

KUB

Unclaimed Property

April 19, 2018



Resolution 1375

What Is Unclaimed Property?

- Funds that remain unclaimed 1 year after a customer terminates service or 3 years after a vendor receives payment
- For KUB, unclaimed property includes
 - Customer deposits
 - Overpayments
 - Advances for construction
 - Outstanding vendor payments

State Law Governs Unclaimed Property

- Annual reporting and remittance
- Due diligence to locate rightful owners
 - KUB: 1 year, customers; 3 years, vendors
 - State: 18 months
- Return of previously remitted funds
 - Board Resolution
 - Future obligation for valid claims

Resolution 1375

- Resolution requests return of \$132,147 of unclaimed funds previously remitted to the State, less administrative fees

KUB

TVA Rate Change

April 19, 2018



TVA Rate Change: October 2018

- TVA Board action May 10, 2018
- Rate change effective October 2018
- Includes Grid Access Charge (GAC)
- Option to defer GAC to October 2019
- Amendment to KUB/TVA power contract required
- More information at KUB Board meeting in May

KUB

FY 2019 Budget Workshop

April 19, 2018





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
------------------------------	---------------------------	------------------------------	---------------------------

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

FY 2019 Budget Builds on Strong Foundation

Century II

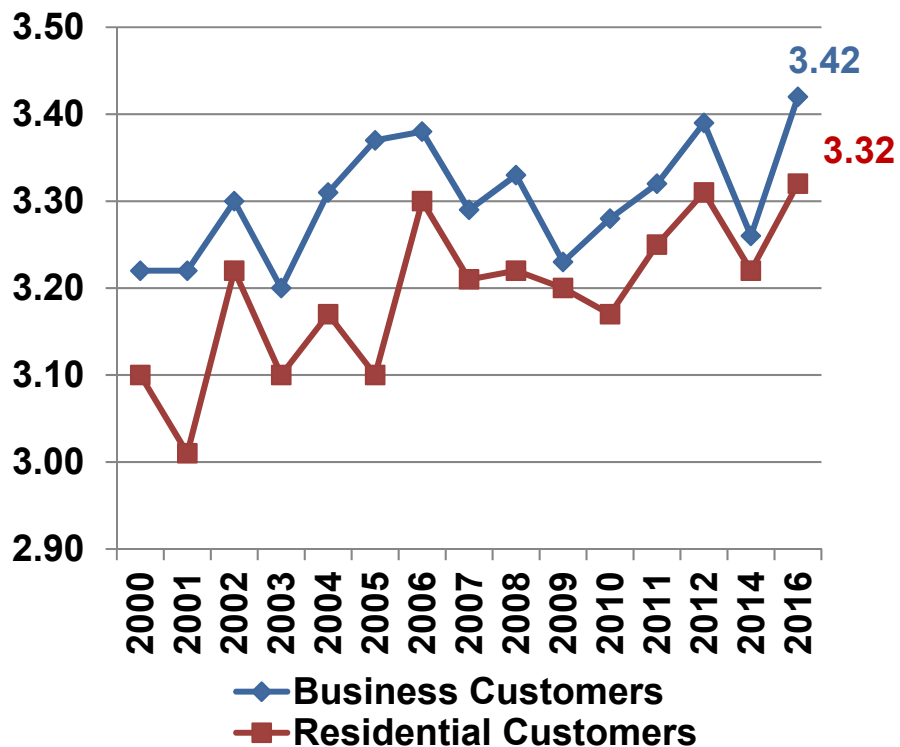


KUB Investing for
Another 100 Years

- Board has adopted a clear plan for the future
- Consent Decree on schedule and on budget

Customers, Industry Recognize Strong Performance

Customer Satisfaction



Customers Recognize the Value of KUB Services

“I deal with multiple utility companies over the course of a year, and KUB continues to be one of the best.”

— *Joe F.*

“I wanted to take the time to thank you for your fast response to my power outage. You guys are awesome!”

— *Sarah K.*

“I could not believe the quick response—30 minutes—when I called KUB. Matt Moles (UGC) was professional and knowledgeable.”

— *Damon G.*

“Are all your employees amazing? Or just the ones I meet?”

— *Pam R.*

“Matt Vesser (UGC) took our already high regard for KUB technicians’ expertise and customer service to all new highs! My husband (active duty military) and I cannot adequately express our thanks to Matt!”

— *Sarah I.*

“Michel Morris [Customer Experience] was very kind and patient. She answered each question.”

— *Maby B.*

FY 19 Highlights

- FY 19 rate increases already adopted
- FY 19 budget totals \$969M
- Continuing Century II priorities
- Investing in reliability
- Managing costs to achieve savings
- Supporting growth through system expansion
- Leveraging advanced technology

Today's Agenda

- Mark Walker FY 19 Budget Request
- Gabriel Bolas Electric System Investments
Natural Gas System Investments
- Derwin Hagood Water System Investments
Wastewater System Investments
- Mintha Roach Closing Comments

KUB

FY 19 Budget Request

Mark Walker, Chief Financial Officer



10-Year Plans: Key Points

- Balanced funding approach continues
- Century II, Grid/Meter Modernization, and Water Plant Resiliency are on track
- Consent Decree (CD) projects will be complete in 2021
- Wastewater debt declines after CD
- Cost savings fund investments in reliability and growth
- Systems are financially sound

New Cost Savings Support Investments in Reliability and Growth

- Adjusted maintenance cycles of key system assets
- Expanded timeframe for substation upgrades
- Lengthened tree trim cycle for certain circuits
- Modified pipe replacement approach for large gas system project
- Transitioned wastewater capital inspection to internal resources

High Quality Bond Ratings Reflect Financial Soundness of Systems

Current Bond Ratings

	S&P	Moody's
Electric	AA+	Aa2
Natural Gas	AA	Aa2
Water	AAA	Aa1
Wastewater	AA+	Aa2

“Based on S&P’s financial management assessment, **we view KUB to be ‘1’ on a scale of 1-6, with ‘1’ being the strongest.**”

— Standard & Poor’s (August 2017)

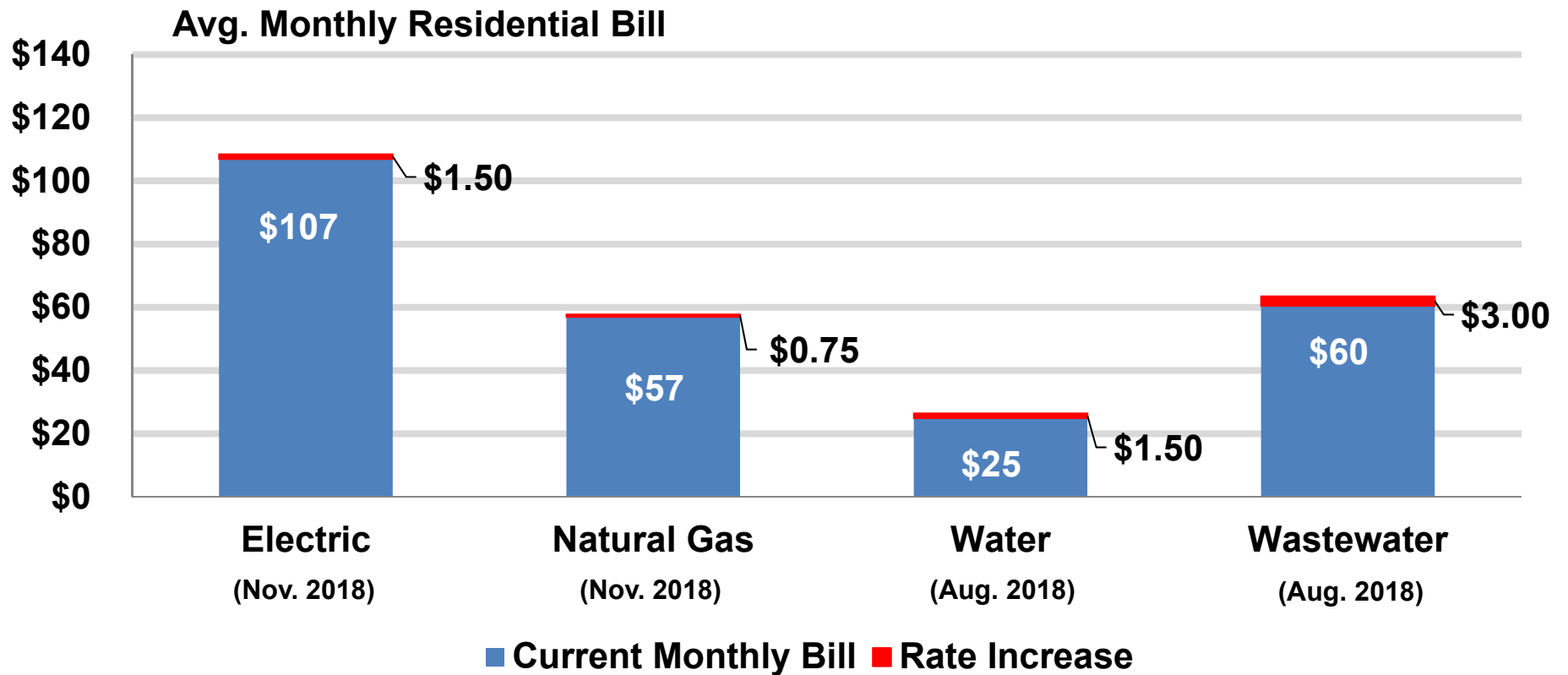
“KUB has a long-standing history of well-managed operations, sound fiscal planning **and well-developed asset management plans.**”

— Moody’s Investors Service
(August 2017)

Proposed Budget Maintains Safe, Reliable, and Affordable Services

- Proposed budget \$969M
- Up 2.8% over current year budget
- Reflects timing of capital projects
- Capital budget includes \$139M for Century II and \$39M for Grid/Meter Modernization
- \$82M new bonds help fund capital budget
- FY 19 rate increases already adopted

FY 19 Rate Increases Already Adopted



Proposed FY 19 Budget: \$969M

	Electric	Gas	Water	WWater	Total
Energy Cost	\$427.0	\$53.7	\$ ---	\$ ---	\$480.7
O&M	\$59.5	\$20.2	\$26.9	\$34.2	\$140.8
Capital	\$96.4	\$30.4	\$41.2	\$60.5	\$228.5
Debt Service	\$24.7	\$10.9	\$12.9	\$33.7	\$82.2
Taxes and Equivalents	\$19.2	\$7.9	\$4.5	\$5.4	\$37.0
	\$626.8	\$123.1	\$85.5	\$133.8	\$969.2

\$ in Millions

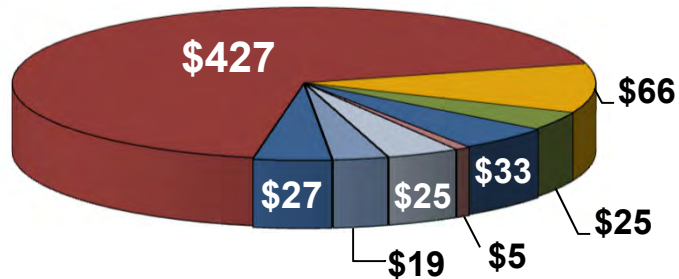
Proposed Budget Increase Reflects Timing of Large Capital Projects

	FY 19	FY 18	Increase	
	Proposed	Budget	(Decrease)	
Energy Cost	\$480.7	\$480.7	\$0.0	
O&M	\$140.8	\$135.7	\$5.1	Wage growth; Health insurance
Capital	\$228.5	\$212.0	\$16.5	CD Kuwahee project; Generators (MBW)
Debt Service	\$82.2	\$77.8	\$4.4	\$82M in new bonds
Taxes & Equivalents	\$37.0	\$36.2	\$0.8	Investment in utility infrastructure
	\$969.2	\$942.4	\$26.8	

\$ in Millions

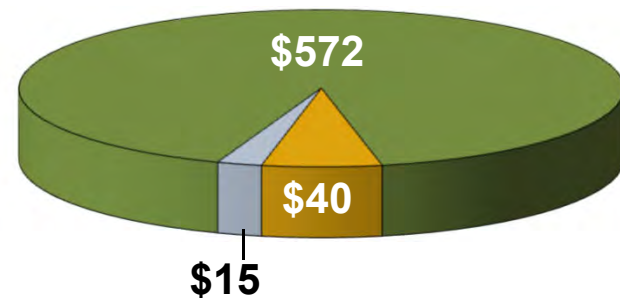
FY 19 Electric Budget: \$627M

Budget Uses



- Purchased Power Cost
- Century II Capital Projects
- Grid/Meter Modernization
- System Maintenance
- System Growth
- Debt Service
- Taxes & Equivalents
- All Other

Budget Funding



- Revenue
- Bonds
- General Fund Cash

\$ in Millions

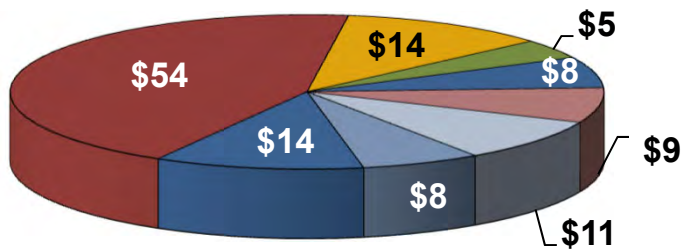
FY 19 Electric Budget

Key Assumptions and Indicators

Net Customer Additions	1,600
Residential Per Capita Use	0.5% decline
Interest Rate on New Debt (30 year)	4.00%
Debt Ratio (Target 45% or less)	46%
Debt Coverage (Target 3.0 or more)	3.18
Debt Ratings	AA+/Aa2
Ending General Fund Cash (Target \$15M)	\$15.9M

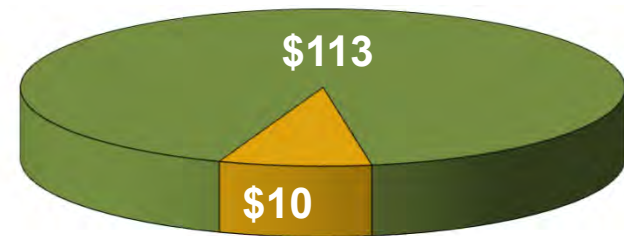
FY 19 Natural Gas Budget: \$123M

Budget Uses



- Purchased Gas Cost
- Century II Capital Projects
- Meter Modernization
- System Maintenance
- System Growth
- Debt Service
- Taxes & Equivalents
- All Other

Budget Funding



- Revenue
- Bonds

\$ in Millions

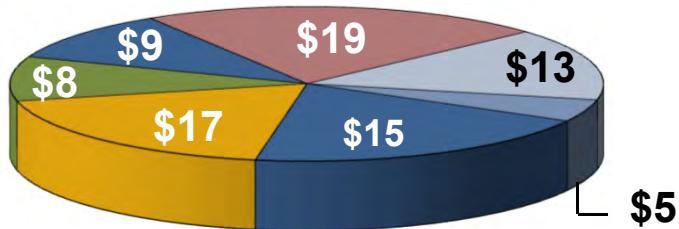
FY 19 Natural Gas Budget

Key Assumptions and Indicators

Winter Weather	6% warmer than normal
Net Customer Additions	1,300
Residential Per Capita Use	1% decline
Interest Rate on New Debt (30 years)	4.00%
Debt Ratio (Target 35% or less)	34%
Debt Coverage (Target 3.0 or more)	3.33
Debt Ratings	AA/Aa2
Ending General Fund Cash (Target \$10M)	\$17.9M

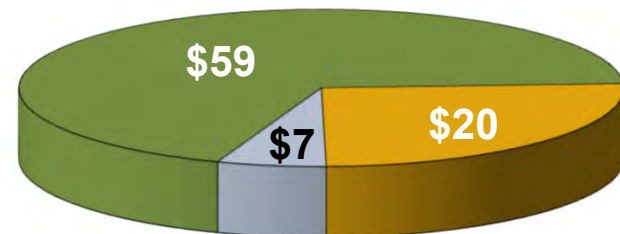
FY 19 Water Budget: \$86M

Budget Uses



- Century II Capital Projects
- Water Plant Resiliency
- Meter Modernization
- System Maintenance
- Debt Service
- Taxes & Equivalents
- All Other

Budget Funding



- Revenue
- Bonds
- General Fund Cash

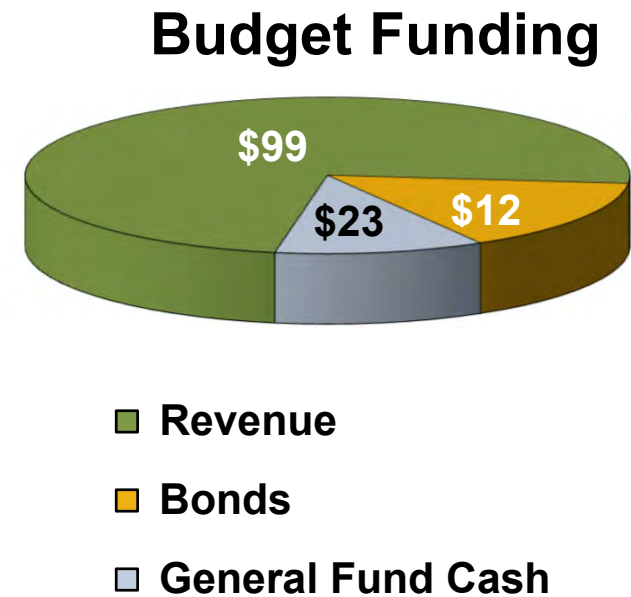
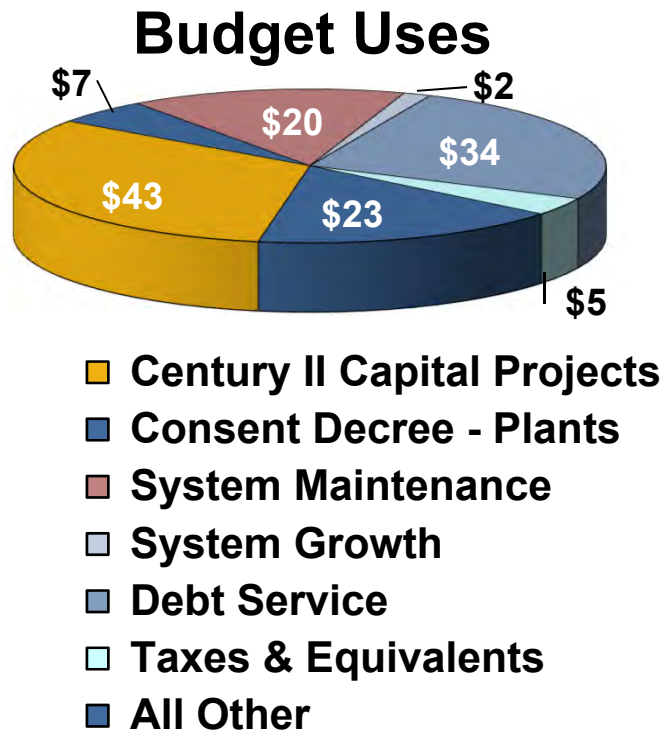
\$ in Millions

FY 19 Water Budget

Key Assumptions and Indicators

Net Customer Additions	730
Residential and Business Per Capita Use	1% decline
Interest Rate on New Debt (30 years)	4.00%
Debt Ratio (Target 50% or less)	51%
Debt Coverage (Target 2.0 or more)	2.25
Debt Ratings	AAA/Aa1
Ending General Fund Cash (Target \$5M)	\$6.1M

FY 19 Wastewater Budget: \$134M



\$ in Millions

FY 19 Wastewater Budget Key Assumptions and Indicators

Net Customer Additions	780
Residential and Business Per Capita Use	1% decline
Interest Rate on New Debt (30 years)	4.00%
Debt Ratio (Target 65% or less)	62%
Debt Coverage (Target 1.50 or more)	1.89
Debt Ratings	AA+/Aa2
Ending General Fund Cash (Target \$10M)	\$11.3M

Financial Planning Timeline

- May 2018 FY 19 budget and debt consideration
- April 2019 FY 20 budget workshop
- May 2019 FY 20 budget and debt consideration
- Fall 2019 System presentations
- April 2020 10-year workshop; funding recommendations
- May 2020 FY 21 budget consideration
Debt and margin rate considerations

KUB

Electric System Investments

Gabriel Bolas, Senior Vice President



Electric System

Customers: 205,000

Service Territory:
688 square miles

Service Lines: 5,352 miles

Infeed Substations: 9

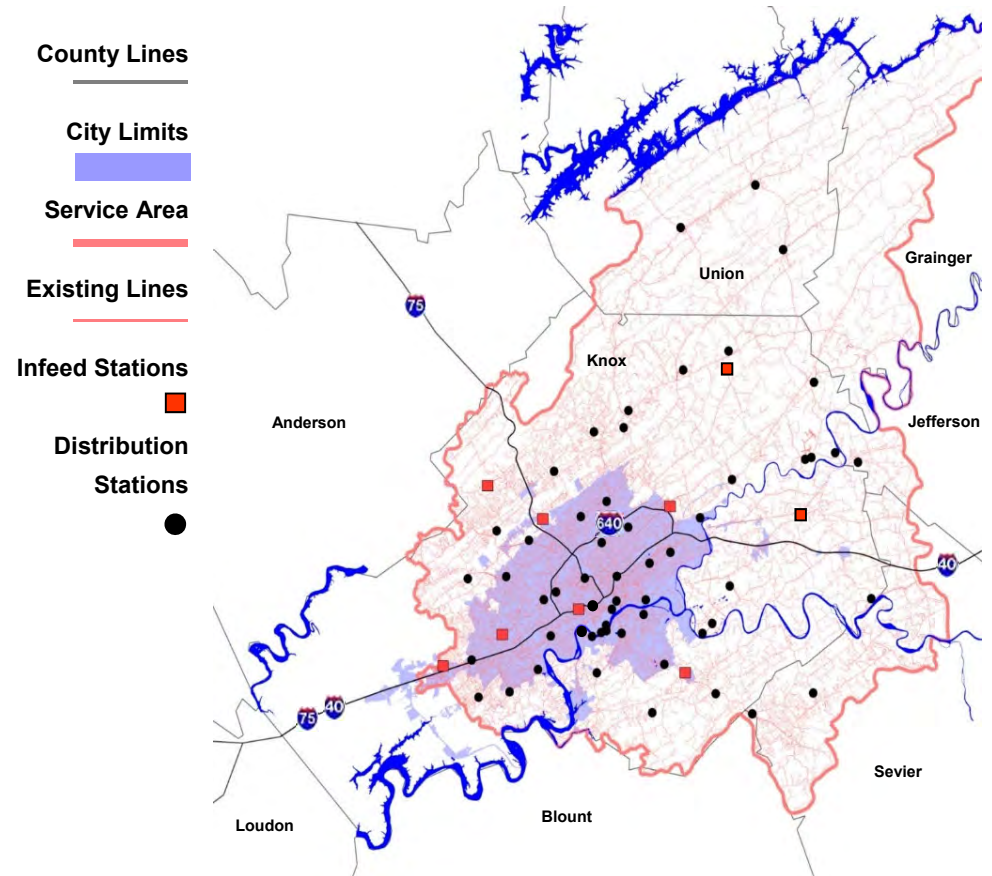
Substations: 63

System Capacity: 3,029.5 MW

Peak Hourly Demands:

Winter: 1,332 MW (Feb. 2015)

Summer: 1,235 MW (Aug. 2007)



FY 19 Continues Century II and Improves Reliability and Supports Growth

- Century II upgrades substations, transmission and distribution lines, poles, and underground cable
- Downtown network system improvements support reliability
- Distribution automation expanding
- Supporting growing customer demand



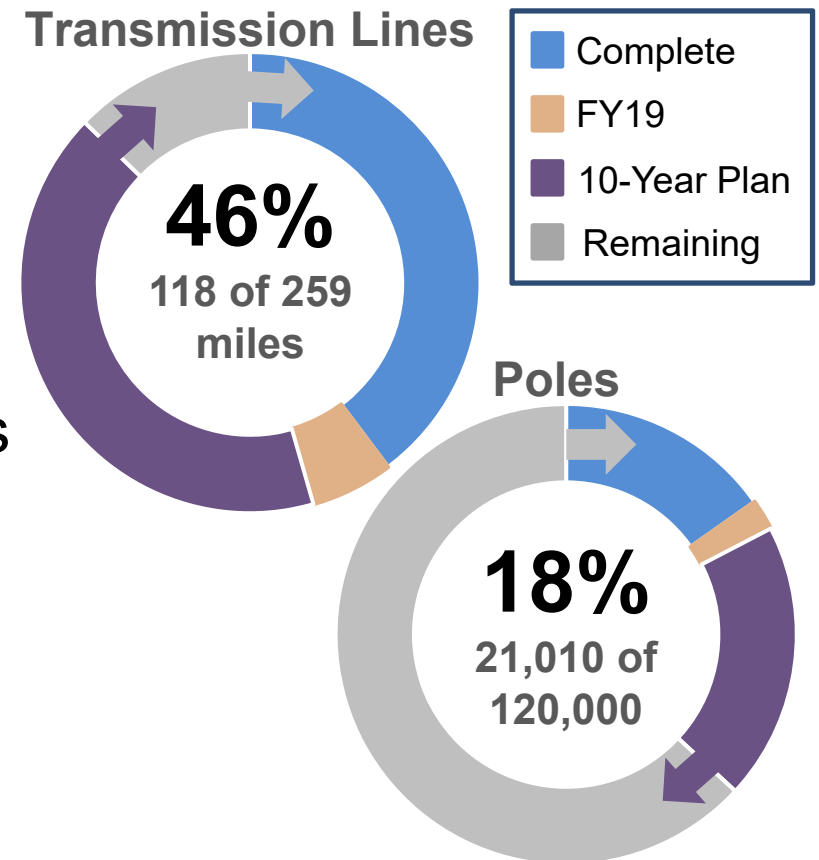
Century II Upgrades at Three Substations

- **Hendron's Chapel**
 - \$1.2M includes new 25 MVA transformer
- **South Knoxville**
 - \$1.2M includes new 25 MVA transformer
- **Trentville**
 - \$550,000 upgrades station



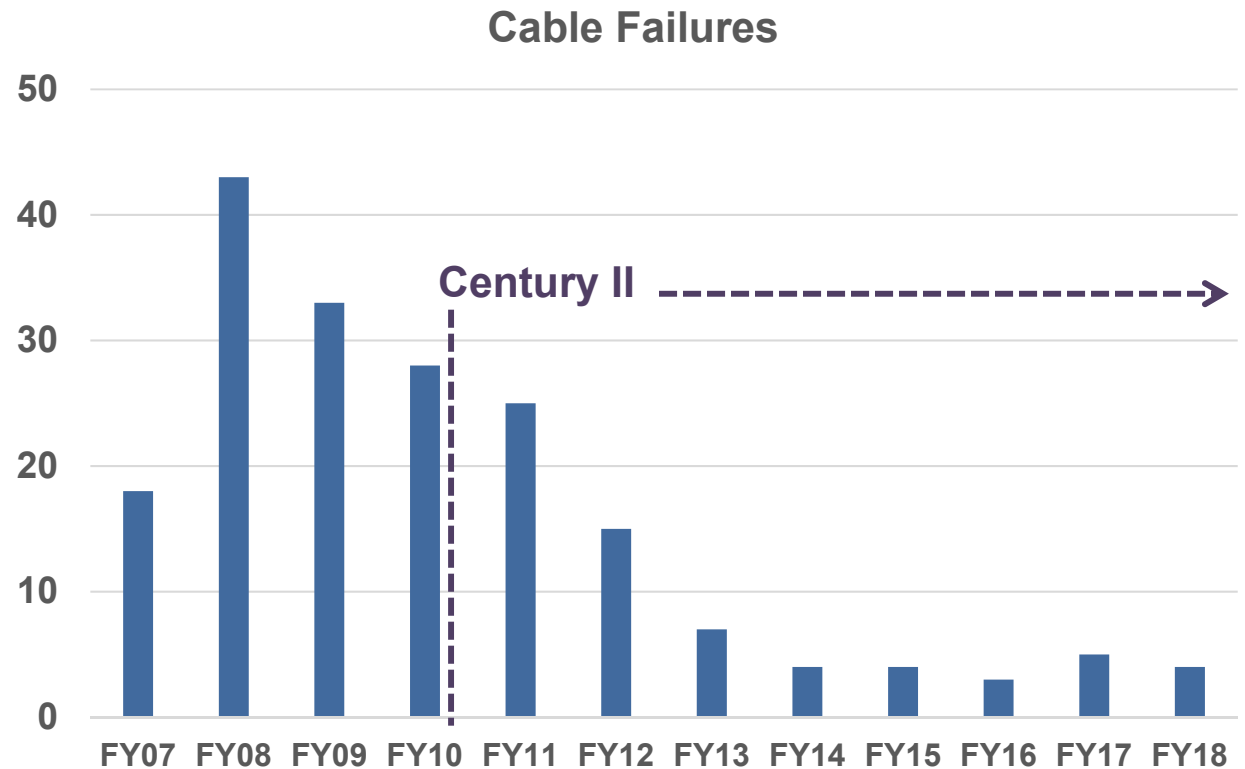
Transmission Lines Critical to System Reliability

- FY 19: upgrade 15 miles
- Replaces 300 transmission poles
- Fiber optic cable installed with construction
- Heiskell Road area improvements
 - \$1.5M funds 12.5 miles
 - New distribution circuit
 - Upgrade wires



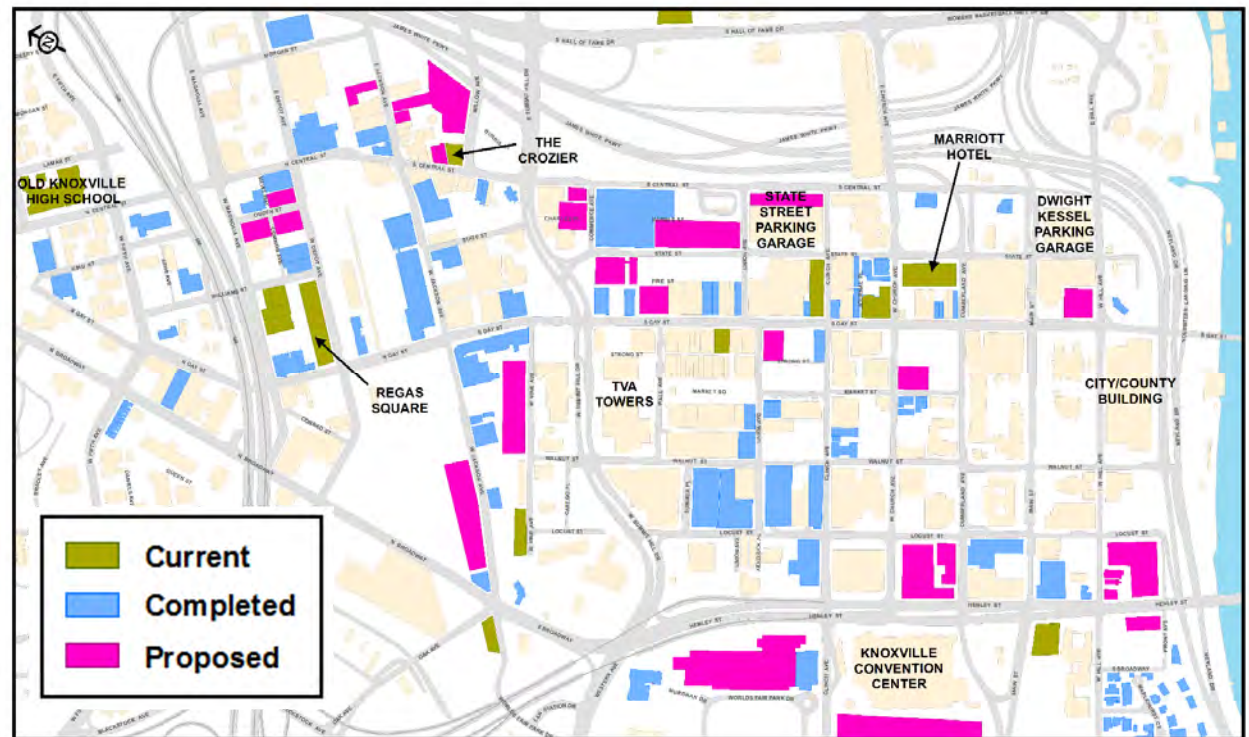
Replacing Direct Buried Cable Improves Reliability

- \$1.9M in FY 19 replaces 9 miles
- 38 miles will remain
- All replaced by 2024



Downtown Knoxville Development

- 2007–2016
 - Upgraded 105 vaults
 - Replaced 4,500 feet of cable
 - Added 7 vaults and 3,200 feet of duct bank
- FY 19 replaces 4,000 feet of cable



Continuing Downtown Network Improvements



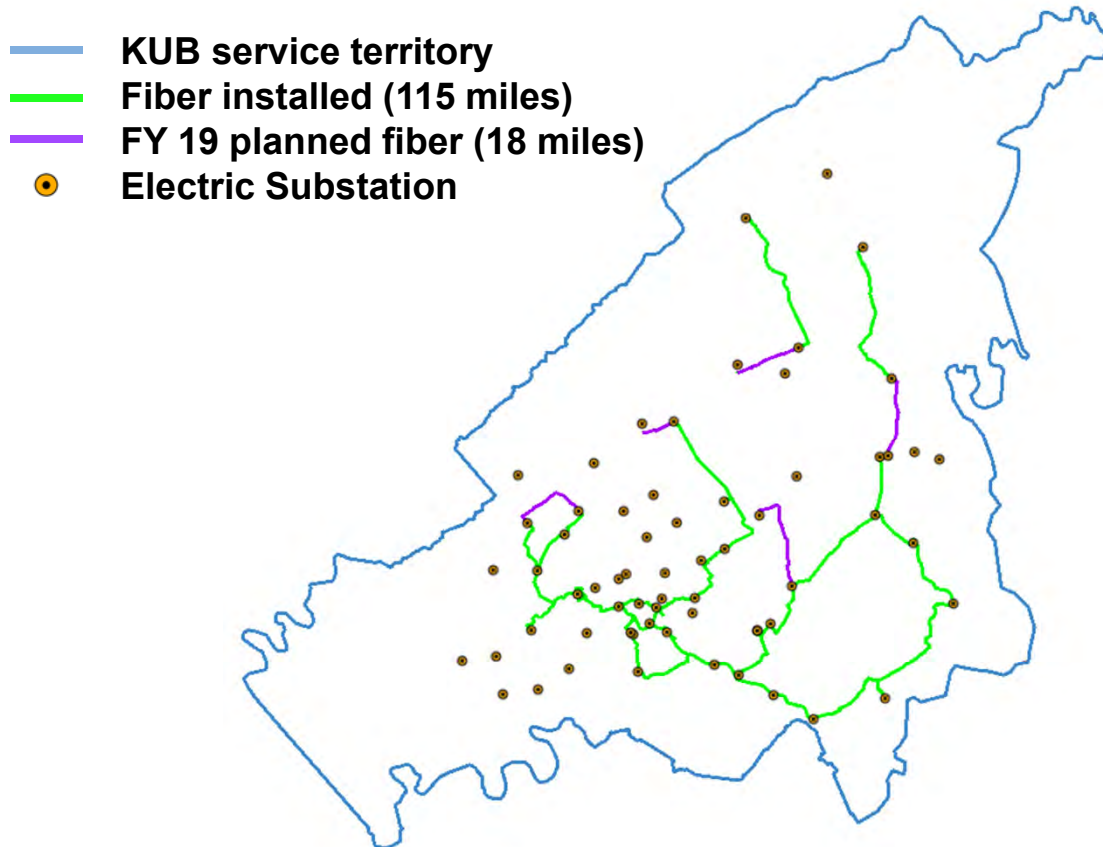
- \$300,000 replaces 4 switchgears

- Locations

- Langley Building
- Emporium
- Knoxville Visitors Center
- Medical Arts Building



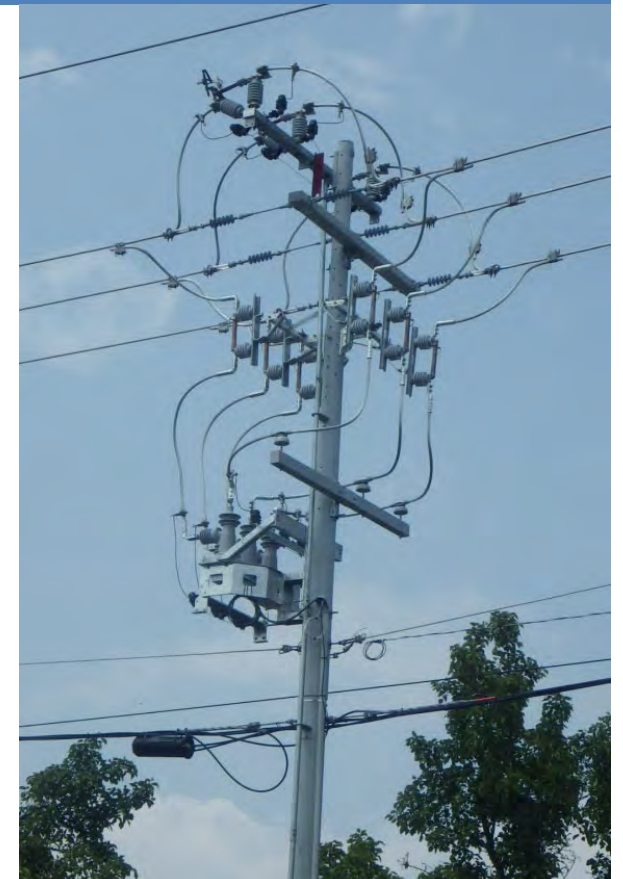
Fiber Buildout Meeting Goals



	FY 17–18	FY 19
Fiber (miles)	29	18
Substations	22	5
Leased circuits eliminated	9	5
Annual savings	\$135K	\$210K

Distribution Automation Improves Reliability

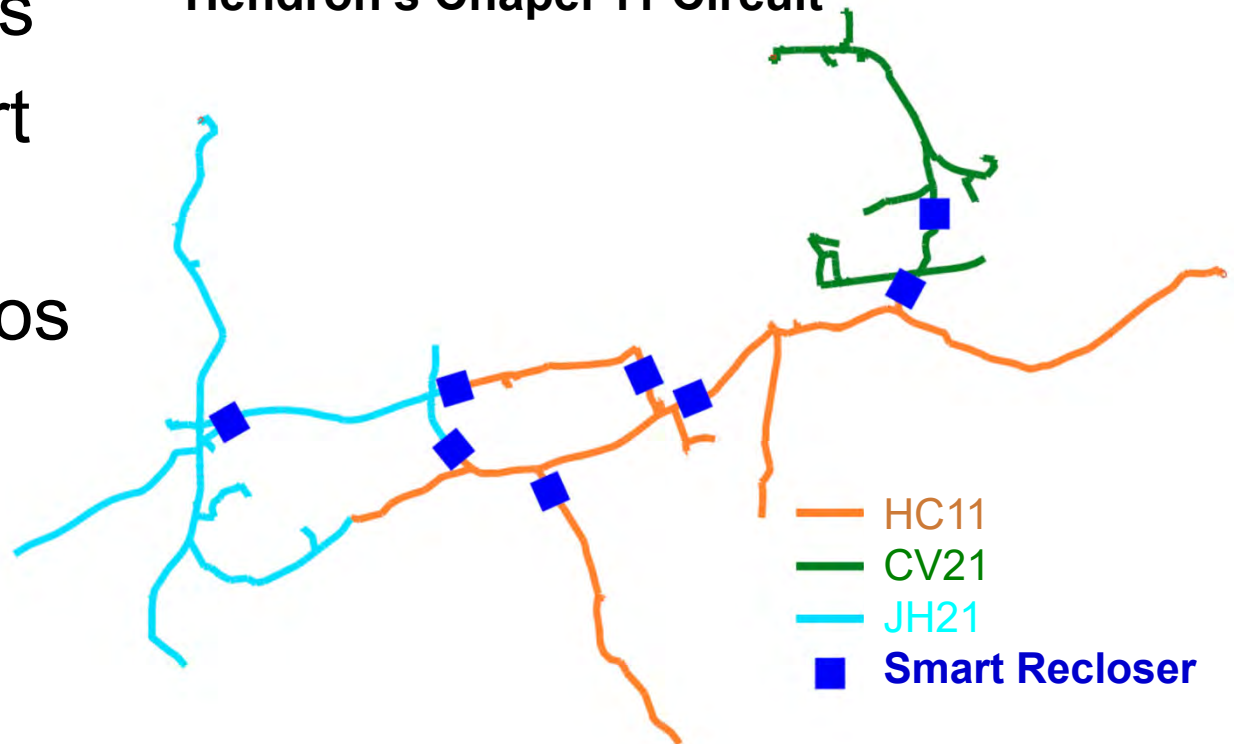
- Investing \$1M annually
- Smart reclosers
 - Automatically isolate problems
 - Reduce customer outages
 - Increase operational efficiencies
- Installed 21 in FY 18
- Installing 25 in FY 19



New Fiber Enabled First Distribution Automation Project

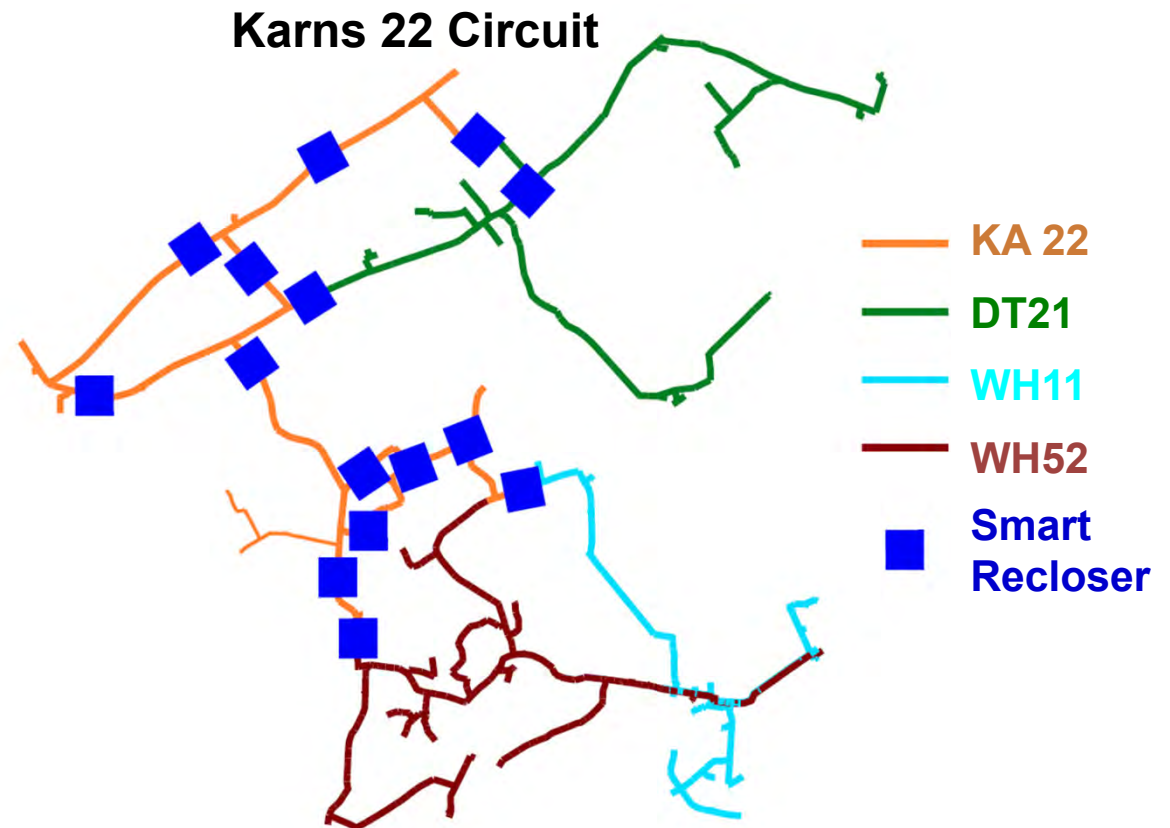
- 1,516 customers
- Installed 8 smart reclosers
- Various scenarios project 20–85% reduction in outage time

Hendron's Chapel 11 Circuit



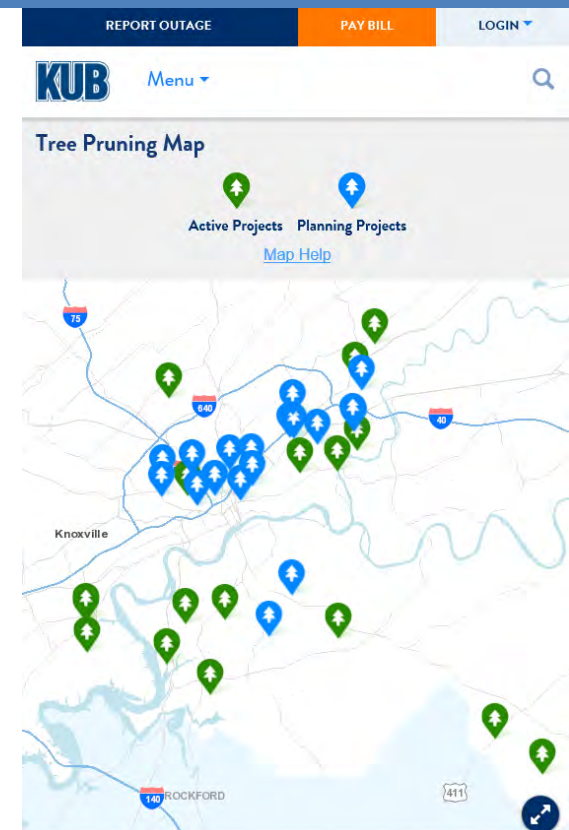
FY 19 Continues Investments in Automation

- Longest circuit
- 3,100 customers
- Installing 15 smart reclosers
- Goal to sectionalize outage to reduce impact and duration



Vegetation Management Improves Reliability and Customer Satisfaction

- Tree Line USA® Utility since 2001
- 2010 Tree Trim Policy Review Panel
 - Board adopts new program
 - Achieved clearance for safety and reliability
 - Enhanced customer communication
- Data driven cost management
 - \$9.4M prunes 55 circuits in FY 19
 - Covers 1,100 miles of lines



Reliability Essential for Customers

The Fort

- Certified Tier III data center
- Plan for 10 MW
- 45 new jobs (2x Knox County average salary)
- Customer investment: \$65M
- KUB investment: \$750K
- KUB annual margin: \$500K
- Top 10 electric customers



“What makes The Fort unique is our power capabilities. We will have two separate power feeds from KUB, which provides Tier IV power capabilities.”

— Frank Hutchison, SH Data Technologies

New Engineering Building

- \$10.9M FY 19
- 47,000 sq. ft.
- LEED certification
- Blaine Construction
- Summer 2019 completion



New Engineering Building

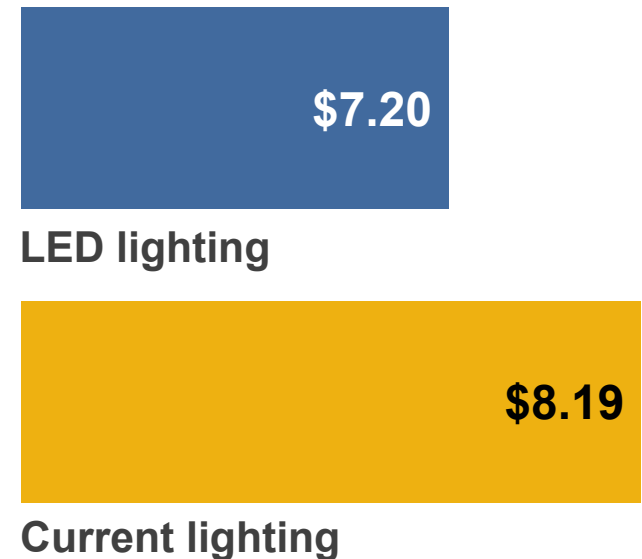
- Communications lines relocated
- Parking garage demolished
- Recycling concrete for backfill (LEED)
- Excavation beginning



Private Lights Transitioning to LED

- City of Knoxville assets transferred March 31
- Replacing end-of-life private lights with LED
 - Lowers energy use and customer bills
 - Improves light quality
 - Lengthens longevity of bulbs
- 5-year replacement program
- \$2.2M replaces 7,700 in FY 19

Monthly Bill
(100-watt equivalent)



KUB Achieves RP3 Diamond Status in 2018

- KUB awarded highest RP3 designation as a Diamond level utility with a perfect score
- Requires continuous improvement



American Public Power Association

Natural Gas System Investments

Gabriel Bolas, Senior Vice President



Natural Gas System

Customers

101,782

Service Territory

288 square miles

Distribution Mains

2,425 miles

Peak Capacity

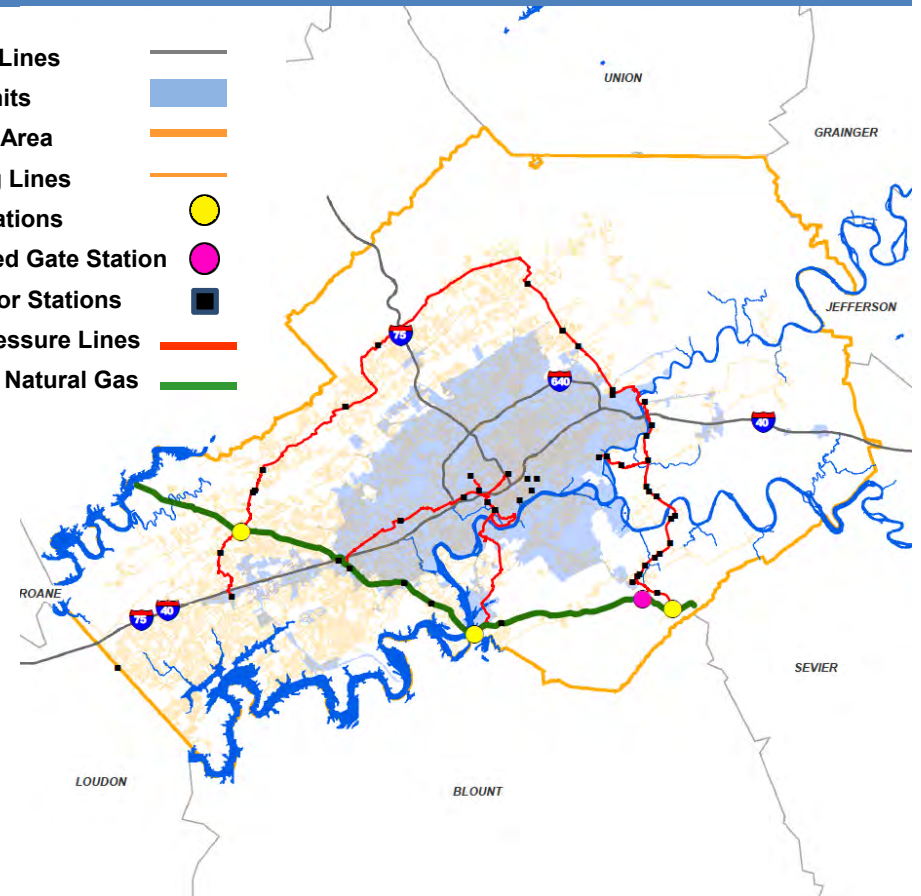
157,381 dth

Peak Demand

140,204 dth (1/17/18)



- County Lines
- City Limits
- Service Area
- Existing Lines
- Gate Stations
- Proposed Gate Station
- Regulator Stations
- High Pressure Lines
- East TN Natural Gas



FY 19 Continues Century II, Supports Growth

- Distribution Integrity Management Program prioritizes investments
- New South Knox Gate Station creates efficiencies, cost savings
- System improvements further reliability and enable growth



Federal Regulations Drive System Management

Distribution

- Know your system

Integrity

- Identify risk

Management

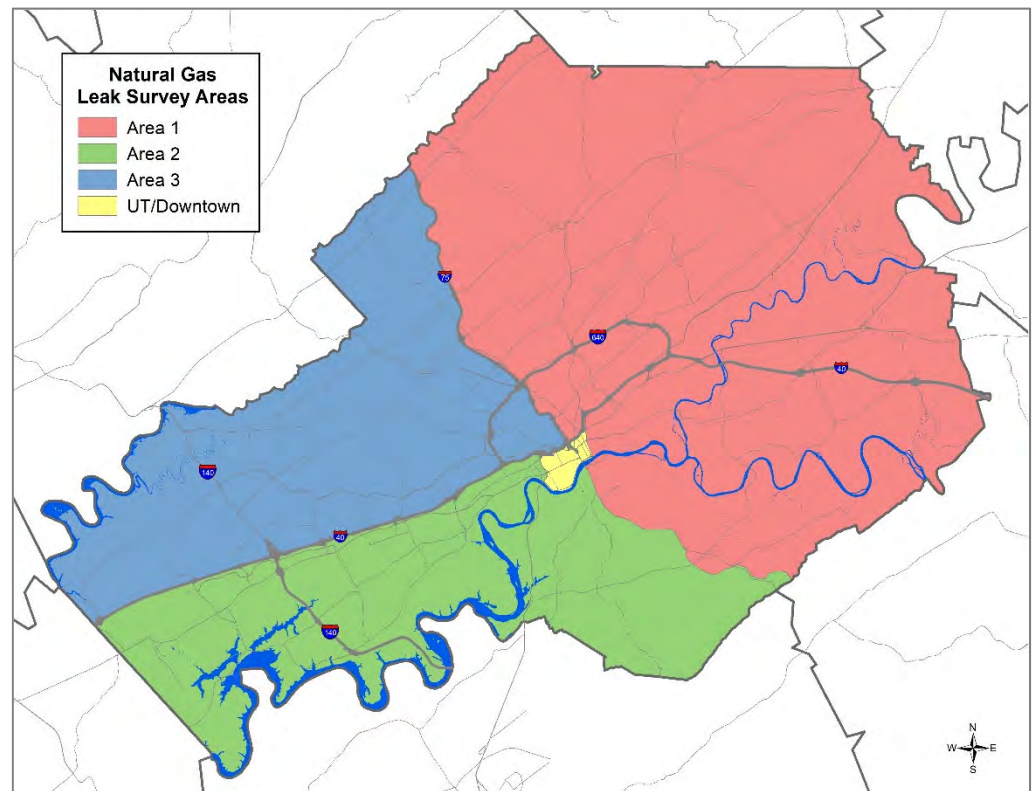
- Evaluate and rank priorities

Program

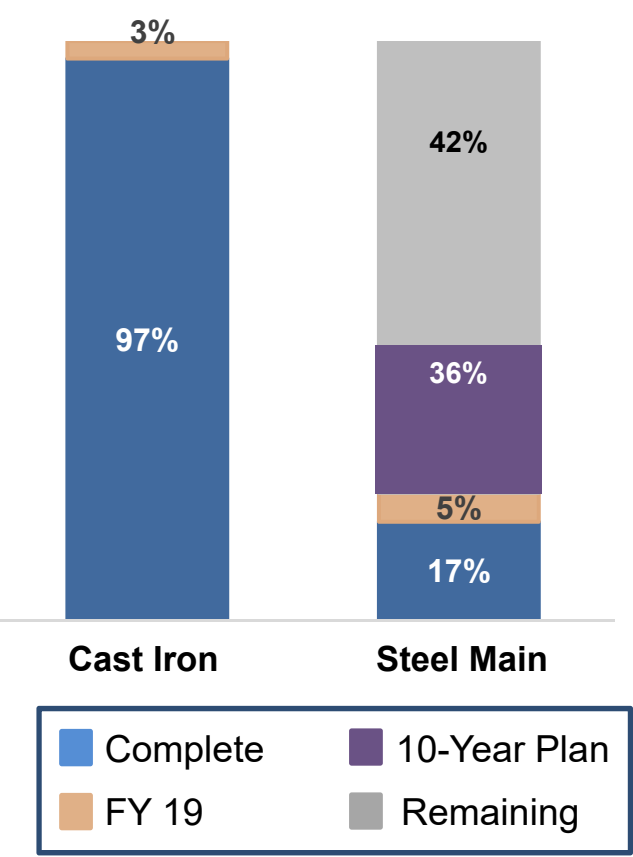
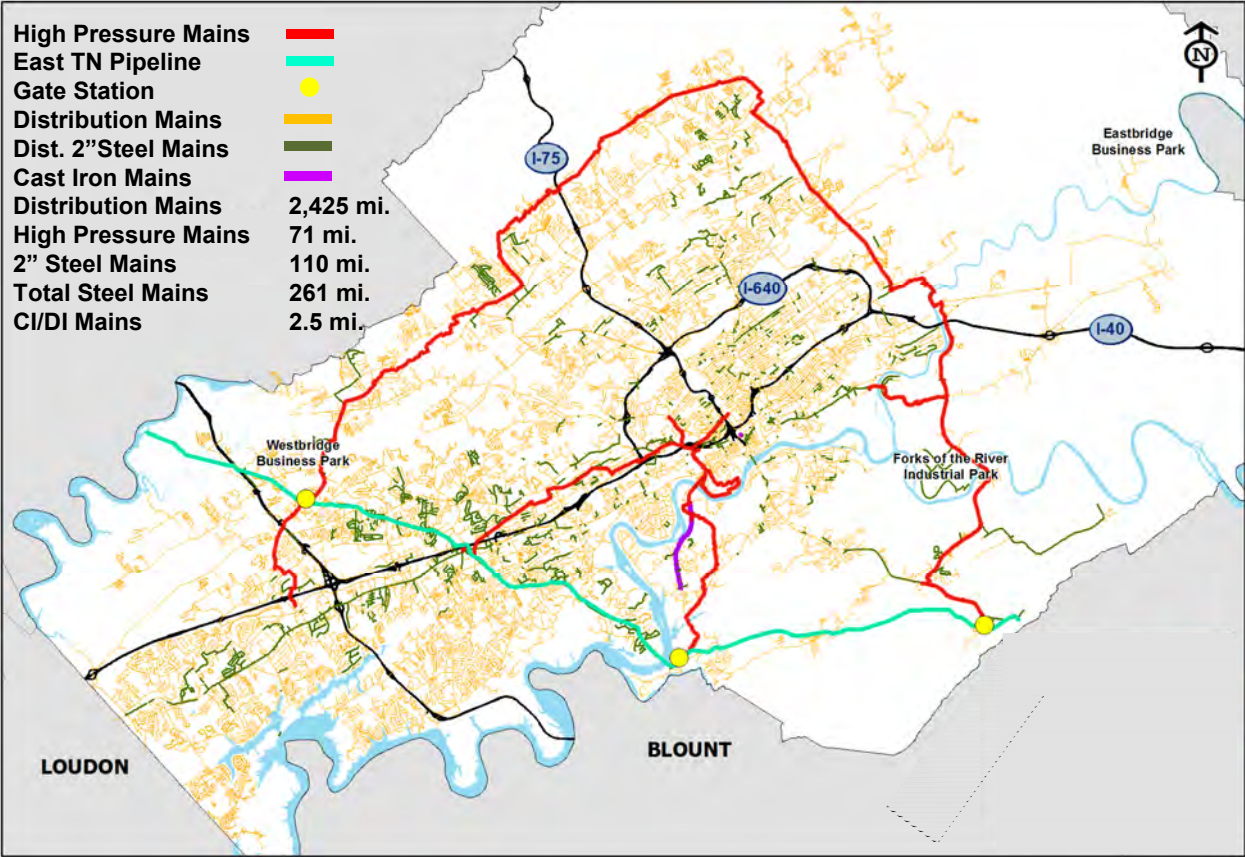
- Identify and implement measures
- Measure and evaluate performance for effectiveness
- Evaluate and improve if needed
- Report results

Exceeding Regulatory Standards For Leak Detection

- Non-residential: annually
- Residential: 33% annually
- High pressure: annually
- Targeted surveys
- Cast iron: quarterly



Century II Replaces Aging Infrastructure



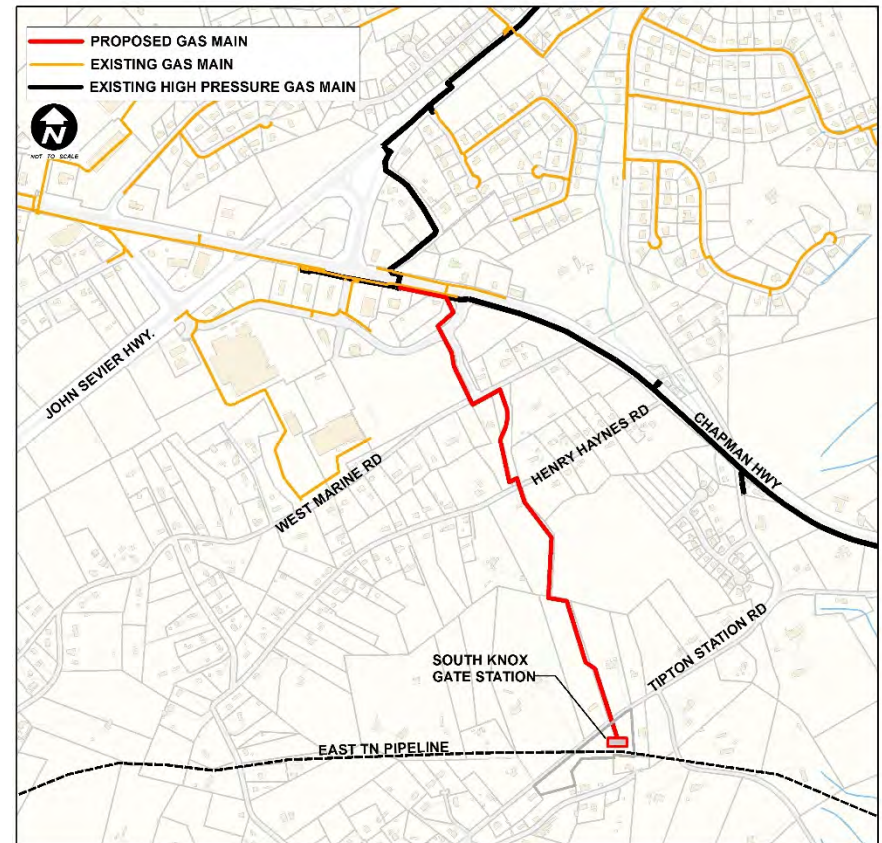
Century II Steel Replacements

- Cold weather survey
- Data driven replacement
- Focused on 2-inch steel with couplings
- \$5M replaces 11 miles in FY 19

FY 19 Projects	
Suburban Hills:	12,000 LF
Rotherwood:	12,100 LF
West Hills:	20,200 LF
Westview:	8,200 LF
Deane Hill:	5,300 LF
Forest Oak:	1,600 LF
Total:	59,400 LF

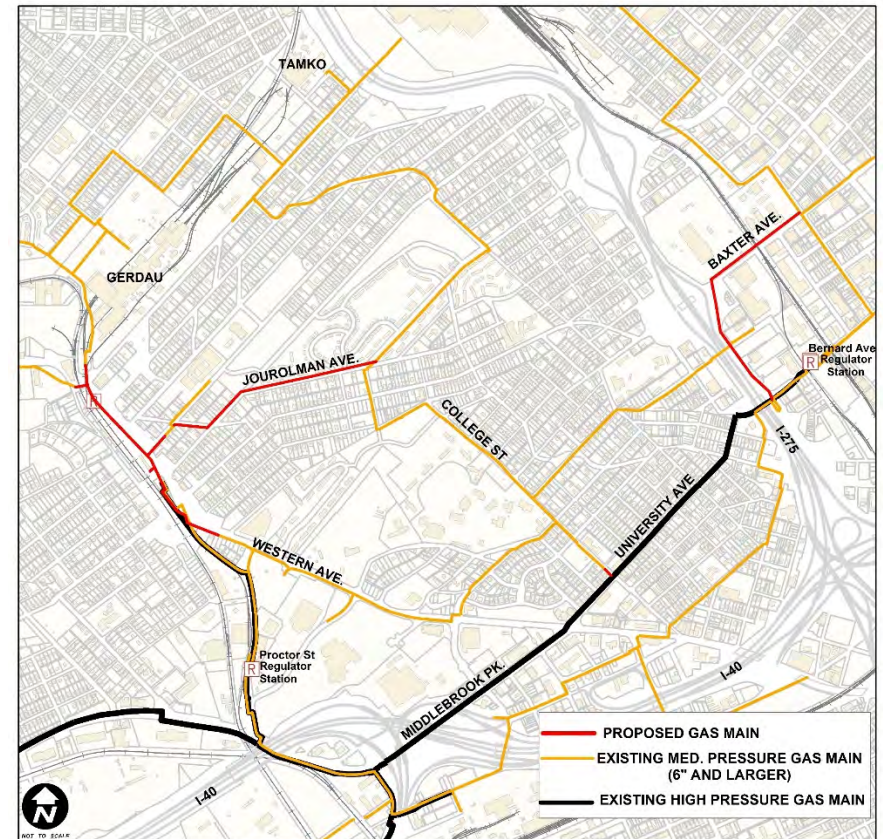
South Knox Gate Station Saves \$2.7M

- \$5.8M total cost
- Driven by TDOT road project
- \$4.4M replaces aging, manual gate station
 - Reduces operational costs
 - Modernizes and automates controls
- \$1.4M higher-pressure line



Innovative System Planning Saves \$6M

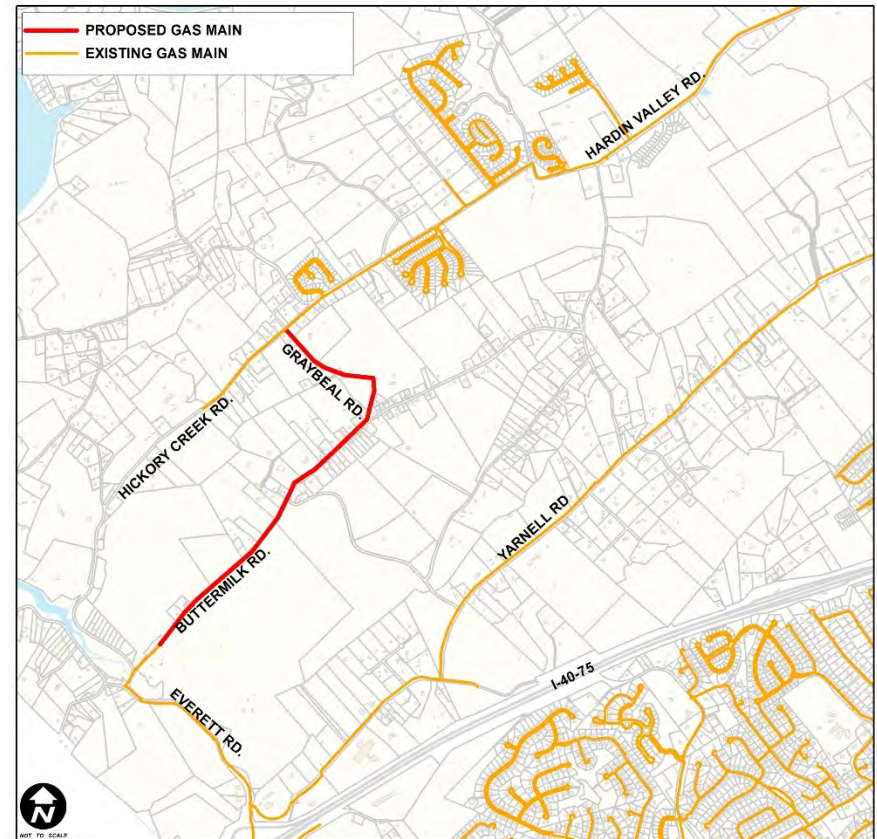
- Original design replaced “like” size pipe estimated at \$7M
- New plan less than \$1M
 - Avoids replacement of 7,200 feet of 12-inch higher-pressure steel pipe
 - Reduces to distribution pressure
 - Connects to 9,200 feet of new 12-inch plastic pipe



System Improvements Support Growth

- Reliability
- Flexibility
- Supports rapidly growing community

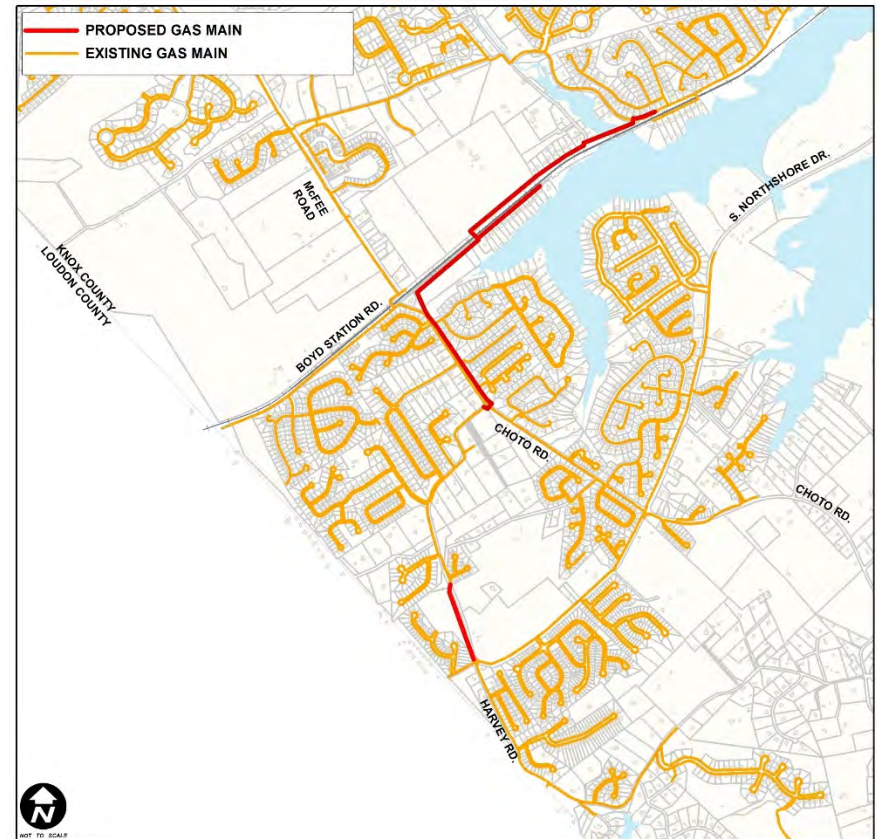
Hardin Valley Loop (\$1.4M)
10,500 feet of 8-inch pipe



System Improvements Support Growth

- Reliability
- Flexibility
- Supports rapidly growing community

Choto Loop (\$1.5M)
10,000 feet of 8-inch pipe



System Operational Achievement Recognition (SOAR) Program

- SOAR honors natural gas distribution utilities that demonstrate commitment to excellence in 4 areas:
 - System integrity
 - System improvement
 - Employee safety
 - Workforce development



KUB

Water System Investments

Derwin Hagood, Senior Vice President



Water System

Customers: 79,572

Service Territory:
188 square miles

Treatment Plant: 1

Pump Stations: 24

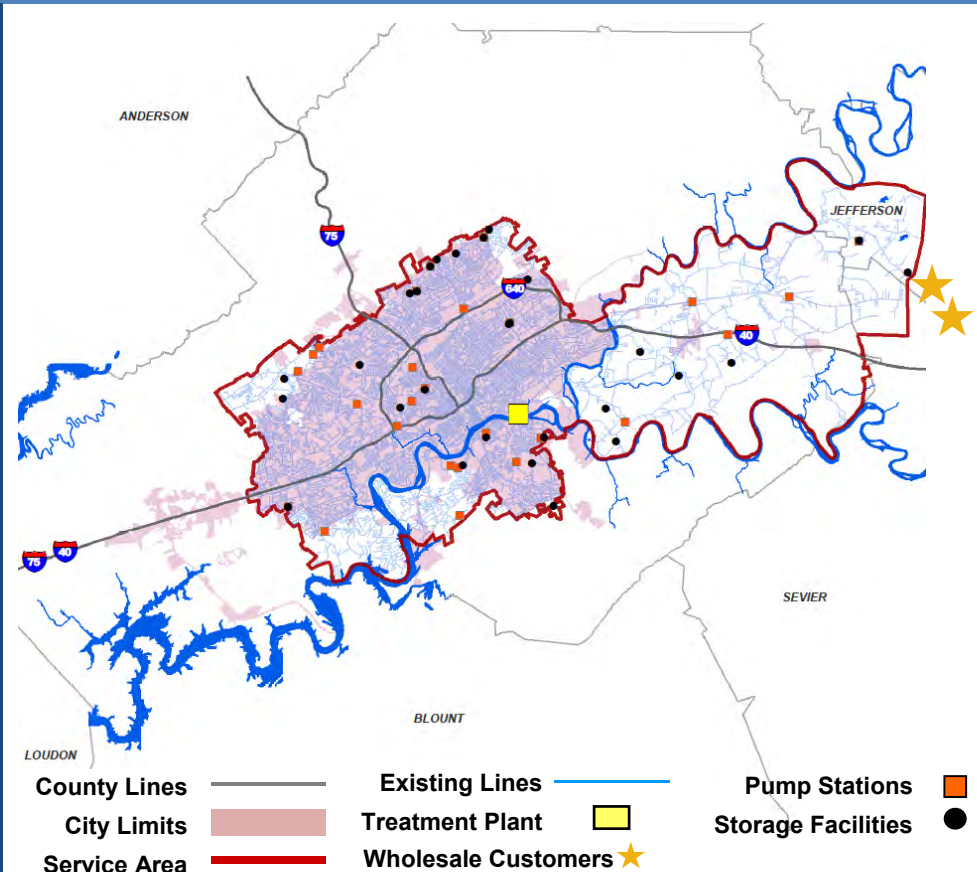
Storage Facilities: 28

Distribution Mains: 1,409 miles

Plant Capacity:
61.2 million gallons/day (MGD)

Reservoir Capacity: 36.91 MG

Treated Water: 12.1 billion gallons



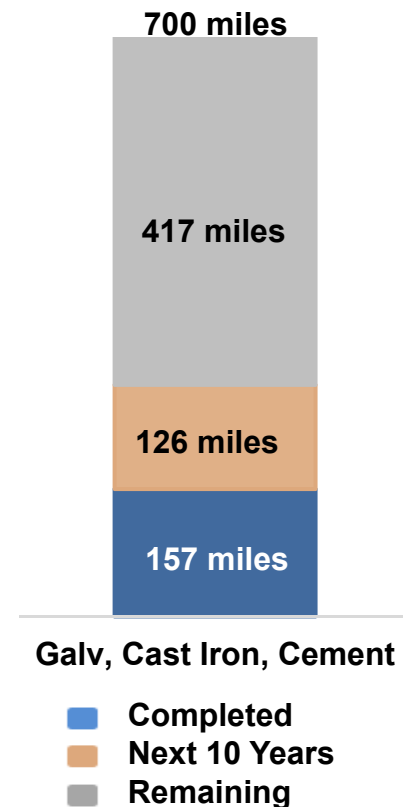
FY 19 Continues Century II and Improves System Resiliency

- Century II: water pipe, pump station, and treatment plant
- Water plant resiliency
 - Dual treatment trains
 - Increases flexibility
- System improvements: new transmission main



Century II Pipe Replacement Program

- American Water Works Association's top quartile for infrastructure investment
- All galvanized main replaced by FY 23
- Cast iron and cement pipe prioritization
- Overall 1% annual replacement rate
- FY 19 investment \$6.7M for 11 miles



FY 19 Century II Pipe Projects

- Galvanized projects: \$1.7M
 - Workforce mix: using contractors and KUB crews
 - Program 62% complete, with 45 miles remaining
- Cast iron and cement: \$1M
 - Wilson Road
 - Neyland Drive



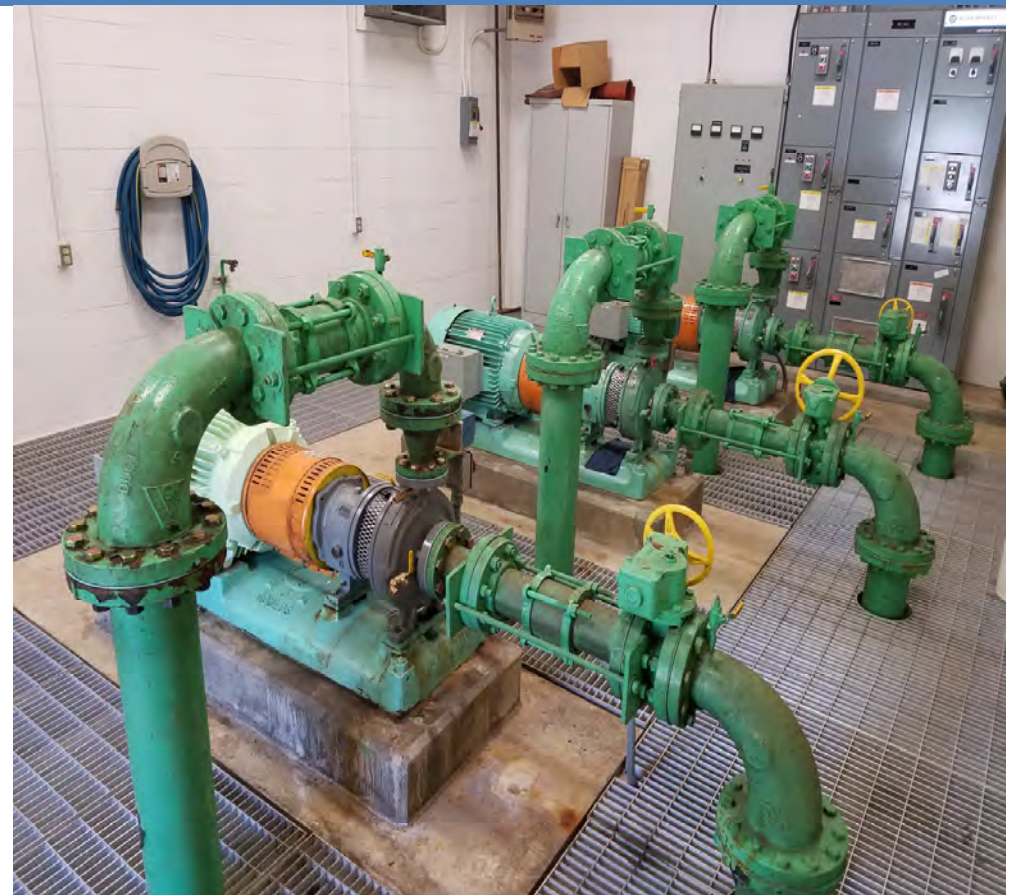
Roadway Improvements – \$4M in FY 19

- Magnolia Streetscapes
 - Replaces 6- and 12-inch cast iron from 1920s
 - \$800K
- Western Ave: \$1.3M
- I-275 at Baxter: \$520K
- Merchants Drive/Clinton Hwy.: \$400K
- Alcoa Hwy.: \$2.5M FY 19 – FY 21



Water Pump Station Upgrades

- **McMillan Road**
 - Updating pumps, motors, and equipment
 - FY 19 and FY 20
 - \$800K
- **Shady Grove**
 - Electrical, mechanical, SCADA upgrades
 - FY 19
 - \$575K



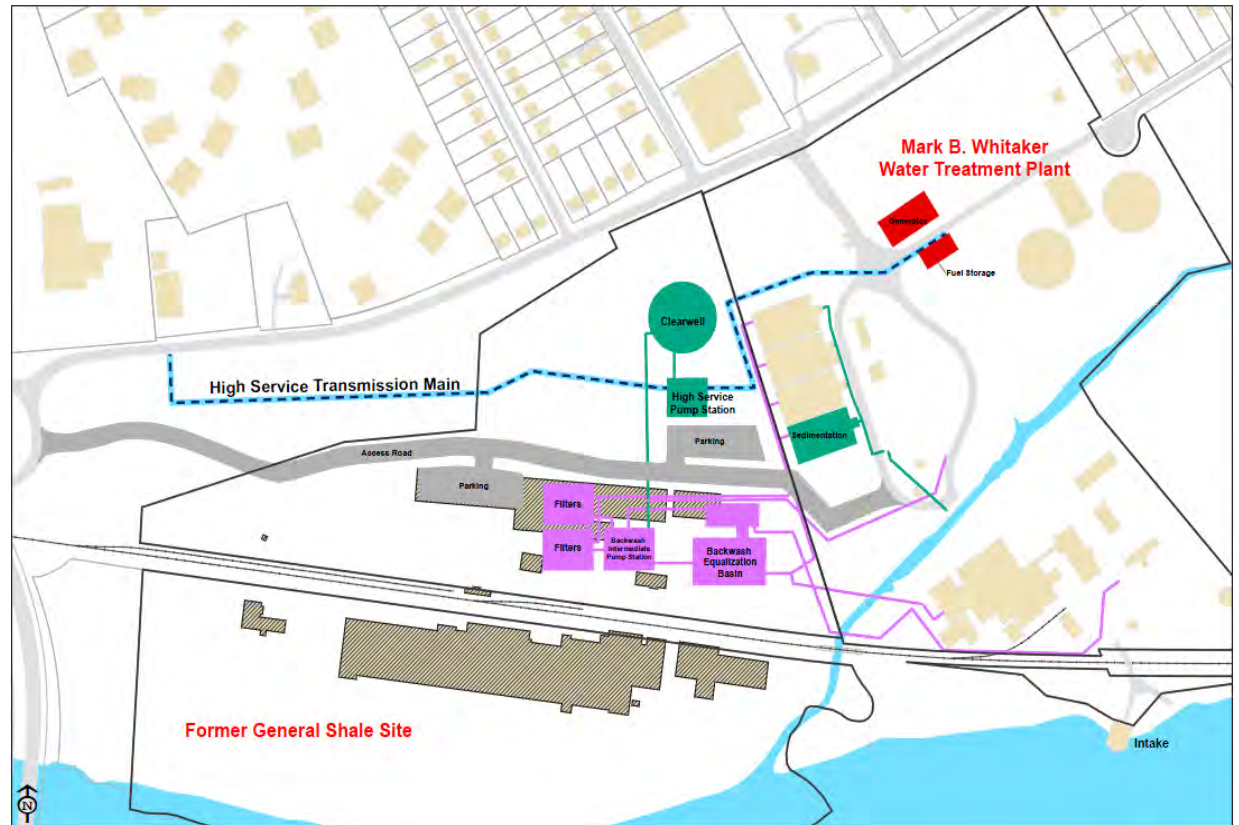
Century II at MBW Water Treatment Plant

- Filter backwash improvements
 - FY 19 and FY 20
 - \$3.75M
- Plant piping upgrades
 - Annual program
 - \$150K in FY 19



Water Plant Resiliency Plan Progress

Project	Cost	Timing
High Service Main (Complete)	\$4.2M	FY17-18
Electrical Improvements (Construction)	\$15.4M	FY17-21
Filters (Design)	\$34.8M	FY18-22
High Service PS and piping	\$24.0M	FY21-26
Intake	\$40.7M	FY24-27+



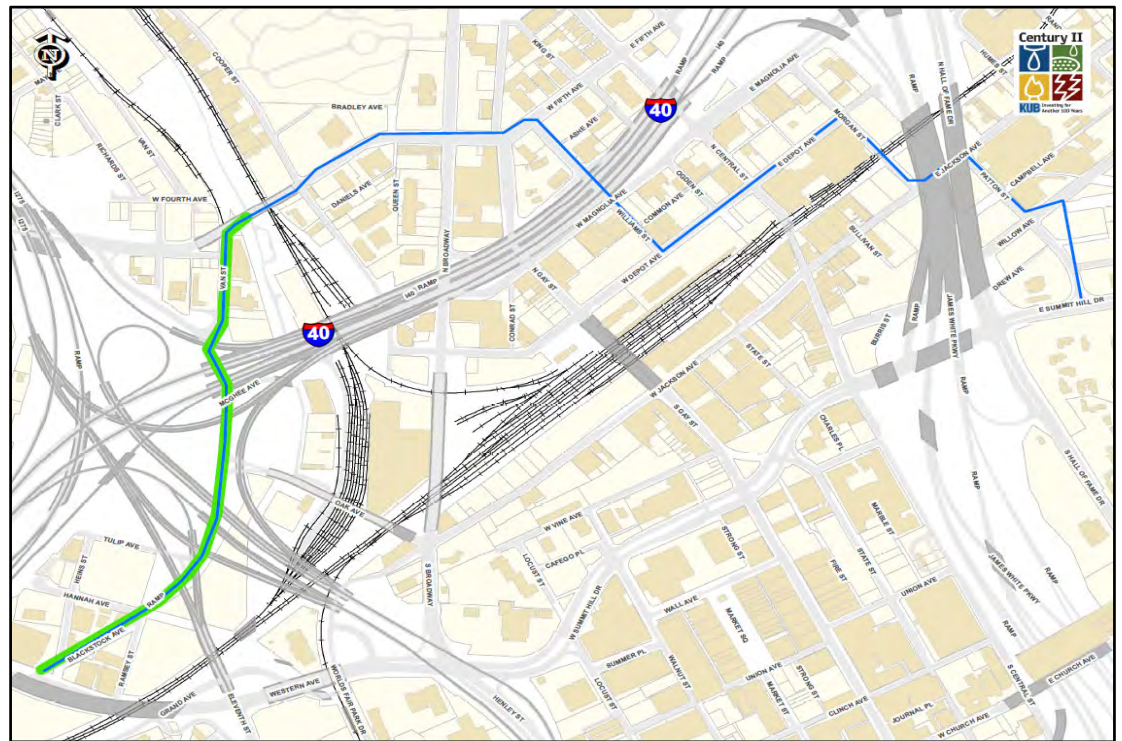
Generators for MBW Water Treatment Plant

- Three 2,500 kW diesel generators and switchgear
- Housed in new building
- FY 19 and FY 20 – \$11M



Depot Avenue System Improvement

- New transmission main
 - 1.5 miles
 - 36-inch main
- Operational flexibility moving water west
- \$6.4M project, \$3.5M in FY 19



— Completed — Remaining

Redevelopment Spurs Water System Growth

- Urban revitalization
- Multi-residential/mixed use
- New customers, existing water lines
 - 1830 Cumberland: 140 units
 - Riverwalk: 313 units
 - Regas Square: 102 units
 - Downtown Marriott: 232 rooms
 - Embassy Suites: 160 rooms



Water Conservation Benefits Our Community and Environment

- Providing water conservation information to customers
- Leveraging advanced technologies to notify customers of suspected leaks



KUB

Wastewater System Investments

Derwin Hagood, Senior Vice President



Wastewater System

Customers: 70,901

Service Territory:
243 square miles

Treatment Plants: 4

Pump Stations: 69

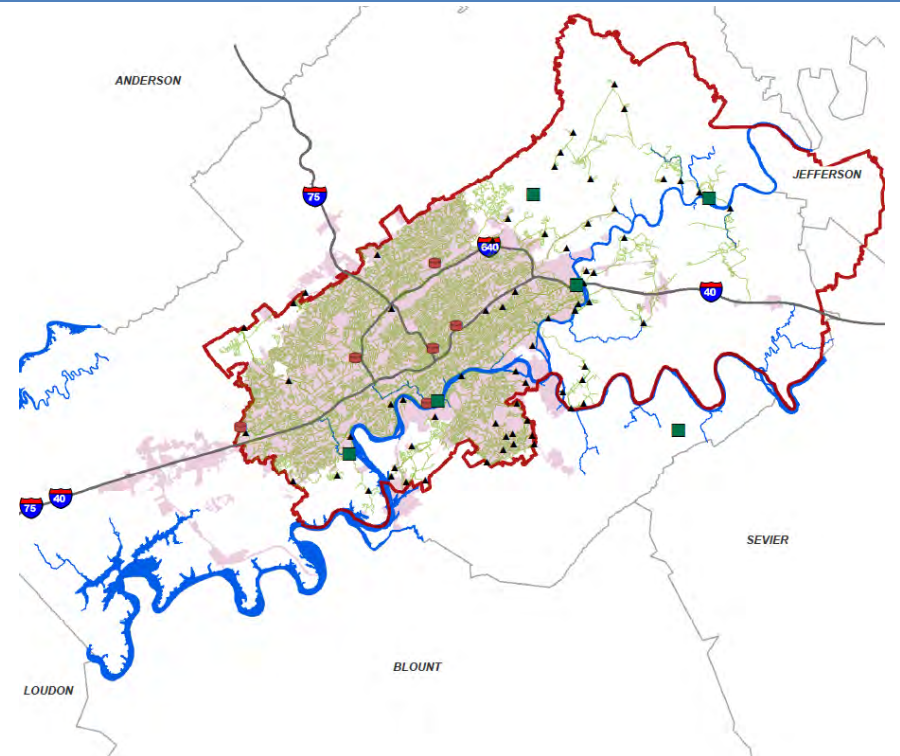
Collection Mains: 1,308 miles

Storage Capacity: 34 MG

Plant Capacity: 178 MGD

Average Flow: 36.5 MGD

Consent Decree: 2005 – 2021







FY 19 Continues Century II and Regulatory Compliance

- Consent Decree: begin final plant upgrade at Kuwahee
- Century II: treatment plants, pipe, pump stations
- Capacity upgrades support system growth

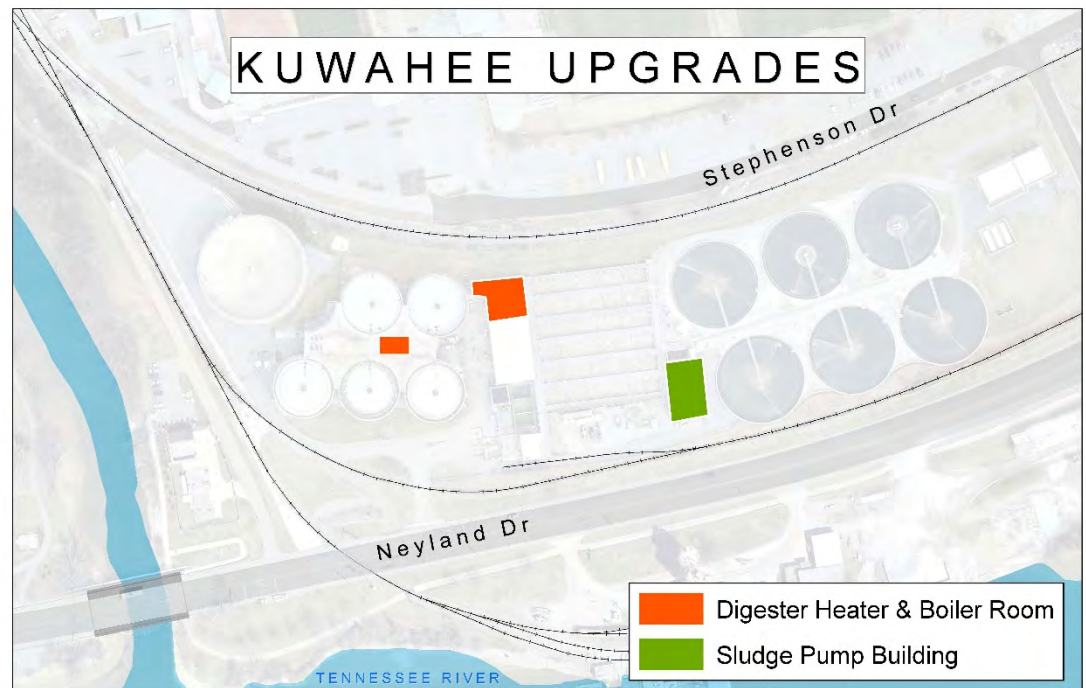


Consent Decree Projects On Target

Due Date	Project	Cost	Status
Dec. 2012	Kuwahee Plant: Composite Correction Plan (CCP) Phase I	\$51M	
Dec. 2013	Fourth Creek Plant: CCP Phase I	\$20M	
Dec. 2016	134 Collection System Projects	\$530M	
June 2018	Fourth Creek Plant: CCP Phase II	\$4.7M	
June 2021	Kuwahee Plant: CCP Phase II	\$52M	15%

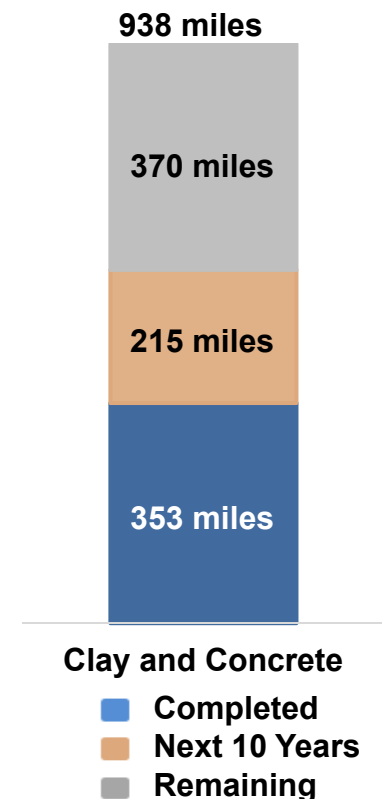
Century II Projects at Kuwahee

- Digester heaters
 - Updating equipment
 - \$6M in FY 18–19
- Sludge pumps
 - Supports CCP project
 - \$5M in FY 18–19



Century II Sewer Rehabilitation Program

- Focus on clay and concrete pipe
- Projects prioritized by
 - Overflow history
 - Infiltration study results
 - Coordination with streetscapes and roadway projects
- Overall 2% annual replacement rate
- FY 19 investment \$25M for 21.5 miles



Using Trenchless Technology

- Reduces cost and neighborhood disruption
 - Cured-in-place liner
 - Pipe-bursting
- Sequoyah Hills
 - \$3.4M for 5 miles
 - First of 3 phases
- I-275/Heiskell Ave.: \$2.2M
- Cedar Lane/Dry Gap Pike: \$2.2M

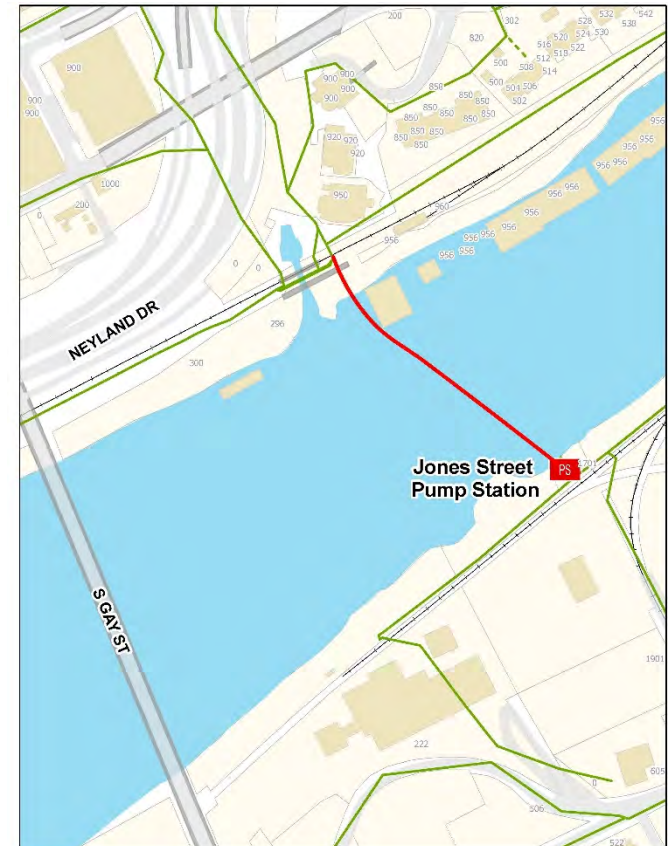


Trunkline Rehabilitation

- **Neyland Drive: \$2.2M**
0.5 miles of 48-inch concrete trunkline from 1970s
- **Holston Hills: \$0.6M**
0.6 miles of 15-inch concrete trunkline from 1960s
- **South Haven: \$4.5M FY 19–FY 20**
2 miles of 36- and 42-inch concrete trunkline from 1940s

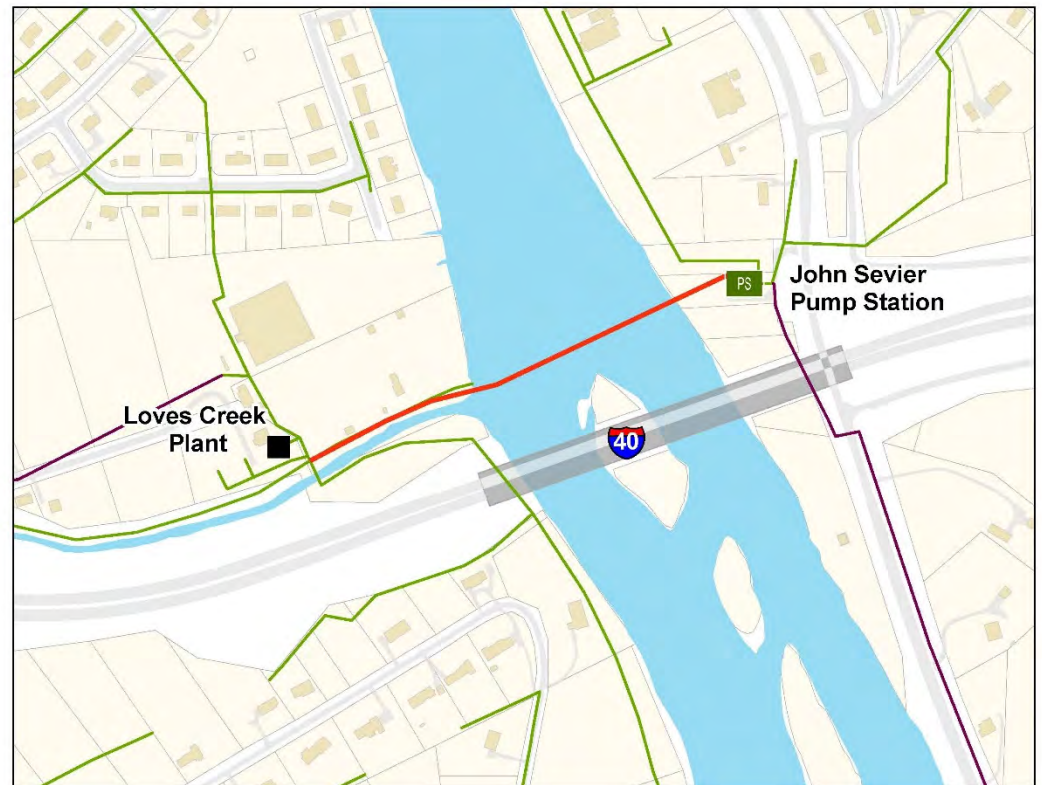
Replacing Older Pump Stations

- Jones Street: \$7.5M
 - Includes new force main under river
 - Pumps flow from South Knoxville
 - FY 19–FY 21
- Scottish Pike: \$1.0M
- Pelham Road: \$0.6M



Growth Drives East Knox County Upgrades

- John Sevier: \$1.3M
Upsizing pipe from 12- to 16-inch under river
- Ellistown: \$1M
Extending 12-inch force main to larger trunkline



KUB Maintains Platinum-Level National Biosolids Partnership Certification

- KUB biosolids are certified as fertilizer by Tennessee Department of Agriculture
- Requires third-party annual audit
- 100% land application of 28,000 wet tons annually
- Achieves beneficial reuse and avoids landfill disposal



KUB

May 2018 Board Meeting: Official Action

- FY 19 budget appropriations
- FY 19 commitment appropriations
- \$82M revenue bonds
 - \$40M electric
 - \$10M natural gas
 - \$20M water
 - \$12M wastewater