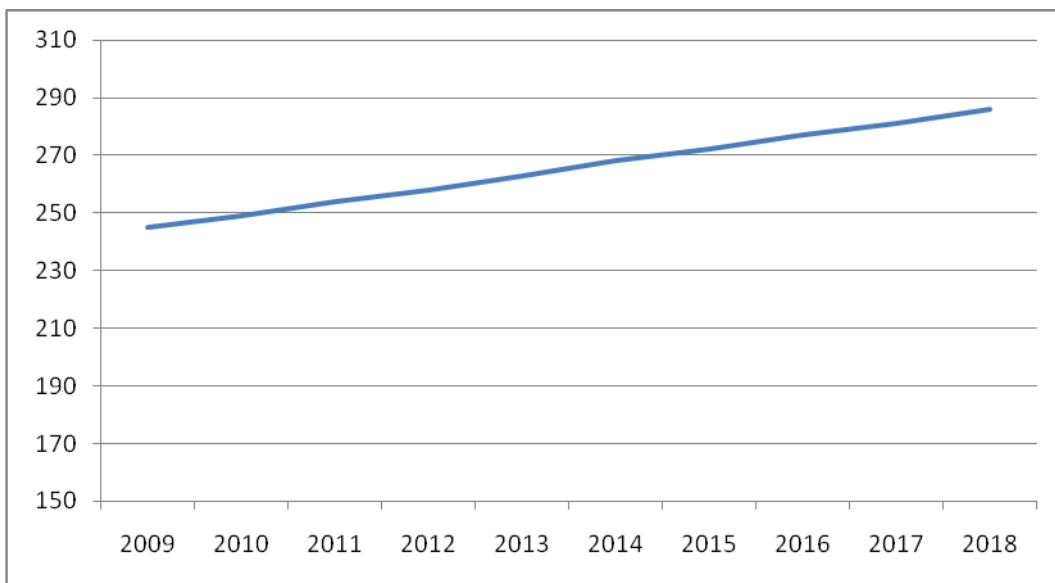
Engineering for the WTP4 project, AWU staff estimated that Austin’s peak summer water use would reach 281 million gallons per day (mgd) by 2009.¹⁷ That turned out to be a dramatic overestimate. Chart 3 shows the actual peak use over this period:

Chart 3. Actual Peak Water Use Per Day 1999 - 2009



Even so, similar to its overall pumpage projections, AWU told bondholders that peak use will climb steadily in the near future despite these recent, countervailing trends:

Chart 4. Projected Peak Water Use Per Day: 2009 – 2018



Given the inflated estimates from 2002, there's little reason to believe from recent experience that the steep upward curve depicted to bondholders represents a realistic expectation of real-world events. These exceedingly optimistic "forward looking statements" assume current revenue shortfalls are an anomaly and future water sales will increase at steady, predictable rates. However, AWU's long-term projections have been consistently overstated, while conservation has proven to work.

Bottom line: Several situations could conceivably cause water rates to rise much higher than AWU officials have so far projected, including successful conservation efforts, more rain, and a real property glut that has reduced the number of new residential and commercial hookups. By contrast, as AWU's Mr. Cobern noted, summertime conservation measures – particularly restrictions on lawn watering – have eliminated "windfall opportunities" from higher summer water use that AWU previously anticipated. So if water sales aren't as high as AWU optimistically projected, the utility must either increase rates or reduce the General Fund transfer from the utility (which this fiscal year runs about \$29 million¹⁸) and make up the difference with property tax increases.

Steering the AWU Away from the Perfect Storm

The Austin environmental community has argued that AWU should wait before launching WTP4 to perform necessary environmental assessments of the transmission lines, save money in the short-term, and to determine before borrowing a half-billion dollars whether conservation measures could forestall new construction even longer. Now, facing unprecedented revenue shortfalls, lower water use through conservation, and this so-called "Perfect Storm," the logic of environmentalists' argument resonates even more strongly.

Any average Austinite whose income is declining would think twice about purchasing an expensive new home that commits the family to high, ongoing debt payments, but that's how AWU suggests Austin respond in the face of its current, unexpected decline in revenue.

The "Perfect Storm" behind lower 2010 water revenues stems primarily from three sources, according to AWU: New conservation measures, the end of the recent record setting drought, and the current economic downturn. Of those, the conservation measures aren't going away, some years will inevitably be rainier than others, and even though Austin's economy remains better than most, few believe the effects of the economic crunch will be over anytime soon. Meanwhile, conservation measures have eliminated opportunities for revenue "windfalls" the utility previously expected during periods of drought.

So this isn't necessarily a temporary condition; some or all of these situations may continue for some time, making now the worst possible moment for AWU to take on large amounts of new, rate-secured debt.

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Misplaced Priorities: Fix Leaky Pipes Instead of Building New Intake

In the meantime, AWU continues to put off critical maintenance on older water lines in the central city which are responsible for leaks that drain billions of gallons of water per year from the system. The city parks department recently announced it would stop building new facilities until it could afford to pay for maintenance on the ones it already has¹⁹, but AWU has not yet learned that basic lesson of fiscal prudence in lean economic times.

Some have argued for WTP4 based on the jobs created through a large, debt-financed public works project. AWU Director Greg Meszaros even said he considered WTP4 a “local stimulus” project that would create thousands of short-term jobs²⁰, though in this case ratepayers, not the Obama Administration, will pick up the tab. But if Austin wants to create jobs through AWU, it’s focused on the wrong project.

According to the City Auditor, AWU lost 9.85 million gallons of water per day in 2007 through leaky pipes which have never been fixed.²¹ That’s 3.5 billion gallons of water per year the City just allows to seep into the ground. It makes little sense to build 50 mgd in new capacity while letting nearly 10 mgd leak out of the system every day.

Responding last summer to questions submitted by Councilmember Bill Spelman, AWU revealed that out of 3,600 miles of pipe that it operates, 900 miles are deteriorated and there are 250 miles of “highly deteriorated” pipe where the majority of leaks are located.²² During a cold snap in January, reported the Austin Chronicle, those old cast-iron sections of the system accounted for 91% of water main breaks.²³

No water system is leak-proof, but the City could start by fixing the 250 miles of identifiably deteriorated pipe, a task which would cost \$330 million, city staff told Councilmember Spelman. That’s a significant amount which would require a nine-figure bond issue, not to mention generating employment lasting many years beyond WTP4’s scheduled construction. But that’s not where AWU’s priorities lie. Instead AWU plans to spend just \$81.8 million fixing leaks over the next five years, AWU told Spelman, by which time even more pipe will inevitably deteriorate.

The Water Utility’s “Perfect Storm” was easily predicted. Both peak-day and total water use have been flat to slightly declining since 2001. Per-household use is down. Both residents and businesses are saving water and saving money. These trends will likely continue. Rather than increase the damage to ratepayers and the environment, it’s time for a midcourse correction and a return to safe harbor.

Recommendations:

The Save Our Springs Alliance offers these common-sense recommendations in the face of AWU's mounting fiscal crisis and misplaced priorities:

- Estimate proposed rate increases based on data that includes implementation of new water conservation goals and the 2008 cost-of-service study, then tell residential rate payers exactly what their overall rate hikes will be through 2015.
- Constructing expensive new infrastructure while simultaneously shifting costs from commercial to residential customers puts too high a burden on residential water customers. Put off new construction until the cost-of-service adjustments are complete to avoid piling onto residential rate payers all at once.
- Before beginning construction on WTP4, evaluate cheaper plant options that would replace the decommissioned "Green Water Treatment plant" with a new plant located in the Desired Development Zone and drawing water from Lady Bird Lake.
- Continue to implement water conservation, including aggressive, summertime lawn watering restrictions, to limit peak-day water use and achieve recently adopted city-wide conservation goals.
- Prioritize fixing leaky pipes over a new intake for new revenue bond indebtedness so that millions of gallons of water aren't uselessly seeping into the ground each day.

Appendix: The following data associated with the charts in this report was taken from the City of Austin Bond Prospectus dated November 5, 2009, p. 21.

Data for Chart 1: Projected total annual pumpage (in millions of gallons):

2009	55,385
2010	56,289
2011	57,270
2012	58,301
2013	59,350
2014	60,155
2015	61,242
2016	62,349
2017	63,477
2018	64,624

Data for Chart 2: Historic Annual Pumpage (in millions of gallons):

1999	46,422
2000	52,194
2001	50,140
2002	50,883
2003	51,111
2004	48,469
2005	51,374
2006	56,603
2007	45,868
2008	53,066

Data for Chart 3: Historical Annual Peak Day Use (in millions of gallons per day)

1999	216
2000	227
2001	243
2002	214
2003	232
2004	197
2005	247
2006	217
2007	180
2008	227
2009	229

Data for Chart 4: Projected Peak Use (in million of gallons per day)

2009	245
2010	249
2011	254
2012	258
2013	263
2014	268
2015	272
2016	277
2017	281
2018	286

Note: This document was edited June 10 to correct non-substantive typographical and editing errors.

ENDNOTES:

¹ Also unlike the federal stimulus, Austin ratepayers will see immediate rate increases to pay for it while debt accrued in Washington can be put off until future generations.

² "2009-2010 PROPOSED BUDGET RESPONSE TO REQUEST FOR INFORMATION," Response to City Councilmember Chris Riley, Request #30, September 9, 2009.

³ Study Report: Austin Water Utility Cost of Service Rate Study 2008, Red Oak Consulting.

⁴ Backup material for Water-Wastewater commissioners provided to the author by city staff from the June 3 meeting of the Budget Subcommittee.

⁵ Ibid.

⁶ All projections are within the 5-7 year period during which AWU says it will shift its cost-of-service allocations.

⁷ "Utility bills likely to increase," City and County Beat Blog, Austin American Statesman, April 28, 2010.

⁸ Bond Prospectus, "Official Statement," Dated November 5, 2009, p. 14.

⁹ "Water-sewer rates to climb 30% over next three years," Houston Chronicle, April 22, 2010.

¹⁰ "US Urban Residents Cut Water Usage, Utilities Are Forced to Raise Prices," Circle of Blue WaterNews, April 19, 2010.

¹¹ Spreadsheet obtained under the Public Information Act from the Austin Water Utility by Bill Bunch, October 2009.

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¹² Austin City Council Agenda Item 35, May 13, 2010. The "Fiscal Memo" accompanying the agenda item stated the financial impact to the Austin Water Utility is "unknown" beyond the need to hire more conservation personnel, but the fiscal impact of selling less water is clear from the 2010 revenue shortfall: AWU will receive less revenue than would otherwise be anticipated.

¹³ Backup material for Water-Wastewater commissioners provided to the author by city staff from the June 3 meeting of the Budget Subcommittee. "Historical & Projected Accounts (FY Average)"

¹⁴ Backup material for Water-Wastewater commissioners provided to the author by city staff from the June 3 meeting of the Budget Subcommittee.

¹⁵ Assume from the calculation in Table 2 that the amount required to pay off WTP4 debt and other obligations is 1.7382 times the 2009 rate, or a 73.82% increase for residential ratepayers from pre-WTP4 rates at projected levels of use. Now assume water sales continue to underperform compared to AWU projections; currently revenues are at 89.78% of projected amounts. If lower water use and sales continue along these lines, to achieve the same revenue level will require a rate equal to $1.7382 / .8978$, or a 93.6% overall rate increase from 2009 levels.

¹⁶ Bond Prospectus, "Official Statement," Dated November 5, 2009, p. 21.

¹⁷ "Recommendation for Council Action," Backup material, Austin City Council, Agenda Item 32, 4/4/02.

¹⁸ Really an extra \$ 28,967,464," according to backup material for Water-Wastewater commissioners provided to the author by city staff from the June 3 meeting of the Budget Subcommittee.

¹⁹ "Parks and Rec: If you build it," Austin Chronicle, May 28, 2010. Said PARD director Sara Hensley, ""We have to say we can't build it if we can't maintain it."

²⁰ Comments recorded in author's notes from a public meeting April 20 at Concordia University.

²¹ Office of the City Auditor, "Audit Report: Austin Water Utility: Water Loss," April 28, 2009.

²² Memorandum to Councilmember Bill Spelman from Assistant City Manager Rudy Garza, "Response to WTP4 questions," July 22, 2009, pp. 10-11

²³ "Frozen Assets: AWU and the Busted Pipes," Austin Chronicle, January 22, 2010.