

## CINCINNATI WATER WORKS & BOONE/FLORENCE WATER COMMISSION AGREEMENT

Location: Cincinnati OH, Boone Co., KY & City of Florence, KY  
Issues Addressed: Financing and Funding, Affordability and Assistance, Political Will

In the 1990s, Boone County, KY and Cincinnati, OH, experienced differing development trends. Boone County – and its largest city, Florence – was growing 10-12 percent annually. The expansion of a regional international airport, the Greater Cincinnati Airport, and the complementary businesses it attracted aided in its growth.

At that point, the Boone County Water District (Boone Water District) had been purchasing all of its drinking water – one billion gallons per year – from the Northern Kentucky Water District, a multi-county water utility. With Boone County's growth, the Northern Kentucky Water District began to realize that regional water demand would outstrip its capacity in the near future. It therefore asked Boone Water District to modify the existing water service agreement to include capital costs to build an additional water treatment plant. This approach would require Boone Water District to raise rates. As a result, Boone County and the City of Florence began exploring alternate options. They had two possibilities: pay to expand capacity at the Northern Kentucky District or enter into an arrangement with an outside water supplier. The first option required massive investment and sweeping reconstruction of infrastructure. The second idea required a willing and able supplier.

Across the river from Boone County, the City of Cincinnati, a major industrial center into the 1960s, had been experiencing population and industrial decline just as Boone County experienced unexpected growth. Larger, water-consuming manufacturing companies had been leaving, and the number of persons per household had been declining for some time. The combined industrial and residential water usage decline through the 1990s meant the Greater Cincinnati Water Works (GCWW) only pumped an average of 130 million gallons per day (gpd) despite a treatment capacity of 220 million gpd. During its peak, the water treatment plant had regularly pumped 200 million gpd to its customers. Finding itself well under capacity, GCWW needed solutions to sustain its system.

Since his appointment in 1994, David Rager the General Manager for GCWW, identified ways to bring on new customers in order to stem declining water use and maintain affordable rates for Cincinnati residents. One of Rager's goals was to maintain the GCWW infrastructure upkeep plan begun in the 1980s; the plan involved replacing one percent of GCWW's assets annually. However, by



Cincinnati Fountain Square

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Boone Florence Water Commission Water Tower.  
*Photo by Dwight Burdette, Wikimedia Commons.*

the late 1990s, keeping up the pace of improvement would require him either to find an influx of new customers or to increase water rates for his Cincinnati customer base.

In 1997, officials in Boone County and the City of Florence learned about Greater Cincinnati Water Works' excess capacity while weighing their options for a new water source. They made contact with Rager and inquired about the utility's water usage and excess capacity. GCWW and Boone Water District managers discussed the possibility of a wholesale purchase agreement, and identified the barriers they faced to its formation. The potential for collaboration was strong enough that Boone Water District and the City of Florence decided to commission a feasibility study following their initial meeting with GCWW. They gathered information about capital costs for extending the water main from the Cincinnati system to their own, discussed rate-setting policies with GCWW, and weighed the economic costs and benefits that would arise from a wholesale purchase agreement. The study concluded that purchasing water from GCWW would be cost effective and mutually beneficial. Such an agreement was the best way to solve both communities' growth issues.

Once GCWW and the Boone Water District agreed there was mutual interest, they needed to create a framework for their purchasing agreement. The following barriers needed to be addressed:

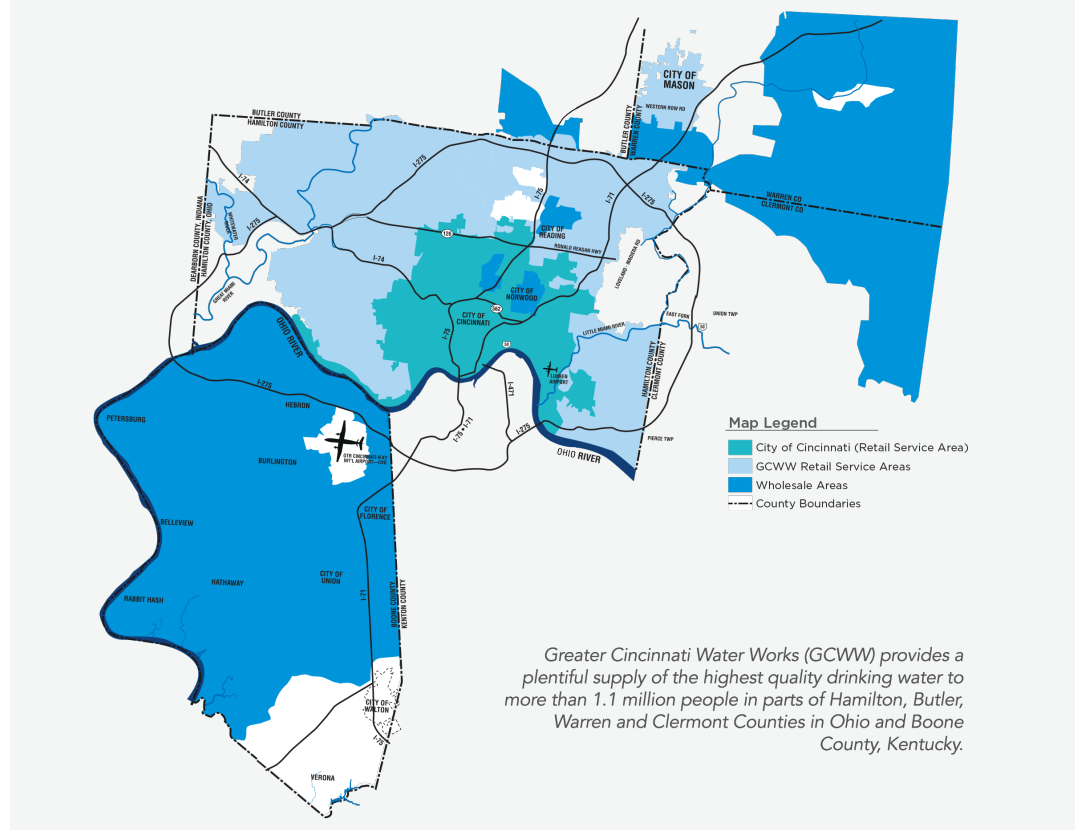
### **Boone County Water District and the City of Florence, because they were distribution systems alone, did not have the legal authority to enter into a wholesale purchase agreement with Cincinnati**

To address this challenge, Boone Water District and the City of Florence agreed to form an intermediate entity, the Boone-Florence Water Commission, in November 1998. The new commission had the authority to enter into a wholesale purchasing agreement with GCWW. In March 1999, the parties – GCWW, Boone-Florence Water Commission, Boone County Water District, and the City of Florence – finalized their first Water Service Agreement. The Agreement included a wholesale purchasing provision between the Commission and GCWW. As a result, GCWW does not sell water to Boone County residents directly. Instead, GCWW sells water to the Boone-Florence Water Commission which, in turn, sells the water to Boone County Water District and the City of Florence for distribution to their customers.

### **How to sell and buy water across state lines**

The Kentucky Public Service Commission regulated Boone Water District. When Boone County Water District brought their request to purchase water from GCWW and change suppliers from North Kentucky Water District to the Boone-Florence Water Commission, it held a hearing to review the request. Since water would be distributed across state lines, the Kentucky Public Service Commission expressed reservations because it is unable to regulate water in Ohio.

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Greater Cincinnati Water Works Service Area Map. Image from City of Cincinnati website.

Two pieces of evidence overcome the Kentucky Public Service Commission's reservations. First, the independent feasibility study that the Boone-Florence Water Commission, Boone Water District, the City of Florence, and North Kentucky Water District conducted had concluded that the arrangement with GCWW was in the best interest of all parties. Second, the parties held up the federal Safe Drinking Water Act as the best mechanism to ensure that minimum standards were met because it established the treatment and water quality standards to which all states adhere.

With the purchasing agreement approved, GCWW, Boone County Water District, and the City of Florence conducted an in-depth study of two existing cross-state water agreements to glean insights. Agreements between Kansas City, MO and Kansas City, KS, and Logan and Todd County, KY and Northern Tennessee provided important models. The latter agreement was particularly instructive because the utilities had agreed to abide by Tennessee state drinking water regulations to avoid regulatory confusion. GCWW and the Commission followed suit when Boone County and the City of Florence accepted the Ohio drinking water regulations followed by GCWW.



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Cincinnati skyline. *Wikimedia Commons*

### **Boone County had concerns about GCWW disproportionately raising rates on Boone consumers**

Some municipal leaders in Kentucky were concerned that GCWW would be able to raise the rates charged to their residents without facing political “fallout” in Cincinnati where they assumed the water works would keep rates constant or increase at a slower pace. In order to please both Cincinnati local government and address the concerns of the Boone officials, GCWW set water rates for the Boone-Florence Water Commission at a constant percentage markup of the rate charged in Cincinnati. Whenever GCWW seeks a rate increase, the Cincinnati local government must approve increases on Cincinnati residents in order to increase rates for the Boone-Florence Water Commission. While rate-setting control is in the hands of GCWW, any water rate increases in Boone come with an accompanying rate hike in Cincinnati. This provision adequately addressed Boone County officials’ concerns, since the Cincinnati City Council’s affordability concerns would likely limit their desire to raise their residents’ rates.

### **Local officials in Boone worried that this agreement could restrict Boone’s growth if their water needs grew too much**

Boone County wanted assurances they would have enough water to accommodate future growth, especially given their steep growth trajectory at the time of the agreement. They negotiated a clause guaranteeing them 30 million gpd, which left them a 10 million gpd cushion. This cushion, combined with GCWW’s 70 million gpd excess pumping capacity and 150 million gpd of water stored in reservoirs, ensured that Boone County Water District was comfortable that it would have the water it needed for the future of the community.

### **Despite the excess capacity, if reduced water supply occurred, the Boone-Florence Water Commission had to ensure adequate back-up water supply**

The Boone-Florence Water Commission needed to make arrangements for adequate back-up water supplies in the case that GCWW experienced a water shortage. Their contract with GCWW states that in cases of reduced supply, GCWW will distribute water supply to the system as equitably as is commercially practical. If GCWW faces an emergency water shortage, the utility prioritizes water delivery based on how critical an entity is to the

# MANAGING PUBLIC WATER INFRASTRUCTURE WITH RESOURCE CONSTRAINTS

## PROCESS USED

1. Boone County Water District and City of Florence recognized growing water needs to accommodate a growing population.
2. GCWW enacted an expansionary policy to acquire new customers.
3. Boone County Water District and City of Florence conducted a feasibility study to explore how they could purchase water from GCWW.
4. Both Boone County Water District, City of Florence, and GCWW determined the provisions for a wholesale purchasing agreement:
  - a. Rate-setting,
  - b. Infrastructure connections, and
  - c. Water security protections for their respective customer bases.
5. Established the Boone-Florence Water Commission to serve as an intermediary entity between GCWW and Boone County residents.
6. Meet at least once a year to discuss the agreement and any future water needs.

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community. Medical facilities, government buildings, schools, and other critical facilities are given priority regardless of political jurisdiction. However, to ensure Boone County and the City of Florence have adequate water, GCWW strongly encouraged Boone Water to maintain emergency supply connections with the Northern Kentucky Water District in case of a system failure. As a result, should the Northern Kentucky Water District experience any issues, emergency supply can be provided via the Boone water system from GCWW.

## **They needed to determine the technology necessary to distribute water under the Ohio River and who would pay for it**

Linking GCWW and Boone Water District required a directionally-drilled 30-inch water main under the Ohio River. The cost of putting in this main would be up to \$27 million, which was far too large for Boone County and the City of Florence to pay at one time. The contract therefore included a provision that allowed GCWW to take on some of the debt and the Boone-Florence Water Commission to repay it over time. This allowed Boone and Florence officials to support the project, despite large capital improvement costs.

### *Impact to Cincinnati*

The agreement has enabled Cincinnati to generate more revenue. GCWW has used revenues to pursue significant technology upgrades. From System Control and Data Acquisition systems to new computer-aided design computers, GCWW upgrades enable it to control more and more of the system by computer. As a result of automation, personnel costs are down, and GCWW is able to keep water rate increases reasonable while reaching its one percent annual infrastructure replacement goal.

### *Impact to Boone County and Florence*

The agreement enabled stable water rates and more confidence in water availability for customers in Boone County and the City of Florence. It also changed the water administration landscape for Boone County by adding the Boone-Florence Water Commission. The Commission administers the contract between Boone County entities and GCWW, but it also has responsibility for the long-term maintenance of water storage facilities and equipment.

## **Resources required**

### *Legal permission*

Each community needed the legal ability to enter into a wholesale purchase agreement. This required water quality criteria approved by the Kentucky Public Service Commission and the Kentucky Division of Water as well as purchasing agreement approval from both local governments.

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Ohio River, Cincinnati. *Wikimedia Commons*

## ***Access to capital***

The two utilities needed to link their systems in order to distribute water. Connecting the water infrastructure systems required a capital investment. For this agreement, GCWW financed and built the water main under the Ohio River and a new pumping station in Kentucky. GCWW built repayment for these capital expenses into the water rates paid by Boone-Florence Water Commission over the 29-year life of the contract. The Boone-Florence Water Commission financed \$43 million in revenue bonds to construct 27 miles of piping, two new elevated storage tanks, and a ground storage pump station. Revenue bonds also went towards buying out the remainder of their contract with the Northern Kentucky Water District.

## **Lessons learned**

- For large, shrinking utilities, a strategy of providing service to wholesale clients can address excess capacity and increase revenues.
- Entering into a regional agreement can allow smaller communities to receive water for their community at lower rates while avoiding large capital improvements.
- The creation of an intermediate utility can increase political will to purchase water from an outside entity, especially across state lines. This third party can keep funds local, address political concerns about sending local funds to another community, and allow local elected officials to maintain autonomy over their system.
- Setting percentage-based rates can force the selling party to weigh the consequences of any rate changes before enacting them. Creating checks on rate setting establishes and maintains trust between communities.
- When large capital improvements are necessary, smaller utilities benefit from purchasing from larger utilities, which may be in better position to finance expensive infrastructure over time.

## **Project status**

This long-term agreement, signed in 1999, is still in place. Boone, Florence, and Greater Cincinnati Water Works officials meet at least once a year to consider the agreement and address any issues or questions. GCWW has continued to expand, signing similar purchase agreements with the City of Lebanon, Butler County, Warren County, and Clermont County, all Ohio entities.

## **What other communities have implemented similar projects?**

- Cleveland Water authority and Portage County, Ohio
- Kansas City, Missouri and Kansas City, Kansas
- Logan and Todd Counties, Kentucky and Northern Tennessee
- Chester Water Authority in Pennsylvania cited an expansionary policy similar to Greater Cincinnati Water Works in their annual reports.

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