



Forsyth County Data Center Discussion

September 14, 2026

Agenda

- Data Center Overview
- Demand in Forsyth County & North Carolina
- Current Zoning Framework
- Existing Data Centers in Forsyth County
- Current Water Capacity
- Energy Considerations
- Legal Considerations

Data Center Overview

A data center is a physical facility that houses groups of networked computer servers and computing infrastructure used to store, process, and share digital information.

Types of Data Centers

Edge Data Centers - Smaller, decentralized local facilities placed close to end users or internet devices to process data locally and reduce latency

Enterprise Data Centers – private facilities owned by a single organization usually located on-premises

Colocation Data Centers - Shared facilities where multiple businesses rent physical space, racks, power, and cooling for their own hardware, balancing cost savings with equipment ownership

Cloud Data Centers - data and applications are hosted by a cloud services provider such as Amazon Web Services (AWS), Google Cloud Platform (GCP), Microsoft (Azure), IBM Cloud, or other public cloud provider, often within hyperscale data centers designed to efficiently support massive workloads and global scalability

Hyperscale Data Centers – large facilities with advanced infrastructure that support Artificial Intelligence (AI) outputs.

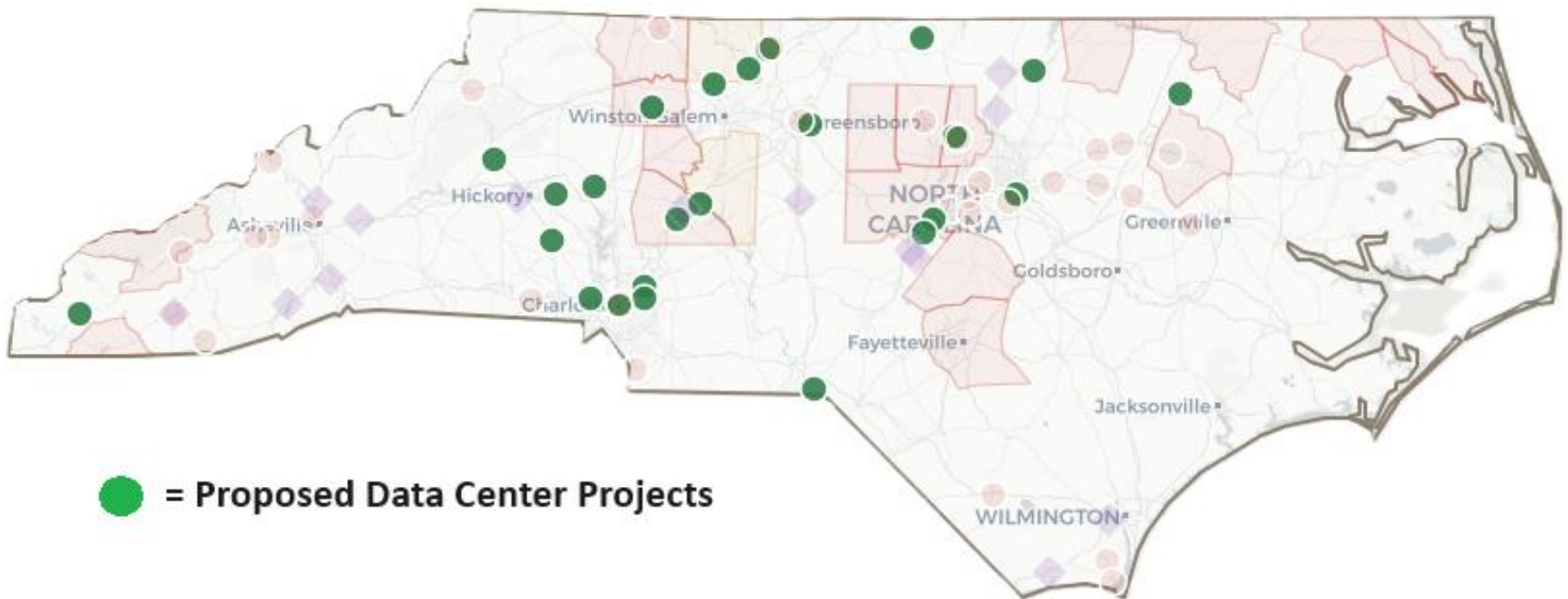
Type	Average Power Capacity	Size
Edge*	Under 100 kW	100 sq. ft.
Enterprise*	Hundreds of kW to low MW	1,000s of sq. ft.
Colocation*	1 MW to 50 MW	Size varies
Cloud	Multi- Megawatt	Hundreds of Thousands of sq. ft.
Hyperscale	10 MW – 100 + MW	Millions of sq. ft.

Demand

Artificial Intelligence (AI) and Cloud Computing Digital Services are the primary drivers of data center growth.

Data Center Developers are seeking new locations that can support energy needs in markets where energy capacity is growing.

Activity In North Carolina



Current Zoning Framework

- Planning and Development staff has historically classified data centers as "Services, A".
- This UDO use describes a variety of business types that "provide a service to businesses and individuals".
- Examples:
 - Beauty salons; dry cleaners; photography studios; watch and jewelry repair
 - SIC 737: computer programming, data processing and other computer related services – this encompasses data centers

Current Zoning Framework

SERVICES, A	An establishment primarily engaged in providing a service(s) to business and individuals. All merchandise and rental equipment is stored inside enclosed buildings. Services A includes the following list of uses (including SIC groups and all subcategories not elsewhere listed): 7212 Garment Pressing and Agents for Laundries and Drycleaners 7215 Coin-Operated Laundries and Cleaning 7216 Dry cleaning Plants, Except Rug 7217 Carpet and Upholstery Cleaning 722 Photographic Studios, Portrait 723 Beauty Shops 724 Barber Shops 725 Shoe Repair and Shoeshine Parlors 729 Miscellaneous Personal Services 733 Mailing, Reproduction, Commercial Art and Photography 735 Equipment Rental and Leasing (only with inside storage of equipment) 737 Computer Programming, Data Processing and other Computer Related Services (Except Computer Programming, 7371; Prepackaged Software, 7372; and, Computer System Design, 7373) 738 Miscellaneous Business Services 762 Electrical Repair Shops 763 Watch, Clock, and Jewelry Repair 764 Reupholstery and Furniture Repair 7699 Uses from SIC 7699 primarily engaged in providing repair and other services to business and individuals, that by the nature of their operation have little impact on adjoining property due to noise, odor, vibration, and/or air or water pollution. All repair items and supplies are stored in enclosed buildings. These uses include repair of small or precision equipment, such as medical, dental laboratory or drafting equipment, and the repair of personal use property such as cameras, musical instruments, and bicycles, and other services, including locksmiths and custom picture framing.
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Current Zoning Framework

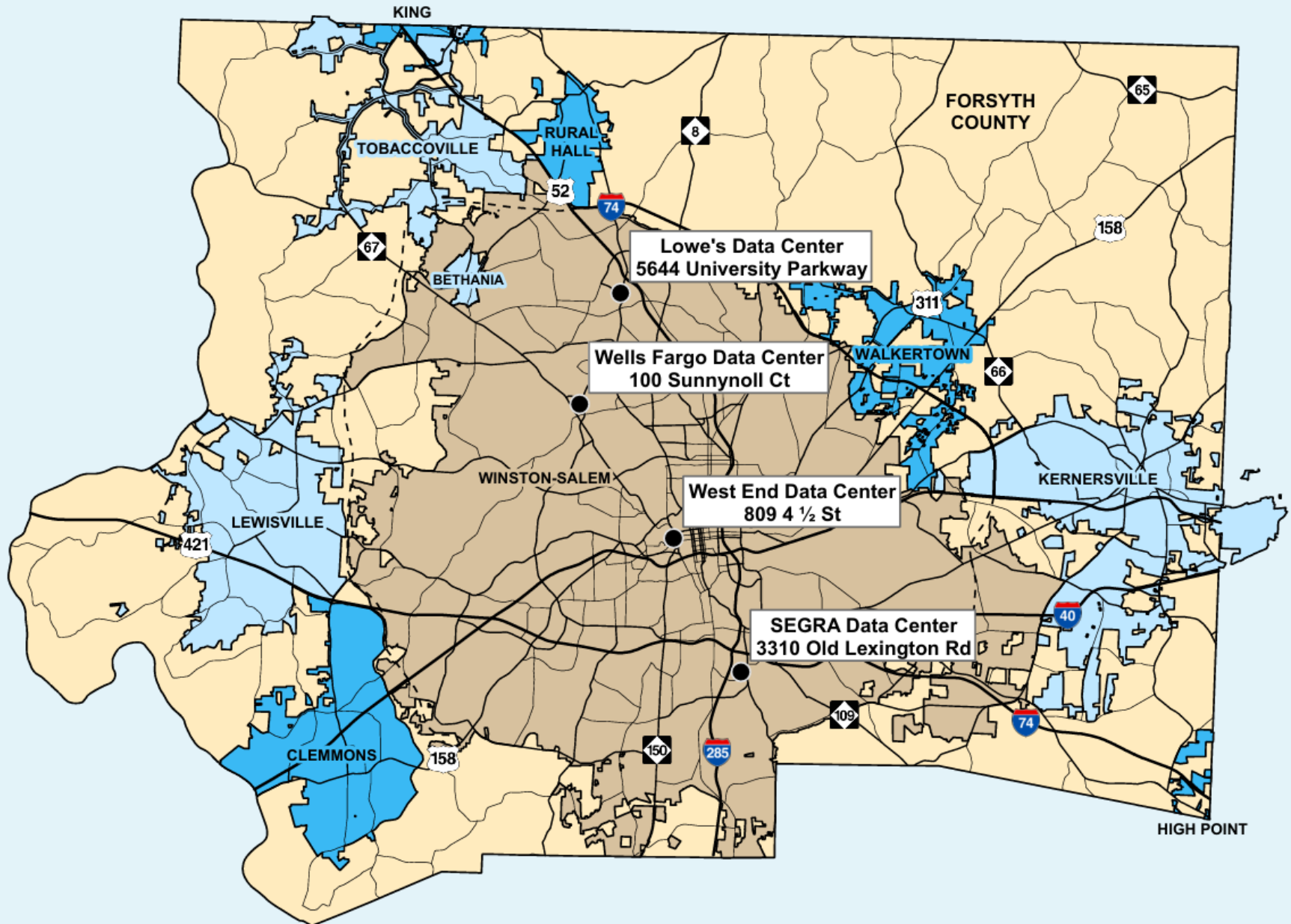
USE TYPE	RESIDENTIAL DISTRICTS																COMMERCIAL DISTRICTS										IND. DIST.	I & MU DIST.			CONDITIONS					
	YR	AG	RS40	RS30	RS20	RS15	RS12	RS9	RS7	RSQ	RM5	RM8	RM12	RM18	RMU	MH	NO	LO	CPO	GO	NB	PB	LB	NSB	HB	GB	CB	MRB-S ⁴	E	LI		GI	CI	IP	C	MU-S
Services, A (Lo)																			Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z	Z				Z

- "Services, A" allowed in most nonresidential districts with staff review only
- No use-specific standards exist, although basic requirements must be met related to buffering, lighting, signage, and parking.

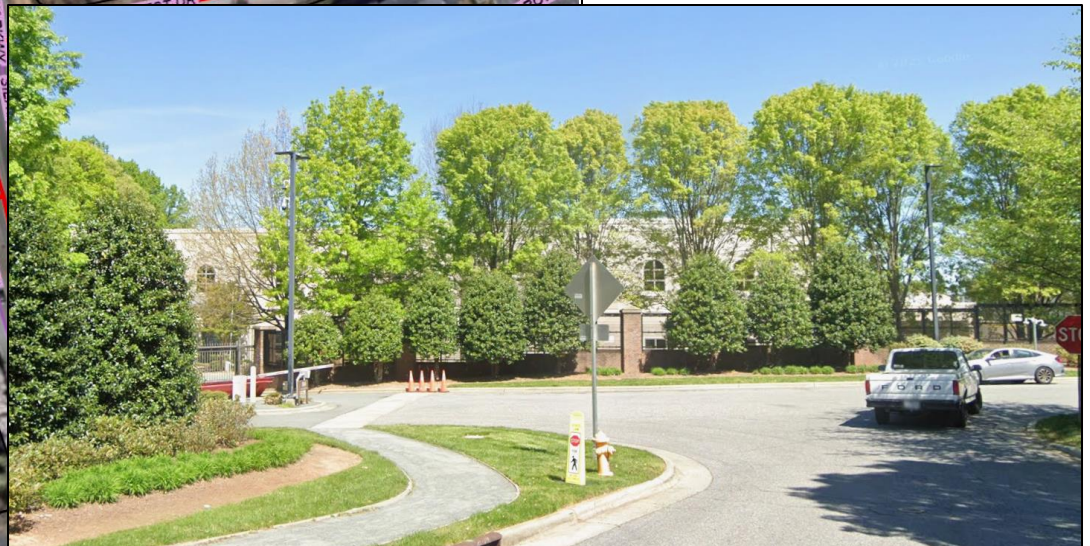
Current Zoning Framework

- Staff is unable to filter existing "Services, A" permits by their specific business type, but we are aware of 4 data centers in Forsyth County currently (all within the Winston-Salem zoning jurisdiction).
 - Wells Fargo, Sunnynoll Drive
 - West End Data Center, 4 ½ Street
 - Lowe's, University Parkway (Madison Park)
 - SEGRA, Old Lexington Road (Salem Business Park)

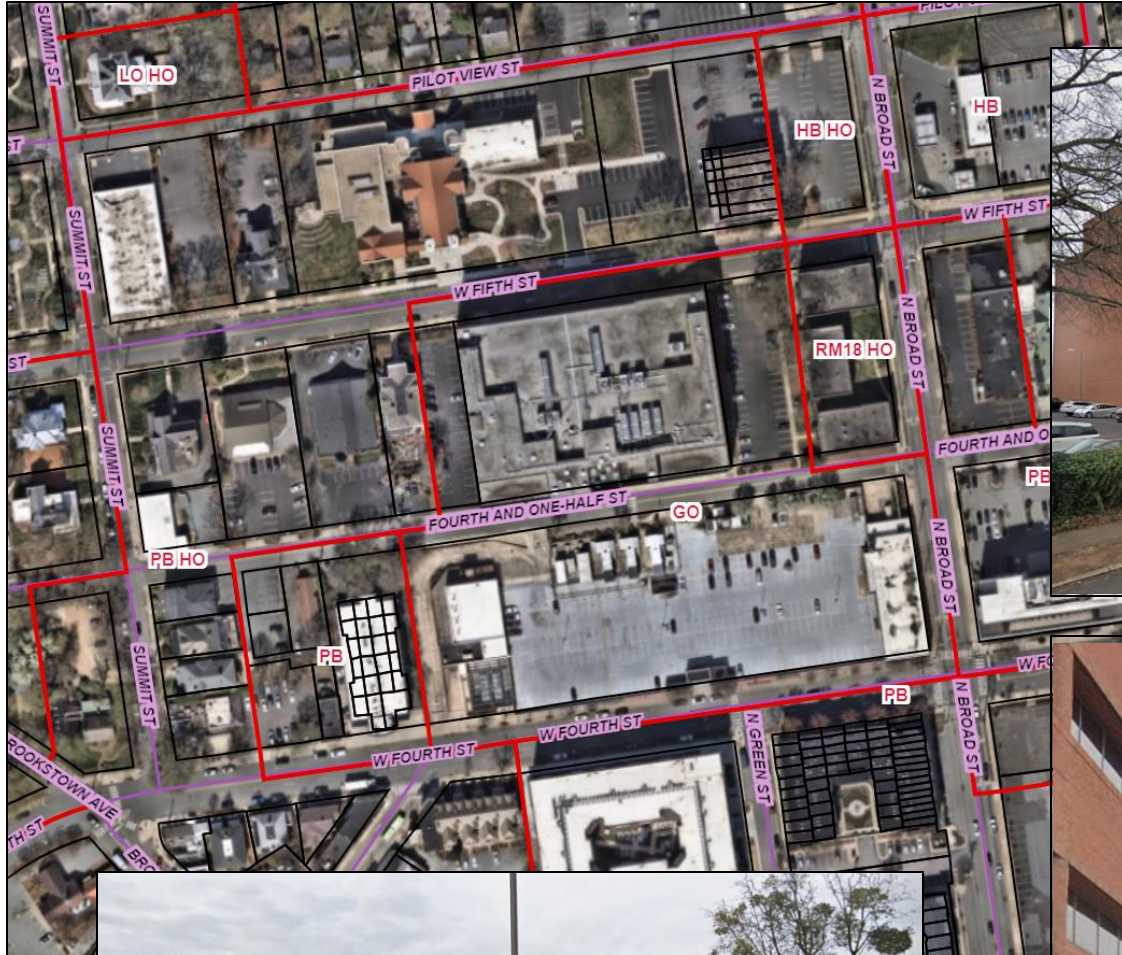
Existing Data Centers in Forsyth County



Wells Fargo Data Center



West End Data Center



Lowe's Data Center



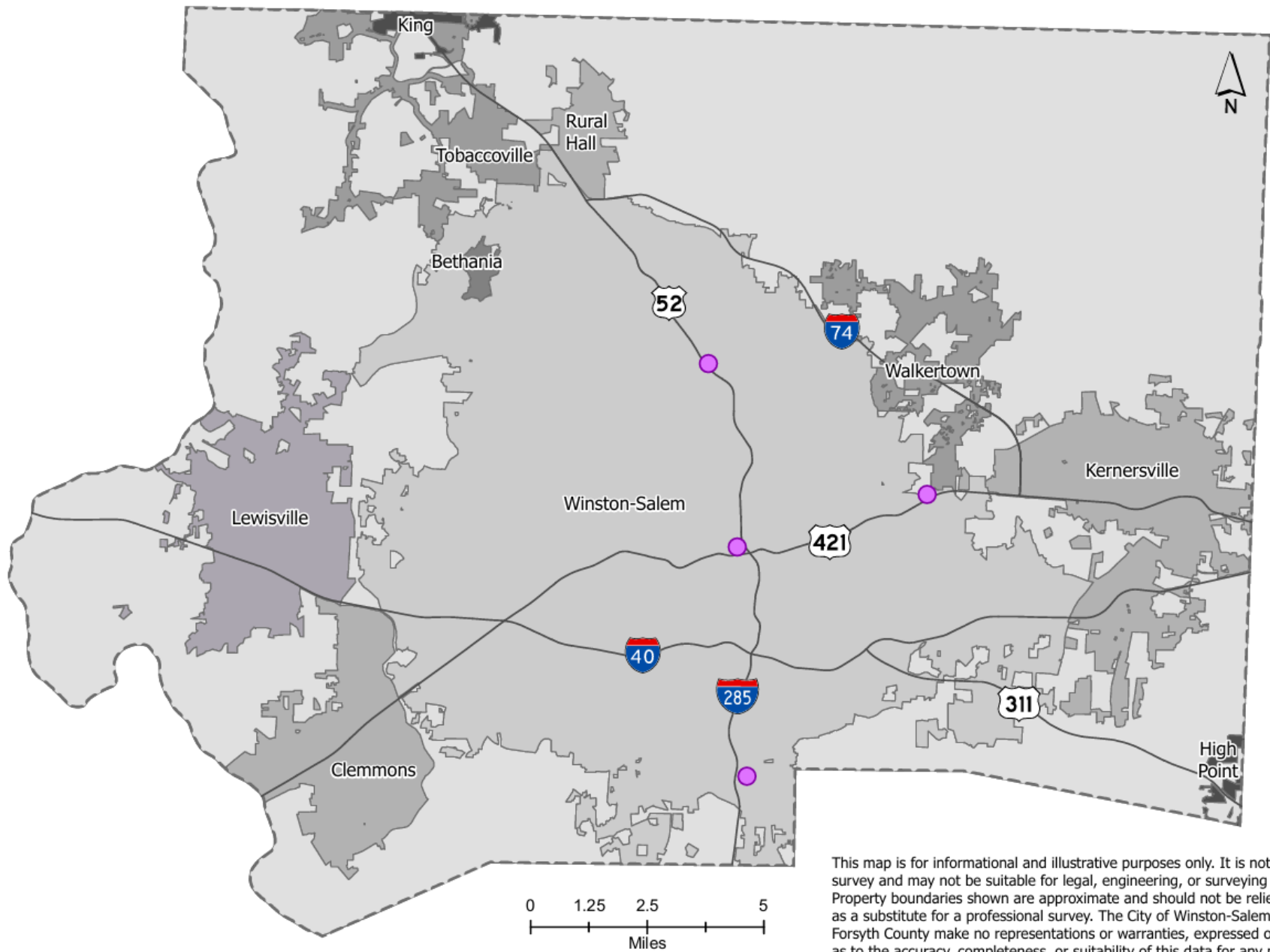
SEGRA Data Center



Current Zoning Framework

- While the UDO theoretically allows data centers on many sites "by right", practical considerations severely limit this:
 - Minimum site size to accommodate 100,000+sf building
 - Site assemblage challenges
 - Need to be located near power substation/high voltage electric transmission lines
 - Need for public water/sewer service

Areas Meeting Minimum Requirements for Data Centers Under Current Zoning



This map is for informational and illustrative purposes only. It is not a legal survey and may not be suitable for legal, engineering, or surveying uses. Property boundaries shown are approximate and should not be relied upon as a substitute for a professional survey. The City of Winston-Salem and Forsyth County make no representations or warranties, expressed or implied, as to the accuracy, completeness, or suitability of this data for any purpose.

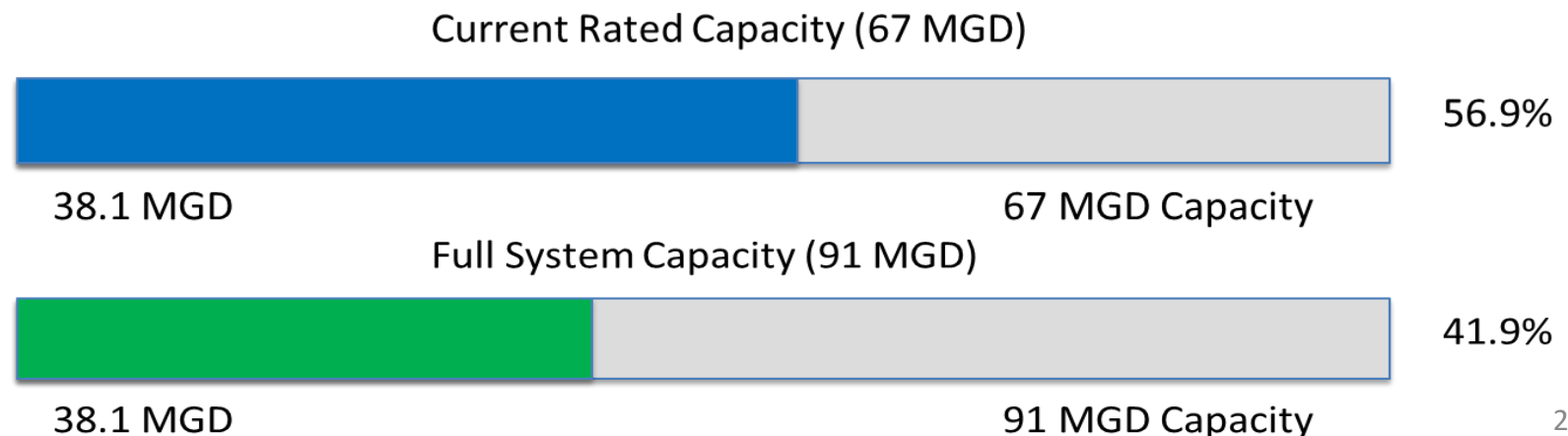
Current Zoning Framework

- As a result of legal considerations, very few options exist for modifying our current framework for reviewing and permitting data centers.
- The County Attorney will discuss these options later in this presentation.

Utilities

Water Supply Capacity

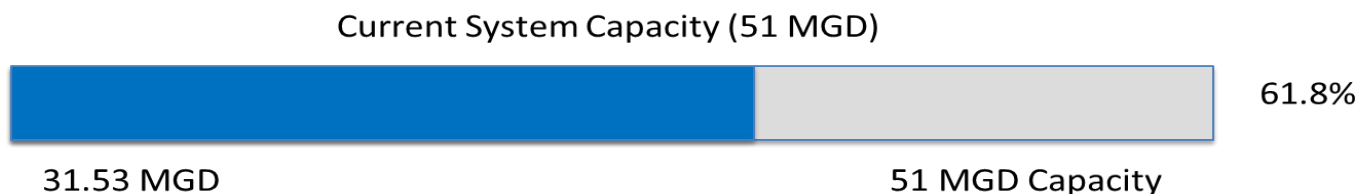
- Permitted available capacity: 91 million gallons per day (MGD) design capacity; currently operating at 67 MGD capacity during Neilson WTP renovation project
- FY2025-26 Average Demand: 38.1 MGD
- FY2025-26 Max Day Demand: 50.6 MGD
- Sufficient capacity exists but large data centers can create concentrated, long term demands that must be evaluated through modeling to confirm location can be supported
- Water Shortage Response Plan (WSRP) monitors drought status, system demand, W. Kerr Scott level and Yadkin River flow



Utilities

Wastewater & Regulatory Considerations

- Under WSFC Utilities Sewer Use Policy, a data center would likely be classified as a Significant Industrial User (SIU)
- SIU designation would require a permit and industrial pretreatment oversight, which requires routine compliance monitoring
- Sampling requirements would include contaminant monitoring, including PFAS. Utility review would focus on wastewater volume, temperature, chemical usage, blowdown streams, and potential impacts to treatment processes
- Site-specific hydraulics, treatment evaluations and overall available system capacity would also need to be evaluated
- FY2025-26 Average Demand: 31.5 MGD
- FY2025-26 Max Day Demand: 56.1 MGD



Energy Considerations

According to information provided by Duke Energy:

- Energy demand in the Carolinas is rising. Large industries, data centers and residential growth are driving an eight-fold increase in projected energy needs over the next 15 years. Duke's plans for meeting this demand are outlined in the 2025 Resource Plan.
- Rate increases come from essential grid investments and rising material costs, including major expansions to support population growth and significant price increases for transformers, poles, and other infrastructure.
- Recent settlement agreements reduce proposed rate increases, lowering the two-year increase from 14.3% to 9.3%
- Large load users don't raise residential rates. They pay for their own grid connections, commit to long-term contracts, and allow Duke to curtail load during peak periods.

UDO Definition

A **computer data center** is defined as “a category of ‘Services, A’ in which the primary service is data processing. This type of facility is primarily devoted to computers, with minimal employment required for monitoring and servicing.”

- There is no size limitation in the definition; all sizes of data centers fit within the definition.
- Legal principle: the specific provision governs over the general provision. This is the most specific UDO provision regarding data centers.

Zoning Districts Allowing Data Centers

With a permit from the Zoning Officer, data centers are allowed in multiple zoning districts.

The issuance of a zoning officer permit is **administrative**, not based upon discretion.

NCGS 160D-107: Moratoria

“Local governments may adopt temporary moratoria on any development approval required by law, except for the purpose of developing and adopting new or amended plans or development regulations governing residential uses. The duration of any moratorium shall be reasonable in light of the specific conditions that warrant imposition of the moratorium and may not exceed the period of time necessary to correct, modify, or resolve such conditions.”

NCGS 160D-107: Moratoria

A Moratorium must list:

1. The problems necessitating a moratorium and why there is no alternative;
2. Which developmental approvals are subject to the moratorium and how the moratorium will address the problems;
3. Date of moratorium termination and reasons why the specific time period is necessary; and
4. Schedule of actions to be taken during the moratorium.

NCGS 160D-601(d): Down-Zoning

Without property owners' consent, a County may not amend its zoning regulations to:

1. Decrease Density of Development (e.g., increase setbacks or decrease building size);
2. Reduce the permitted uses in a zoning district (e.g., ban currently allowed uses); or
3. Create a nonconforming use (e.g., apply new standards to existing uses).

Challenges of a Moratorium

- Data Centers are currently allowed in certain zoning districts. Any tightening of the definition would restrict a use, which may constitute down-zoning.
- Some proposals would limit either the density of development, which violates NCGS 160D-601(d)(1), or forbid an allowable use in some or all zoning districts, which violates NCGS 160D-601(d)(2).
- A moratorium is allowed only for the time necessary for the County “to correct, modify, or resolve such conditions” necessitating the moratorium, but the State has restricted County authority to do so.

Questions