





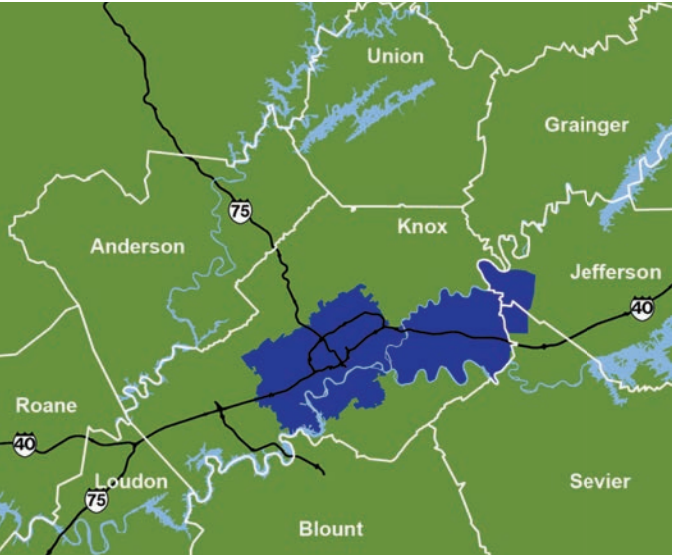
## KUB Board of Commissioners

- Bruce A. Anderson – Chair
- Joel Connell – Vice Chair
- Kathy Hamilton
- Celeste Herbert
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- Nikitia Thompson
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## Management

- |   |   |
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|   | <b>Dennis Upton</b><br>Vice President   |

## Water Service Area



Number of Customers . . . . .	78,336
Service Area . . . . .	188 square miles
Treatment Plants . . . . .	1
Booster Pump Stations . . . . .	27
Storage Facilities . . . . .	28
Service Mains. . . . .	1,408 miles
Rated Capacity (mg) . . . . .	61.2
Reservoir Capacity (mg) . . . . .	37.5
Total Treated Water. . . . .	12.1 billion gallons
Average Flow (mgd) . . . . .	33.2

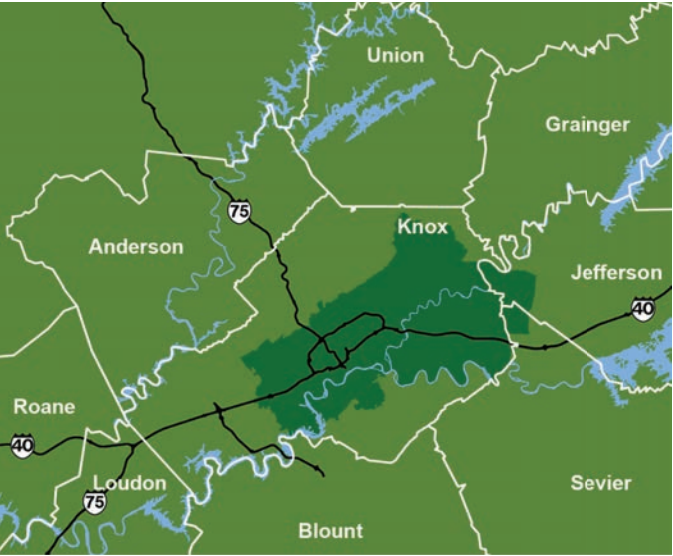
*Mg equals million gallons. Mgd equals million gallons per day.*

### KUB's Typical Residential Water Customer

Annual Usage (Gallons) . . . . .	44,880
Average Monthly Bill . . . . .	\$19.45
Cost per Gallon. . . . .	\$0.005
Average Daily Cost for Water Usage . . . . .	\$0.65

*A customer can use up to 1,500 gallons of water a month for a bill of \$11.50 (or 38 cents a day).*

## Wastewater Service Area



Number of Customers . . . . .	69,613
Service Area . . . . .	256 square miles
Treatment Plants . . . . .	4
Lift Stations . . . . .	76
Storage Facilities . . . . .	6
Service Mains. . . . .	1,320 miles
Rated Capacity (mg) . . . . .	66
Total Treated Water. . . . .	14.5 billion gallons
Average Flow (mgd) . . . . .	39.59

*Mg equals million gallons. Mgd equals million gallons per day.*

### KUB's Typical Residential Wastewater Customer

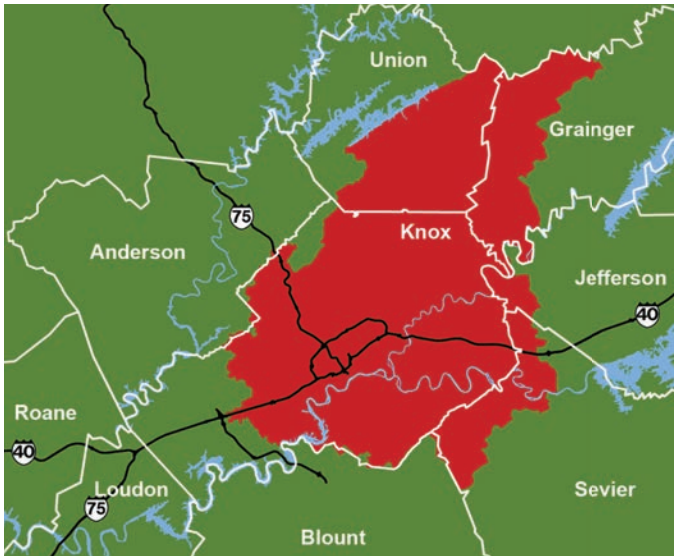
Annual Flow (Gallons) . . . . .	44,880
Average Monthly Bill . . . . .	\$47.50
Cost per Gallon. . . . .	\$0.013
Average Daily Cost for Wastewater Usage . . . . .	\$1.58

*Wastewater is billed on water usage.*

# Service Area Maps and Statistics

KUB consolidated audited financial statements are available as an insert, and both the consolidated and full audited financial statements are online at [www.kub.org](http://www.kub.org).

## Electric Service Area



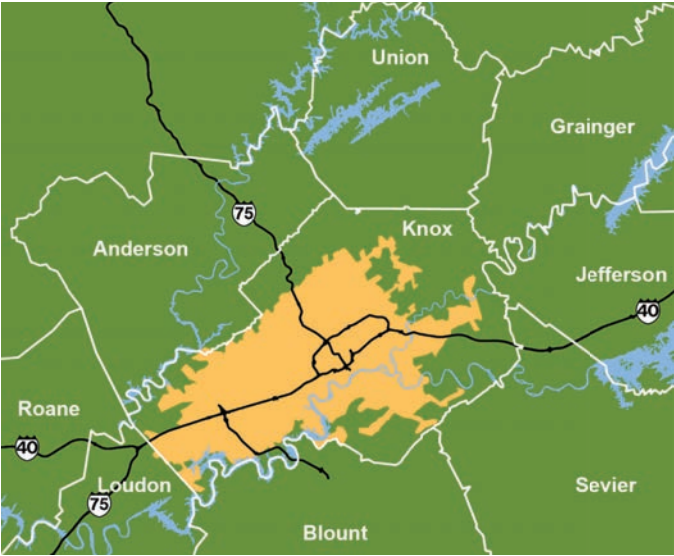
Number of Customers	199,382
Service Area	688 square miles
Service Lines	5,268 miles
Substations	60
Peak Day Demand (kW)	1,312,699 (01/14)
Peak Demand Capacity (kVA)	2,600,000
Total Purchased Power (MWh)	5,728,465
Purchased Power Cost	\$420 million
Power Cost as a Percentage of Sales	81%

### KUB’s Typical Residential Electric Customer

Annual Usage (kWh)	12,000
Average Monthly Bill	\$99.52
Cost per kWh	\$0.099
Average Daily Cost for Electric Usage	\$3.27

A kilowatt-hour (kWh) is the amount of electricity required to burn a 100-watt light bulb for 10 hours.

## Natural Gas Service Area



Number of Customers	97,930
Service Area	282 square miles
Service Mains	2,298 miles
Peak Day Demand (dth)	133,366 (01/14)
Peak Demand Capacity (dth)	157,381
Total Purchased Gas (dth)	12,639,071
Purchased Gas Cost	\$69 million
Natural Gas Cost as a Percentage of Sales	59%

### KUB’s Typical Residential Natural Gas Customer

Annual Usage (Therms)	598
Average Monthly Bill	\$58.01
Cost per Therm	\$1.16
Average Daily Cost for Natural Gas Usage	\$1.91

A therm will dry six loads of clothes in a gas dryer. A dekatherm (dth) will dry 60 loads.



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## Committed to Service *Past, Present, and Future*

**KUB CELEBRATED 75 YEARS OF SERVICE** in 2014. I am very proud of that long history and thankful for the hard work of current and former Commissioners and employees. They built a strong structure for the Board and for our utility systems that continues to serve our customers well.



Much has changed since KUB started in 1939, including equipment, technology, and customers' expectations. One important thing, however, hasn't changed. KUB's commitment to our customers and our community is still strong.

We celebrated our history in 2014, but we didn't lose focus on the present — or the future. And our key metrics show that.

Our first priority is safety, and I am pleased to say we had one of the safest years in our history. We also saw our best electric reliability rate, thanks in large part to our tree pruning efforts and Century II infrastructure investments. And our rates remain competitive with our peers.

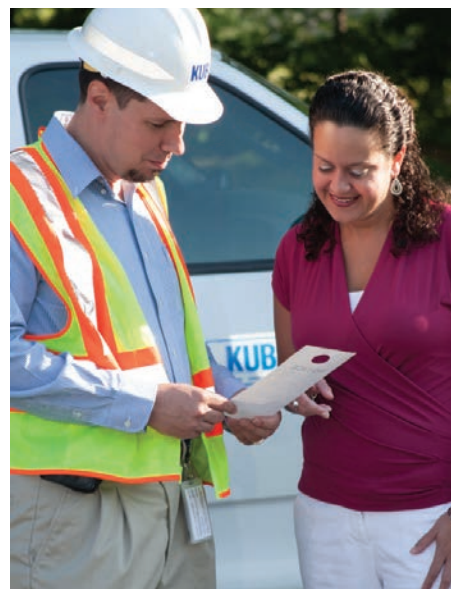


With the Board's support, we continue to fund and implement Century II, our long-term infrastructure program. That will help ensure our systems can continue to meet the test of time and our customers' needs.

Our challenge and obligation continue to be finding the right balance between current and future needs. We want to maintain affordable rates for our current customers; however, we must also invest in safe, reliable systems for the generations to come.

To help provide a strategic framework and meet the challenge of balancing those conflicting needs, we developed the KUB Blueprint (see right). It builds on the legacy of those who have come before us. It will also help us stay focused on ongoing cost management and making steady investments over time in sustainable replacement plans for each of our systems.

We remain committed to being good stewards of our utility systems and our ratepayers' dollars and to meeting the evolving needs of our customers. We are grateful to be Knoxville's hometown utility, and we look forward to continuing to help our community grow in the years to come.



## Managing Our Utility Infrastructure: Wastewater System

**THE PACE 10 PROGRAM**, launched in 2004, helped KUB accelerate wastewater system improvements, reduce sewer overflows by 75 percent, and meet federal Consent Decree (CD) requirements. ("PACE" stands for "Partners Acting for a Cleaner Environment," and the "10" is for the CD's 10-year timeframe for completing collection system improvements.)

KUB completed all collection system projects required under the CD in 2014. KUB completed Phase I projects at Kuwahee in December 2012 at a cost of \$51 million and in December 2013 at Fourth Creek for \$20 million. We will complete Phase 2 treatment plant requirements with \$1.7 million in upgrades at the Fourth Creek plant in June 2018 and \$39 million at the Kuwahee plant in June 2021. To completely close out the CD in 2021, however, we must demonstrate that we can sustain system improvements.



KUB is adding high rate clarification (HRC) to the treatment process at the Fourth Creek Wastewater Treatment Plant. That will help meet CD requirements and handle higher flows.

To do that, KUB brought the wastewater system under the umbrella of Century II, along with our electric, natural gas, and water systems. KUB launched Century II in 2007, using PACE 10 as a model, to help ensure that our other systems had the same comprehensive infrastructure management plan as that developed for the wastewater system.

KUB's wastewater collection system consisted of 75 percent older clay and concrete pipes when PACE 10 began. After 10 years of replacing 25 miles annually, those types of pipe are now only 50 percent of the system.

Stewardship of utilities requires a long-range plan and consistent investment over time. The KUB Board of Commissioners has shown a commitment to meeting those requirements. The Board endorsed a Century II 10-year wastewater-funding plan in December 2013 and will continue to review and revise funding to meet future needs.

Century II will help KUB maintain appropriate levels of inspection, maintenance, and replacement. For example, KUB plans to continue the current replacement rate of 2 percent of the system, or 25 miles per year. By 2040, we will have replaced all our current older pipe with new pipes and will follow our 2 percent rate as that pipe ages. That will ensure our wastewater system can continue to meet customers' needs and protect our environment in the decades to come.



"We are grateful to be Knoxville's hometown utility, and we look forward to continuing to help our community grow..."

# Managing Our Utility Infrastructure: Water System

In 75 years of service, KUB has sustained an excellent record for providing high quality drinking water and reliable service. We built that record through long-term investments in our water plant, laboratory, and distribution system—including more than 1,400 miles of pipes, the “buried assets” that deliver water to our customers.

Although housed in a stately facility constructed in 1927, KUB’s Mark B. Whitaker Water Plant receives continual upgrades to keep the water processing equipment state-of-the-art. KUB also has a modern water quality laboratory to help us meet existing testing standards and respond quickly to increasing requirements.

The KUB Board endorsed a 10-year Century II funding plan for the water system in 2011 that includes modest annual rate increases and periodic debt issues. Under the plan, KUB is replacing galvanized pipe at a rate of 12 miles per year. That keeps us on track to replace all galvanized pipe in our system by the end of 2020. Our cast iron main program replaces an average of five miles per year.

Older pipe types typically have a higher rate of breaks. As we saw in January 2014, that rate goes up as the temperature drops and the ground freezes and moves. Bitterly cold weather contributed to an unprecedented number of breaks: 121 in January, compared to 47 in December.

KUB saw a significant increase in water loss in January due to the cold and the large number of breaks. Smaller “invisible” water leaks, however, can happen any time. Small leaks have a low flow, but they can be hard to detect and can lead to considerable loss before they are found and fixed.

KUB conducts periodic leak surveys using equipment that can “hear” leaks along water lines. But that only provides a snapshot of the system at that time.

Over the next few years, KUB will implement a District Metered Areas (DMAs) approach. We will install monitoring meters to create smaller zones in each re-pump area. Those meters will allow us to locate leaks sooner and respond more quickly.

Reducing water loss supports our mission in several ways. It helps us be good stewards of our communities’ resources and customer dollars. And it meets our commitment to be environmentally responsible and support the sustainability of natural resources.



KUB’s Mark B. Whitaker Water Treatment Plant provides finished drinking water to more than 76,000 customers in Knoxville, East Knox County, and portions of Jefferson and Sevier counties.



**Our Vision:**  
KUB exists to serve its customers, improving their quality of life by providing utility services that are safe, reliable and affordable.

### Shared Values:

- We value the safety and well-being of our customers and employees.
- We value fairness, and try always to make decisions that provide the greatest good for the most people.
- We are in a position of trust and hold ourselves to high ethical standards.
- We improve the value of our services through efficiency, innovation and communication.
- We value the commitment and hard work of our employees.
- We are environmentally responsible in our operations and support the sustainability of our communities’ natural resources.
- We participate in the communities we serve.

### Our Mission:

Our mission is to act as good stewards of our communities’ resources: utility assets, customer dollars, and the environment. We work to safeguard those resources and enhance their value for the people of the communities we serve and generations to come.

### We Measure Our Success by:

Customer Satisfaction	System Performance	Financial Performance	Safety Performance
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### Keys to Success:

Managing Our Utility System Infrastructure			
Electric	Natural Gas	Water	Wastewater
Improving The Customer Experience	Managing Our Finances Effectively	Meeting Or Exceeding Regulatory Standards	
Investing In A Skilled, Diverse Work Force	Partnering For Economic Development	Being Environmentally Responsible	



## 75 Years of Caring for Our Community and Our Environment

**COMMUNITY SUPPORT HAS ALWAYS BEEN** important to us. For our 75th anniversary, we celebrated that tradition by organizing a Week of Service. From November 17–21, 2014, over 260 KUB employees volunteered over 1,000 hours at 10 local agencies.

KUB is proud of the support our employees showed for our community during that week—and more important—their day-to-day commitment. That commitment helps shape our decisions as we work to support our community and protect the environment.

KUB also supports efforts by TVA, the City of Knoxville, and other agencies to promote conservation and improve the environment and the quality of life in our area. [For a partial list, please see the Highlights section at right.]



For example, KUB developed a new Round It Up program with the City of Knoxville and the Knoxville-Knox County Community Action Committee (CAC), based on the City's IBM Smarter Cities Challenge May 2013 Report. The voluntary program will start rounding participating customers' bills up to the next dollar in May 2015. CAC will use the funds to make low-income families' older homes more energy efficient, which helps the environment and lessens the need for chronic energy assistance.

Supporting our community's growth is also a core KUB principle. We dedicate significant staff resources to working with economic development partners, including TVA, the City of Knoxville, the Knoxville Chamber, and the State of Tennessee.

That close working relationship has helped attract—and retain—major companies that support a vibrant, growing community. They provide better job opportunities for residents and help improve the economy and quality of life in our area.

Our system reliability and commitment to meet or exceed regulatory standards also play a large role in attracting and keeping businesses. Fresenius Medical Care, the world's largest provider of dialysis products, was very interested in our water system and treatment process during site selection. After choosing Knoxville, Fresenius cited KUB's water quality, testing procedures, and professional staff as a main factor.

We are proud to supply safe, reliable, and affordable utility services. We also know it takes much more than that to help a community thrive. We will continue to support our community, protect our environment, and help make our area an even better place to live.



The kennels—and dogs—are cleaner at Young-Williams Animal Shelter [photo at left] thanks to KUB employees' efforts during our Week of Service. Other volunteers "recycled" flowers at area healthcare facilities through Random Acts of Flowers [top photo].

### Supporting Our Community and Environment: Selected 2014 Highlights

- The KUB Cares committee organized volunteers for Medic blood drives, United Way fundraisers, and more.
- KUB participated at events like WaterFest, EarthFest, and 4-H Electric Camp.
- KUB's TeenWork program helped Austin-East Magnet High School juniors learn interviewing and other job skills; successful students could apply for KUB summer jobs.
- Government Fleet Magazine named KUB to "The 100 Best Fleets in North America" for using hybrid or alternatively fueled vehicles and reducing miles driven.
- The Arbor Day Foundation again designated KUB a Tree Line USA utility for using proper tree pruning methods.
- KUB supports and promotes TVA programs like Green Power Switch, which generates renewable energy, and eScore, which encourages customers to conserve energy.
- The Tennessee Chapter of the Sierra Club gave KUB a Sustainable Energy Leader Award for helping households and small businesses use energy more efficiently.
- KUB's Eastbridge and Kuwahee wastewater treatment plants won performance awards from the Kentucky-Tennessee Water Environment Association (WEA) and the National Association of Clean Water Agencies.
- WEA gave KUB a Beneficial Reuse of Biosolids award. KUB keeps about 30 tons of biosolids [a by-product of wastewater treatment] out of landfills each year by recycling it on farms.

## Managing Our Utility Infrastructure: Natural Gas System

**KUB'S PRIORITIES FOR THE NATURAL GAS** system include providing a safe product, reinforcing system integrity, and responding to regulatory changes. To support those priorities, the KUB Board endorsed a 10-year Century II funding plan for the system in 2013. The plan includes modest annual rate increases and periodic debt issues to fund maintaining and upgrading the natural gas system to support those priorities and provide reliable service.

KUB's natural gas system performed well during extreme cold that drove demand up in January 2014. Thanks to a resilient system with built in redundancy, KUB was able to avoid low-pressure issues that increased demand could have caused.



When growth boomed in KUB's northern service area in the 1990s, for example, KUB launched projects like the North Loop to install higher-pressure pipelines that could supply gas from several directions to help maintain reliable service.

KUB continues to work on the South Loop project to ensure the same benefits in the southern service area. KUB started construction on a new gate station in 2014 to serve the South Loop. That station will be the third major feed into KUB's system.

A joint venture with UT, the South Loop project will help KUB prepare for future natural gas customer demands and increase the overall reliability of the distribution system. It will also have a significant impact on air quality in our area, allowing UT to convert its coal-fired steam plant to natural gas in 2015. That conversion achieves the same air quality benefit as taking 7,000 passenger vehicles off the road daily.

Even before Century II started in 2007, KUB worked to replace older types of pipe with newer materials, like polyethylene, that have a longer service life and fewer maintenance issues. KUB finished replacing all uncoated steel and copper services more than 20 years ago and is nearing completion of the cast iron/ductile iron main replacement program that began in 1980. In 2015, KUB will begin a 20-year program to replace low-pressure coated steel pipe remaining in the system with polyethylene pipe.

The natural gas industry is highly regulated. KUB continues to meet requirements under the Distribution Integrity Management Program. The program helps utilities assess, improve, document, and better operate natural gas systems.

Our job doesn't end with managing the system to deliver a reliable supply of natural gas. We also work to help our customers and the public learn how to live, work, and play safely around natural gas services and pipelines through public awareness education.





## Managing Our Utility Infrastructure: Electric System

The KUB Board of Commissioners endorsed a 10-year plan in 2011 to fund electric system improvements under Century II, KUB's infrastructure management program for all four utilities. We plan long-term, but we see the results of investments in maintenance and replacement every day.

We had our best year for electric reliability to date in fiscal year 2014. The KUB Board set a target average of 2.20 hours or less of electric service interruption, excluding major storm events. We came in well under the target at 1.84 hours. (KUB based calculations on the duration of customer interruptions, the number of customers interrupted, and the total number of customers served.)

Despite a brutally harsh winter with snow, ice, and record cold that drove new peak demand records in January 2014, KUB's system had few outages. KUB—and customers—see the benefits of tree pruning and investing in system infrastructure to make the electric system more storm resistant and resilient.

KUB continues to focus on upgrading and replacing electric infrastructure. In 2014, KUB completed an eight-year, \$8.6 million project to renew downtown electric vaults, including 95 transformers.

KUB also began a \$1 million project in 2014 to replace underground electric cable and related equipment installed on the West Town Mall property in the 1970s and 1980s. And KUB worked closely with the City of Knoxville on the Cumberland Streetscape Plan to prepare for moving and upgrading utility infrastructure in the project area. KUB completed relocating electric infrastructure and will continue the next phase of the project in 2015.

Future reliability also drives new construction in the electric system. KUB is working on a new \$14 million substation project with TVA. The East Knox Substation will give KUB the flexibility to upgrade 69kV power lines to help improve current reliability and will allow for future growth.

Growing electric demand also prompted KUB to build a new \$7 million substation in the area near UT Medical Center. The Cherokee Trail Substation, located on UT property near an existing substation, will triple local distribution capacity to help meet the needs of new UT Hospital facilities and the UT Cherokee Farm Research Facility.

With plans to expand smart meter infrastructure [see page 5 for more] and continuing efforts to maintain and upgrade electric system components, KUB is well positioned to meet current and future needs. Our efforts will allow us to meet customers' rising reliability expectations.



**East Knox Substation – Projected Completion: Summer 2015**  
KUB will complete the East Knox Substation, a joint project with TVA, in summer 2015. The site will also serve as a new TVA 161kV switching station.



**Cherokee Trail Substation – Projected Completion: Spring 2015**  
From the inception of the project, KUB worked with the public and elected officials to minimize the visual impact of the Cherokee Trail Substation. KUB held a public meeting on the substation in February 2013 and collected ongoing input from the public, community leaders, and elected officials.

## Improving the Customer Experience

"We improve the value of our services through efficiency, innovation, and communication." That short Shared Value from the KUB Blueprint covers a lot of ground. And it keeps employees busy behind the scenes researching, testing, and implementing new initiatives.

For example, KUB just completed a pilot of smart meter technology, funded in part by a \$3.6 million grant from the Department of Energy in 2009. KUB is now working toward a system-wide deployment of the technology over the next several years.

A decision made based on research before the pilot started will help the deployment go smoothly. Although KUB installed only 6,500 smart meters, mainly in the pilot area around UT and Fort Sanders, we chose to build out a system-wide communications network. That will support not only automated meters but also advanced technology for more efficient operation of the utility systems themselves.

KUB and customers will benefit from features that let KUB locate outages even before customers start calling. Remote devices will allow us to restore power more quickly—sometimes without sending a crew out. We can read meters remotely and monitor voltage and usage, which helps keep costs down.

A customer web portal will allow KUB customers with smart meters to monitor their electric, water, and natural gas use. That will give them the tools and information they need to conserve energy and water and better manage their utility bills.

KUB continues to enhance both its desktop and mobile websites to provide better functionality for customers and include more information. In 2015, KUB will redesign the websites, making them easier to use on a variety of mobile devices. We will also add a construction map to show current major projects. Customers can follow us on Facebook, Twitter, and special project blogs to learn about projects that have a significant impact on neighborhoods and traffic.





## Investing in a Skilled, and Diverse Workforce

**EMPLOYEE TRAINING AND DEVELOPMENT** is critical to providing reliable utility services and meeting the needs of KUB customers. KUB started an initiative in 2014 to optimize the mix of contractors and employees needed to ensure we have the skills available at all times to meet system needs. Over the next three fiscal years, KUB will add three crews in Overhead Construction and seven in Underground Construction to support Century II system improvements.



We also strive for a diverse workforce representative of our customers. In fiscal year 2014, 23 percent of all full-time new hires were minorities. For part-time and student hires, 40 percent were minorities. The total of minorities employed at KUB increased

from 10.45 percent to 11.67 for full-time and from 12.53 to 13.20 for students and part-time workers.

To support our goal of investing in employees, KUB implemented a new employee development program in early 2014. All KUB employees—regardless of tenure, classification, or department—completed Employee Development Interest Forms about their individual training and career development needs. The KUB Learning Center used that input to expand class offerings.

Input from the interest forms also helped KUB form a Leadership Development pilot. Forty employees participated in a program designed to help enhance leadership skills. They helped develop a robust, effective, and sustainable program KUB intends to offer to future groups.



Since 1995, KUB's TeenWork program has helped juniors at Austin-East Magnet High School learn the skills they need to get—and keep—a job. Students who complete the program earn the opportunity to interview for a summer job at KUB or other participating business partners.

## Managing Our Finances Effectively

**KUB CUSTOMERS PAY THEIR** utility bills once a month—but KUB concentrates on keeping bills reasonable every day. We have an aggressive cost management plan to help balance our commitment to keep services a good value for customers with our obligation to upgrade and maintain our four systems.

All departments and projects come under scrutiny to make sure each dollar spent adds value as we look for opportunities to save. Unfortunately, KUB can't control some factors that drive utility bills.

The largest impact on KUB residential bills in the past 20 years came from increases in energy costs (what KUB pays TVA, natural gas suppliers, and interstate pipelines), which KUB passes to the customer. Funding an aggressive wastewater improvement schedule under the EPA Federal Consent Decree also required significant increases in wastewater rates. Still, our margin increases compare favorably to our peers. (KUB's margin [the only part of the bill we can control] reflects our cost to operate the systems.)

For example, from 1993 to 2013, KUB customers saw a \$7 increase in electric service margin, compared to \$14 for customers in Nashville and \$9 for those in Chattanooga. Since 1995, KUB natural gas bills increased \$6 and water bills \$7; both compare favorably to the majority of our peer local and regional utilities. Wastewater was up \$11 since 1995, excluding the costs for the Consent Decree.

As we reported in the 2013 annual report, our cost management efforts saved \$260 million from 1993 to 2013. The majority of the savings over that 20-year period came from labor and labor-related areas (\$235 million). KUB continues that successful savings strategy by closely managing staffing levels and outsourcing routine operations and maintenance jobs as needed.

KUB also refinances outstanding debt at lower interest rates, when possible. Our systems have sound financial plans and strong, high quality credit ratings on outstanding bonds, which helps keep our borrowing costs lower. In fact, Standard & Poor's recently upgraded KUB's water system bonds rating to AAA, its highest credit rating.

KUB employees, management staff, and the Board have long-term views of system management. In the past few years, the Board endorsed a 10-year funding plan for each system. Each plan includes rate increases and debt issues to fund needed infrastructure replacement. The increases are modest and periodic debt issues help balance costs with the impact on customers.



## Funding the Vision

To accomplish the goals of Century II and PACE 10, KUB's Board has endorsed long-range funding plans. These plans include modest rate increases in each system over time, but they also reflect cost management initiatives that have helped to keep rates affordable. In fact, since 1993, KUB efforts have saved customers \$260M by changing processes and managing work with fewer employees. These savings will continue into the future, helping to offset the need for larger rate increases.

### \$260M in Cost Savings Since 1993 Continues Into the Future

