In Northern Virginia, the Fight Isn't Against Data Centers – It's About Where They Belong

575 data centers currently power the internet in Virginia. But residents say some are disrupting daily life in the wrong places.

By Sofia Marcus | April 22, 2025

Ashburn, Va. is known as "Data Center Alley," filled with centers like CloudHQ, seemingly frequented by ducks and other land animals. (Sofia Marcus)

ASHBURN, Va. – On a cloudy March afternoon, construction trucks and caution signs inch along Route 267, past a stretch of Northern Virginia known as "Data Center Alley." Once a quiet hub for defense and telecommunication firms, it's now a nonstop corridor for heavy machinery headed toward a rapidly growing network of data centers.

Ashburn is home to 137 data centers – nearly 24% of Virginia's total – and is reported to handle up to 70% of the world's internet traffic.

While Northern Virginia has become a digital powerhouse, its data center footprint is expanding beyond traditional technology corridors. New projects are showing up in residential neighborhoods, near historic landmarks, and in environmentally sensitive areas – raising alarms among homeowners, preservationists, and legal advocates. Most residents aren't against data centers themselves, but they oppose policies that allow massive industrial facilities to be built with little oversight and minimal public input – often just steps from their homes.

Why Northern Virginia Became the World's Data Capital

[Data centers](#) are massive facilities that house the physical infrastructure powering the internet – from cloud storage and streaming to AI tools and e-commerce platforms. Inside are rows of servers, storage systems, and network cables, all supported by high-energy cooling systems that prevent overheating.

The exterior of a data center facility in Ashburn, Va., part of the state's growing digital infrastructure. (Sofia Marcus)

Virginia's status as a [data center leader](#) began in the 1960s, when the Arlington-based Advanced Research Projects Agency (ARPA) helped launch [ARPANET](#) – the internet's earliest predecessor. In the 1990s, tech giants like AOL and Equinix set up shop in Northern Virginia, solidifying the region's digital foundation.

But the real turning point came in 1998, when [MAE-East](#) – short for Metro Area Ethernet and one of the world's largest internet exchange points – relocated to Ashburn. That shift rerouted global internet traffic through the area and sparked a wave of server infrastructure development.

Paired with affordable electricity, vast fiber networks, and developer-friendly zoning, these factors made Northern Virginia the world's top data center hub. But as digital infrastructure grew, so did tensions between technological growth and community preservation.

Residents Mobilize in Bren Mar

One of the most contentious projects is Plaza 500, a proposed data center near Alexandria developed by [Starwood Capital Group](#). It's one of two major flashpoints in Northern Virginia – the other being the Digital Gateway project near Manassas National Battlefield Park, backed by [QTS Data Centers](#) and [Compass Datacenters](#).

For many residents and preservationists, the issue isn't whether data centers should exist – it's about where they're being built and how little say the public has in the process.

Tyler Ray, a longtime Northern Virginia resident, lives in Bren Mar – a residential neighborhood on the Fairfax County side of the Alexandria border. He currently serves as president of the Bren Pointe Homeowners Association (HOA). In 2022, just two months after moving in, Ray noticed a sign on a neighboring lot announcing plans for redevelopment and rezoning – and soon learned it was for a massive data center.


Behind Tyler Ray's neighborhood is a slight glimpse into the proposed location of Plaza 500. (Tyler Ray)

"I didn't really know what impacts [data centers] have to residents and the environment until I started learning that one was going to be in my backyard," said Ray in a Zoom interview.

The Plaza 500 project would bring a 70-foot-tall, nearly 500,000-square-foot facility to the edge of Ray's community. The site, developed by the private investment firm Starwood Capital Group, borders a residential street and overlooks Turkeycock Run, a local stream that flows along the Fairfax County-Alexandria boundary. Starwood did not respond to a request for comment.

To grasp the impact, imagine two Walmart Supercenters stacked on top of each other – that's the kind of height Plaza 500 would bring to the edge of a quiet neighborhood.

70 Feet Tall

Two Walmart Supercenters   **Proposed data center**
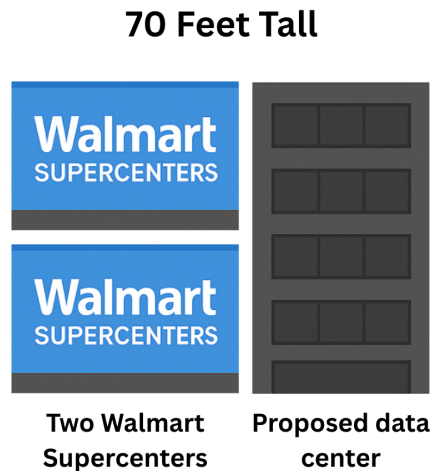
Plaza 500 would rise to 70 feet – the height of two Walmart Supercenters stacked on top of each other. (Sofia Marcus)

"They're going to be putting transmission lines and electrical substations right next to our communities as well, which raises a number of health, environment, and overall quality of life [concerns]," said Ray.

Residents have also voiced worries about the constant hum from industrial cooling systems and the long-term effects of power infrastructure on nearby homes. While such concerns are sometimes dismissed, research suggests they may be well-founded.

In [Loudoun County](#), Va., neighbors have described the noise from nearby data centers as a "loud drone hovering above 24/7" or "a freight train that never stops" – prompting frustration, calls to local officials, and renewed demands for better regulation.

Beyond noise, other residents and experts have flagged environmental health risks tied to diesel emissions from backup generators and expanded utility infrastructure.

A 2024 [study](#) by Lauren E. Bridges, a fellow at Harvard University's Berkman Klein Center for Internet and Society, found that data centers – especially in areas with heavy development – can significantly raise exposure to particulate matter, which is linked to cardiovascular disease, respiratory illness, and lung cancer.

Julie Bolthouse, director of land use at [The Piedmont Environmental Council](#), reinforced those points – particularly about how and where energy infrastructure is routed.

"[Power lines are] going throughout stream corridors, open space areas, or recreational trails because they have to figure out where to put them," said Bolthouse in a phone interview. "The only other option is to go through residential communities – literally taking people's homes – and nobody wants that."

Frustration over the project quickly turned into organized opposition. When Starwood submitted a rezoning application in 2022, Bren Mar residents wrote letters, testified at public hearings, and attended meetings of the Fairfax County Land Use Policy Committee and the Board of Supervisors.

Members of the Save Bren Mar coalition at the Fairfax County Government Center with signs opposing the Plaza 500 center rezoning. (Tyler Ray)

Eventually, the county's planning commissioner advised the developer that the application would likely be denied. The proposal was pulled soon after.

In 2024, Starwood returned with a new approach: a "by-right" proposal. Under Virginia law, developments that comply with existing zoning don't require public hearings or board votes. This limited the ability of residents to object through traditional channels, prompting them to engage through the Virginia State Corporation Commission (SCC), submit formal comments, or seek legislative reform at the state level.

The revised site plan was submitted on Feb. 29 and approved on Dec. 31, 2024. According to a Fairfax County spokesperson, it was reviewed under zoning rules still in effect at the time. A new ordinance adopted in September didn't apply, as the project had been filed before the July 16 cutoff.

The county confirmed that notices were mailed to nearby property owners, as required by the zoning code.

"We consider whether the requests or comments received relate to a required regulation that we can enforce," the spokesperson said. "If so, we direct the applicant to correct the plan. If the comments consist of items we cannot enforce, we convey these to the applicant for their consideration."

Although county officials reviewed the plan and considered resident feedback, the project moved forward with limited opportunity for public input.

Ray, a founding member of the 'Save Bren Mar' coalition, continues to organize with residents to raise awareness about the project's long-term implications. The group argues that while data centers are essential to modern infrastructure, industrial-scale facilities should not be built next to neighborhoods.

Members of the Save Bren Mar coalition install a banner opposing the Plaza 500 data center in their neighborhood. (Tyler Ray)

The coalition is also involved in a case before the Virginia SCC, which must approve the electrical substation and transmission lines required to power Plaza 500. Ray said the group submitted public comments and continues to engage in the regulatory process. A decision is still pending.

"That actually is one of the things that gives me hope," Ray said. "There are folks standing up and making sure that their voices are heard."

Environmental advocates, including The Piedmont Environmental Council, have also weighed in, citing threats to water systems, energy infrastructure, and long-term sustainability.

"The entire state right now is under either severe or moderate drought," Bolthouse said. "The expanded water use from new data centers is pulling from already stressed water supplies."

She added that ongoing demand from cooling systems is depleting groundwater and reducing communities' ability to adapt to future water shortages.

Bolthouse said these kinds of projects often move forward with minimal public oversight, making early engagement from communities essential.

"Once the data center is proposed, they've already had lots of conversations about economic development," she said. "The decision makers are already really excited about the potential revenue and they're not going to take the concerns as seriously."

A Battlefield in the Crosshairs

About 30 miles southwest of Bren Mar, a second major data center proposal – the Digital Gateway project – has drawn widespread scrutiny.

Backed by a group of private landowners, QTS Data Centers, and Compass Datacenters, the development would place a massive cluster of facilities along the edge of Manassas National Battlefield Park. QTS did not respond to a request for comment.

Historic preservation groups, legal advocates, and nearby homeowners have pushed back against the project's size and location. Max Hokit, a state and local relations associate at the American Battlefield Trust, said the organization supports responsible development – but not when it threatens nationally protected land.

"We're not an anti-development organization," Hokit said in a phone interview. "But if there's development looming over battlefield land, then we'll fight for that space."

Map of the proposed Digital Gateway project near Manassas National Battlefield Park. (American Battlefield Trust)

The project would place five to ten story buildings directly along the park's boundary, raising concerns about obstructed views, increased noise, utility infrastructure, and rising land costs.

In an emailed statement, a spokesperson for Manassas National Battlefield Park emphasized the need to preserve the site's historical integrity: "The mission to preserve the battlefield and the history requires a holistic approach to protect key historic viewsheds, lands, and historic structures that are at risk of degradation or destruction from development. We remain deeply committed to working collaboratively with all stakeholders and planning officials to thoughtfully balance preservation with the growth essential to our nation's future – while honoring and safeguarding the integrity of this irreplaceable national treasure for generations to come."

Hokit said the project's location near federally protected land has also driven up real estate prices – making it harder for the Trust to carry out its preservation work. "Our donors' dollars just don't go as far," he said. "The land values are completely skyrocketing."

The Trust has submitted comments throughout the review process and joined forces with local and statewide coalitions to oppose the project's location. "It's not that it's the only place [data centers] could be," Hokit said. "It's just easy for the developer."

Prince William County claims The Digital Gateway project will stop commuting nightmares. (Sofia Marcus)

The area offers low land costs, established infrastructure, proximity to major metropolitan areas, and favorable tax incentives – making it especially attractive for large-scale data center development, even at the edge of protected land.

Former Virginia state senator Chap Petersen, who now represents a group of residents opposing the project, said the approval process was riddled with problems.

"The county did not properly advertise the public hearing, they bypassed their own zoning rules, and the application itself was a mess," said Petersen in a phone interview.

A spokesperson for Prince William County declined to comment on the Digital Gateway project, citing ongoing litigation. "The Digital Gateway rezoning is currently in litigation, and the county doesn't comment on items that are in litigation," they said in an email, adding that video recordings of the public meetings are available for review.

Petersen called the zoning change extreme. "It's like going from zero to 155 miles an hour without any intermediate steps," he said.

He also criticized how proffers – developer-offered incentives – were handled behind closed doors. "The public was not really part of those discussions," he said.

One homeowners' association, Oak Valley HOA, filed a lawsuit challenging the Prince William County Board of Supervisors' approval of the project. Represented by attorney Craig Blakeley, the group argues that the project violates local zoning rules and is incompatible with nearby homes and historic land. A circuit court judge ruled against the HOA, but the case is now headed to the Virginia Court of Appeals, with an evidentiary hearing scheduled for May.

Blakeley described the 15-hour overnight hearing and swift approval that followed as a "check-the-box exercise."

"We're not saying that the Board of Supervisors is bound by what is said at the public hearing, but they have to at least consider it," he said. "As long as they're physically present, that satisfies the requirement, even if they don't actually listen to or consider the comments."

As legal challenges unfold, broader scrutiny of Virginia's data center expansion is also increasing.

A 2023 report from the [Joint Legislative Audit and Review Commission](#) (JLARC), the oversight agency for the Virginia General Assembly, highlighted mounting infrastructure strain – from electricity demands and water usage to a lack of coordinated oversight on where and how data centers are built.

The Digital Gateway Project insinuates that its data centers will increase the job market, leading to lower taxes. (Sofia Marcus)

Many of the issues outlined in the report reflect the warnings raised by residents, preservationists, and environmental groups across Northern Virginia.

From Ashburn to Alexandria to Prince William County, data center growth has exposed gaps in zoning laws, burdened public infrastructure, and sparked a wave of local organizing.

In the absence of statewide standards, grassroots coalitions like Save Bren Mar are joining forces with advocacy groups and lawmakers to push for reform. Tyler Ray, who recently joined the [Data Center Reform Coalition](#), said the landscape is beginning to shift.

"Even a few years ago, you had data centers approaching local jurisdictions and saying, 'Look at the kind of economic benefit that these are going to provide you – it's basically going to take away your deficit of your county budgets,'" he said. "And I think that dynamic has really changed because folks have been engaged in the process."

This year, a bipartisan group of Virginia legislators [introduced about 20 bills](#) aimed at regulating data center development – addressing issues like energy consumption, land use, and zoning consistency. Only four of those bills passed both chambers, highlighting how hard it remains to enact meaningful oversight despite growing public pressure.

As lawsuits move through the courts and reform efforts continue at the state level, residents like Ray believe their organizing is beginning to make a difference. But for families near the Digital Gateway site, attorney Chap Petersen said the stakes are deeply personal.

"I don't see how you can live in a neighborhood that is dominated by 80-foot-tall data centers," he said.

Ray, whose neighborhood faces a separate by-right development, echoed the concern, but pointed to what he sees as a systemic issue.

"[These facilities] are part of modern life – I don't dispute that. But they don't belong everywhere," he said. "Having engagement from the get-go will allow residents and those concerned to have as much say as possible."

Whether that will be enough to halt the momentum of Northern Virginia's data boom remains to be seen. But for its residents, silence is not an option.