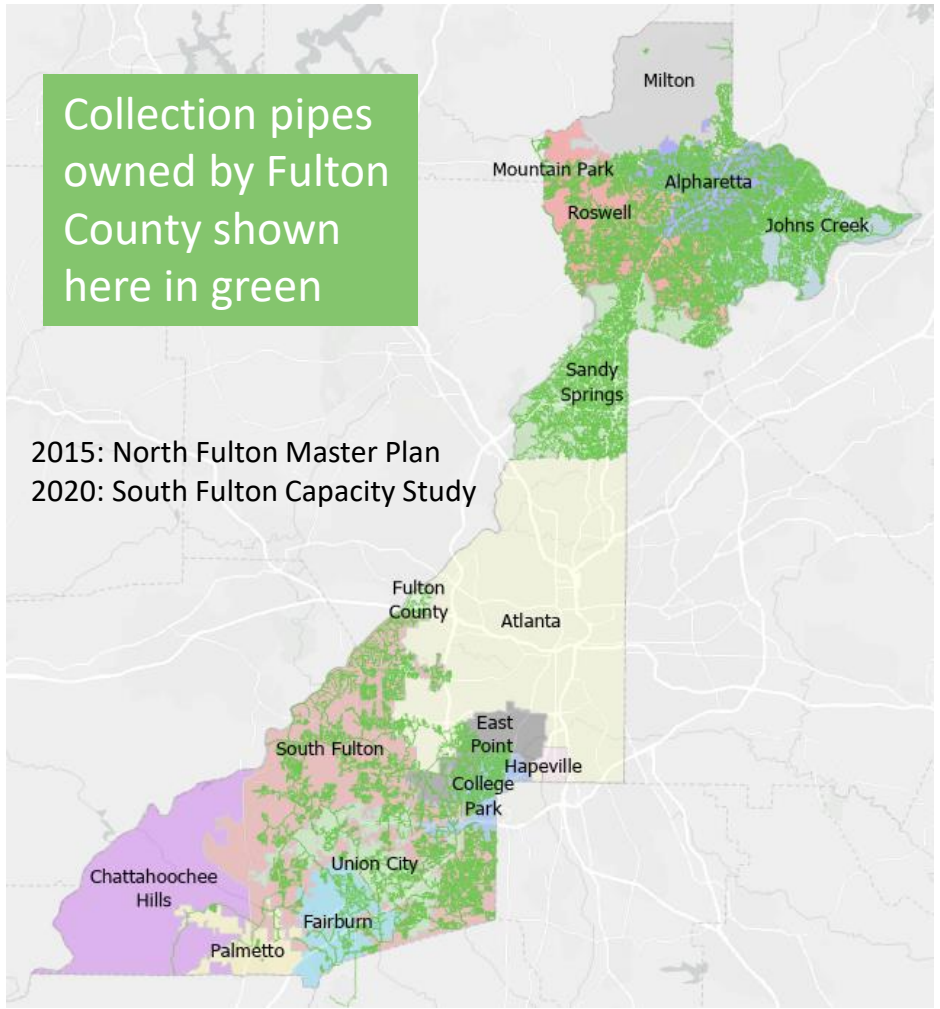
Fulton County Water Distribution System Master Plan

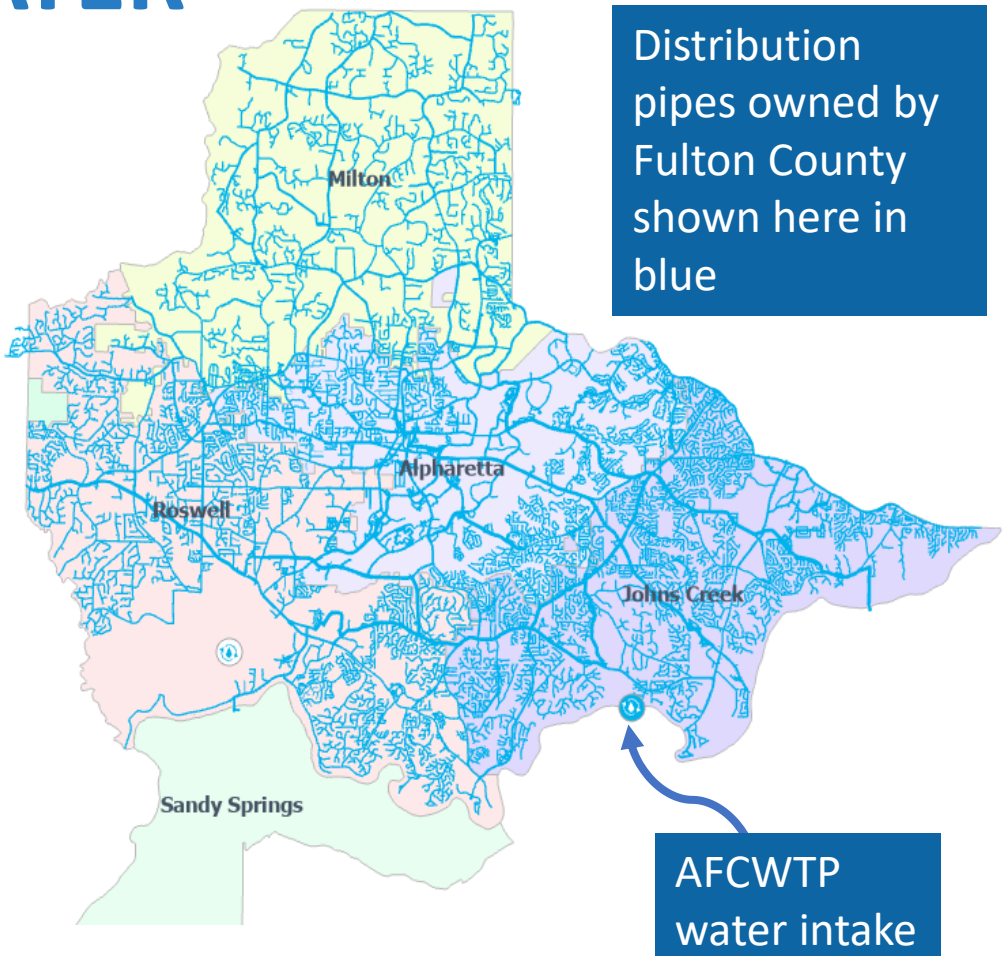
2025 - 2050

Fulton County Public Works Service Areas

SEWER



WATER



North Fulton Water Distribution System

POPULATION
284,862
2020 US Census

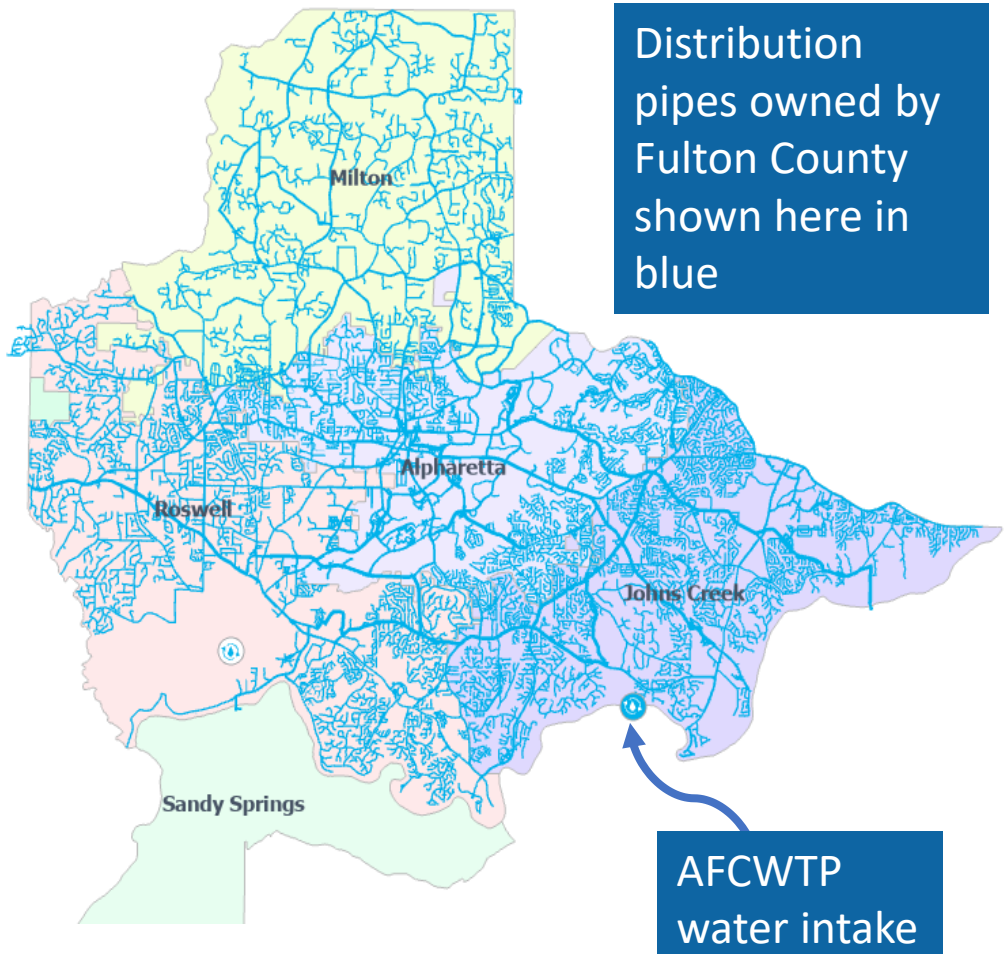
CONNECTIONS
79,915
December 2024

2024 WATER DEMAND
average **26.8 MGD**
max* **46.9 MGD**
* July 3, 2024

PRESSURES (PSI)
98.1 average
185 max
15 min

STORAGE
16.7 + 11.8
million gallons
distribution system + plant clearwells

MILES OF PIPE
1,204.6



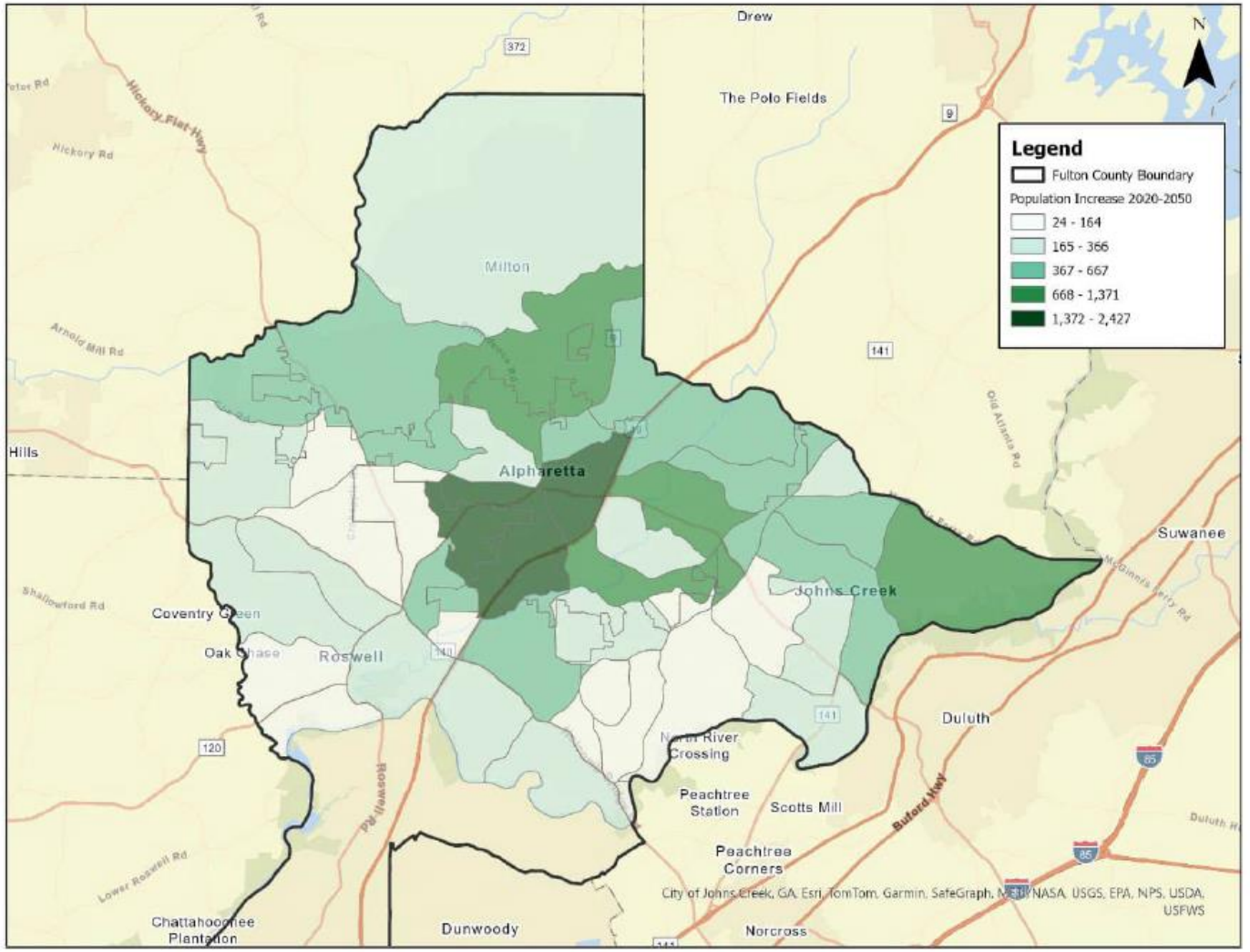
Distribution pipes owned by Fulton County shown here in blue

AFCWTP water intake

What is included in the Master Plan?

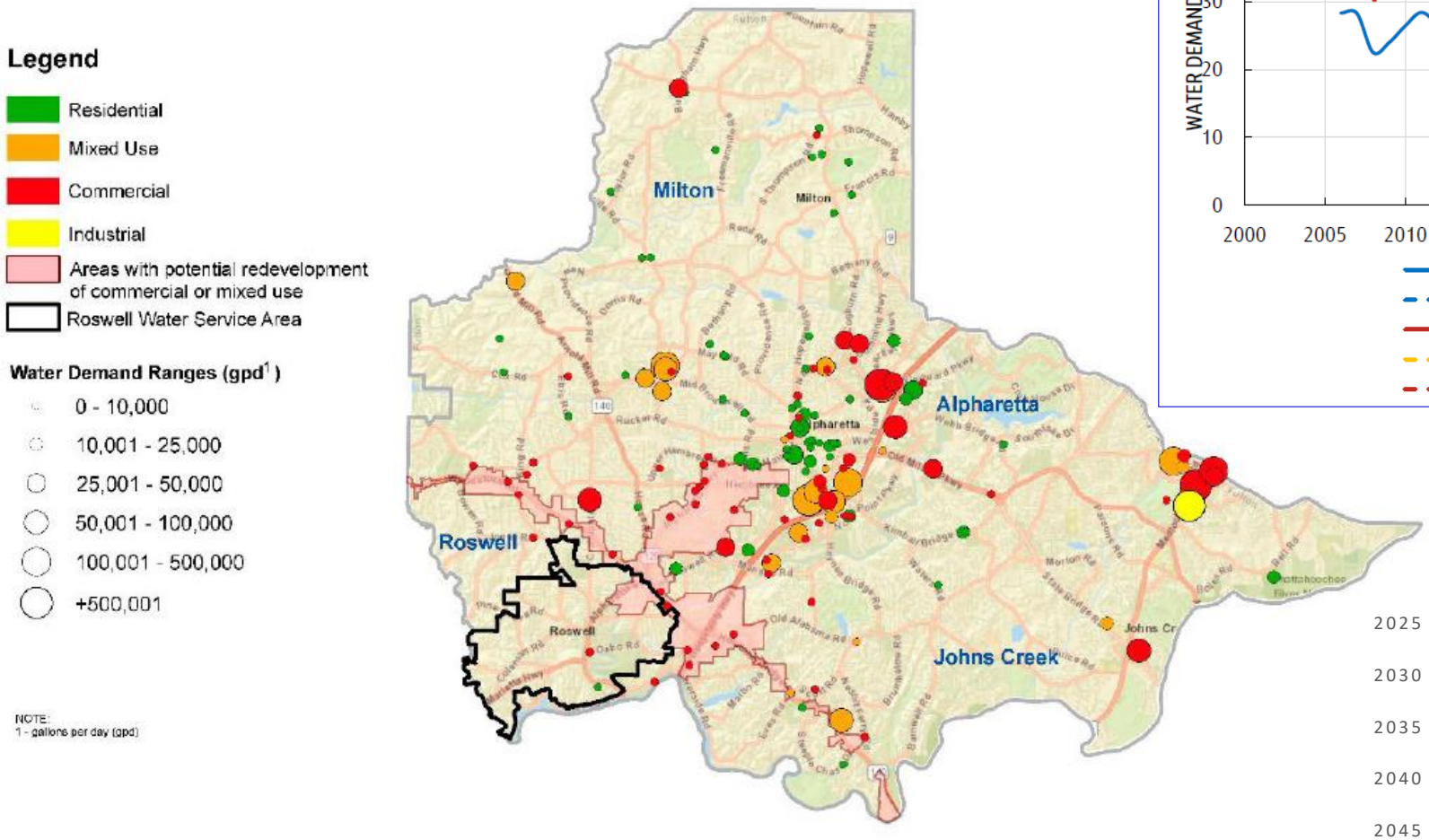
- Population projections and estimated demands in coordination with cities
- Level of service requirements around pressures, fire flows, and water age
- Capacity and pressure maintenance evaluations
- Water loss program evaluation
- Storage requirement evaluation
- Pressure zone evaluation
- Interconnection evaluation
- Capital project lists

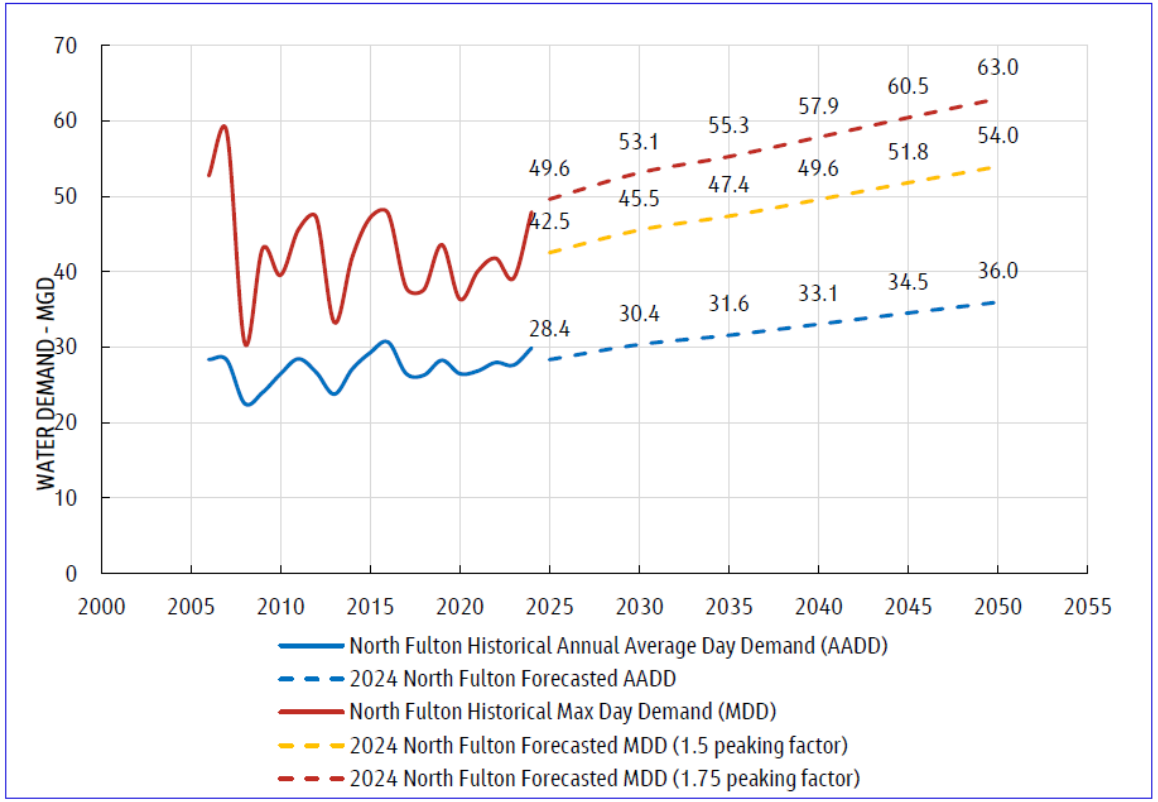
Figure 2-1. ARC Series 17 Projected Population Increase 2020 to 2050

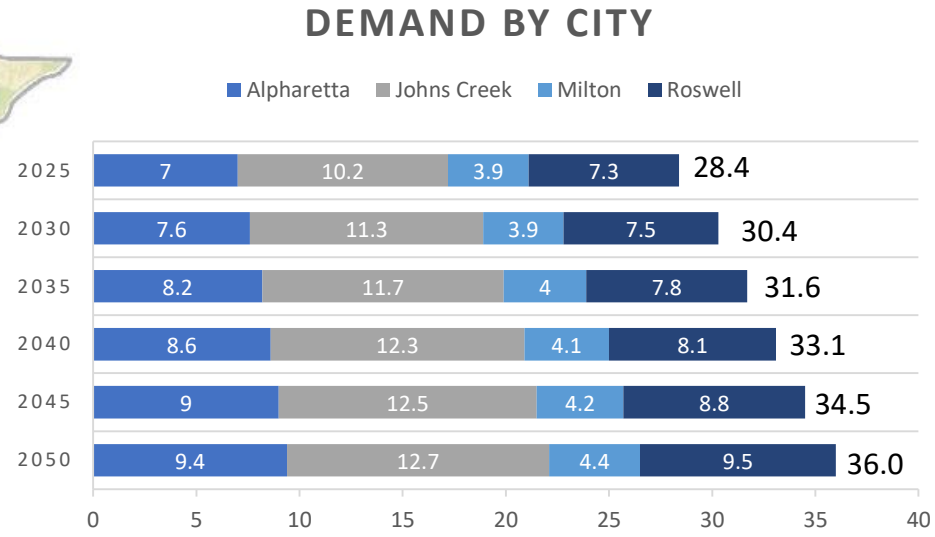


How are we growing?

Figure 2-3. Future Growth Areas for North Fulton







Today's Level of Service

- We are meeting minimum or better level of service requirements for **the vast majority** of our system
- We have a few areas where during high demand periods (summer, low rainfall) we are not meeting level of service
- Tanks fill/drain as expected and can meet demand

Figure 4-3. Existing System MDD – Tank Levels

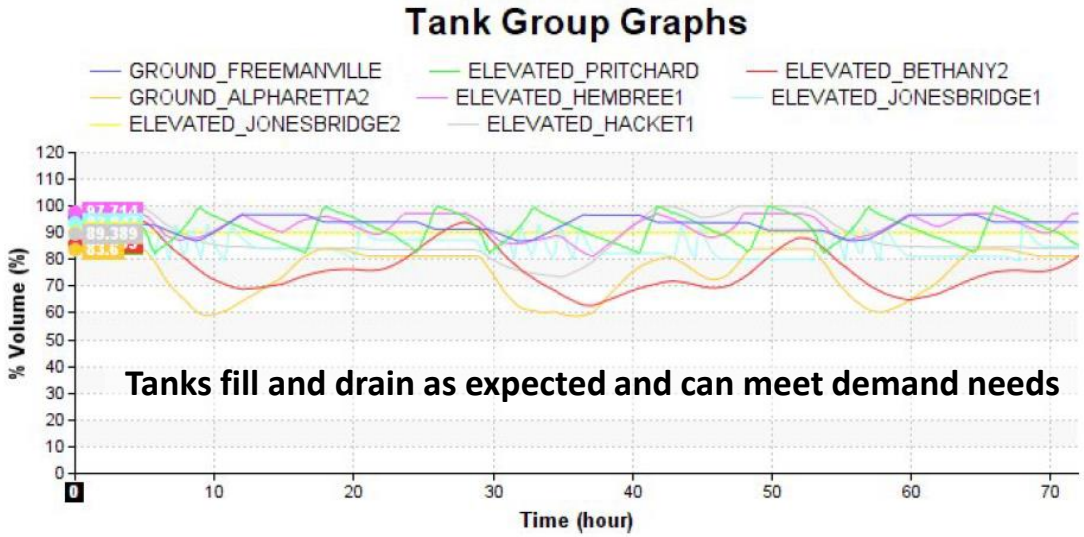
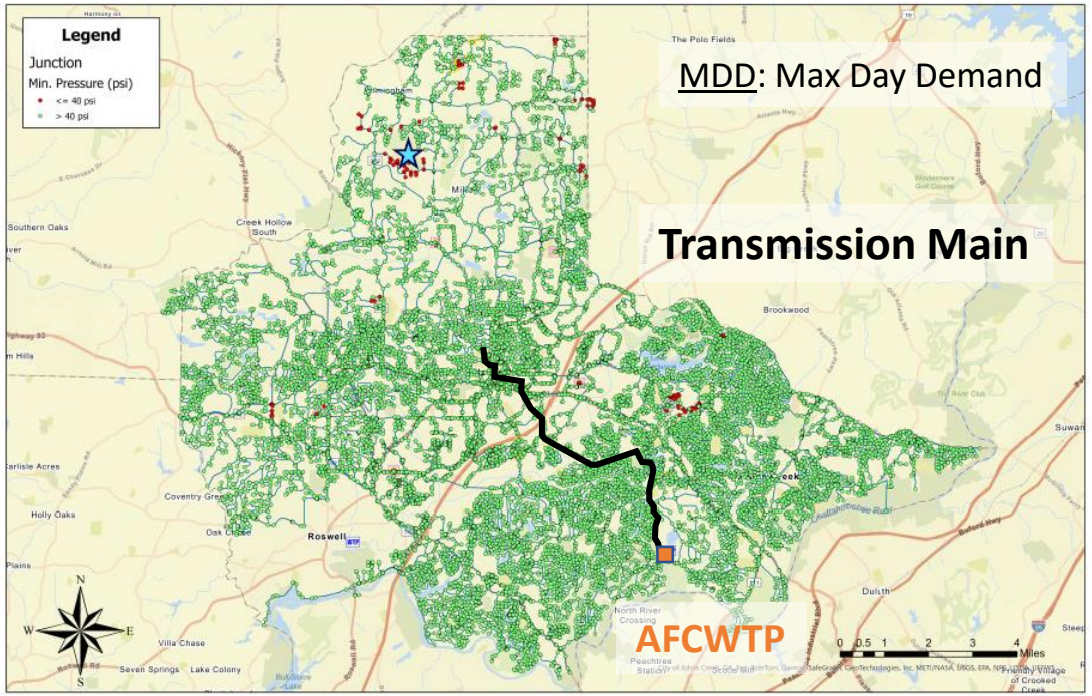


Figure 4-2. Existing System MDD – Minimum Pressure < 40 psi (with unknown user node shown)



Do Nothing Scenario

- We **will not meet our minimum service requirements** for larger portion of our system
- Our tanks **cannot accommodate demand** requirements and drain out to zero under max day conditions

Figure 4-12. 2050 MDD – Tank Levels

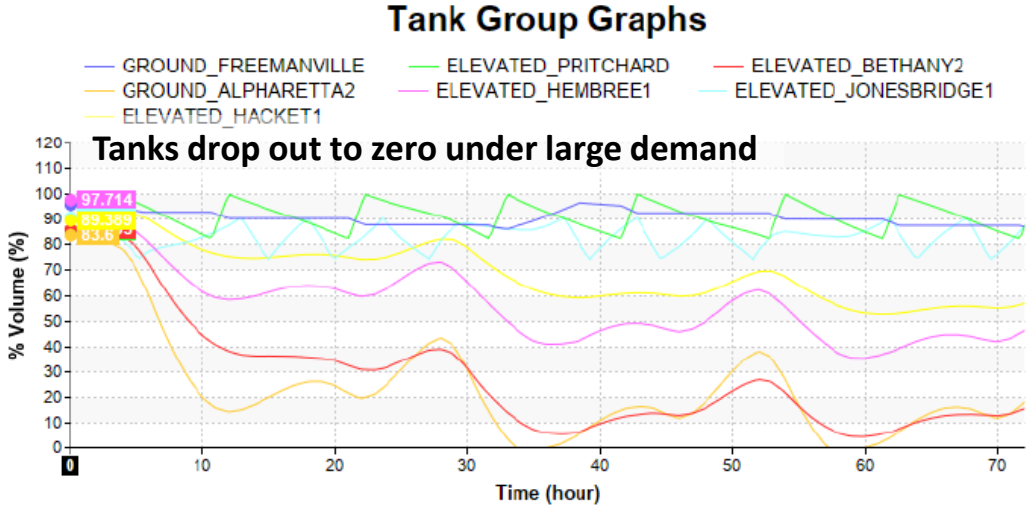
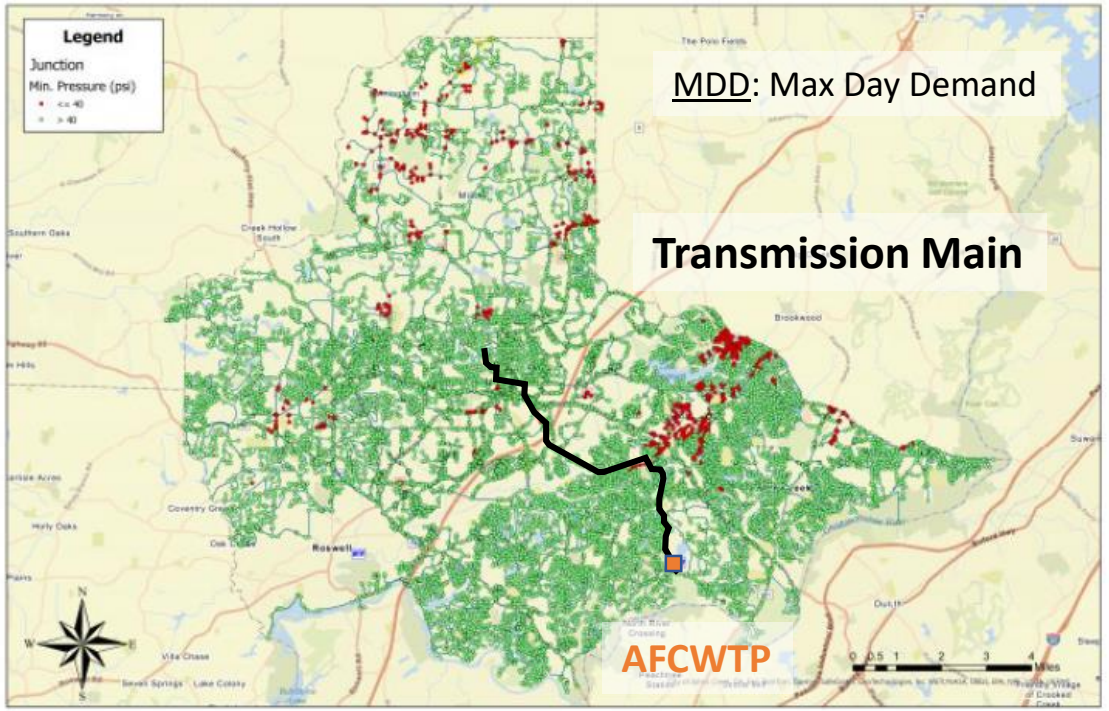
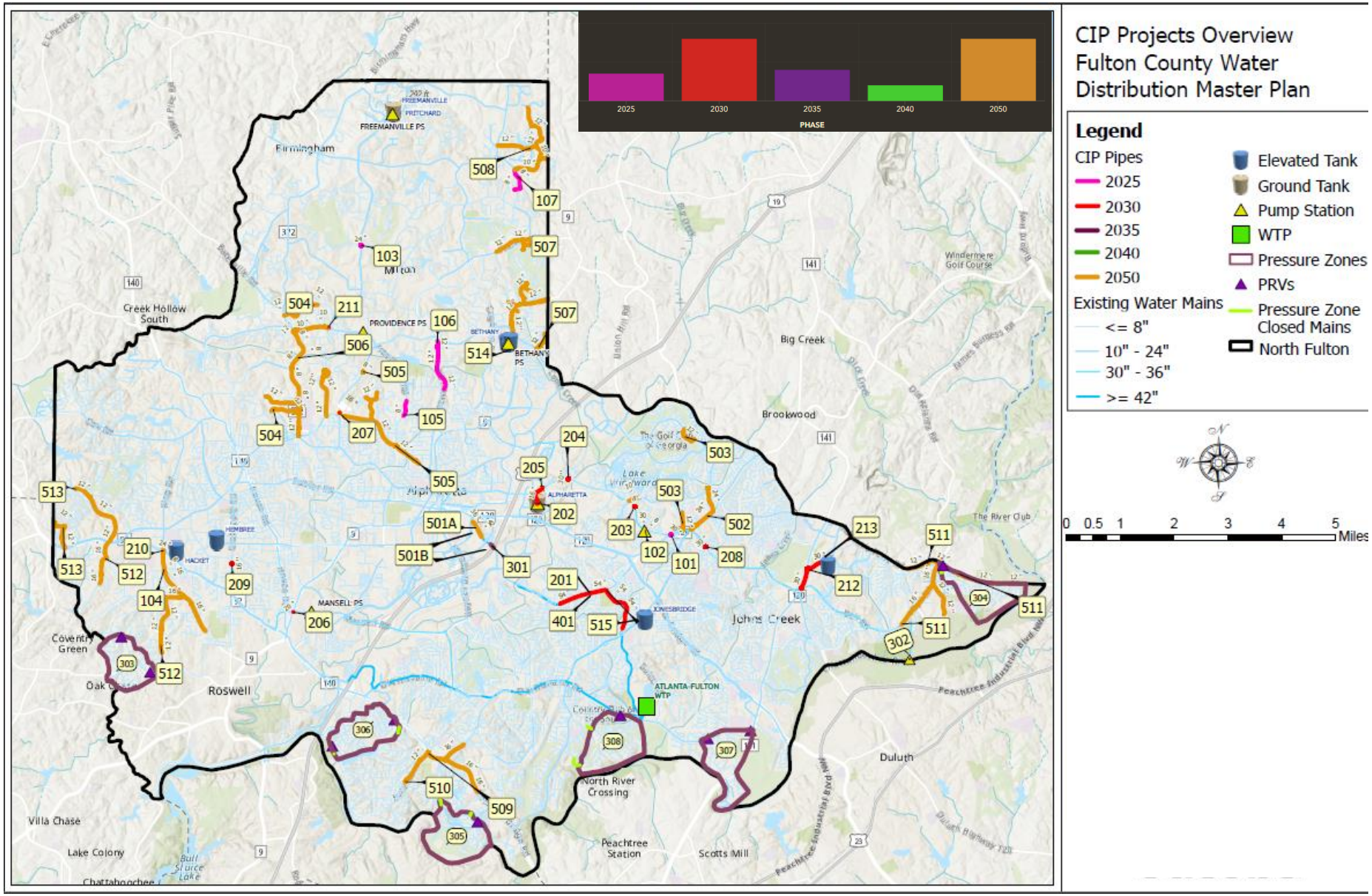


Figure 4-11. 2050 MDD – Minimum Pressure < 40 psi



Capital Improvement Projects 2025 - 2050



CIP Projects Overview
Fulton County Water
Distribution Master Plan

Legend

CIP Pipes
- 2025
- 2030
- 2035
- 2040
- 2050

Existing Water Mains
- <= 8"
- 10" - 24"
- 30" - 36"
- >= 42"

- Elevated Tank
- Ground Tank
- Pump Station
- WTP
- Pressure Zones
- PRVs
- Pressure Zone Closed Mains
- North Fulton

0 0.5 1 2 3 4 5 Miles

46 projects

6 Transmission Main
2.29 miles

34 Distribution Main
32.82 miles

6 Storage/Capacity

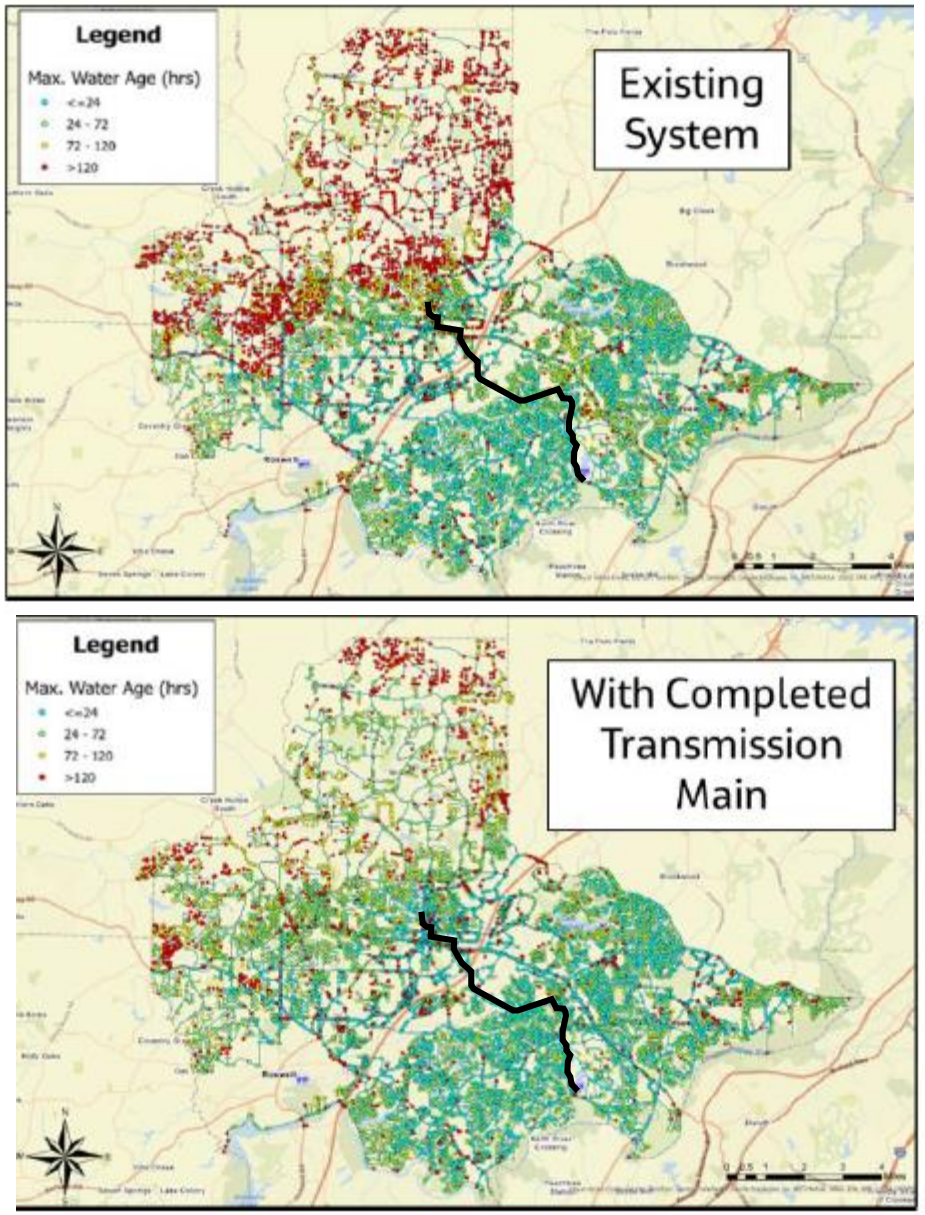
$278,712,500
estimated cost

5
phases

Major Goal: Completing the Transmission Main

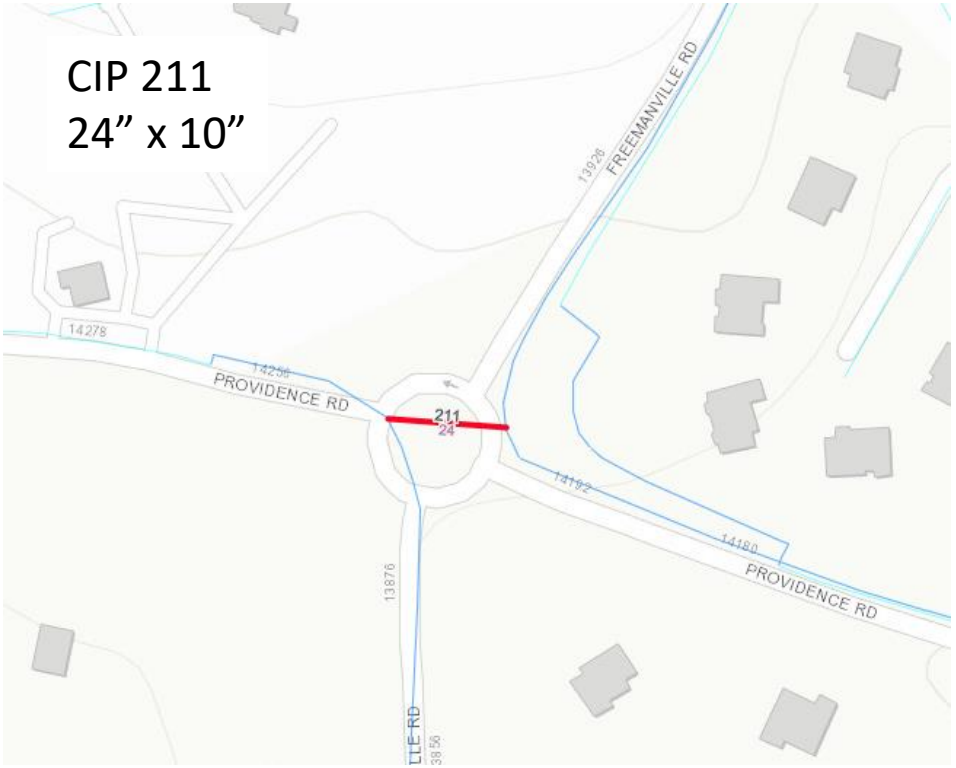
- Previous sections installed piecemeal in coordination with transportation projects
- New projects will be stand-alone as necessary to complete the transmission main according to proposed phases
- **Best solution to reduce deliver water more efficiently to the northwest portion of the distribution system**
- Total of Transmission Main Projects:
  - $39,425,000
- Projects scheduled for Phase 2030, 2035, and 2050

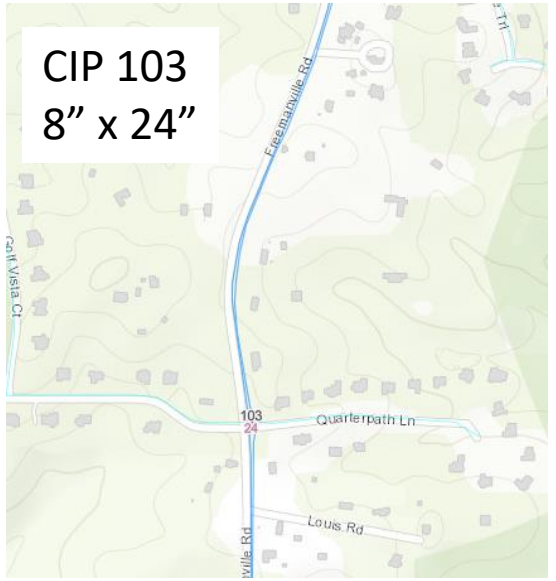
Figure 6-1. Transmission Main Water Age Improvements



Major Goal: Connecting Distribution Lines

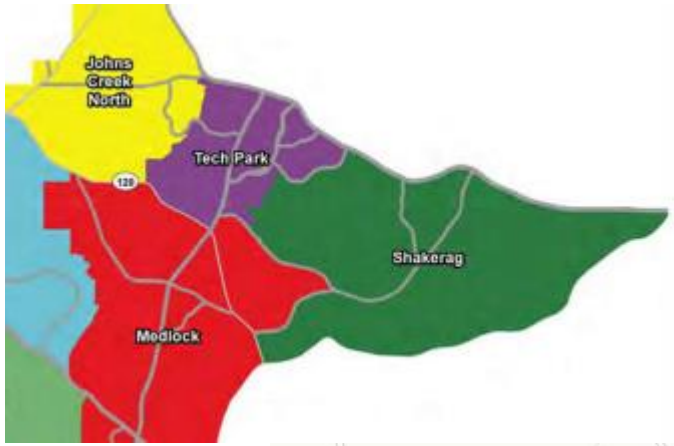
- Considered “low hanging fruit”
- Locations where a larger pipe crosses or is very near a smaller pipe
- Connecting these two pipes can boost pressures on the smaller line
- Total of Crossing Pipe Projects:
  - $1,615,500 (11 projects)
- Projects scheduled for Phase 2025 and 2030
  - Phase 2025 crossing pipe projects completed in 2024

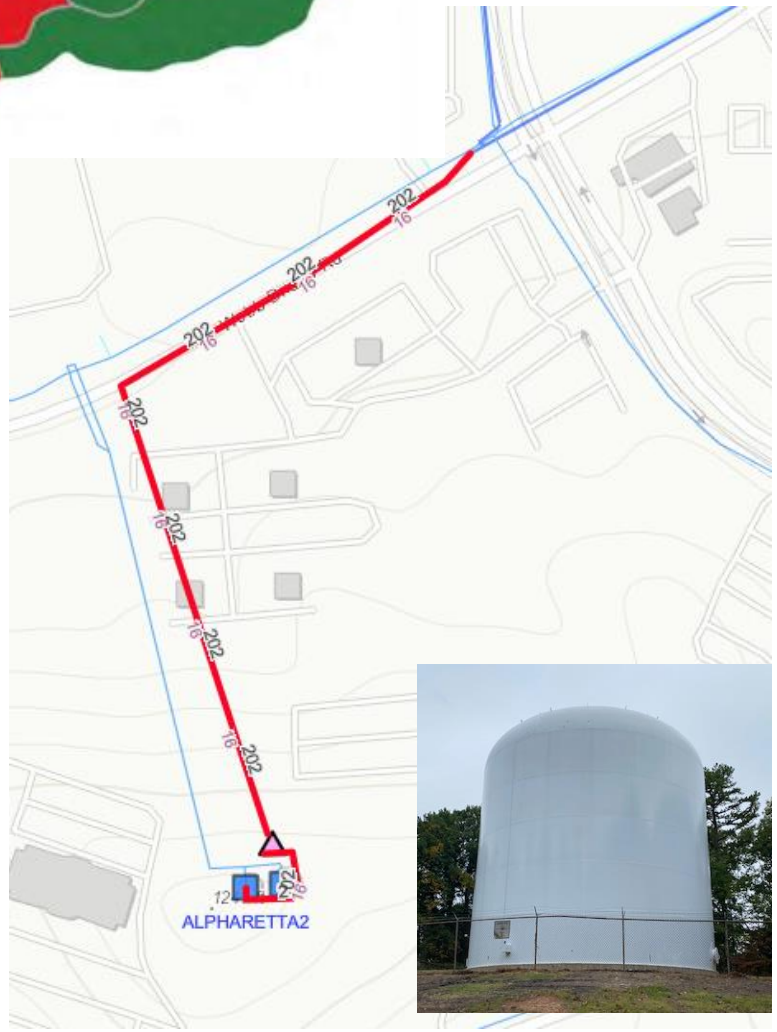




Major Goal: Storage and Capacity

- Tanks
  - Additional storage to supply Technology Park area of Johns Creek
  - Additional storage at existing Bethany and Jones Bridge tank sites (4 MG total)
- Pump Stations
  - Alpharetta Tank will need a booster pump to drain out due to surrounding pressure improvements
  - Suggested to add in line booster station to local high point near Webb Bridge Park
  - Booster pump station required to make emergency interconnection with Gwinnett County functional to supply Fulton





Requests and Future Actions

TODAY

Requesting Board of Commissioners to adopt and approve the Water Master Plan as presented

NEXT STEPS

Post Water Master Plan to Fulton County public website

Complete and present rate study for Board of Commissioners approval and adoption

Fulton County Valves and Fire Hydrants Assessment and Exercise Program

Valve Inspection and Exercise Program

Benefits

Ensures the reliable and continuous operation of the water distribution system

Enables isolating small sections of the system during emergencies and main breaks

Minimizes service disruptions

Maintains water quality

Two primary components

VALVE LOCATION

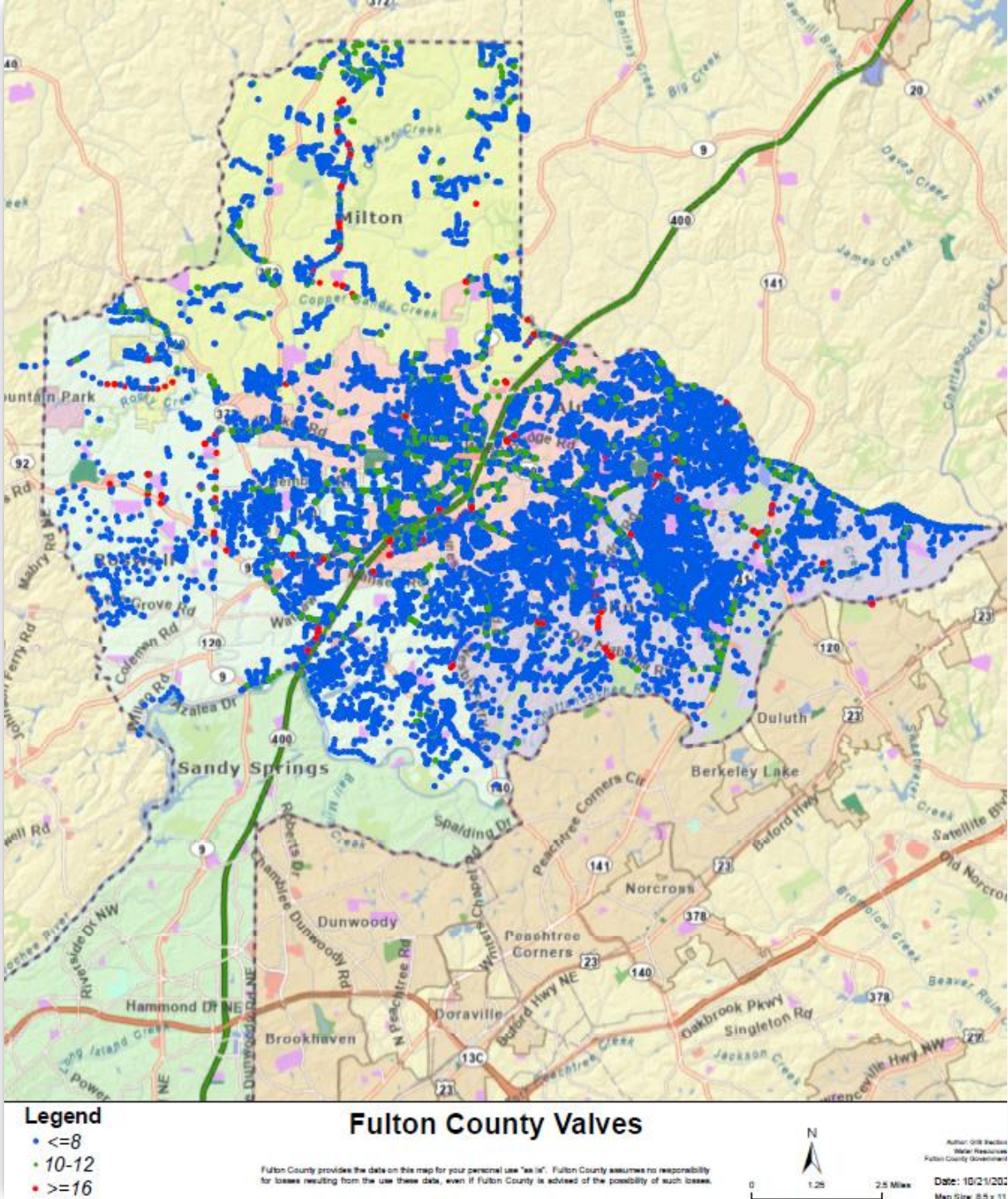
Creating an accurate inventory of valves and their locations on water distribution mains

VALVE OPERABILITY

Ensuring located valves are
1) accessible
2) able to open and close

Valves and Fire Hydrant Inventory

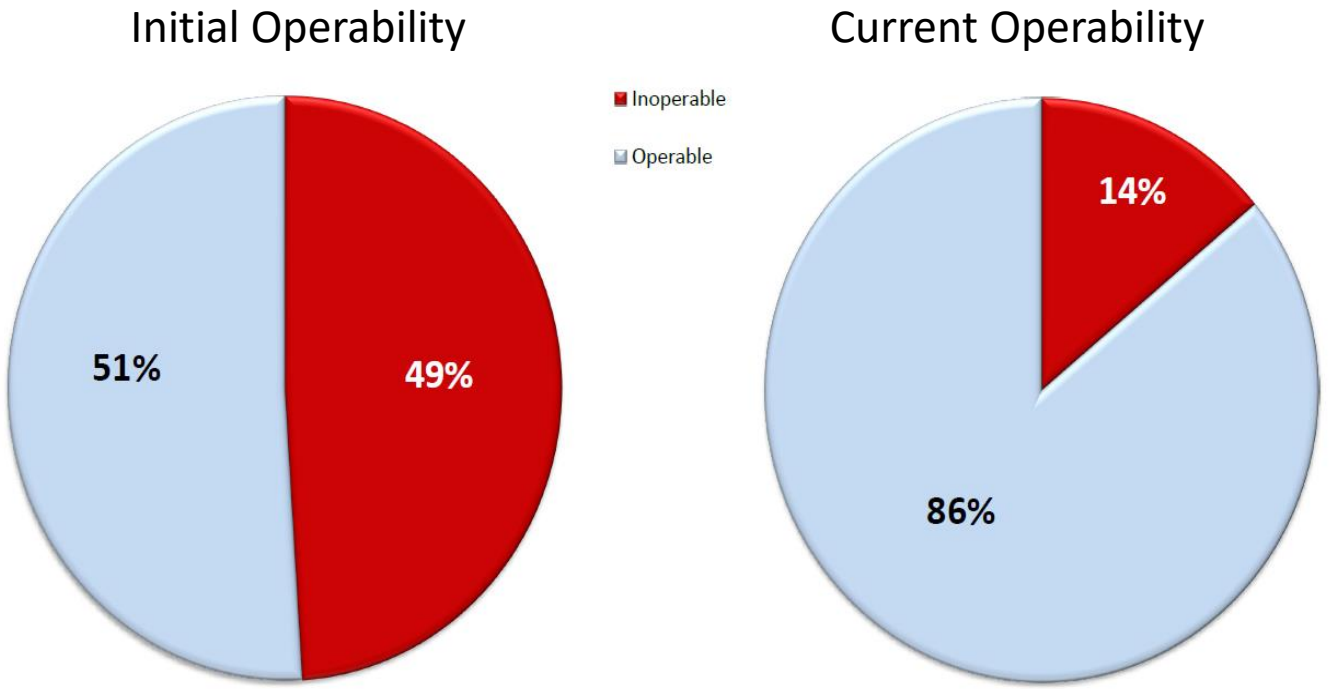
- 25,699 valves of various sizes
  - 442 - 16" or greater (Large)
  - 25,257 - less than 16“ (Small)
- 13,927 fire hydrants
- Program Goal:
  - Large valves exercised every year
  - Small valves exercised every 5 years



Valves and FH Exercised as 2024

- 17,991 valves exercised (70%)

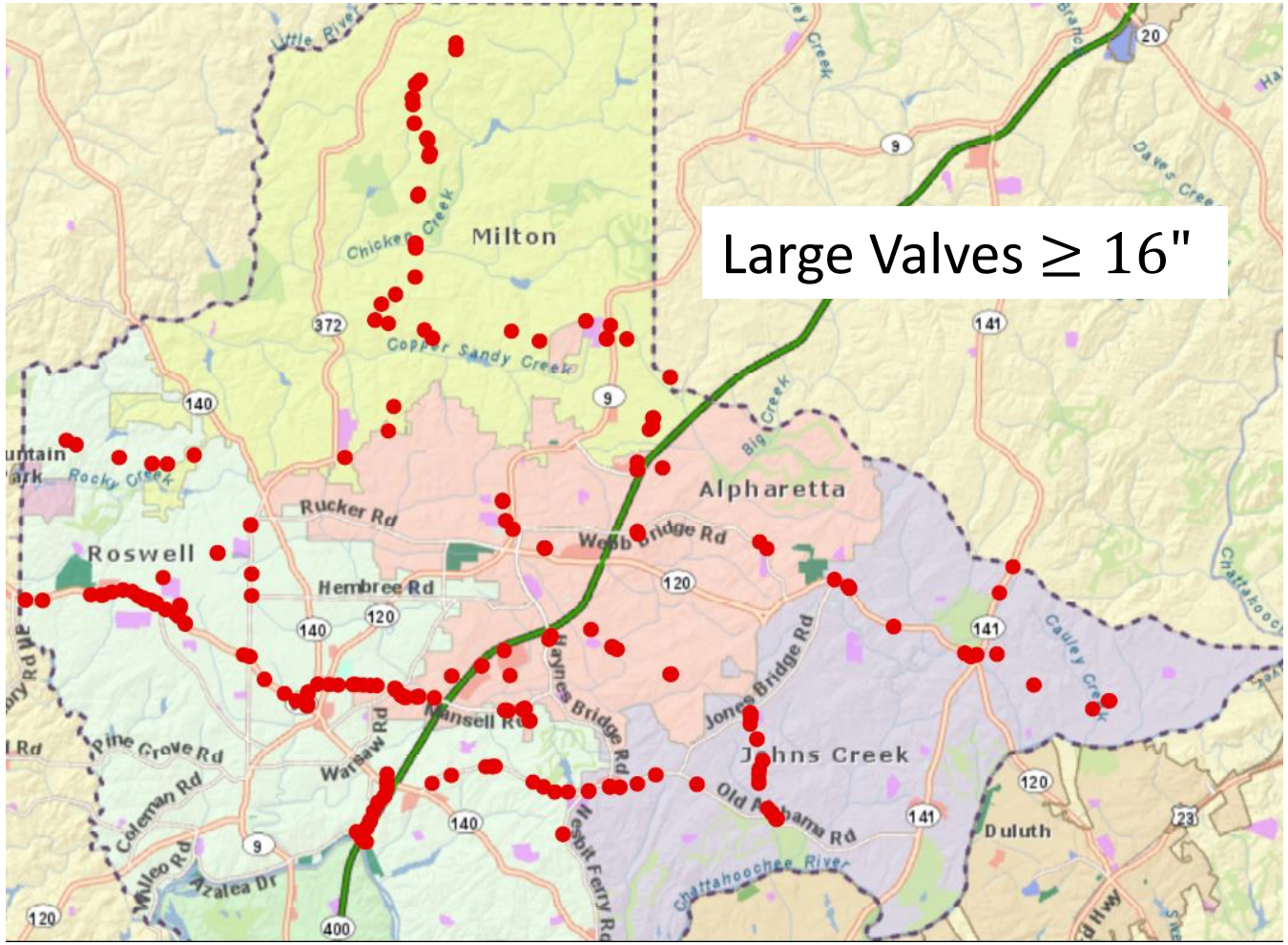
Valves Operability Progress



<u>VALVE OPERABILITY:</u> ensuring valves are accessible as well as able to open and close

Next Steps – Valve Assessment Program

- Complete the remaining 7,708 valves and 5,380 FH assessments
- 3-year period (33% each year)
- Priority given to large valves
- Implement an In-House Exercising Program



Questions?