



October 16, 2025

Mark B. Whitaker Water Main Break Update



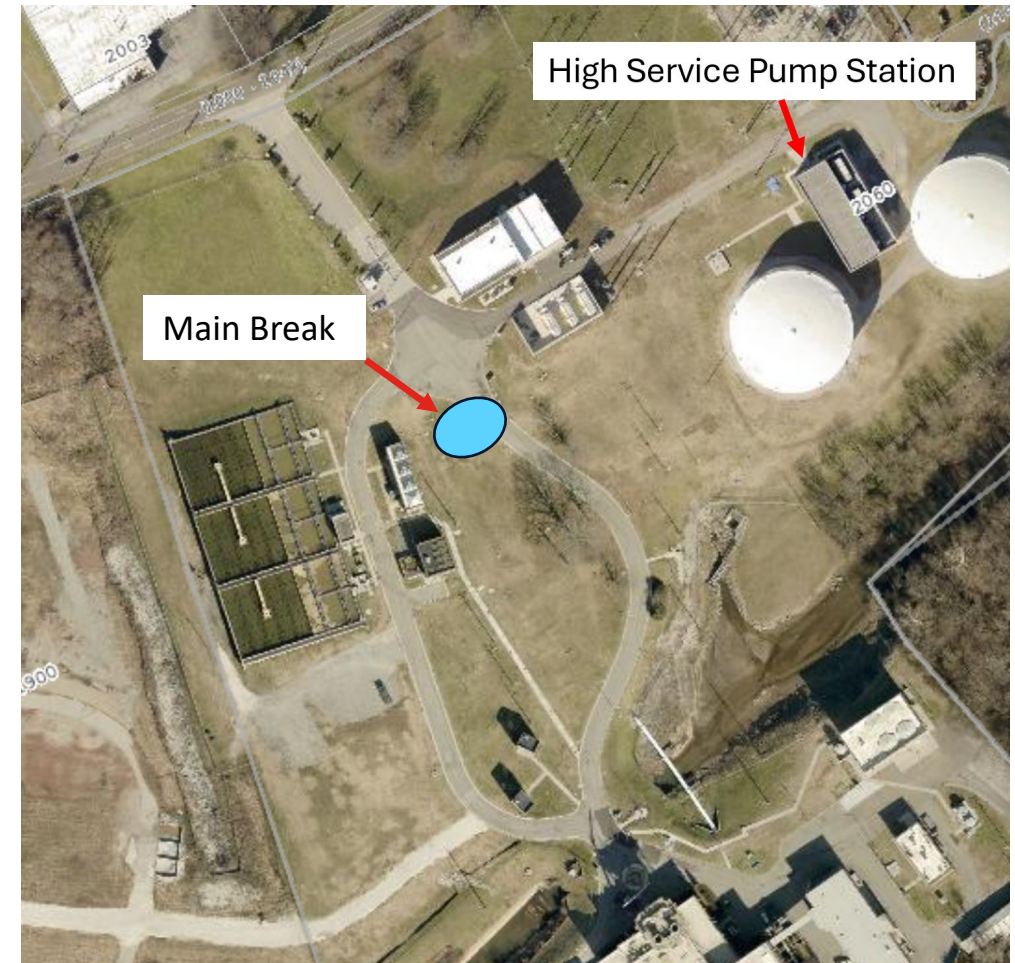
Background

- Potential leak identified in Mark B. Whitaker (MBW) storm drain
- Underground Construction (UGC) crews isolated leak to a 90-foot section of 42-inch pipe
- Crews planned to continue investigation during the week of October 6



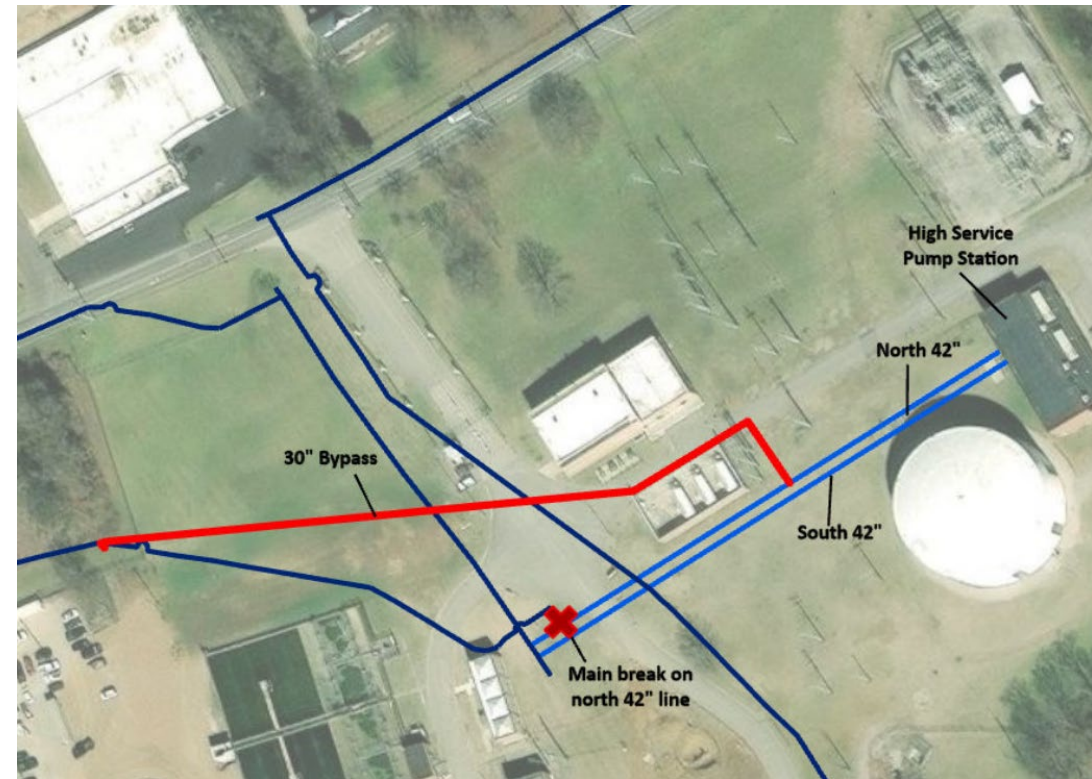
Main Break and System Recovery

- October 6 timeline:
 - **12:20 p.m.** – Pipe break occurred at MBW
 - Pressure dropped across the Main City Zone
 - UGC crew located onsite quickly valved out break
 - **1:15 p.m.** – System pressure trended upward toward normal
 - **2 p.m.** – All customers were back in service
 - Tank levels returned to normal overnight as system refills



Next Steps

- KUB will remain in an Incident Command Structure until repairs are completed
- Repair complicated by active parallel line
- Bypass line allows:
 - Parallel line to be turned off during repair work
 - Water service to be maintained to customers
 - Flexibility to turn the parallel line back on during repairs, if needed

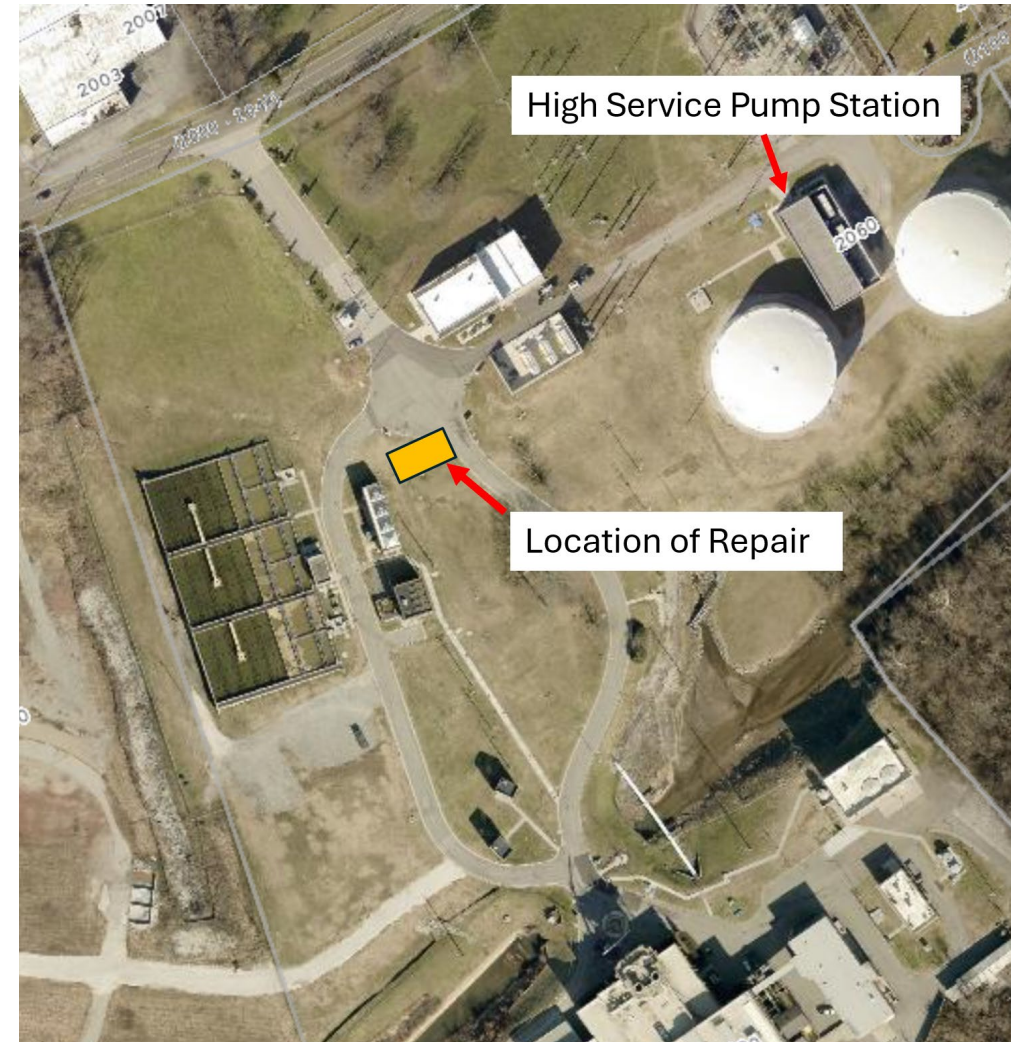


Bypass Installation



Upcoming Repair Work

- Work will begin once bypass line is in service
- Crews will continue working until line is repaired and back in service
- Estimated completion for repairs and placing line back in service is middle of next week



Water Supply Master Plan (WSMP)

- WSMP removes single points of failure at MBW
- Separate treatment processes allow for full redundancy
- Upcoming project will include the addition of a redundant High Service Pump Station and transmission mains

Phase	Project
Phase 1	High Service Main
	Phase 1 Electrical Upgrades
	Generators
Phase 2	Filters
Phase 3	Phase 2 Electrical Upgrades
	High Service Pump Station and Clearwell
	Raw Water Distribution Box and Clarification Improvements
	Intake and Low Service Pump Station

Complete
Construction
Future



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SCADA Platform Replacement



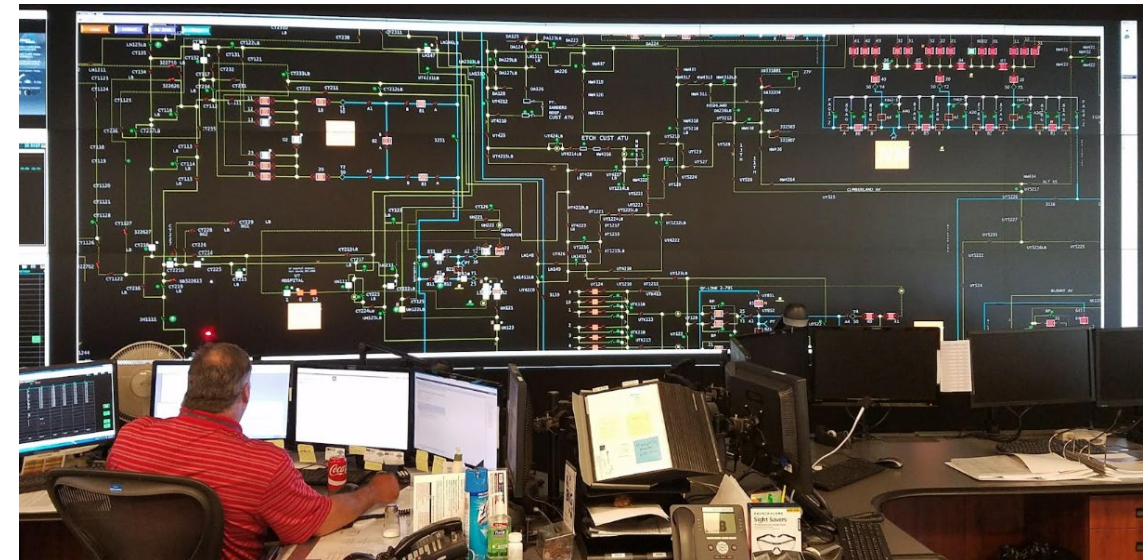
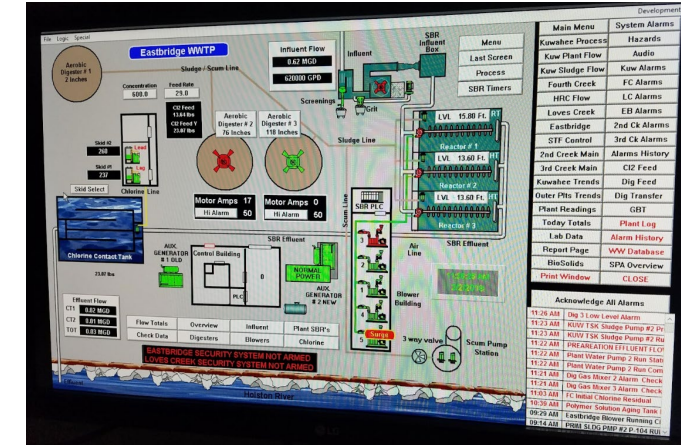
What is SCADA?

- KUB's SCADA system controls:
 - Distribution of electric, natural gas, water
 - Reliable collection and movement of wastewater
 - Plant operations for water and wastewater
- KUB's two SCADA systems
 - **Distribution:** Monarch SCADA controls electric substations and grid, natural gas distribution, and wastewater collection
 - **Plant Operations:** Wonderware SCADA controls water and wastewater plants and water distribution



Technology Allows For Automation of Utility Systems

- SCADA is central operational system for utility system automation
 - Allows fewer staff to operate KUB's utility systems remotely and more efficiently
 - Is present in all KUB utility processes
 - Acts as a safety control to keep employees and customers safe



Communications Infrastructure Manages SCADA

- Roles include managing both the systems and devices in the field
- System Management
 - Design, program, and test the screens and operations
 - Manage the data for reporting and analytics
 - Performance, reliability, and system updates
- Technicians
 - Field device programming, testing, installation, and wiring
 - Technicians are dedicated to each utility to develop subject matter expertise



Thousands of Devices In The Field

- **Electric**

- 64 substations
- 326 IntelliRupters (third generation smart reclosers)
- 140 Siemens reclosers (second generation smart reclosers)
- 14 Cooper reclosers (first generation smart reclosers)
- 2 electric end-of-line sensors for Demand Voltage Reduction (DVR)

- **Water**

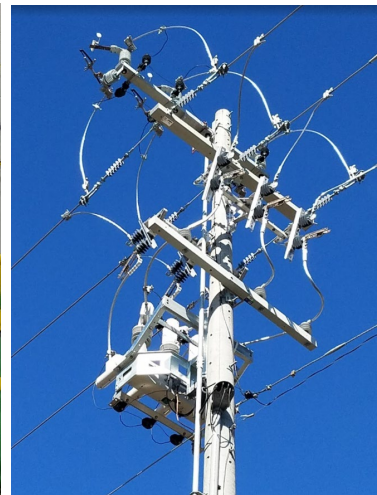
- 51 booster pumps / storage facilities
- 1 treatment plant

- **Wastewater**

- 77 lift stations / storage facilities
- 4 treatment plants

- **Gas**

- 46 facilities
- 23 end-of-line pressure sensors



New Technological Advances



Before



After



Same outer shell with new modern upgraded technology

SCADA System Upgrade

Project started in April 2024

OSI Monarch selected as system

Project lasted 18 months

Successful cutover on September 12, 2025

Project budget: \$1.3 Million

Primary Stakeholders: System Operations, System Maintenance (SMS), Engineering

Monarch Go-Live Day: September 12

- System Operations switching and SMS-Wires and Overhead Construction work paused
- New SCADA workstations and system clients installed for operators
- Communications Infrastructure performed communication cutovers to include the new system
- New and old systems ran in parallel for error checking and validation
- Deployment began at 6:00 a.m. and the new system was online at 10:15 a.m.



SCADA Upgrade Positions KUB For The Future

Modern and supported SCADA platform for the future

Eliminates complex and dated integrations with ADMS

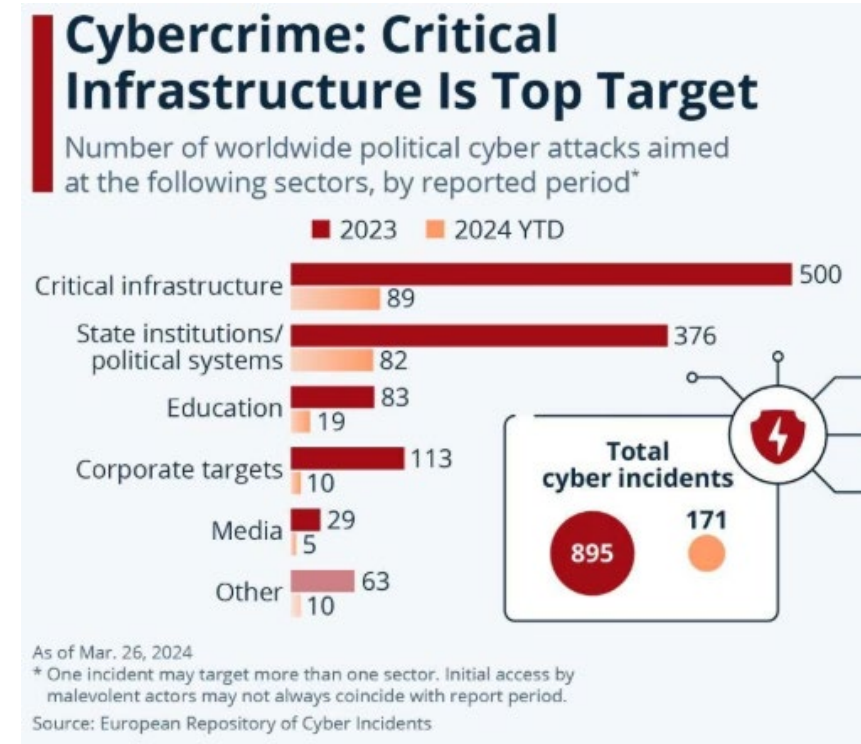
Improves system reliability and data visibility

Enables future scalability and analytics

Aligns with enterprise Geographic Information System (GIS) and System Operations workflows

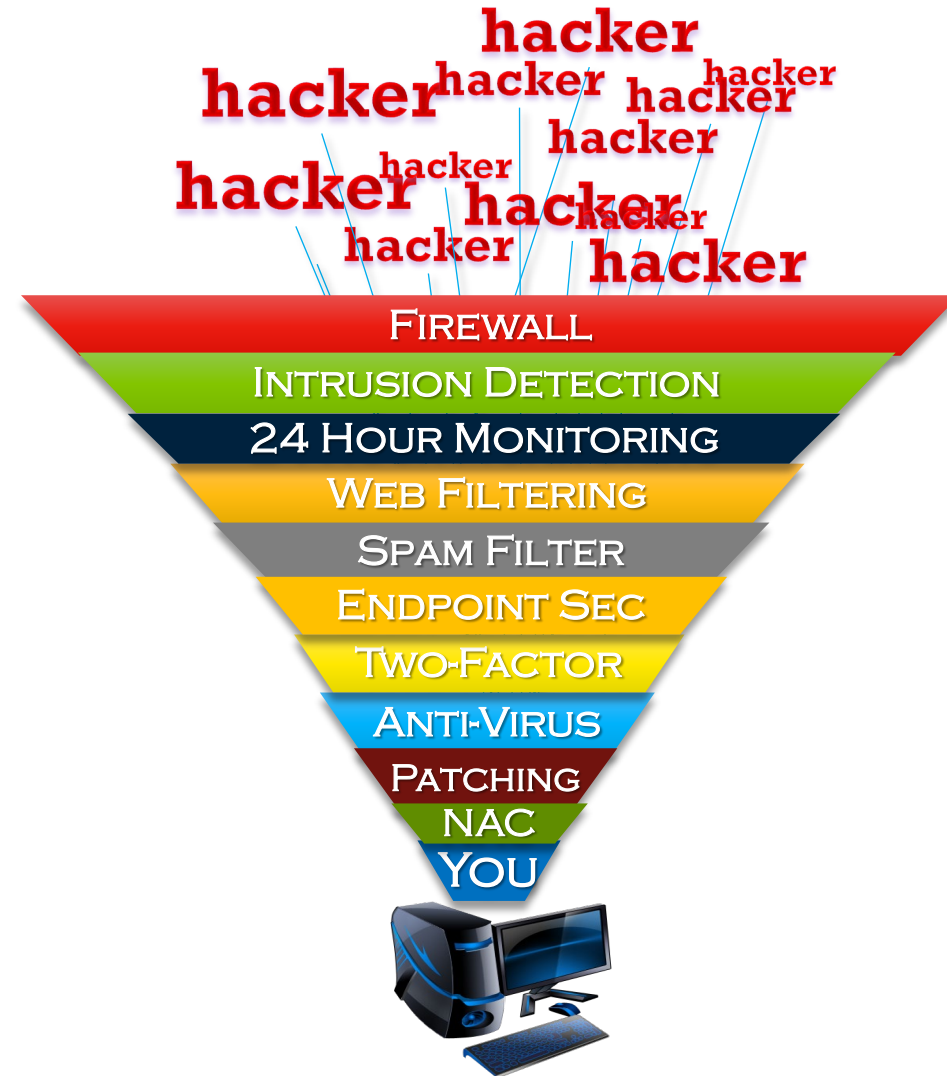
Securing Critical Infrastructure

- Increasing focus on utility based critical infrastructures among hacking groups
- Hackers vary from individuals who are just interested in what they can access to well funded state-sponsored threat actors
- Operational control systems are considered the prize for most hackers



In-Depth Defense

- How do we deal with cybersecurity threats?
 - Using a layered approach to cybersecurity
 - 24/7 monitoring & response
 - No direct internet connectivity
 - Advanced intrusion detection methods
 - Limited access to systems and privileges
 - Physical security preventing access to network enabled devices
 - Consistently changing aspects of our layers





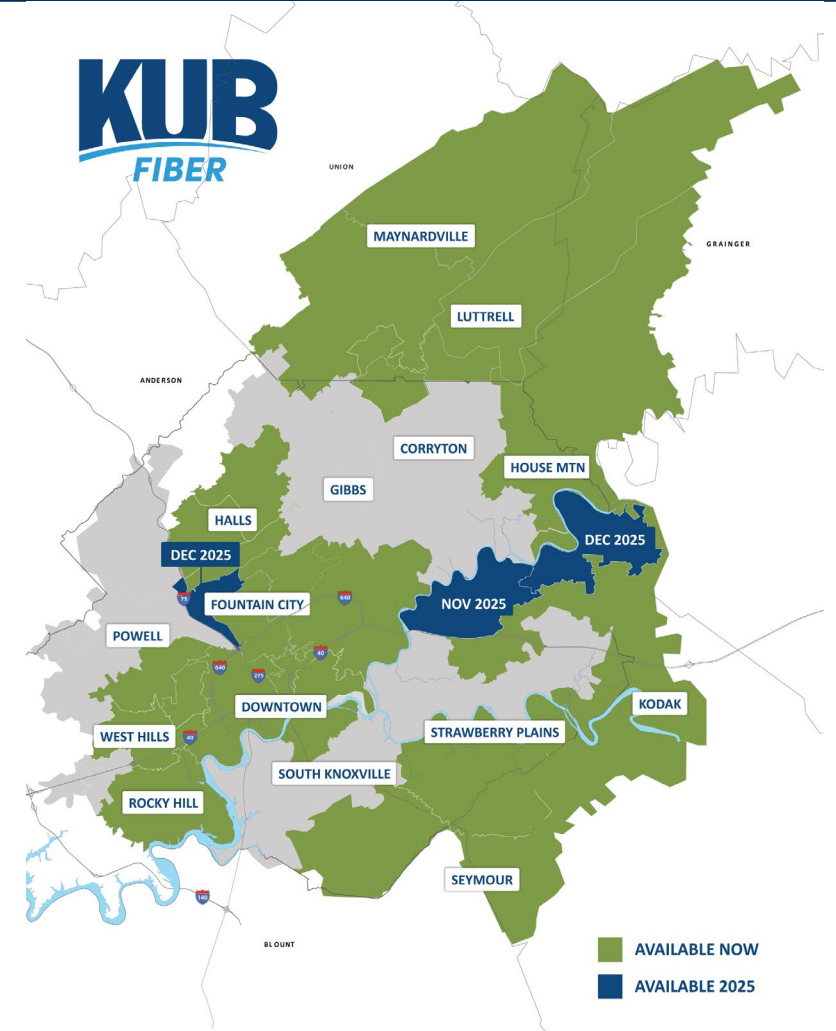
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FY26 First Quarter Fiber Update



FY26 Construction on Target

- Installed 231 miles of fiber in first quarter of FY25
 - FY26 Goal: 700 miles
- Service available to an additional 15,000 customers
 - FY26 Goal: 32,000 additional
- Currently available to 81,660 customers
 - FY26 Goal: 115,000
- Construction on target and on budget



Strong Customer Growth Continues in First Quarter

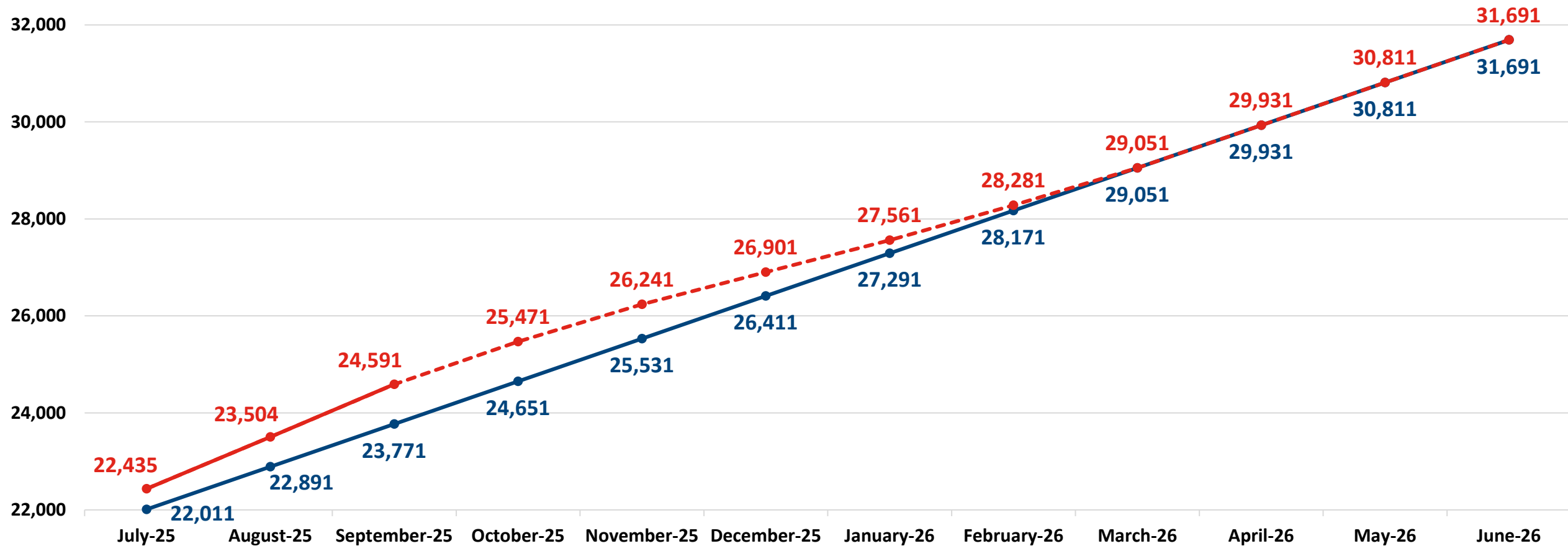
- Exceeded sales goals again this quarter
 - Goal: 2,613 new residential customers
 - 3,278 new residential customers
- 25,859 internet customers total
 - 24,591 residential, 1,268 business
- Customer retention at 99%



Fiber Residential Internet Customer Count

Residential Internet Services Gained

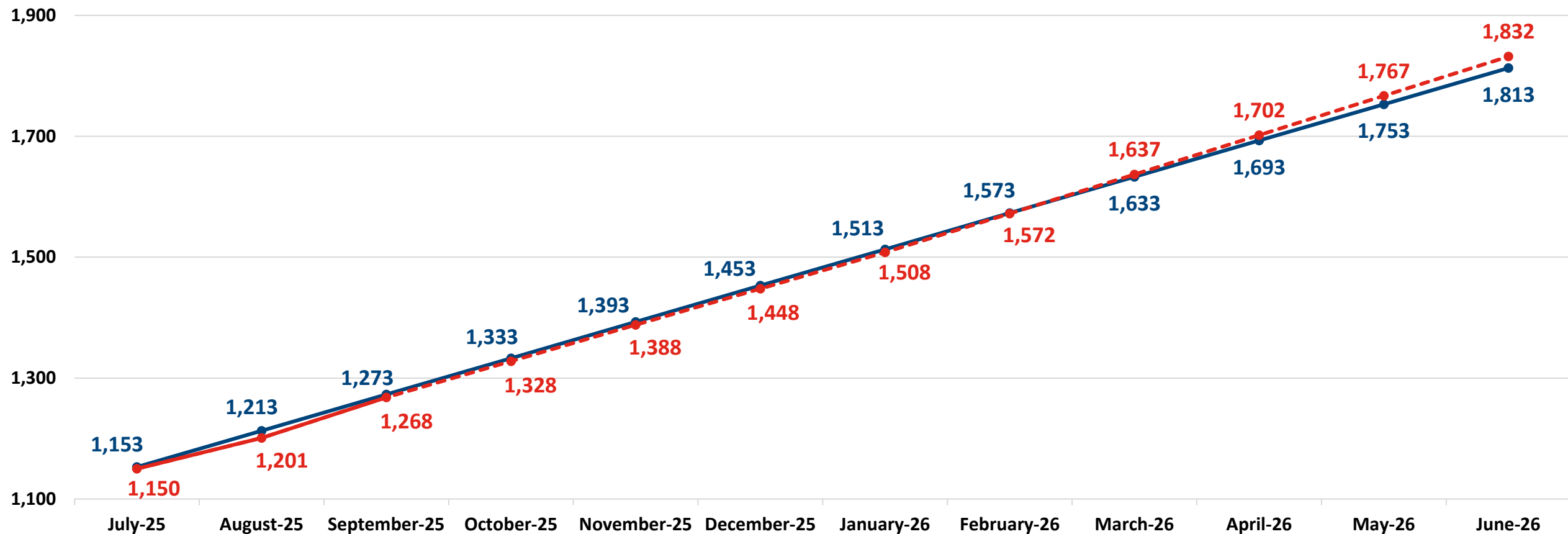
—●— Budget — Actual - - -●- - Forecast



Fiber Business Internet Customer Count

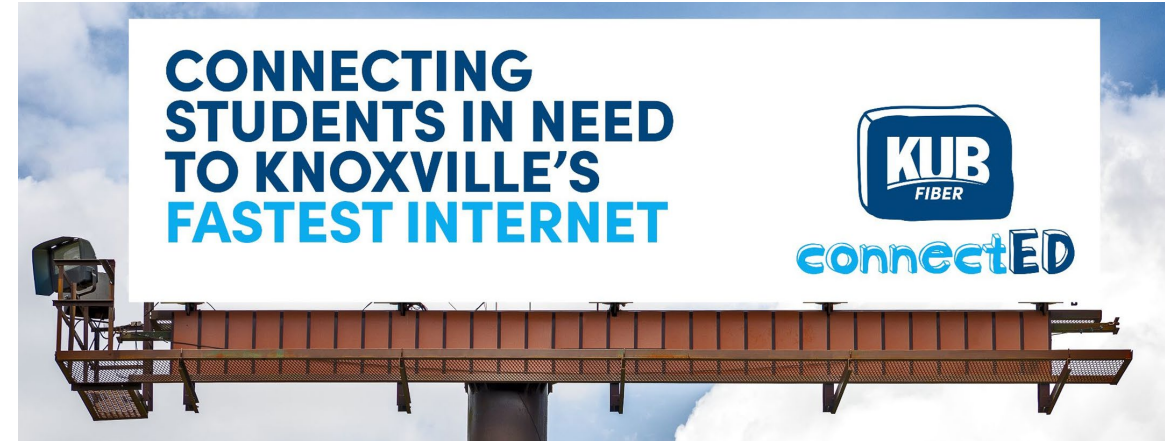
Business Internet Services Gained

—●— Budget — Actual - - - ● - - - Forecast



ConnectED Continues to Grow

- Provides high-quality internet services for low-income families in Knoxville and Knox County
- 93 new customers added in first quarter
 - More than 328 households currently served
- Program reaching 505 students across 68 different Knox County Schools
- FY26 Goal: 400 households
- Received first private foundation support this quarter



New Creative Being Launched

- Continues themes of “fastest” and “local”
- Expanded partnership with Vol Network
- New “brought to you by” and customer testimonial spots



