



Newark, DE



UNIVERSITY OF
MARYLAND

ENVIRONMENTAL FINANCE CENTER



SCHOOL OF GOVERNMENT
Environmental Finance Center

BACKGROUND

The City of Newark, in New Castle County, is located in northern Delaware less than a mile south of the tripoint where Delaware, Maryland, and Pennsylvania meet; and roughly halfway between Philadelphia, PA and Baltimore, MD. The city encompasses 9.3 square miles and is home to the University of Delaware, as well as a host of industrial and commercial business. For over fifty years, one of Newark's major sources of employment and revenue was the Chrysler Newark Assembly plant which closed in 2008 due to the recession. Newark's population was 33,352 (2018) with 11,670 housing units, and the total number of college students in 2017 was 23,774. The median household income (MHI) is \$57,391 compared to the statewide MHI of \$64,805 (2018) with 25 percent of the population living below the federal poverty threshold, compared to the state's 12.5 percent.

Water and Wastewater System Details

The service population for Newark, which consists of about 40,000 people on roughly 10,000 metered connections, is largely residential and includes the University of Delaware. Newark owns and operates the Curtis Water Treatment Plant (CWTP) which takes water from the White Clay Creek. Following a major drought in 1999 Newark built a 317-million-gallon reservoir which provides a reliable source of raw water that can be treated and ready for drinking in times of heavy rain or drought. Newark maintains approximately 140 miles of watermains throughout the distribution system and seven tanks store enough water to last two days. The South Well Field (SWF) Iron & Manganese Removal Plant aerates well water and supplies additional drinking water to residents.¹

Newark's water comes from the City of Newark Reservoir and may be provided by the City, Artesian Water Company, or Suez Water. Rates differ dramatically among the three. City of Newark provides the least expensive water by far with a total average quarterly charge of \$81.44 compared to Suez's \$112.10 and Artesian's \$156.95 (based on 11,000 gallons per quarter).² The difference in rates in large part is due to the lack of automatic monthly service

¹ <https://newarkde.gov/645/Water-Quality-Reports>

² New Castle County Water Rates Oct 2019. University of Delaware Water Resources Agency provides estimated rate comparison for 11,000 gallons and 15,000 gallons usage per quarter for water providers in New Castle County, Delaware.

charge from Newark, where Suez and Artesian charge \$15.10 and \$16.49, respectively. Artesian's rate per 1,000 gallons is also significantly higher than the others.

Newark is a Phase II stormwater community and co-permittee with the University of Delaware. The permit has been under an administrative extension since 2008. In 2017 Newark implemented a stormwater utility to address permit and flooding/drainage issues. The fee ranges from \$2.12 to \$6.37 based on impervious area. It is estimated the fee raises approximately \$1.7 million each year and rates are set according to yearly budgetary needs.³

Newark's population of about 33,000 uses a daily average of 3.5 million gallons per day averaging in the water use of 20,000 students during the school year.⁴ Newark Sewer Authority owns and operates a roughly 15 square-mile area that serves about 11,000 households (not including students), though Wilmington's wastewater treatment plant treats Newark's discharged water. Newark does not have the ability to borrow for wastewater services, although it does for other public works services. The sewer rates for residential customers (1/1/2016) is \$ 7.53 per 1000 gallons (subclass three).

Affordability in Context

Based on the interviews with staff, Newark takes questions of affordability into consideration for "every decision, every year." However, like other municipalities, they are grappling with aging infrastructure and operations and maintenance costs which indicate the need for increased rates in the future. The affordability analysis required to apply for state revolving loans for capital projects includes EPA basic metrics of affordability for individual projects and cost per equivalent dwelling units (EDUs). The total individual project cost of which a "residential share" is computed is divided by the EDUs and compared to the median household income. For combined water and wastewater, the SRF requests the project be less than 2 percent household income. Feedback on rates and affordability is supplied by the Wilmington Water Sewer and Stormwater Citizens Advisory Board. The Wilmington Water, Sewer, and Stormwater Citizens Advisory Board provides oversight of the operations, finances, policies, and procedures of the water, sewer, and stormwater utilities.⁵

³ <https://newarkde.gov/877/Stormwater-Utility>

⁴ <http://www.dnrec.delaware.gov/fab/Documents/DE-WWTP-Needs-Assessment-4-10-20.pdf>

⁵ <https://www.wilmingtonde.gov/government/boards-commissions-and-committees/wilmington-water-sewer-and-stormwater-citizens-advisory-board>

Newark staff regularly brief and educate residents and council to describe the infrastructure needs. During a series of recent educational outreach events to residents to support a referendum for capital projects, Newark expressed the following summary for residents:

1. We (the City of Newark) never paid for most of the infrastructure out of rates before because they were paid for by developers or the federal government.
2. Large building booms between WWII and 1970's show up with echoes of failing infrastructure.
3. (Newark is) going to need to raise rates considerably over the next 15 years to pay for replacement and rehabilitation of infrastructure assets.
4. Debt will be critical to meeting the cash requirements.
5. Water infrastructure (all types) is going to wear out and level of service will decline absent investment (more failures).
6. More frequent failures will have an impact on willingness of people to pay more for water services.

AFFORDABILITY METRICS SUMMARY

Metric	Definition	Value for Newark
Residential Indicator	Annual average utility bill as % of MHI.	1.5%
Household Burden Indicator	Annual water, wastewater, and stormwater bill as % of 20th percentile household income.	3.9%
Poverty Prevalence Indicator	% of households at or below 200% of the federal poverty line.	37.2%
Cost of Basic Water Use as % of Upper Limit of Lowest Income Quartile	Annual water and wastewater bill, not including base charges, for the average household size for 50 gallons per person per day as a % of 20th percentile household income.	3.9%
Weighted Average Residential Index	Average annual bills as a % of MHI by census tract or census block group extrapolated to the whole service area by weighting each tract or block group by the number of households. If the average annual bill by census tract or block group is unavailable, the average bill of the entire service area is used.	4.1%
Affordability Ratio at 20th Income Percentile (AR20)	The water, wastewater, and stormwater bill as a percentage of discretionary income for the 20th percentile income household.	Negative
Hours at Minimum Wage	The number of hours at minimum wage, before taxes, needed to pay the water and wastewater bill. Assumes 50 gallons per person per day for the average household size and does not include base charges.	6.1
Households Delinquent in Paying Bills %	The percentage of residential accounts delinquent as of March 2020.	No Data
Poverty Rate %	The percentage of households in the census place below the federal poverty line.	25%
Living Wage %	The % of households whose hourly household income is below the minimum wage necessary to pay for all essential expenses. Calculated based on MIT living wage values at the county-level.	32.5%
Shelter Cost	Percentage of households in the census area paying more than 30% of their income on housing. Housing costs based on U.S. Department of Housing and Urban Development Fair Market Rate for a 2-bedroom unit.	43.6%
Households receiving public assistance %	Percentage of households in the census area receiving SNAP benefits.	4.7%

THE UTILITY'S FEEDBACK ON THE AFFORDABILITY METRICS

The assessment of each of the affordability metrics above were reviewed with the utilities. Comments and input from utility staff were requested to evaluate whether they consider the metrics provided a reasonable assessment of actual conditions in their local community and of their customers. The utility's feedback on each of the affordability metrics is documented below.

Residential Indicator

The residential indicator is a metric that Newark uses for SRF individual project cost assessments. When applying to the SRF for capital projects, the primary methodology for affordability analysis uses EPA's basic metrics of affordability for individual projects and cost per equivalent dwelling units (EDUs). The total individual project cost of which a "residential share" is computed is divided by the EDUs and compared to the median household income. For combined water and wastewater, the SRF requests the project be less than 2 percent household income.

The metric calculated here includes the estimated water, wastewater, and stormwater rates compared to MHI (slightly different than the SRF process) which all show a low burden for Newark customers.

HBI and PPI

The Household Burden Indicator and Poverty Prevalence Indicator show a moderate-high burden in Newark. As with many metrics that include the poverty data the metrics are skewed toward high levels of poverty. However, Newark has 20,000 University of Delaware residents that are included in the low-income brackets. As the City Manager related that the poverty indicators or income data for Newark "...is somewhat complicated and that is the effect of having 15,000-17,000 "low income" college students in town." He added that this consistently, and misleadingly suggests Newark has a high poverty rate given that they identify as unemployed.

Cost of Basic Water Use as % of Upper Limit of Lowest Income Quartile

The difference between this and HBI is a standardized rate of water usage and the lack of a base charge in this calculation. This metric does not have a benchmark with which to compare. The same comment on inclusion of “low income students” above applies here.

WARi

This is close to the same as the Residential Indicator, but taken at the census tract level, not service area. This could isolate low-income areas without diluting the average with higher income households. Newark does not currently have the data to analyze residential water and wastewater usage by census tract. Therefore, the average usage for the entire service area was used to calculate WARi. Proposed benchmarks that indicate high burden are 2% of MHI each for water and wastewater (and 4.5% of MHI for water and wastewater - it does not yet consider stormwater).

AR20

The AR20 suggests a high burden in Newark. The same comment in HBI and PPI applies here related to the student population. The metric was negative indicating that the essential costs exceed the 20th percentile household income.

Hours at Minimum Wage

For Newark, hours at minimum wage indicates low burden on customers. The minimum wage, \$9.25, is relatively high in Newark.

Percent of Households Delinquent in Paying Bills

This information was not available.

Percentage of Household Below FPL

Like the above metrics with income and poverty, the student population makes this metric high and potentially misleading for Newark.

Percentage of Households Below the Living Wage

Like the above metrics with income and poverty, the student population makes this metric high and potentially misleading for Newark.

Percentage of Household Income Spent on Shelter Cost

Like the above metrics with income and poverty, the student population makes this metric high and potentially misleading for Newark.

Percentage of Households Receiving Public Assistance

The value for households receiving public assistance is low in Newark which indicates there may not be a significantly large low-income population in Newark. The discrepancy of the metric taken into consideration with the metrics that include low income and “poverty” show that additional consideration must be made for university and college towns and cities.

COVID-19

COVID-19 has definitely had an impact and Newark is budgeting and examining rates for cost recovery to ensure sufficient revenue is collected. Billing for water usage alone will not necessarily bring in sufficient revenue given that the bills that are not being paid (accounts receivable) are growing. The staff mentioned that federal programs that provide assistance would increase the likelihood of cost recovery. The state has programs for commercial assistance, but utility payment support is not highly prioritized. Like other municipal utilities, Newark's utilities are not turning off service for now.

In addition to budgeting considerations, the City is looking at procurement options, such as leasing versus purchase, as well as reviewing reserves to determine "how long" they will last and how the loss of revenue, estimated to be 12% to 15% net revenue, can be covered.

Also at the time of interview, University of Delaware students were not in town, which is problematic as population drives usage. Newark reports they need to increase rates, over increases that have taken place over the past, but are putting that off for now. While it is uncertain how the public will react to potential rate changes, public outreach and education is ongoing. Newark is considering administrative customer charge, rate restructuring, and a change in flat charge and lower usage rate as cost recovery options.