



September 2026

Demystifying Data Centers

An Introduction to Definitions,
Impacts, and Regulations in
Tennessee

Data Centers have become a hotly debated topic not only in Nashville, but nationwide. The Metro Human Relations Commission has prepared this short report to explain the basics for understanding data centers and their impact.

We also created this interactive map of data centers in Tennessee that allows people to locate data centers in their city districts. This helps better understand location characteristics such as air quality, minority percentage, and electricity rates.



Introduction

As data centers expand across Tennessee, policymakers, researchers, local governments, and community advocates increasingly face one question: What exactly is a data center? People often believe that data centers are large, complex, standalone structures operated by giant technology companies to train and operate AI models. While that can be true, data centers can exist anywhere, including in commercial buildings and industrial facilities.¹

The term “data center” is now widely used in discussions about economic development, electricity demand, water consumption, land use, and other related environmental impacts. Nonetheless, there is no single, universally accepted definition of what constitutes a data center. This lack of uniformity is not necessarily intentional. Rather, the meaning of the term varies across agencies, industries, and regulatory contexts.

For example, under EU law, a data center is defined as a structure or a group of structures used to house, connect, and operate computer systems & servers and associated equipment for data storage, processing, and/or distribution, as well as related activities.²

The Tennessee Department of Environment and Conservation (TDEC) defines data centers as buildings that contain and operate large computing systems. Data centers include computer servers, data storage devices, and networking equipment used to store, manage, process, and transmit large amounts of data.³ TDEC classifies data centers based on their size and function. They can range from small micro facilities under 1,000 square feet, such as cell towers, retail locations, and small server rooms, to hyperscale data centers that are massive facilities, typically more than 100,000 square feet, built by technology companies to train and operate AI models. In sum, a small data center and a massive AI hyperscale campus may both technically be considered “data centers,” but their potential environmental footprints can be drastically different. Consequently, a definition based solely on the presence of servers may not be enough, especially when the goal is to define data centers for regulatory purposes and assess their environmental impacts.

This suggests that data center research should distinguish between identifying and assessing the impact. Most regulatory and advocacy agencies we reviewed consider the following factors when defining data centers: the size and number of facilities, including the number of buildings or campuses; total power capacity in megawatts; water usage; use of renewable energy; location and proximity to residential areas; and noise emissions.

Tennessee Legislative Debate on Data Centers

Tennessee's state and local legislative sessions add an important new dimension to this debate. Several bills were introduced in an attempt to define and regulate various aspects of data centers, specifically tax incentives, electricity consumption thresholds, facility size, water usage, noise emissions, and other zoning requirements.

In 2007, Tennessee passed the first tax incentive with the SB 2223 and accompanied HB 2281 to provide tax breaks to qualifying data centers to encourage investment and job creation. The bill required \$250 million in investment and the creation of 25 new jobs over three years for data centers to qualify for machinery exemptions and a reduced 1.5 percent electricity tax rate⁴

In 2016, and through the passage of Senate Bill 2537, the exemption permitted data centers that have a capital investment of at least \$100 million over three years and create at least 15 new jobs to receive a 1.5 percent sales tax on electricity sold or used by the qualified facility and do not levy any tax on purchases related to cooling equipment or backup power generation.⁵

In February 2026, the Tennessee General Assembly introduced House Bill 2653 and House Bill 2392 to define data centers as privately owned and operated physical facilities housing computer servers, storage, and networking equipment used to store, process, and distribute data and applications, with a power capacity of more than 20 megawatts (MW).⁶ If passed, the bills would require data centers to obtain permits from the state's Water and Wastewater Operator Board of Certification, as well as permits detailing estimated power usage and primary water usage. They would also prohibit data centers from passing the costs of water treatment, infrastructure expansion, or remediation onto public utilities or local ratepayers.

At the local level, in May 2026, the Nashville Metro Council has gone further by creating a zoning framework that classifies data centers according to physical size, electrical capacity, proximity to residential areas, noise emissions, water usage, and the use of renewable energy. For example, BL2026-13917 classifies data centers into three categories:

1. Small data centers: Up to 20,000 square feet and/or up to 5 MW of maximum utilization capacity.
2. Medium data centers: More than 20,000 and up to 100,000 square feet and/or more than 5 MW and up to 20 MW.
3. Large data centers: More than 100,000 and up to 500,000 square feet and/or more than 20 MW and up to 100 MW.

Taken together, these developments show Metro Nashville Government moving from a relatively broad understanding of data centers toward a more impact-oriented approach. The state and local legislations, together, establish limits on where facilities can be built based on factors such as size, total power capacity in megawatts, water usage, use of renewable energy, location and proximity to residential areas, and noise emissions.

Takeaways And Policy Implications

The Tennessee legislative debate adds a new layer by introducing water and electricity consumption thresholds into the definition to better regulate data centers. Proposed and enacted legislation has used thresholds such as 20 MW and 50 MW, demonstrating a growing effort to identify data centers based not only on what they are, but also on the scale of infrastructure demand they create. This debate points to a shift in how policymakers are defining and regulating data centers:

1. A shift toward environmental and infrastructure impacts: These laws and proposals increasingly move beyond viewing data centers primarily as technological facilities that generate potential business revenues. Instead, data centers are increasingly treated as major consumers of public infrastructure and natural resources, particularly electricity and water. Land use, air quality, noise emission, and other infrastructure demands are also becoming important considerations.
2. Water and electricity consumption are becoming defining policy characteristics: More recent legislation increasingly asks how much water and electricity data centers require and what impact their consumption may have on public infrastructure. As a result, electricity and water consumption are becoming important criteria for distinguishing between different types and sizes of data centers.

Finally, we created this interactive map to help the public locate data centers across Tennessee and Davidson County. Link: [**Data Centers in Tennessee**](#)

¹ U.S. Environmental Protection Agency. (n.d.). Data centers. ENERGY STAR. [Body](#).

² European Parliament & Council of the European Union. (2008). Regulation (EC) No 1099/2008 of the European Parliament and of the Council of 22 October 2008 on energy statistics (consolidated version 20 February 2022). EUR-Lex. [EUR-Lex](#)

³ Tennessee Department of Environment & Conservation. (n.d.). Data centers. Tennessee.gov. <https://www.tn.gov/environment/policy/data-centers.html>

⁴ Tennessee General Assembly. (2008). SB 2223 (HB 2328): Taxes, sales—Delays implementation of the streamlined sales tax; changes conditions of certain tax credits; modifies various other tax provisions. Bill Information – HB 2328

⁵ Tennessee General Assembly. (2016). SB 2537 (HB 1535): Qualified data centers. Bill Information – HB 1535

⁶ Tennessee General Assembly. (2026). HB 2392: Tennessee Data Center Impact Review Act. 114th General Assembly. [Bill Information – HB 2392](#)

Frequently Asked Questions

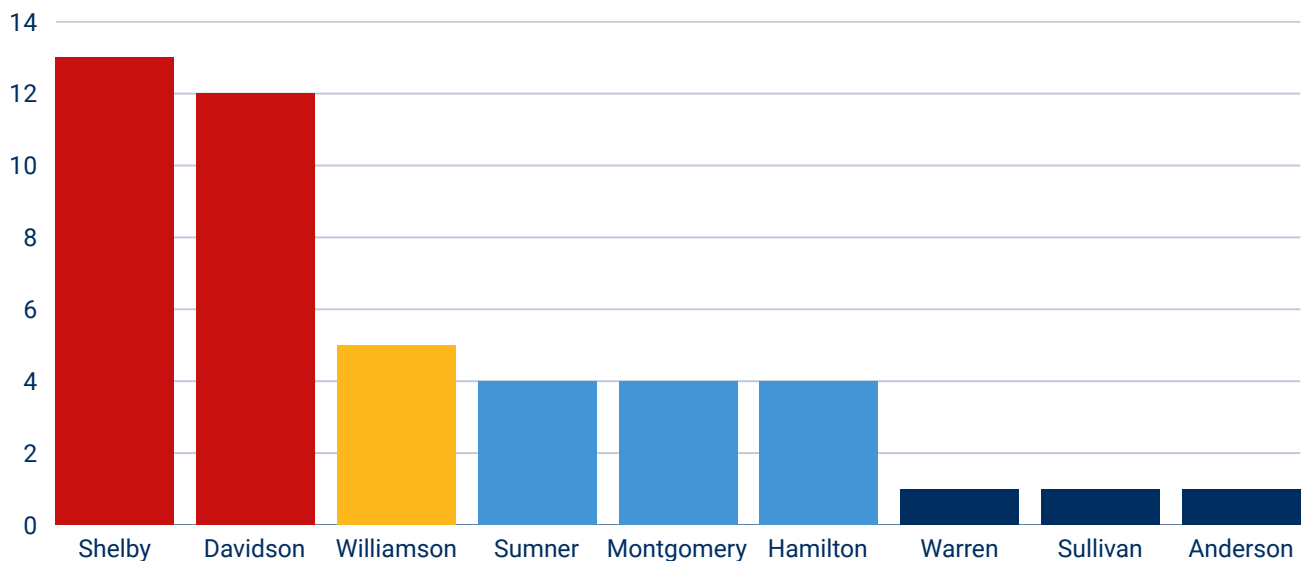
Note: please use our interactive map for detailed information on each data center and each county.

1. How Many Data Centers are in Tennessee and in Davidson County?

Different sources report different numbers of data centers in Tennessee. These differences in numbers reflect differences in the way these sources operationalize data centers. From counting individual buildings or entire campuses, to whether they include planned, under-construction, canceled facilities, as well as how frequently their databases are updated. Consequently, estimates of the number of data centers in Tennessee may vary across sources. For example, [Fact Tracker Alliance](#), which is an open-source and crowd-sourced, reports 12 data centers in Tennessee, whereas [Data Center Map](#), which is a marketplace for buying and selling data centers, reports 64 data centers in Tennessee. For this report, we used [Aterio](#) as our primary source. Aterio currently reports 43 data centers across Tennessee.

2. How many data centers are there in each county?

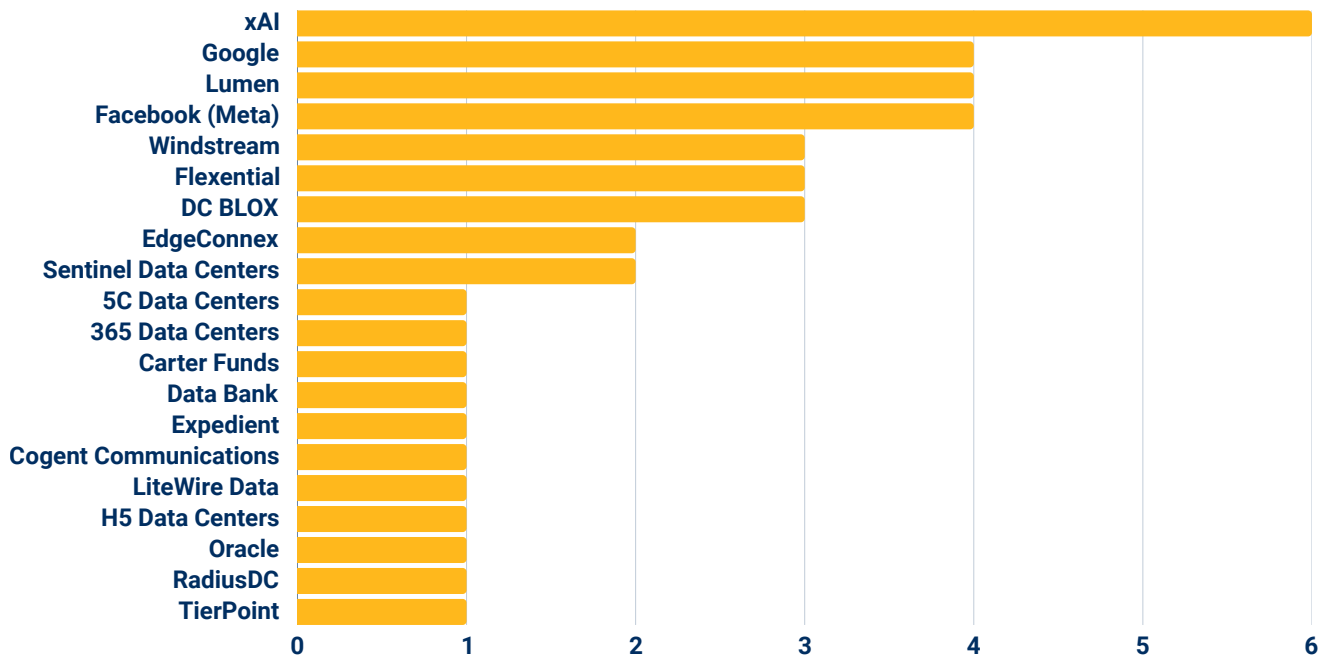
Shelby County has the largest number of data centers, with 13 data centers, followed by Davidson County, with 12.



3. How large are these data centers in Tennessee?

The size of data centers in Tennessee varies considerably, ranging from 8,000 square feet to 1 million square feet. The largest facilities in the dataset we used for this report are in Shelby County and they are the Google Lease (owned by Google) and Colossus 2–Macrohard (owned by xAI), both at approximately 1,000,000 square feet. The smallest is the Chattanooga CHA1 Data Center in Hamilton County, at approximately 8,000 square feet.

4. What companies are in Tennessee and how many data centers do they have?



*a non-disclosed company also accounts for 1 data center

5. What is the amount of power used by these data centers?

Power capacity ranges from 430 MW at the largest site (Colossus 2–Macrohard, in Memphis) to 0.5 MW at the smallest (MEM1–Memphis Data Center, also Memphis). A middle range in Gallatin and Clarksville falls between roughly 32 and 100 MW. The remaining data centers and associated facilities in Nashville, Franklin, Memphis, Chattanooga, and Bristol, use between 0.5 and 40 MW.

For questions, please reach out to jihan.mohammed@nashville.gov [Data Centers in Tennessee and Davidson County](#)