

Is A Billion-Dollar Crapshoot Our Best Public Policy?

By David Venhuizen, P.E.
Copyright 1999

Who could have predicted in 1949 that “silicon” manufacturing plants would be a significant part of the industrial sector in Austin in 1999? And if someone had been able to conceive that this industry—beyond the realm of known science at the time—might locate several plants in Austin, what degree of certainty would have been assigned to that prediction? This should provide some idea of how difficult it is to look 50 years into the future and determine what our community will be like in even a general way, much less to predict such details of how the water resources system will be managed and, as a consequence, how much water we will use. Yet, our city government seems intent on making a deal right now, based almost entirely on extending out 50 years conditions as they exist right now, that is purported to have a total price tag of over \$1 billion dollars. This decision, it appears, is going to be made in an atmosphere almost totally devoid of any consideration of how we use water and what this implies for how we may manage it in the future.

While this very concept may seem farfetched, if you stop and think about how we use water, it is easy to see how we could serve *twice the existing population* with NO increase in “primary” water supply. Eventually—remember, we’re talking about a 50-year planning horizon here—all irrigation demands might be served with reclaimed “waste” water and rainwater harvesting systems. In fact, changes in societal ethic might drastically reduce irrigation demands—xeriscape and high efficiency drip irrigation might become the norm rather than the exotic. Eventually, all commercial flush water might be supplied by building-scale flush water recycling systems, all new housing might be plumbed to supply flush water and laundry water from a reclaimed water system, and much of the existing residential stock might be similarly replumbed. Water-using fixtures might become more efficient, or at least current best efficiencies will have achieved fairly complete penetration. Industrial processes, especially those that employ point of use treatment in any case, might be readily adapted to use reclaimed water. Large industrial process flows that are not readily recyclable in that process might be routed to appropriate non-potable uses in the neighborhood. Industries might be “co-located” so that the “wastes” of one plant’s process may be used as the supply for another. Rainwater harvesting might be a primary supply strategy for commercial or industrial districts with large “roofprints”, a strategy that would, by the way, minimize stormwater management problems in these areas.

In short, as many futurists are insisting WILL happen, society may come to husband water resources much more carefully than we do now. Regardless of the prospects for water shortages, this process will be driven by economics—almost a *4-fold price increase* for raw water, not to mention treatment and distribution costs, is predicted by the proponents of the water deal. While it is unlikely there will be a great outcry of public demand for these actions—even under the most extreme scenarios so far imagined, water fees will remain a fairly small portion of the budgets of most households and businesses—the price increases will make conservation and reuse fiscally efficient; that is, the price value of the water will offer a reasonable payback on the investments required to implement the water-saving strategies. It is also to be expected (or at least hoped) that someday our water resources planners will recognize the folly of paying for raw water, water

treatment and water distribution, knowing that most of it will be used to serve non-potable demands, then paying even more to pipe away the “waste” water that could be used to serve those demands.

The water uses discussed above constitute the vast majority of total water demand; thus, it can be seen that “primary” water use per capita could be *HALVED* by even a modest penetration of *this emerging water ethic*. Rather than evaluate this prospect and the planning strategies that might best respond to a range of alternative futures, the city seems dead set on acting solely on the presumption that per capita demand for “primary” water supply will not significantly decrease over the next 50 years, so that total water demand will more than double.

And this, of course, also simply presumes that historic trends in population growth will not only continue, but continue *to accelerate!* Considering the sprawl-induced problems of an Austin with a population of a half million, what will there be to recommend an Austin with three times that population as a good place to live and work? Many feel that forces are afoot in society—mainly the “electronic cottage”—that will drive a decentralization of future populations. Thus, the very idea of an Austin where population growth continues to *accelerate* over the next 50 years is quite open to question.

All of this points to a need to reconsider the basic rationale of the LCRA water deal, to consider “what if” we started to manage water as a resource rather than simply as a commodity that we can always get more of, given the willingness to pay the price. There is an inherent “beauty” in planning with the presumption that water is a resource, the use of which is to be maximized. By presuming that all flows now considered to be a nuisance—including both stormwater and “waste” water—would be *utilized* in the most cost efficient manner rather than being *wasted* in the most cost efficient manner, future water demands become somewhat “self-regulating”. That is, demand for primary supply would not increase in proportion to population and commercial/industrial activities because some or all of that demand would be served by increasing penetration of conservation and reuse measures. To be sure, there would be some increase in primary demand—this is not a perpetual motion machine—but it could be greatly muted compared to present predictions.

There is, however, no movement in this direction at any level of city government. The Northeast Service Area Wastewater Master Plan is a good case in point. At the same time the city is considering a billion-dollar water supply deal, it is absolutely refusing to consider strategies that could greatly defray—or even totally obviate—that investment. The city has presupposed, without analysis of alternative strategies, that this area should be served by a new “sub-regional” treatment plant. Focusing on the “waste” water management function in a vacuum, the city proposes to derive the most cost efficient way to dispose of a nuisance. Only when the effluent begins to flow out of the treatment plant would they start to consider the resource value of this water. It was suggested that perhaps the city should take a step back and ask what if the “waste” water were addressed as a resource from the very start. If that were the organizing paradigm for the “waste” water system, it was suggested, then perhaps a very different system of collection and treatment hardware might be worthy of consideration. The city’s only reaction to this suggestion was hostility that its presumed “solution” would be questioned.

Ascribed to Water & Wastewater Utility Director Randy Goss in a report on one of the public meetings on the LCRA water deal was the following:

“Our goal and our intent is to get everything answered and to make everyone feel comfortable with this decision. If we can’t do this in 45 days, then I’m not so sure we’re going to gain much by 90 days, 6 months, or any other additional time period.”

True enough, if the city is NEVER going to start asking—and trying to answer—the relevant questions, no amount of additional time to study this deal will make any difference. In the end, we may indeed conclude that there is sufficient value in having reserved a water supply for 50 years in the future to warrant this investment, no matter how “muddy” that future may be. Unless we do invest the time and effort to evaluate that proposition in light of reasonable alternative futures, however, this deal will be nothing but a roll of the dice that the future will be just like the past. And history tells us that’s a billion-dollar crapshoot.