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DROWNING OUT THE NOISE ON DATA CENTERS

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protectingtaxpayers.org/datacenters

About TPA

The Taxpayers Protection Alliance (TPA) is a rapid response taxpayer group dedicated to analyzing and researching the consequences of government intervention in the economy. TPA examines public policy proposals through a non-partisan focus, identifying how government waste and overreach impact taxpayers and consumers regardless of the political party responsible.

TPA holds government officials in the United States, and around the world, accountable through editorials, statements, coalition letters, public interest comments, and radio and television interviews. TPA recognizes the importance of reaching out to concerned citizens through traditional and new media, and utilizes blogs, videos, and social media to connect with taxpayers and government officials.

While TPA regularly publishes exposés and criticisms of politicians of all political stripes, TPA also provides constructive criticism and reform proposals based on market principles and a federalist philosophy. TPA empowers taxpayers and consumers to make their opinions known to their elected and non-elected officials and embraces bold solutions to hold an ever-growing government in check.



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Introduction

Across the country, data center critics have certainly made a lot of noise. In a recent class-action lawsuit filed in federal court against data center builder and operator DataOne USA, New Jersey residents claim that a nearby facility emits “a very loud industrial noise;” they say it “[s]ounds like a helicopter hovering, loud fans like you’re at an airport.”¹ The complaint further states “Defendant’s Data Center operates 24 hours a day, 7 days a week. The noise emitted from the Data Center, and experienced by Plaintiffs and the Class, is not only excessive, but consistent and pervasive.”²

This is not the only legal action grounded in supposedly excessive noise pollution from data centers. According to a recent report in *The Hill*, “Mississippi residents are suing Elon Musk’s xAI and SpaceX over the ‘pervasive and inescapable’ noise from their data center and accompanying power plant in a Memphis, Tenn.-area community.”³ According to the plaintiffs’ filing, data center operators “are rushing to construct massive data centers and power-generation facilities, siting them in quiet residential areas like Southaven, Mississippi, and subjecting residents to near-constant noise, vibrations, and other nuisance-level harms.”⁴

While local complaints and high-profile lawsuits often grab headlines, the narrative surrounding data center noise pollution is frequently overstated. While *any* use of a property—even a non-industrial one—will likely produce some noise externality, data centers are highly engineered facilities utilizing advanced noise-mitigation technologies. The industry has rapidly shifted toward quieter infrastructure, including variable-speed industrial fans that adjust to cooling demands, acoustic baffles, sound-dampening walls, and increasingly, liquid cooling systems. Liquid cooling significantly reduces the need for massive, high-decibel air-chilling units, ensuring that the actual acoustic output of a state-of-the-art facility is lower than the outdated infrastructure often cited by detractors. As the engineering and architectural firm Ketchum & Walton notes, “industrial noise control technology has advanced considerably,” with technologies such as “ventilation silencers [that can] treat the problem at the source—within the ductwork and airflow systems themselves.”⁵

Furthermore, the claim that these facilities are free to subject residential areas to large amounts of harmful noise ignores sound ordinances already in place and stipulations that communities already place on data centers (and other industrial facilities). Data center builders must comply with strict municipal zoning laws and local decibel limits, which are routinely monitored by independent environmental auditors. As LSARS notes, “Local noise ordinances typically distinguish daytime (7am to 10pm, often 55 to 65 decibel limit at property line) from nighttime (10pm to 7am, often 45 to 55 decibel limit). Industrial zones permit higher levels, but data center campuses commonly seek conditional use permits for residential-adjacent sites.”⁶ In the vast majority of cases, the sound that actually reaches the perimeter of a data center

¹ <https://www.classaction.org/media/montgomery-et-al-v-dataone-usa-llc.pdf>.

² *Id.*

³ <https://thehill.com/policy/technology/5918885-spacex-xai-data-center-noise-southaven-lawsuit/>.

⁴ *Id.*

⁵ <https://ketchumandwalton.com/noise-control-in-data-centers-what-it-is-why-it-matters-and-how-to-get-it-right/#>

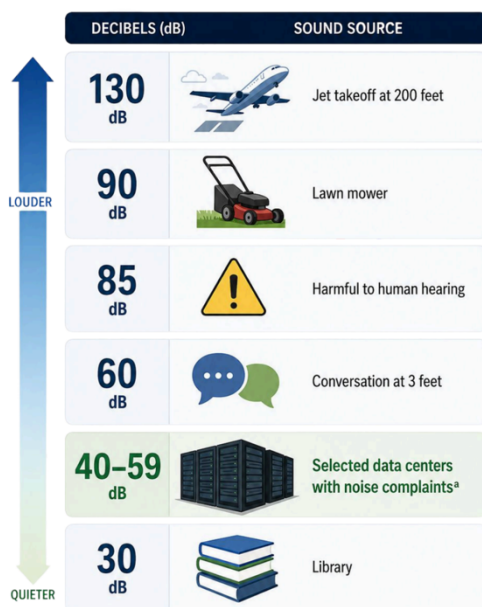
⁶ <https://www.lsars.com/data-center-noise>.

property is well within legal thresholds—often comparable to or quieter than the ambient background noise of a typical suburban neighborhood, such as passing traffic or residential air conditioning units.

This brief demonstrates that, when measured against an array of other activities and property uses, data centers are remarkably quiet and courteous neighbors. The heightened scrutiny they face is often less about claimed acoustic issues and more about politicians, and pundits blowing a manageable engineering challenge entirely out of proportion.

Data Center Noise in Context

DATA CENTER NOISE LEVELS COMPARED TO COMMON ACTIVITIES



^aBased on reported noise levels at selected data centers with noise complaints.
Source: Virginia Joint Legislative Audit and Review Commission

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The “data centers are noisy” trope does not survive closer scrutiny. According to an extensive 2024 review by the Virginia Joint Legislative Audit and Review Commission (JLARC), noise from data centers—even at facilities that have generated resident complaints—is generally comparable to ordinary background sounds and substantially quieter than many common activities.⁷ JLARC found that reported noise levels at selected data centers with complaints typically ranged from 40 to 59 decibels, placing them below the level of a normal conversation at three feet (about 60 decibels) and far below louder everyday noises such as lawn mowers (around 90 decibels) or aircraft takeoffs (around 130 decibels). These findings suggest that while data center noise may be noticeable in some circumstances, it is little more than a whisper compared to high intensity sounds that are commonly associated with significant noise pollution.

Noise levels associated with data centers are closer to the quiet ambient sounds experienced in residential and institutional settings, such as libraries (around 30 decibels), than to sounds considered harmful to human hearing. For context, government agencies such as the Occupational Safety and Health Administration consider 85 decibels to be the crucial regulatory threshold for harmfully loud sounds.⁸ Local concerns about noise remain important and warrant thoughtful mitigation measures where appropriate, but that is the case for any externality-producing sound. Even if data centers were sued out of existence, most other conceivable uses of that land would involve more noise and disruption. That is true whether

⁷ <https://jlarc.virginia.gov/pdfs/reports/Rpt598-2.pdf>.

⁸ <https://www.osha.gov/noise>.

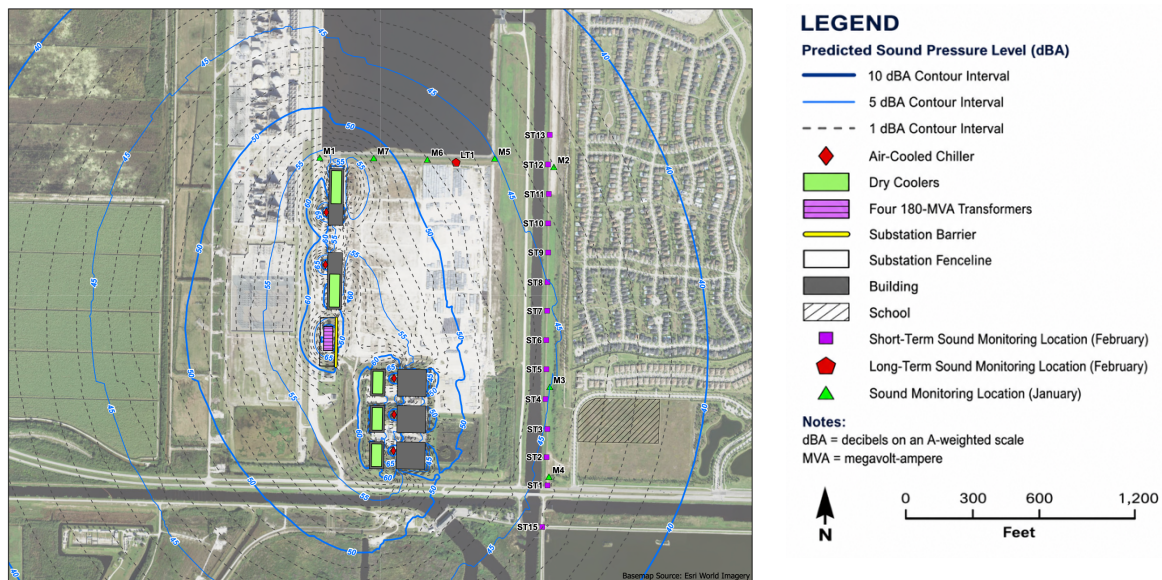
data centers are turned into industrial plants or even if the land is refashioned into playgrounds filled with shouting, laughter, and loud conversation.

Other analyses and Sound Impact Assessments (SIA) tend to produce data center noise estimates similar to JLARC's estimates.

Project Tango

Project Tango is a 202-acre hyperscale artificial intelligence (AI) data center campus proposed for development in Loxahatchee, Florida. This sudden shift toward a 24/7 industrial footprint right next to the 2,500-home residential community of Arden, agricultural properties, and Saddle View Elementary School has triggered significant public debate regarding the potential for persistent low-frequency noise, forcing county commissioners to delay zoning votes to July 15 to allow for comprehensive impact evaluations.⁹

The preliminary SIA compiled by Jacobs Engineering Group serves as the core technical benchmark used to address these intense community anxieties regarding nonstop auditory disruption. To establish an accurate picture of the local environment, acoustical engineers conducted multi-week ambient sound monitoring in early 2026, revealing that existing neighborhood baselines fluctuated between 40 and 60 dBA depending on background traffic and operations from the nearby FPL West County Energy Center. Using the *ISO 9613-2* standard for outdoor sound propagation, the study modeled the facility's primary noise emitters (specifically the massive dry-cooler fan loops and four outdoor substation transformers) and predicted a steady-state property line rating of 45 dBA at the nearest homes. An illustration of the predicted sound diffusion is shown below.



⁹ <https://www.wptv.com/news/region-c-palm-beach-county/loxahatchee-acreage/palm-beach-county-postpones-vote-on-future-of-ai-data-center-project-tango-to-july>.

The modeling for massive developments like Project Tango demonstrates that even the largest hyperscale data center projects are engineered to avoid burdening surrounding households with loud sound. While a 600-megawatt AI campus represents an immense concentration of industrial computing power, the predictive sound assessment shows that intentional design—such as utilizing acoustically optimized low-noise equipment, building specialized sound barriers around transformers, and encasing primary mechanical infrastructure entirely within sound-attenuating buildings—can contain the noise floor. By dropping the facility's external emission down to a steady-state 45 dBA at the nearest residential property line, the project sits not only below strict municipal caps but well within the existing ambient day-night background soundscape of the community. This proves that with proactive, rigorous acoustic engineering, the continuous mechanical cooling necessary to power next-generation technology can coexist with adjacent neighborhoods without introducing a disruptive auditory footprint.

Conclusion

Examining the empirical data and case studies, modern hyperscale data centers are fundamentally not all that loud compared to traditional heavy industries or standard urban or suburban infrastructure. While a facility's raw computing power or total electrical wattage can sound staggering on paper, the physical reality at the residential property line is often a highly controlled, low-intensity hum. Engineering assessments across the country consistently show that with proper layout setbacks, specialized silencers, and solid acoustic barriers, a data center's external sound profile can be successfully managed down to a quiet 45 to 55 decibels. This puts their continuous output on par with a standard household refrigerator or a quiet suburban street, blending directly into the existing ambient noise floor that communities already experience daily.



The vast majority of permitted projects operate well within safe, benign public health guidelines, demonstrating that next-generation technology can seamlessly coexist with adjacent residential zones. When designed with proactive (and increasingly commonplace) engineering, data centers are more often than not a quiet and considerate neighbor in communities across the country. Policymakers need to cut out the noise on data centers and welcome these beneficial projects.