



Community and Economic Development in North Carolina and Beyond Blog: Four Finance Facts about Flint

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As this blog is being written, water and community managers from across the country are talking about the water crisis that is occurring in Flint, Michigan. The City made a decision several years ago to discontinue buying Lake Huron water from Detroit in favor of an alternative supplier who was planning on constructing a major new transmission line to provide a “less costly” supply of Lake Huron water. While waiting for the project to be completed, the City relied on water from the Flint River. This source of water was determined to have a different chemical composition that led to water line corrosion causing lead to enter the drinking water supply. In addition to the acute public health impacts of the crisis, the impoverished community is facing a huge price tag to address their infrastructure problems.

As often happens with a crisis, the attention on Flint's situation is shining a light on challenges that are by no means unique to Flint. While there are many specific circumstances that contributed to the problems in Flint, many of the underlying financial issues facing Flint will have or already have had an impact on water systems across the country. Here are four financial facts that played out in Flint that every water and community manager should be thinking about:

1. The cost of addressing aging inaccessible infrastructure is enormous. Water customers have a difficult time understanding why it continues to cost more for their water services (water, wastewater, stormwater) and are surprised and outraged when their bill goes up faster than other services. The harsh reality is that the status of water infrastructure in most communities will make significant cost increases inevitable. Assets have reached their normal lifespan and replacing and rehabilitating those assets often is significantly more expensive than putting in the new assets in the first place. Consider that many critical assets are buried underground and covered by an almost impenetrable barrier of asphalt, gas lines, and telecommunication lines.

2. Water service has characteristics of a Public Service and a Private Good. Flint has many families that are so financially challenged that paying for basic water service is extremely difficult. Water provision is at the center of an economic conundrum that continues to challenge utilities and societies throughout the world. The US water utility business model is largely designed to treat water as a private good in which individual consumers are responsible for covering the cost of providing what they consume. This model has many benefits and promotes the wise use of water, but it does not always acknowledge the public benefits of water service similar to how society acknowledges (and prices) other public services such as education and public safety which are covered by general taxes rather than user fees. When water services were relatively inexpensive, treating them as a private good was less problematic – almost everyone could cover the cost, but after years of increasing water costs (partially due to fact 1), this is clearly no longer the case. Federal and state governments (on behalf of their tax payers) have stepped in to support other private goods with public service attributes. For example, there is a federally funded Low Income Home Energy Assistance Program (LIHEAP) that helps low income families with their energy costs but there is no targeted equivalent in the water sector. Federal and state subsidies for the water sector do exist in the form of grants, subsidized loans and tax exemptions on debt but this financial support typically goes directly to an entire water system rather than targeted to the population within that service area that needs it most.

3. Adapting to falling water service demands is difficult. The population of Flint was close to 200,000 in 1960 and is now under 100,000. Water infrastructure throughout the country was largely developed under the assumption that service population and demands will continue to rise – an assumption that is certainly no longer playing out in Flint but which also is not playing out in many parts of the country even in areas with strong economic growth. Projected water demands that fail to materialize can cause technical and public health problems with oversized treatment and distribution facilities operating sub-optimally. Falling demands also cause tremendous financial challenges with fixed costs such as debt service and asset maintenance distributed among fewer people and over lower volumes. What technologies are in our



future? How would the average water or wastewater system operate if the Gates Foundation succeeds in their effort for a waterless toilet? Many assets are designed based on a single demand scenario, but evidence is showing us that economic and technological disruptions are common and should be at least considered. How resilient is your community's utility business model and capital improvement plan to changing water demand patterns?

4. Obstacles to regional collaboration. The decision to switch water suppliers was driven by an understandable desire to reduce costs. While most of the focus recently has been on looking at the due diligence and monitoring that went on related to that decision, relatively little discussion has addressed why having one struggling water system pull out from partnering with another struggling regional water system with excess capacity would make financial sense in the first place? Regionalization and sharing assets can have financial benefits particularly for communities with falling demands (see item 3) but there are many incentives for keeping systems separate that are difficult to overcome and these may have contributed to the problems in Flint. Water partnerships can involve multiple parties with legacy water agreements and contracts. These agreements can drive outcomes in frustrating yet understandable directions. For example, take a situation where utility X has separate contracts to sell water to Utilities Y and Z for \$3/1,000 gallons. If Y finds another source of water for \$2.50/1,000 gallons, it is very hard for X to lower the price to compete with the source even if it may make financial sense to them because it might jeopardize their contract with Utility Z as well. In the end utility Y leaves the partnership and both Utility X and Z are worse off. Regionalization normally doesn't "just happen" it often seems to require significant goodwill, energy and external brokering to make it work.

There will be debates for years about what caused the crisis in Flint and there likely is plenty of blame to be distributed, but the crisis also highlights the inherent challenges of providing safe water services across the country. The parties directly involved in the Flint crisis will certainly change many things related to how they operate in future, but will anyone else? Let us know what you think?