Carbon Direct

Community Opposition to AI Data Centers: Lessons Learned

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Contents

Acronyms and abbreviations

ACS: American Community Survey
AI: artificial intelligence
AZ: Arizona
EJ: environmental justice
EPA: Environmental Protection Agency (United States)
EJScreen: Environmental Justice Screen (United States Environmental Protection Agency)
FOIA: Freedom of Information Act
GA: Georgia
GW: gigawatts
IN: Indiana
LLC: limited liability company
LLM: large language model
MO: Missouri
MW: megawatts
NDA: non-disclosure agreement
NEPA: National Environmental Policy Act (United States)
NGO: non-governmental organization
OR: Oregon
PM2.5: particulate matter 2.5 microns or smaller
RSEI: Risk Screening Environmental Indicators
SELC: Southern Environmental Law Center
TX: Texas
US: United States
VA: Virginia
WA: Washington
ZCTA: ZIP Code Tabulation Area

Executive summary

In 2025, artificial intelligence (AI) data center project cancellations in the United States (US) quadrupled, a trend largely driven by community opposition. The first few months of 2026 added more than 20 additional cancellations, the highest quarterly pace on record. Carbon Direct analyzed the concerns and demographic profiles of communities surrounding 46 canceled, stalled, or withdrawn AI-driven data centers in the US. Across these 46 projects, local opposition resulted in the cancellation of more than US$170 billion in announced AI data center investment. Developers have managed this by issuing reactive communications and offering community benefit packages that are negotiated late in the permitting process. This approach is failing at meaningful scale and frequency. Developers, and the capital partners behind them, need to proactively adapt to and engage with community opposition as a predictable feature of the AI infrastructure landscape, not treat it as a permitting headache to be managed.

Carbon Direct further examined this trend through a community impact lens, combining qualitative content analysis of the public record across seven case studies with quantitative community profiles drawn from EPA EJScreen and US Census American Community Survey data. We found that, demographically, host communities that are successfully opposing data centers can be broadly categorized as representing the median demographic of America: slightly whiter with modestly higher household incomes. The communities typically at risk for environmental justice (EJ) concerns (e.g., lower income, higher percentage of non-white residents) are almost entirely absent from the record of successful opposition. The communities most likely to be disproportionately impacted by environmental burdens resulting from data center siting decisions are the least represented among those communities successfully opposing data centers. Carbon Direct recommends that data center developers proactively integrate equitable engagement and holistic community benefits design from pre-siting onward. This will materially reduce siting risk and align infrastructure development with community priorities.

Key takeaways

- **The data center cancellation surge is structural, not episodic.** US AI data center project cancellations quadrupled in 2025 and accelerated into May 2026; more than US$170 billion in announced capacity has been blocked, withdrawn, or stalled by community opposition since January 2024.
- **Communities winning these fights represent average America, not wealthy suburbs or typical EJ communities.** Across our dataset, host communities cluster near the national demographic middle, rather than representing privileged communities or the lower-income, more racially diverse communities most impacted by environmental burdens.
- **Process and transparency is the dominant opposition argument.** Non-disclosure agreements, hidden end users, and closed-door negotiations frame opposition narratives more consistently than any other concern.
- **Responsible development decisions made in a project's pre-siting and site-selection phases will have the highest impact.** By the time formal permitting begins, a project's political path is already largely set. Integrating equitable engagement and holistic community benefits design from the outset materially reduces siting risk and the potential for investment losses.

Introduction

Local community opposition to data center development in the US is becoming a core tension, drawing together overlapping and intersecting concerns about what it means to build a healthy and just society. As major and emerging AI technologies drive unprecedented growth, worries concentrate around the impacts to natural resources, electricity and energy prices, climate pollution, economic development impacts, and broader existential questions about the role and use of AI in society.

To better understand the contexts surrounding local opposition to AI-driven data center development in the US, Carbon Direct investigated two overarching questions:

1. What community concerns surround AI data center projects that have been canceled, stalled, or withdrawn?
2. What do the demographic and environmental profiles of those communities tell us about the broader conditions under which AI data center development is meeting resistance?

Investment in AI infrastructure has accelerated faster than the policy, regulatory, and community engagement frameworks around it can adapt. The cost of that mismatch is now showing up on the balance sheets of developers and the capital partners behind them. Based on our analyses, between January 2024 and May 2026, community opposition has stalled, blocked, or resulted in withdrawals of US$137–172 billion in announced AI data center capacity across 46 projects in 20 states. In 2025, US AI data center project cancellations quadrupled relative to 2024, with six projects canceled in 2024 and 25 projects in 2025. The pattern is structural and represents a shift in how large-load infrastructure gets sited, financed, and approved. This trend has produced a new and underdiagnosed category of project risk.

Data center developers need to adapt to this risk. Community opposition is now a major force that actively stalls, blocks, and reshapes AI infrastructure projects. To meaningfully address community concerns, project developers should invest in solutions across the value chain, from pre-siting decision-making to construction guidance to post-construction engagement and relationship building. Investments in better community engagement should begin at the pre-siting stage rather than at the public-hearing stage. Developers should also design holistic community benefits packages that proactively address each host community's specific burden and vulnerability profile, rather than relying on templated, transactional concessions negotiated under pressure.

Why this matters now

The pace of the AI infrastructure buildout provides context into how communities are responding. Hyperscale data center projects are being announced, sited, and permitted faster than any comparable wave of large-load infrastructure in the US since the early-2010s shale gas boom. The 2025 cancellation surge is the consequence of that pace meeting communities that have organized quickly and successfully. Data center developers seem to be drawing from an outdated playbook that treats community opposition as a late-stage permitting problem to be handled with reactive communications and benefit packages negotiated once a formal application is filed. This position may have worked for data center projects when they were smaller, more dispersed, and had lower salience in the communities that hosted them. However, this approach is no longer

adequate to meet the scale and pace of AI-driven demand and the impacts that communities are facing from this new infrastructure.

Canceled deals, repriced timelines, stranded capital, and reputational exposure that travels across jurisdictions are just some of the costs developers who fail to adapt will bear. Integrating community impact considerations into project decision-making from the outset is both feasible and increasingly necessary. It requires both better engagement practices and a more rigorous, community-specific approach to benefits design.

Contextualizing local opposition to data center development

Carbon Direct conducted a qualitative diagnostic across a curated case set of US AI data center projects that were canceled, withdrawn, or stalled between January 2024 and May 2026. In each case, community opposition was a primary or substantial cause of the outcome. Our analyses combine qualitative content analysis of the public record (e.g., local news and media, written and oral public comment, planning commission and board hearing materials, zoning and rezoning filings) with quantitative community profiles drawn from US Census American Community Survey data, EPA EJScreen indicators, water stress indices, and climate vulnerability data. Our goals were to surface the conditions under which community pushback became consequential, to translate those conditions into a diagnostic framework, and to make visible an equity dimension of the current cancellation landscape that has been hiding in plain sight.

Our analyses had several limitations. This was not an inferential study, not a probability sample, and not a prevalence claim across all AI data center proposals. The 46 projects we analyzed constitute a documented dataset of opposition-driven cancellations and stalls, within a recent and defined time window. Our findings are descriptive of that dataset.

Methodology

We undertook four steps to build out the analysis process. First, we developed a master tracker to identify canceled or stalled AI data center developments and documented key attributes of each case. Second, we selected seven case studies for a deep-dive analysis. Third, we identified and collected a source archive for each case study. Fourth, we coded the archive's qualitative data for key themes around community opposition narratives, tactics, and outcomes. We considered AI-driven data centers as those projects that operate at a scale of at least 100 megawatts (MW) of publicly announced load, or those that the developer explicitly described as serving AI or machine learning workloads.

Identifying canceled projects and case studies

To understand the landscape of AI-driven data center cancellations linked directly to community opposition, we developed a cancellation tracker documenting projects that met the following conditions: (1) US-based projects canceled or stalled between January 2024 and May 15, 2026; (2) projects that failed to advance into operation because of community opposition that directly produced regulatory denial, political reversal, or opposition-driven stall, rather than other causes such as grid interconnection challenges; and (3) projects with sufficient public documentation.

Key sources we referenced include data center tracking websites such as Data Center Watch,[1] Data Center Dynamics,[2] and Data Center Knowledge.[3] We referenced an overview of Miquel Vila's research on local opposition for data centers, which launched the Data Center Watch Initiative.[4] Finally, we conducted searches across multiple state and local news coverage outlets, government meeting records, and opposition organization websites. Based on this review, we captured a total of 46 individual cases across 20 states.

From this cancellation tracker, we identified seven cases for a deep-dive analysis. Case selection reflected geographical concentrations of project cancellations. For example, because nearly 25% of projects were canceled in Virginia, we selected two case studies from this state. Another 15% of cancellations occurred in Indiana, and we selected one Indiana-based project. We selected the other four cases from canceled projects in Arizona, Georgia, Missouri, and Texas, to provide regional variation and capture important emerging areas of data center development (i.e., Georgia and Texas). For specific project selection within each state, we aimed to balance project size, opposition narrative, developer type, opposition mode (e.g., council veto, civic mobilization, etc.), and documentation density sufficient to support an evidence-based analysis. We chose the seven cases to surface the range of opposition dynamics, not to be statistically representative.

Demographic data analysis for community profiles

To characterize the communities surrounding the 46 projects in our dataset, we combined two data sources. The first is EPA EJScreen (version 2.3, July 2024 release),[5] which provides demographic and environmental burden indicators at the US Census block group level. The geographic unit EJScreen uses contains approximately 242,000 US Census block groups, based on the 2020 Census. EJScreen reports each indicator as a national percentile rank, locating each block group against every other block group in the country. We analyzed five demographic indicators: percent people of color, percent low income, the EJScreen Demographic Index, percent unemployment, and percent low life expectancy. We also analyzed thirteen environmental burden indicators spanning air quality (e.g., PM2.5, ozone, diesel particulate matter, air toxics under the Risk Screening Environmental Indicators [RSEI] model,[6] nitrous oxide), proximity to environmental hazards (e.g., traffic, lead paint, Superfund sites, EPA Risk Management Program facilities,[7] treatment, storage, and disposal facilities,[8] underground storage tanks), and water (e.g., wastewater discharge, drinking water non-compliance). The second source is the US Census Bureau's American Community Survey, from 2019–2023 based on five-year estimates, which we

[1] Data Center Watch. 2026. Data Center Watch; [accessed 2026 June 15]. https://www.datacenterwatch.org
[2] Data Center Dynamics. Data center industry news, analysis, and opinion. Data Center Dynamics; [accessed 2026 June 15]. https://www.datacenterdynamics.com/en/
[3] Data Center Knowledge | Navigating the Future of Data Centers. DataCenterKnowledge; [accessed 2026 June 15]. https://www.datacenterknowledge.com/
[4] Carlton J. 2026. The Cool Down; [accessed 2026 June 15]. https://www.thecooldown.com/green-business/data-center-opposition-local-resistance-construction-challenges/
[5] Carbon Direct downloaded and saved these data and information mid-in Summer 2024 and reproduced the tool as an internal feature for continued use in our Community Impacts analsyes.
[6] United States Environmental Protection Agency. 2014. [accessed 2026 June 15]. https://www.epa.gov/rsei
[7] United States Environmental Protection Agency. 2019. [accessed 2026 June 15]. https://www.epa.gov/rmp/accessing-rmp-data
[8] United States Environmental Protection Agency. 2015. [accessed 2026 June 15]. https://www.epa.gov/hwpermitting/how-do-i-find-hazardous-waste-management-facilities-my-area

used to add absolute household income context to the relative-rank EJScreen indicators. American Community Survey data was pulled at the ZIP Code Tabulation Area level.

For each project, we drew circular buffers at 1-mile, 3-mile, and 10-mile distances around the project's approximate coordinates. We then identified the US Census block groups with geometry that intersects each buffer. The 3-mile buffer is our chosen analytic, corresponding to the EPA-recommended distance for community impact analyses. The 1-mile and 10-mile results are reported alongside the 3-mile values as sensitivity checks. For each indicator, we report two summary statistics across the US Census block groups intersecting the buffer: the unweighted median of their national percentile ranks, and the share of block groups at or above the 80th national percentile, which is the EPA's documented threshold of concern for EJ indicators.

Our unweighted-median summary statistic is a descriptive characterization of the block-group composition of each buffer: it is not identical to EPA's documented buffer report method, which produces a population-weighted average of raw indicator values that is then re-ranked nationally. The two approaches answer slightly different questions: the unweighted median describes where the typical block group in the buffer sits in the national distribution, while EPA's population-weighted approach approximates the average resident exposure inside the buffer. The qualitative direction of our findings is robust to either method, but the precise percentile values would shift in a population-weighted recomputation.

Three limits apply to the analysis. First, the 46 projects in our dataset represent a documented set[9] of opposition-driven cancellations and stalls between January 2024 and May 2026, not a sample drawn from a larger population. All claims are descriptive of this dataset, and no inferential or causal claims are made. Second, the ZIP-level American Community Survey data and the block-group-level EJScreen data are drawn from different geographic units and do not nest cleanly. We treat them as independent triangulating signals rather than aggregating them. Third, EJScreen's PM2.5 and ozone indicators are originally produced at the Census tract level and assigned uniformly to the block groups, which compresses variability on those two indicators at small buffer distances. The compression is consistent across all projects and does not affect cross-project comparisons.

Qualitative data and thematic coding for community opposition narratives

For each of the seven case studies, we assembled a source archive that included three document types: government records (e.g., council and Planning Commission minutes, staff reports, vote roll-calls, post-decision policy work), opposition organization documents (e.g., websites, reports, briefings, op-eds, press-releases), and media coverage at the local, regional, and national levels as relevant. Specific sources were identified through keyword research and curated to remove duplicates, syndicate copies, and off-topic results. Source text was extracted with the Trafilatura Python library.[10] For sources that were blocked from extraction, we manually extracted text into standardized templates. We processed PDF documents separately. The final archive contained nearly 500 unique source documents across the seven cases.

[9] Although we assembled as much publicly available data and reporting as possible, Carbon Direct does not claim that this is the full set of all opposition-driven cancellations for AI data centers in the US.
[10] Trafilatura. 2025. Python package and command-line tool designed to gather text on the Web. [accessed 2026 June 15]. https://trafilatura.readthedocs.io

To analyze collected data, we applied a coding methodology, assisted by a large language model (LLM), to identify and document deductive and inductive thematic coding. Using case-level reference notes, we included approximately 50 codes across six categories in a codebook. The six categories were: opposition arguments, project support, opposition tactics, stakeholder voice, procedural phase, and outcome framing. From there, we extracted codeable passages from each source using the identified code themes. We documented extractions and the frequency of each code category in the archive for each case, and then synthesized across all seven cases.

Importantly, this project design supports pattern identification and quote-grounded narrative summaries, not statistical inference. We selected case studies to span opposition dynamics. They are not statistically representative and should not be used to generate causal claims.

The cancellation landscape

We performed a cross-cutting analysis of the projects in our Data Center Cancellation Tracker, and identified the affected scale of capital and capacity, the geographic distribution of opposition, the outcome and mechanism typologies, the opposition narratives that recur across the dataset, and the demographic landscape of the communities where opposition has succeeded.

The 46 projects represent more than US$170 billion in announced AI data center capacity blocked, withdrawn, or stalled between January 2024 and May 2026.[11] In terms of electrical load, there were 15 projects in our dataset that disclosed announced capacity totalling approximately 8.2 gigawatts (GW) of announced capacity, or enough capacity to power close to 8 million homes. This is likely a conservative floor, given that the majority of the projects in the dataset disclosed only square footage, acreage, or no capacity figure at all.[12] The full dataset almost certainly represents materially more capacity than 8.2 GW.

The dataset of canceled projects includes 20 states. Geographic concentration is uneven and reflects the underlying distribution of AI infrastructure proposals (**figure 1**). Virginia accounts for 11 of the 46 projects, Indiana for seven, and Texas for five, which together comprise nearly 50% of all canceled or stalled projects in our dataset. The remainder are distributed across the Sun Belt (i.e., Arizona, Florida, Georgia), the Midwest and Appalachia (i.e., Michigan, Missouri, Pennsylvania, Wisconsin), the Northeast (i.e., Maine, New Jersey, New York), the South (i.e., Kentucky, North Carolina, South Carolina), and the Pacific Northwest (i.e., Oregon, Washington).

[11] Using the Carbon Direct AI Data Center Cancellations Tracker (*Appendix A*), we calculated the aggregate across 36 of 46 projects with disclosed US$D, range midpoint, or rule-derived values; 11 projects had no usable size disclosure. See the *Methodology* section, and the accompanying sizing methodology documentation, for the conversion hierarchy.

[12] Using the Carbon Direct AI Data Center Cancellations Tracker (*Appendix A*), we found that, of the 15 projects in the dataset that disclosed a capacity figure, eight projects reported the figure as approximate or estimated, one reported a Phase-1 figure only, and two reported a partial figure (i.e., only one named developer disclosing capacity in a multi-developer application). The 8.2 GW total includes all disclosed values as reported, including phased and estimated values, and is therefore a conservative floor on the actual electrical load implied by the dataset.

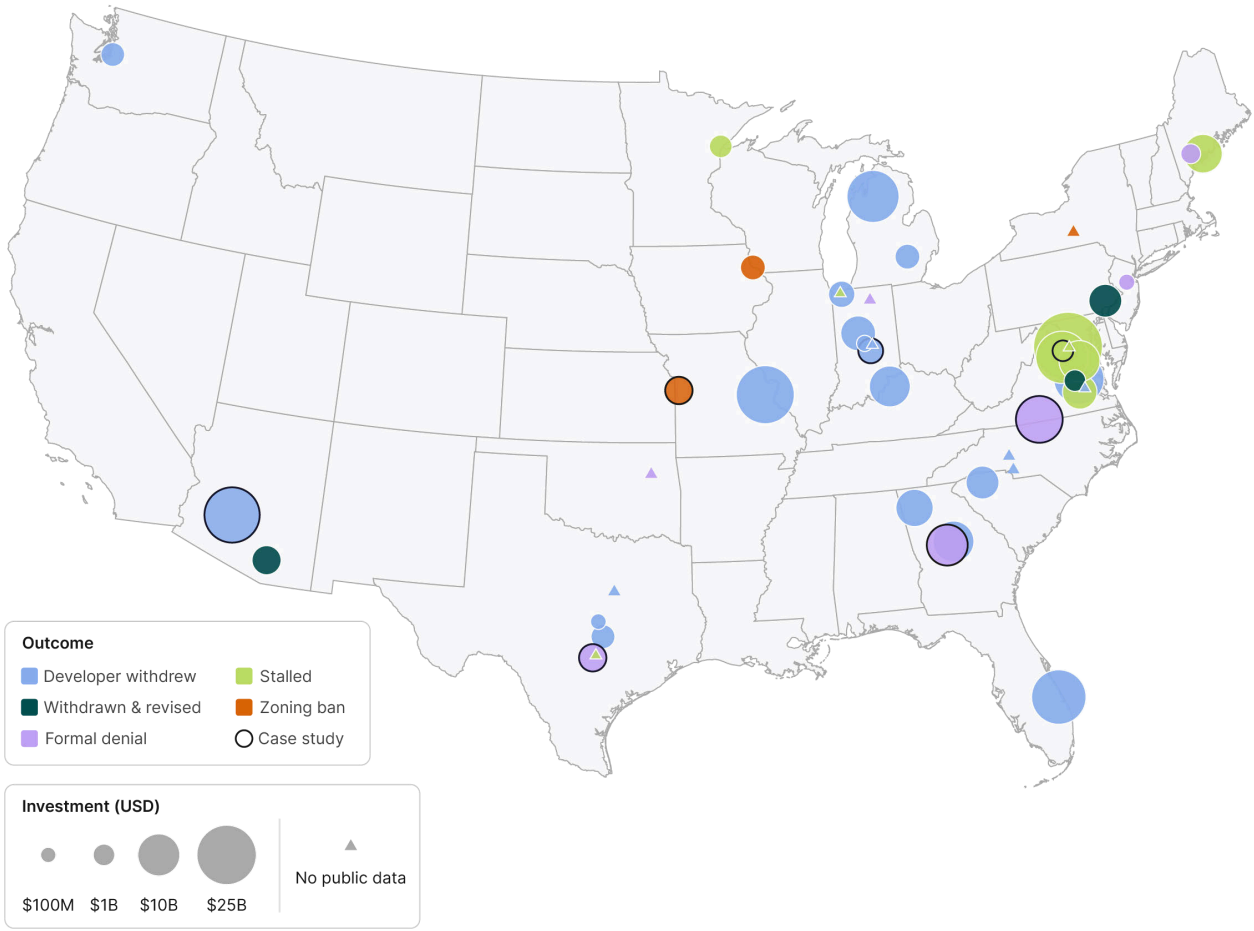

Figure 1. Map of the 46 projects in our Data Center Cancellation Tracker dataset. Projects are color-coded by cancellation reason, and the size of the circle represents the relative size of the capital investment in each project. Our case study selections are outlined in a dark circle.

The temporal pattern is equally important. Project cancellations quadrupled in 2025—from six in 2024 to 25 in 2025—with 21 of those canceled in 2025 occurring in the second half of the year. More than 20 additional cancellations occurred by May 2026, the highest quarterly pace on record.[13, 14, 15] The acceleration represents a groundswell of localized community opposition to these projects, inclusive of projects that have been canceled, stalled, or withdrawn (**figure 2**).

[13] Meyer R. 2026 Jan 12. Scoop: Local Pushback, Canceled Data Centers Surged in 2025. Heatmap News; [accessed 2026 June 15]. https://heatmap.news/politics/data-center-cancellations-2025
[14] $64 billion of data center projects have been blocked or delayed amid local opposition. Data Center Watch; [accessed 2026 June 15]. https://www.datacenterwatch.org/report
[15] Obano S. 2026 Apr 22. What's stalling data center projects? Public opposition and power access lead delays. Construction Dive; [accessed 2026 June 15]. https://www.constructiondive.com/news/data-center-project-cancellations-power-public-pushback/818157/

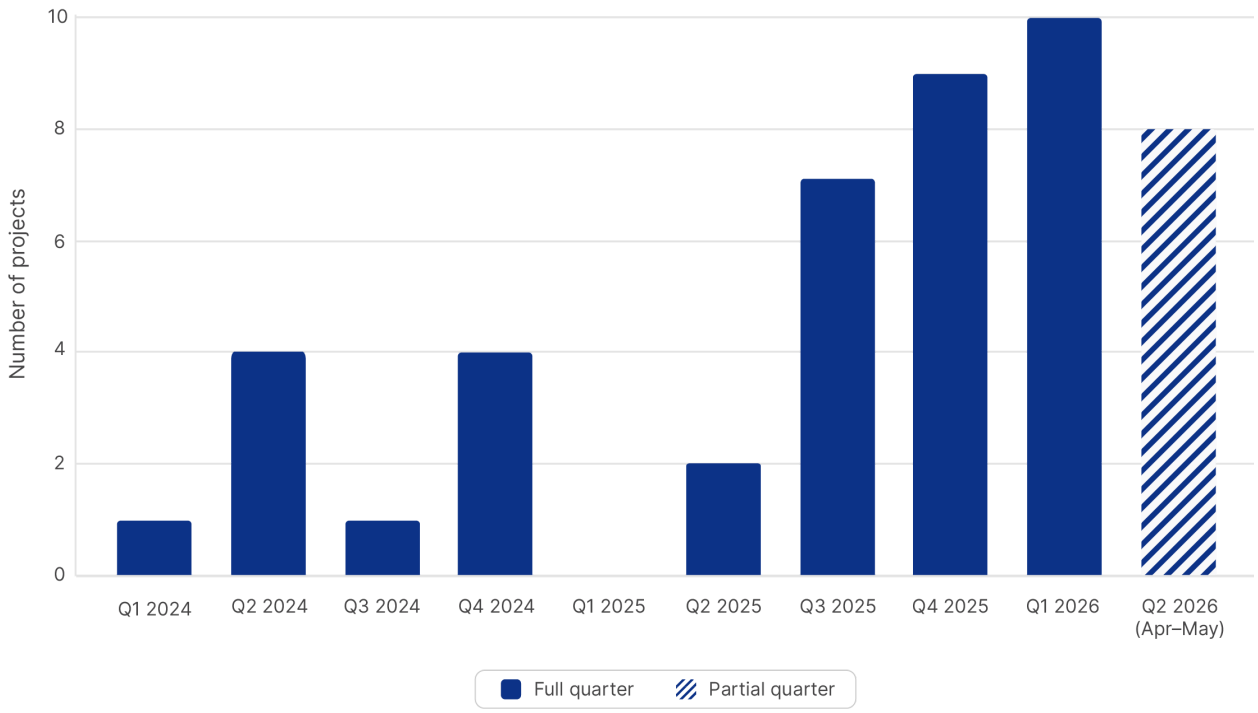

Figure 2. Quarterly count of AI data center projects canceled,stalled, or withdrawn by quarter: drawing from our 46-project tracker and covering January 2024 through May 2026. Source: Carbon Direct.

Cancellation and opposition typology

There are five outcomes that underpin the 46 projects in our dataset. The largest is developer withdrawal: projects where the developer pulled the application before a formal vote, accounting for 20 of the 46 projects (43%). The next largest is stalled: projects where the proposal has been paused by moratorium, court order, electoral defeat of supportive officials, or unresolved rezoning debate, accounting for 14 of the 46 projects (30%). The remaining three categories are smaller: formal denial by a planning commission, board, or council (seven projects, or 15%); withdrawn and revised in modified form (three projects, or 6%); and zoning ban, in which the host jurisdiction amended its zoning ordinance to prohibit data center development (three projects, or 6%).

Opposition operates through six mechanisms that recur across the dataset of canceled projects we examined: grassroots informal organizing; zoning ordinance amendments at the local level; formal commission or board denial; moratorium-triggered developer withdrawal; state-agency rejection; and court ruling or electoral defeat of supportive officials. Most cases combine multiple mechanisms. The dominant pattern observed in the dataset is grassroots organizing producing enough political pressure that developers withdraw before a formal vote, which accounts for the prevalence of the "developer withdrew" outcome category (43%). Formal commission or board denial occurs in cases where the developer chose to proceed to a vote despite mounting opposition. The rarest mechanism, state-agency rejection, appears in cases involving unusual jurisdictional intersections such as state-owned land or regulatory pre-emption.

For our analyses, there are also five distinct opposition narratives that emerge from specific community concerns.

- **Resource and infrastructure burden**: These burdens include water consumption, electric grid strain, and demands on local roads and emergency services. Water is the single most cited concern in the public record. A HeatMap Pro press-record analysis[16] of contested data center projects in 2025 found water cited in more than 40% of cases, ahead of energy consumption and electricity price impacts.
- **Environmental and rural conservation**: These concerns cover loss of farmland, fragmentation of rural character, encroachment on scenic and ecological resources, and light and sound pollution affecting natural areas.
- **Public health**: Health concerns encompass air quality, particularly where on-site or adjacent gas-fired power generation is co-proposed; cumulative environmental burden in communities already carrying disproportionate exposure; and noise and vibration impacts on nearby residents.
- **Energy cost and reliability**: Energy issues include residential rate increases attributed to data center demand, grid reliability concerns, and broader questions about who pays for the transmission and generation buildout the projects require.
- **Lack of transparency**: Communities oppose non-disclosure agreements (NDAs) between developers and local officials, shell-LLC ownership structures concealing end-user identity, undisclosed power and water requirements, and missing detail on the eventual built environment.

Most canceled data centers combine multiple opposition narratives. A typical case in our dataset surfaces three to four of the five families simultaneously, with the specific ordering varying by community context. Resource and infrastructure burden, particularly water, appears in nearly every case, irrespective of community demographic profile. Lack-of-transparency narratives appear most prominently in cases involving hyperscaler developers who plan to be tenants of a data center and who route their development practices through shell LLCs. Our *Cross-cutting patterns* section synthesizes how these narratives cluster and which combinations correlate with which outcomes.

Demographic context

The demographic profile of the communities surrounding the 46 projects is one of the key findings from our analyses. Within a 3-mile radius of each site, the communities surrounding canceled data center projects tend to cluster close to the national demographic median on race and income, which means that these communities tend to represent what we might consider "average America" when it comes to race and income. However, the communities that would most likely have elevated risks for EJ concerns (i.e., racially diverse, low-income) are almost entirely absent from the successful opposition record (**figure 3**).

[16] Meyer R. 2026 Jan 12. Scoop: Local Pushback, Canceled Data Centers Surged in 2025. Heatmap News; [accessed 2026 June 15]. https://heatmap.news/politics/data-center-cancellations-2025

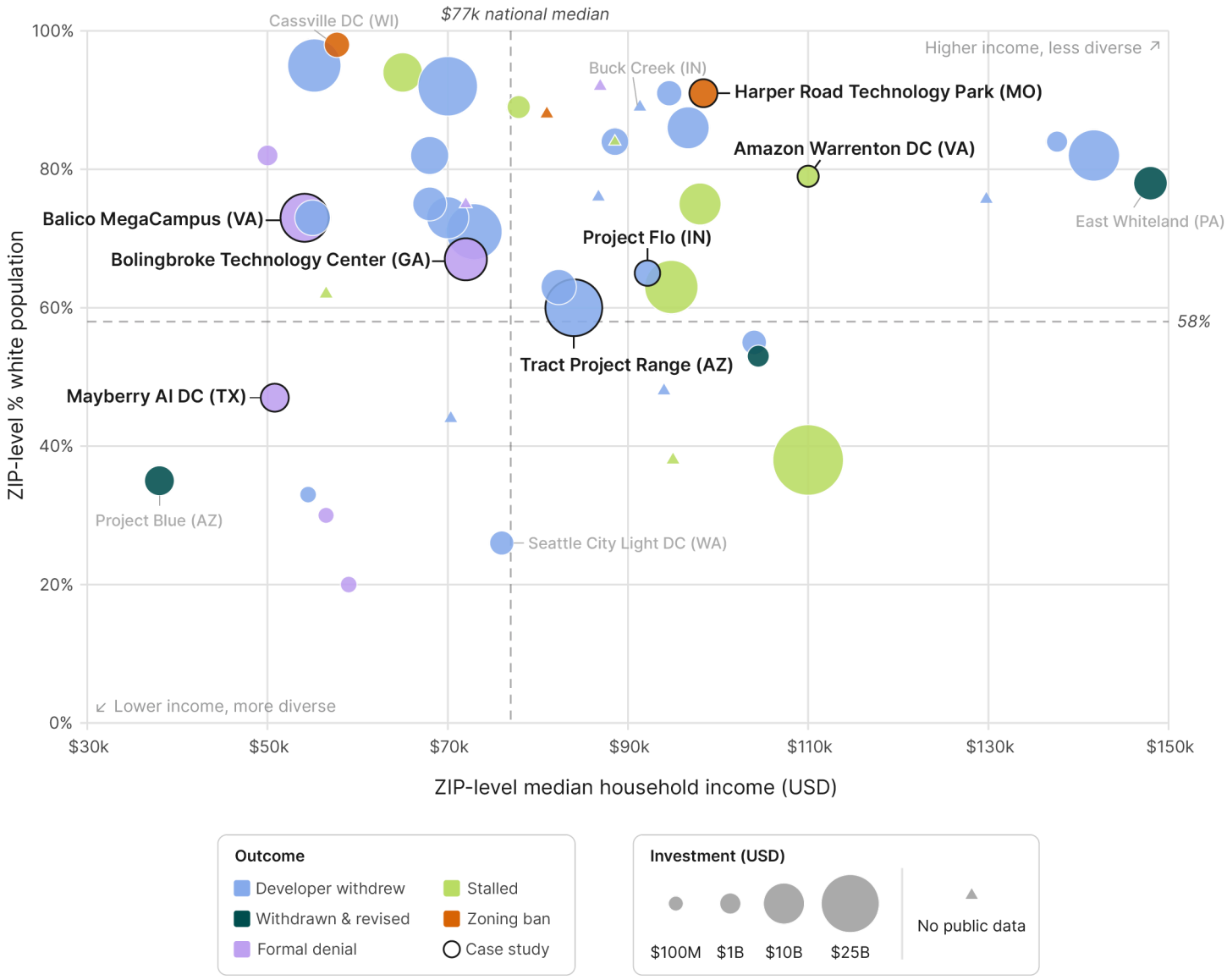

Figure 3. Demographic distribution of the 46 host communities for canceled, stalled, or withdrawn data center projects within a 3-mile project buffer zone, plotted on percent white population (y-axis) and income level (x-axis). Dashed lines mark the national medians on each axis. Host communities are clustered near the national middle. Cases in the upper-right quadrant (high income, less diverse) and lower-left quadrant (lower income, more diverse) are more sparse. Source: Carbon Direct.

To understand who lives near these canceled, stalled, and withdrawn projects, we looked at the communities within a 3-mile radius of each of the 46 sites, and compared them against every other community in the country on two basic measures: how racially diverse the community is, and how many of its residents are low-income.

The pattern is closer to the national average than most readers might expect. About 60% of projects (28 of 46) sit in communities with a smaller share of low-income residents than the

median American community.[17] About 45% (21 of 46) sit in communities with fewer people of color than the median American community. The single largest group—projects with surrounding communities that fall below the national average on *both* race and income measures—captures 15 of the 46 projects, roughly one in three. That makes it the biggest single pattern in the data, but it is still a minority of all the cases.

Household incomes follow the same pattern. Across the 46 communities with available data, the median household income is approximately US$82,000, modestly above the national median of roughly US$77,000. Of the 46 total, 26 communities (57%) sit at or above that national benchmark. Only one (i.e., in Tucson, Arizona, near the Project Blue site) sits notably below, with a median income under US$50,000.

However, the picture changes when we apply a different test: the EPA's threshold for flagging EJ concerns.[18] The EPA considers a community to be elevated for EJ concerns when the aggregate US Census blocks in the study buffer rank in the top 20% of US communities on indicators like percentage of people of color or percentage of low-income population. Using that stricter test, only 4 of the 46 projects are in communities the EPA would flag as elevated for EJ concerns, due to their being home to a stronger concentration of communities of color. Only 2 of 46 would be flagged for being home to a higher concentration of low-income communities. The communities that EJ frameworks were built to protect—the communities most likely to be disproportionately affected by data center siting decisions—are almost entirely absent from the record of successful opposition. This asymmetry likely reflects the civic infrastructure conditions under which successful opposition is currently observed.

A meaningful minority of cancellations (13 of the 46, or about 28%) do come from communities that are above the national average on both demographic EJ measures. These include Project Blue in Tucson, Arizona; Balico/Mill Creek in Virginia; Bates Mill in Maine, and Seattle City Light in Washington. While opposition from more communities with more traditional EJ concerns is real and visible, the dominant pattern is opposition succeeding in communities that have traditionally had no strong EJ concerns.

This gap—between the communities most likely to be impacted by data center siting and the communities most likely to successfully stop those projects—is the most consequential finding in our analysis. It is the basis for both the diagnostic framework we discuss later and the equity argument that runs through our *Recommendations and conclusion*.

[17] We used data from EPA EJScreen v2.3 (July 2024 release, 2020 Census block-group vintage). Median is the unweighted median across US Census block groups intersecting a 3-mile buffer of each project's approximate coordinates. See the *Methodology* section for a description of our full buffer summary approach and disclosure of our methodological deviation from the EPA's documented, population weighted, buffer summary method.
[18] EPA EJScreen Technical Documentation v2.3 §5 ("Thresholds"). The 80th national percentile is EPA's documented threshold for identifying communities of concern on EJ indicators.

Case studies

This section profiles seven of the 46 cases in our AI Data Center Cancellations Tracker, selected to span the geographic, demographic, and organizational range of the dataset (**table 1**). Each case study profile describes the defining feature that contributes to our *Cross-cutting patterns* analysis. The Balico MegaCampus case has an expanded profile, as it is the only case study in the seven involving a community that crosses the EPA's 80th-percentile threshold of concern.

Table 1. Community opposition to data center project case studies

Project	Developer	Community	Capacity/ Investment	Outcome	Dominant opposition narrative
Tract Project Range (Buckeye, AZ)	Tract	Suburban/ exurban	US$14 billion	Blocked, developer withdrew	Land values; lack of transparency
Bolingbroke Technology Center (Monroe County, GA)	Mayfield-PSH (LLC structure)	Rural	~US$6 billion	Blocked, formal denial	Rural character; lack of transparency (multi-party NDA agreement)
Project Flo (Franklin Township, IN)	Google (via Deep Meadows LLC)	Semi-rural	~US$1 billion	Blocked, developer withdrew	Lack of transparency (NDA secrecy); farmland loss; water and energy
Project Harper (Peculiar, MO)	Diode Ventures	Semi-rural	US$1.5 billion	Blocked, zoning ban	Lack of transparency (complex NDA); noise; property values
Mayberry (San Marcos, TX)	Highlander SM One LLC	Suburban	US$1.5 billion	Blocked, formal denial	Water (aquifer protection); lack of transparency
Amazon Warrenton Data Center (Warrenton, VA)	Amazon	Rural	US$39 million (land cost only; campus cost undisclosed)	Stalled, court order	Lack of transparency; rural character; school/residential proximity
Balico MegaCampus (Pittsylvania County, VA)	Balico LLC	Rural	3,500 MW co-located gas plant/ US$8.85 billion	Blocked, formal denial	Public health (co-located gas plant); rural character; lack of transparency

Tract Project Range (Buckeye, AZ)

Tract Project Range is an example of an institutional staff veto. The case never reached a public hearing and produced almost no public testimony. Professional planners in Goodyear and Buckeye, two cities adjacent to the unincorporated Maricopa County parcel, drafted formal letters of opposition citing land-use incompatibility, viewshed and building-height concerns, and inconsistency with each city's general plan. Neither city held veto authority over a project, but the coordinated letters, combined with growing civic mobilization through the No Desert Data Center

coalition, led the developer to withdraw all four applications in April 2024. Of our seven case studies, this case is the cleanest illustration that political alignment, as indicated by public-record sources at the diligence stage, is a load-bearing risk indicator during Phase 1 of a project.

Bolingbroke Technology Center (Monroe County, GA)

Bolingbroke shows that diffuse civic mobilization without a formal opposition organization can produce a unanimous denial. Opposition ran through a local Facebook group, Sloan Oliver's weekly *Monroe County Reporter* column, yard signs, and regular community meetings at a local restaurant. An overflow crowd of several hundred residents at the August 5, 2025 Board of Commissioners meeting forced the meeting to be relocated to a larger venue, where both the Planning Commission and the Board denied the rezoning in a 5-0 vote. Bolingbroke also produces the most counterintuitive finding on transparency. The Monroe County NDA storyline turned out to involve a different Google project, and the county publicly refused the NDA, the opposite of the multi-party, pre-application pattern documented elsewhere. The case demonstrates that concealment generates opposition through routes other than the typical NDA process.

Project Flo (Franklin Township, IN)

Project Flo shows what can happen when hyperscaler stealth attempts backfire. Google's identity sat behind the Deep Meadow Ventures shell LLC for nearly six months. Farrah Anderson,[19] from local public broadcasting channel WFYI, was prompted by a resident's Access to Public Records Act request to surface Google as the parent company of the shell on July 1, 2025. The reveal galvanized cross-partisan opposition. Crowds chanted "Sellouts!" at the August Metropolitan Development Commission vote and "Go away, Google!" outside the September City-County Council meeting. Google withdrew minutes before the decisive Council vote, a tactical move that preserved a three-month refile window rather than triggering the one-year wait that a denial would have imposed. This case is the clearest example among our case studies of how disclosure posture, not merit, can determine a project's political path.

Project Harper (Peculiar, MO)

Project Harper is an example of an "approve-then-reverse" trajectory. The Peculiar Board of Aldermen approved a rezoning 6-0 for Project Harper in April 2024. Six months later, the same Board unanimously enacted a zoning ordinance amendment that removed "data center" from the city's zoning definitions and stripped data centers from the I-1 Light Industrial permitted use table, reversing their prior approval through the zoning code itself. The reversal was driven by a multi-party NDA involving Diode Ventures, the City of Peculiar, and Diode's undisclosed end user. This case had the highest coded count for lack of transparency narrative elements, with nine passages on pre-application multi-party NDA engagement. Among our case studies, it is the best example of how a Phase 2 zoning lockout closes off a project, even after a formal approval.

Mayberry (San Marcos, TX)

Mayberry shows what an NGO water coalition produces when it is anchored by a culturally distinctive resource register. Opposition to the Mayberry data center was led by the San Marcos River Foundation, the Greater Edwards Aquifer Alliance, and the Guadalupe-Blanco River Authority, joined by Save Our Springs, the Hill Country Alliance, Public Citizen, and the Data Center Action

[19] Farrah Anderson. Indianapolis' Public Radio, TV & News Station | WFYI; [accessed 2026 June 16]. https://www.wfyi.org/people/farrah-anderson

Coalition. The Edwards Aquifer and the spring-fed San Marcos River are water sources considered sacred by the local community, the only example of a sacred-waters narrative in our case studies. Mayberry also displays a revival-after-denial sequence, followed by a final denial. A March 2025 Planning and Zoning Commission denial and an August 2025 Council vote that failed the required supermajority were followed by a developer revival under enhanced covenants for water use. Then, a 5-2 Council denial of the Preliminary Service Agreement occurred in February 2026 after more than 130 public comments. Land Development Code amendments restricting potable water for cooling followed within two months, representing a policy-precedent signature.

Amazon Warrenton (Warrenton, VA)

Amazon Warrenton is an example of a hybrid opposition approach that combined electoral, celebrity, and legal influence. The Town Council approved a Special Use Permit for the project in a 4-3 vote in February 2023, over a 3-1-1 Planning Commission recommendation of denial. Opposition was anchored by Citizens for Fauquier County, a 55-year-old institutional civic organization, with Robert Duvall testifying at the February 2023 Council hearing, and outside counsel Dale Mullen filing a Freedom of Information Act (FOIA) lawsuit that drew *amicus curiaea* support from the Reporters Committee for Freedom of the Press. All four approving council members were defeated in the November 2024 election, the new Council reversed the project's approval, and a Virginia Circuit Court subsequently ruled the Special Use Permit illegal. Warrenton is the clearest demonstration among our case studies that the opposition arc can continue through litigation and electoral defeat even after a formal approval, and that the policy-precedent mechanism can operate at the ballot box.

Balico MegaCampus (Pittsylvania County, VA)

The Balico MegaCampus project is the only case in our seven case studies that crosses the EPA's 80th-percentile threshold of concern for EJ, and it illustrates the demographic asymmetry we observed during our analyses. Communities from six of the seven case studies sit near the national median on race, income, or both. Pittsylvania County does not. The 3-mile buffer around the proposed Mill Creek site sits at the 86th percentile nationally on low income, the at 80th percentile on the EJScreen Demographic Index, and at the 80th percentile on low life expectancy. Median household income in the affected ZIP is approximately US$54,000, roughly US$23,000 below the national median of US$77,000.

The project proposal paired a hyperscale data center with a 3,500 MW natural gas plant. At full build-out the gas plant would have been the second largest in the US, co-located with the campus and feeding it behind the meter. Balico engaged Pittsylvania County economic development staff under closed-session terms for months before any public filing. Opposition organized in late 2024 and included the Coalition for the Protection of Pittsylvania County, the Southern Environmental Law Center (SELC), the Piedmont Environmental Council, Sierra Club Virginia, the Pittsylvania County National Association for the Advancement of Colored People, and a statewide environmental network. Three days before the April 15, 2025 vote, SELC released a Harvard School of Public Health Dominici Lab study that calculated US$625 million in cumulative healthcare costs and 326 tonnes of annual PM2.5 emissions from the proposed gas plant. Community testimony repeatedly cited these figures. The Board of Supervisors voted 5-2 to deny Balico's request to withdraw its application, then voted 6-1 to deny the rezoning, a procedural double denial that blocked the developer's exit strategy and closed off a free resubmission.

This case study carries an analytical feature not found in the other six. Pittsylvania County is a key example of how a community already carrying elevated EJ indicators, when faced with a project that adds new fossil-fuel infrastructure on top of existing burden, can produce a successful denial with the support of a regional conservation coalition, a national environmental law center, and a Harvard-credentialed health study.

Cross-cutting patterns

The seven case studies differ substantially in geography, demographic profile, and organizational form. However, they converge on a smaller set of structural patterns that our cross-case coding makes visible. **Figure 4** maps the seven case studies against five recurring opposition-narrative families and provides a visual framing for the cross-cutting patterns detailed below.

Lack of transparency is a key local concern

Lack of transparency is the dominant opposition frame in four of the seven cases: Project Flo, Project Harper, Amazon Warrenton, and Balico MegaCampus. The substantive content is strikingly consistent across them. Speakers and filings cite the scope of NDAs between developers and local officials, the gap between an identified shell entity and an undisclosed end user, closed-door pre-application negotiations, and frustrations with FOIA processes when seeking records.

Balico MegaCampus is the one case where transparency concerns share dominance with public health and air quality worries. The concerns around the project's planned gas plant, which combined health, air quality, and fossil fuel co-generation concerns, made up 36% of opposition arguments. This reflects the project's defining feature: a 3,500 MW behind-the-meter gas plant proposed alongside the data center campus.

Six mechanisms and tactics of local opposition

Across the seven cases, opposition cohered into six recognizable modes, listed here with details from representative case studies:

1. **Institutional staff veto** (Tract Project Range in Buckeye, AZ): Opposition was led by professional planners in adjacent jurisdictions and state agencies. Public testimony was absent. The developer withdrew before public hearings.
2. **Diffuse civic mobilization in a conservative, rural area** (Bolingbroke in Monroe County, GA and Project Harper in Peculiar, MO): Broadly distributed individual opposition was mobilized through churches, neighborhood Facebook groups, and standing-room council meetings. Framing was cross-partisan or Republican-led.
3. **NGO coalition with expert testimony** (Mayberry in San Marcos, TX): Opposition was anchored by established water NGOs, commissioned hydrology evidence, and sustained council-testimony pressure.
4. **Conservation coalition with co-located gas plant catalyst** (Balico MegaCampus in Pittsylvania County, VA): Opposition was organized around SELC, Friends of Whittles, and the Banister River conservation network. The Harvard Dominici Lab health report, released three days before the vote, functioned as the lever.

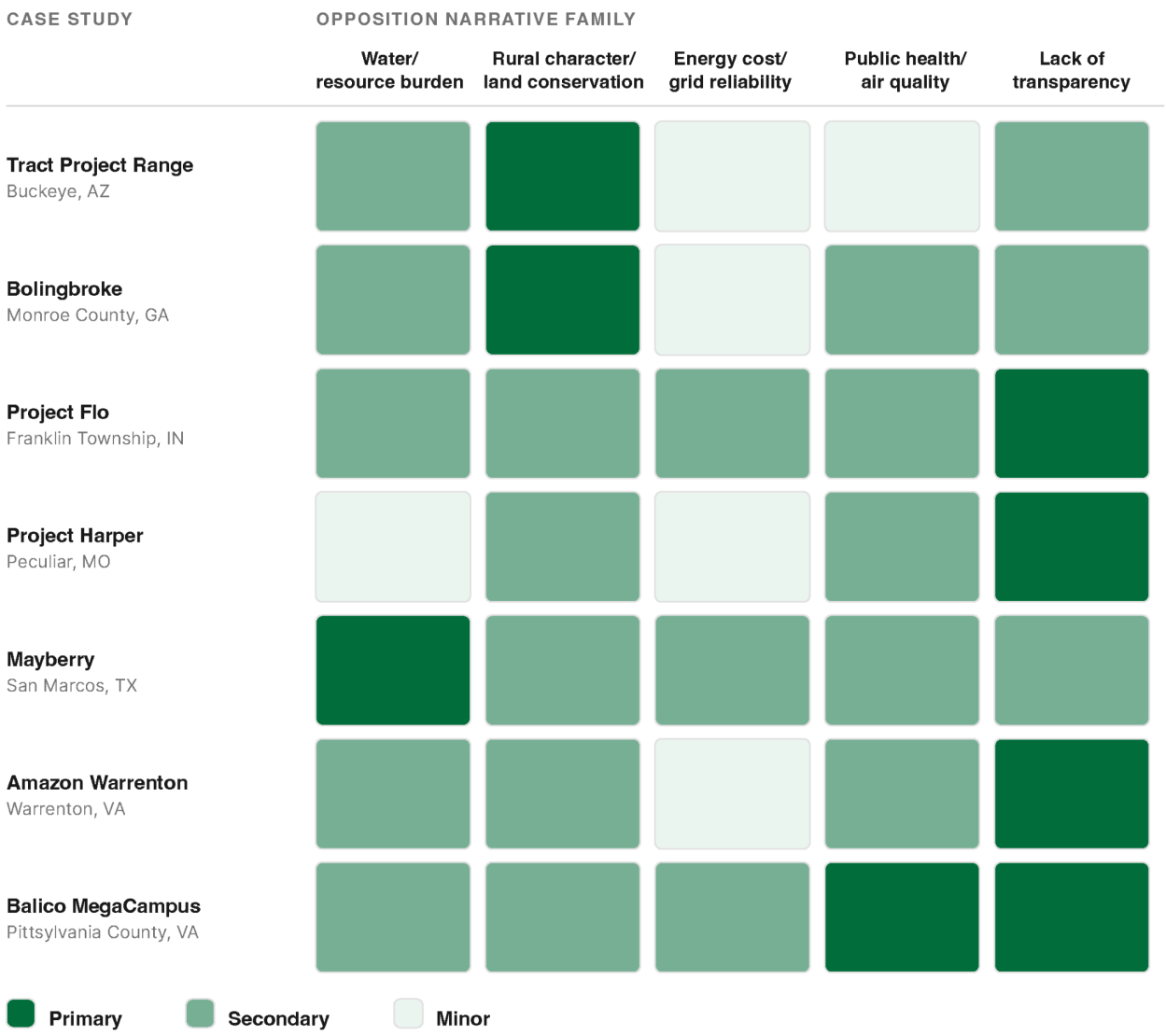

Figure 4. Cross-case coding heat map of the seven coded case studies against the five opposition-narrative families. Cell shading indicates the share of opposition-argument passages coded to each narrative family per case study. Lack of transparency is the dominant frame in the majority of cases. Source: Carbon Direct.

5. **Dedicated single-issue organization with hyperscaler stealth backfire** (Project Flo in Franklin Township, IN): Opposition to Protect Flo formed within days. Google's identity surfaced when a local public broadcasting station (WFYI) disclosed records obtained through the Access to Public Records Act.
6. **Celebrity coalition with legal expert hybrid** (Amazon Warrenton in Warrenton, VA): Opposition was led by Citizens for Fauquier County, with Robert Duvall's testimony, and an FOIA lawsuit with *amicus curiaea* support from the Reporters Committee for Freedom of the Press, all followed by electoral defeat of the approving council members.

These modes are not stages or substitutes for one another. They are different organizational forms that successfully produced the same outcome.

Local opposition often entails policy development or response

Downstream regulatory effects appear universally following community opposition to data centers. Policy emerges as a response in all seven cases, and cancellation rarely ends the regulatory action. In every case, local opposition triggered county moratoria, state legislative proposals, comprehensive plan revisions, or zoning amendments that shaped neighboring jurisdictions.

Opposition modes operate independently of demographics

The seven case studies are dispersed across demographic quadrants by design. Three are located in typical EJ communities (i.e., Mayberry, Balico MegaCampus, and with Tract Project Range on the borderline). Three sit below the national median on both income and race indicators (i.e., Bolingbroke, Project Harper and Amazon Warrenton). One is elevated for EJ concerns by the racial composition of the communities, and not by income status (i.e., Project Flo). Successful opposition in these cases ran through NGO coalitions and conservation networks. In the case studies more representative of the average American community, it ran through diffuse civic mobilization and, in one case (i.e., Amazon Warrenton), a celebrity-legal hybrid. Demographic profile did not predict which form opposition took.

Cumulative impact and preemption are common patterns

Cumulative regional impact as an opposition narrative appears in six of the seven case studies. Speakers consistently widened the lens from single project objections to regional, statewide, or grid-wide effects. State preemption and local powerlessness also show up in six of the seven case studies. Both signals suggest that opposition framing is generalizing from project-specific narratives to broader sectoral narratives.

A diagnostic framework for community-driven siting risk

Our case studies show that community opposition is structural and emerging across key patterns and concerns. These patterns repeat across geographies, organizational forms, and demographic profiles. Most developers tend to treat community engagement as a process to implement at the formal permitting stage, when community ability to influence project outcomes is at its lowest. The framework introduced here translates our case study patterns into key insights that developers and capital partners can apply at the siting and diligence stage to implement more equitable engagement practices.

A lifecycle view of risk

In **Figure 5**, we organize the development pipeline into four phases. Each phase has a characteristic community state, a set of measurable risk indicators, and a set of interventions that remain available. Two curves run across the phases: developer leverage to influence outcome declines steadily through the lifecycle while the cost of meaningful intervention rises. The two curves cross in late Phase 2 to early Phase 3, before formal public process begins. This crossover point is the relevant moment for decision-making around siting strategy.

Community engagement across the data center development life cycle

Community state	Risk indicators	Intervention windows
PHASE 1 Pre-siting		
Community typically unaware. Existing civic infrastructure (e.g., active community groups, recall mechanisms, prior-permit organizing) is the latent risk factor. Pre-existing socioeconomic and environmental burdens influence community concerns.	● Existing or pending moratoria ● Weak approach to transparency ● Regional permit history ● Host community demographic profile ● Energy or water stressed ● Rural-character discourse ● Compatible by-right zoning	→ Community risk diligence → Comparative site selection
PHASE 2 Site selection & land acquisition		
Rumors, NDAs become public or known, and incidental disclosures begin. Informal, community-level networks activate. First organized opposition often forms here.	● NDA scope and duration ● Civic infrastructure density ● Identified vs. undisclosed end-user ● Conservation-area or historic-site proximity ● Civic organizing capacity ● Alignment with local economic development priorities	→ Disclosure strategy → Pre-application engagement → Alternative site analysis → Stakeholder engagement
CASE EVIDENCE · PHASE 2 ZONING LOCKOUT **Project Harper · Diode / Peculiar** Local government amended zoning during Phase 2; project never reached Phase 3.		
PHASE 3 Public process		
Organized opposition coalesces. Coalitions form across stakeholder groups. Media coverage peaks. Public hearings draw record attendance.	● Coalition formation ● Staff recommendation alignment ● Media tone and reach ● Neighboring jurisdiction signals	→ Design modifications → Public affairs → Late-stage community benefits agreement development
CASE EVIDENCE · PHASE 3 DENIAL **Bolingbroke · Mayfield-PSH / Monroe County GA** Multi-party NDA engagement surfaced in Phase 2; record-attendance opposition produced a unanimous 5-0 Board of Supervisors denial at the Phase 3 vote.		
PHASE 4 Decision		
Outcome announced. Precedent set for neighboring jurisdictions. Community members have built capacity and can share learnings and success in the region.	● Litigation activity ● Recall or election threats ● Community coalitions continue to organize regionally	→ Dispute resolution → Lessons learned for next site → Potential for ongoing community relationships
CASE EVIDENCE · PHASE 4 WITHDRAWAL **Project Flo · Google / Indianapolis** NDA secrecy in Phase 2 left Google blind to political hardening before withdrawal.		

● High ● Moderate ● Low concern ● Project stopped

Risk indicators are illustrative diagnostic categories, not a comprehensive checklist. Severity is project- and community-specific—the indicator is what to watch, not a fixed verdict.

Figure 5. Community opposition across the data center development life cycle.. This framework maps the development pipeline across four phases, with community state, risk indicators, and intervention windows. The developer leverage and intervention cost curves cross in late Phase 2, after which interventions cost more than they return. Source: Carbon Direct.

Early risk indicators
Developers can build a diligence-stage community assessment from public sources. The leading indicators of risk are community demographics and environmental burden, prior contentious permits in the jurisdiction, water and grid stress, cumulative environmental burden across pollutants, and the density of organized civic infrastructure already in place. Recent debates about rural development and contested rezonings are the strongest single risk warning signal. Lower-risk signals exist as well such as successful regional permit precedents in adjacent jurisdictions, compatible by-right zoning, and voluntary developer disclosure practices in the local market.

Engagement timing is the central operational insight
A developer's ability to incorporate community input to help shape a more equitable outcome is highest at the earliest stages of pre-development. This is also when the cost to the developer is lowest. By the time formal permitting begins, the political path of a project is largely set. For example, in every case in our dataset that reached Phase 3, the dominant opposition frame and the core coalition were already in place before the first public hearing. The Phase 2 window is short, often only weeks, and is where the political fate of the project is typically determined.

Disclosure posture
Across our case set, the cost of data center developer stealth consistently exceeded the benefit of competitive positioning. Opposition based on a lack of transparency was the dominant pattern in four of seven case studies. Project Flo illustrates how a late-stage reveal of a major project backfires. Once Google was identified through records disclosed under the Access to Public Records Act, opposition group Protect Franklin Township had a defining narrative within days. The town of Peculiar, MO where Project Harper was sited shows a related pattern: a multi-party NDA pyramid involving the city, the developer, and the end-user produced opposition framing in which every subsequent disclosure was read as confirmation of bad faith. Concealment and a lack of transparency directly shaped how local opposition formed.

Benefits design
Based on our analyses, templated community benefits agreements negotiated under permitting pressure fail consistently. They tend to arrive at Phase 3, when the dominant opposition frame is already set and when the community reads them as concessions rather than commitments. Effective benefits design is calibrated to the host community's specific burden and vulnerability profile. EJScreen indicators are the best available diligence input for what kinds of benefits a given community is likely to value: drinking water infrastructure where wastewater burden is elevated, grid reliability and rate protection where energy burden is high, road and noise mitigation where rural-character framing dominates. Structuring benefits pre-application, with verifiable delivery, is the configuration that holds.

Recommendations and conclusion

The pattern we observed across the 46 projects in our data set and the seven coded case studies is consistent. Community opposition to AI data centers is structural, predictable, and spreading into adjacent jurisdictions through policy development. For data centers to emerge more equitably, developers must treat community engagement, transparency, and benefits design as siting strategy and capital diligence, not as compliance work at the end of the permitting process.

- **Run community risk diligence before site selection, not after.** The communities most likely to organize against a project are identifiable from public-record signals before land is optioned. The cost of switching sites is lowest at this phase, and the leverage to influence project outcome is highest.
- **Treat transparency as a siting strategy, not a legal afterthought.** Cases involving NDAs, shell LLCs, and undisclosed end users consistently faced sharper, faster-organizing opposition than cases with tenants that were named from the outset. Lack of transparency is the dominant opposition narrative in four of the seven case studies we analyzed. The legal benefits of concealment did not outweigh the political costs in our case set.
- **Engage organized civic infrastructure early.** Existing community organizations, prior-permit experience, and active recall mechanisms are the latent risk factor in Phase 1. They are also the elements that make Phase 2 engagement productive when activated early. The same civic infrastructure that produces opposition under stealth conditions produces durable agreement under disclosure conditions.
- **Design community benefits with verifiable delivery.** Templated benefits packages negotiated under hearing pressure fail to satisfy local communities. Benefits design must be calibrated to the host community's specific burden and vulnerability profile, structured pre-application, and tied to verification mechanisms that the community can monitor.
- **Track adjacent permitting history as a leading indicator.** Regional opposition propagates to adjacent jurisdictions. Policy precedent as an opposition mechanism appears in every case in our data set. A denial in one jurisdiction reshapes the political path in neighboring jurisdictions within months. Capital partners with portfolio exposure should monitor adjacent permit decisions as a leading indicator of forward project risk.

The surge in AI data center project cancellations is a structural feature of the current siting environment, not a passing wave. More than US$170 billion in announced capacity has been blocked or stalled across 20 states in just 28 months, and the rate is accelerating. The patterns revealed by our analyses are legible enough to act on. Developers and capital partners who treat community opposition as a design input, addressable through diligence, disclosure, and community benefits design, are the ones that will most likely see their projects advance to operation. The alternative is the pattern documented in this paper: late-stage cancellation, sunk capital, and a regulatory environment that hardens against the next project in the region.

Appendix A: Data center sources

This appendix documents the sources used to identify canceled, stalled, or withdrawn AI data center projects for the Carbon Direct AI Data Center Cancellations Tracker, the inclusion criteria applied to build the dataset, and the rationale for selecting the seven case studies analyzed in the body of the paper.

Sources used to identify canceled data center projects

We assembled the universe of canceled, stalled, or withdrawn AI data center projects by drawing on industry trackers, investigative reporting, state and local news coverage, government meeting records, and opposition organization documentation. The following sources were the primary inputs to the tracker.

Industry trackers and databases

- **Data Center Watch** (https://www.datacenterwatch.org): An advocacy and reporting initiative that tracks blocked and delayed data center projects in the US. Provided the most comprehensive baseline list of opposition-driven cancellations, including the cumulative dollar figure for blocked and delayed projects through 2025.
- **Data Center Dynamics** (https://www.datacenterdynamics.com/en/): A trade publication covering data center industry news, including project announcements, withdrawals, and cancellations.
- **Data Center Knowledge** (https://www.datacenterknowledge.com/): A trade publication coverage of the data center industry, used to corroborate developer details and project specifications.

Investigative reporting and analytical coverage

- **Heatmap News and Heatmap Pro:** Heatmap Pro's press-record analysis quantified the 2025 cancellation surge (i.e., from six in 2024 to 25 in 2025) and the Q1 2026 acceleration, it also identified the top community-cited concerns across contested projects. Heatmap News articles on data center opposition were used to identify specific cases and confirm timelines.
- **Construction Dive:** Coverage of project delays and cancellations attributable to public opposition and grid constraints, used to corroborate specific case details.
- **The Cool Down and SourceMaterial investigative reporting:** Long-form investigative coverage that helped identify and contextualize canceled projects, particularly the broader pattern of community pushback.
- **Local press coverage:** State and regional news outlets provided the primary record for most individual cases. Examples include Indianapolis-area public radio (WFYI) on Project Flo, Cardinal News on Pittsylvania, Kansas City-area outlets on Project Harper, San Marcos and Hays County press on Mayberry, and Fauquier-area press on Amazon Warrenton. The full per-case media inventory appears in *Appendix B*.

Government and opposition organization documentation

- **Government meeting records:** Planning Commission and Board of Supervisors agendas, minutes, vote records, and staff reports for each case were drawn from the relevant jurisdiction's public records. Where formal transcripts were not available, news coverage of public hearings supplemented the record.

- **Opposition organization websites and reports:** Case-specific opposition groups (e.g., Protect Franklin Township for Project Flo, the Coalition for the Protection of Pittsylvania County for Balico, Citizens for Fauquier County for Warrenton, the No Desert Data Center coalition for Tract Project Range, and others) produced position papers, briefings, and press releases that documented the opposition arc and the community concerns surfaced in each case.

A representative subset of the citation record for each case appears in *Appendix B*.

Inclusion criteria for the canceled data center dataset

A project was included in the Carbon Direct AI Data Center Cancellations Tracker if it satisfied five criteria.

1. **Geography:** US-based project (i.e., US states, including the District of Columbia and US territories)
2. **Time window:** Canceled, stalled, withdrawn, or otherwise prevented from advancing between January 1, 2024 and May 15, 2026
3. **AI use case:** Either announced by a hyperscaler or AI company (e.g., Microsoft, Google, Meta, Amazon, OpenAI, xAI, Oracle, and equivalents), or explicitly described in public materials as serving AI or ML workloads, with announced load of at least 100 MW where capacity was disclosed
4. **Causation:** Community opposition a primary or substantial cause of the outcome, producing regulatory denial, political reversal, electoral consequence, court ruling, zoning ordinance amendment, or developer-initiated withdrawal in response to community pressure; projects that failed for unrelated reasons (e.g., grid interconnection failure, financing collapse, unrelated permitting issue) excluded even where community opposition was coincident
5. **Documentation:** Sufficient public documentation existed to support analysis; excluded projects with only passing news mentions or unverifiable claims

This framework produced a universe of 46 projects across 20 US states. One additional project that surfaced during research (i.e., Roundhouse Digital Infrastructure in Cascade Locks, Oregon, with a 2023 outcome) fell outside the time window and was excluded.

Edge cases and judgment calls

A small number of cases required judgment:

- **Stated business reasons with substantial coincident opposition:** Where a developer cited a business reason for withdrawal but organized opposition was clearly present and contextually decisive, the case was included with a note in the tracker.
- **Jurisdictional repositioning:** Where a developer withdrew at one layer of government and refiled at another within the time window, the case counted once as a qualifying cancellation. The original Tract Project Range proposal in Buckeye, AZ is a tracked case; the subsequent Tract project elsewhere in the Phoenix area is excluded from the cancellation universe and treated as a contrast case for the discussion section.
- **Approved-but-contested cases:** Cases where the project was formally approved but where opposition continued through litigation, electoral consequence, or court ruling were included if the eventual outcome materially halted or altered the project. The Amazon Warrenton case is the canonical example: a 4-3 Council approval in February 2023 was

followed by electoral defeat of all four approving councilmembers in November 2024, a new-Council reversal of the approval, and a Virginia Circuit Court ruling that the original Special Use Permit was illegal.

Case selection criteria for the seven deep-dive case studies

From the dataset, we selected seven cases for deep-dive qualitative analysis. Case selection balanced six dimensions.

1. **Geographic coverage:** Selection mirrored the underlying geographic distribution of the 46-project universe. Virginia accounts for 11 of the 46 projects (24%), so two case studies were selected from Virginia (i.e., Amazon Warrenton in Fauquier County and Balico MegaCampus in Pittsylvania County). Indiana accounts for 7 of the 46 projects (15%), and one case study was selected from Indiana (Project Flo). The remaining four cases were selected from Arizona (Tract Project Range), Georgia (Bolingbroke), Missouri (Project Harper), and Texas (Mayberry) to provide regional variation and capture emerging areas of data center development.
2. **Project size and developer type:** Cases were selected to span small to very large project scales, and to include both hyperscaler-led projects (i.e., Google in Project Flo, Amazon in Warrenton, Amazon in the original Project Blue intent for Tucson) and dedicated data center developer projects (i.e., Tract, Diode Ventures, Highlander SM One, Balico, the undisclosed parent in Bolingbroke).
3. **Opposition narrative variation:** Cases were selected to surface the full range of dominant opposition narratives identified across the 46-project universe: water and resource burden (e.g., Mayberry), rural character and conservation (e.g., Tract Project Range, Bolingbroke), public health and air quality (e.g., Balico), energy cost and reliability (e.g., Project Flo), and process and transparency (e.g., Project Harper, Amazon Warrenton, Pittsylvania, Project Flo).
4. **Opposition mode variation:** Cases were selected to surface six distinct opposition modes: institutional staff veto, diffuse civic mobilization in conservative-rural areas, NGO coalition with expert testimony, conservation coalition with co-located gas-plant catalyst, dedicated single-issue organization with hyperscaler-stealth backfire, and celebrity-coalition with legal-expert hybrid. The six modes are documented in detail in the body of the paper.
5. **Mechanism of outcome variation:** Cases were selected to include all five outcome categories identified in the cancellation typology: developer withdrawal (e.g., Tract, Project Flo), formal denial by planning commission or board (e.g., Bolingbroke, Mayberry, Pittsylvania), withdrawn-and-revised in modified form (none in the seven), zoning ban (e.g., Project Harper), and stalled through court order or electoral defeat (e.g., Amazon Warrenton).
6. **Documentation density:** Each selected case had a sufficient public-record archive (typically 50 to 120 unique source documents) to support evidence-grounded qualitative analysis. Cases with thinner public records were noted in the tracker but not selected for deep-dive analysis.

Tracker construction process

The tracker was built in four steps.

1. **Initial source review:** We compiled a candidate list of canceled data center projects from Data Center Watch, Data Center Dynamics, Data Center Knowledge, Heatmap Pro tracking, and a structured search across state and local news outlets and government meeting records.
2. **Inclusion testing:** We tested each candidate against the five inclusion criteria described above. Candidates that failed any criterion were excluded with a note.
3. **Case-by-case validation:** We verified each included case through a separate web search to confirm the outcome date, the cause, the developer, and the project specifications. Where details conflicted across sources, the most authoritative source (typically a government record or named news report) was preferred.
4. **Tracker assembly and quality review:** Verified cases were entered into the tracker with structured fields for case number, project name, developer, developer type, location, ZIP code, announced capacity, announced investment, outcome date, outcome category, primary opposition narratives, and notes on edge cases. The tracker received a quality review pass before being used for the body analyses.

Limitations of the source-gathering process

Two limitations apply to the data gathering work and should be read in conjunction with notes in *Appendix C* on the demographic methodology.

1. **The tracker is a curated, non-exhaustive, record of opposition-driven cancellations.** Cases that surfaced only in local press that were not captured by our search, or that were resolved without significant public-record documentation, may have been missed. The 46-project count is our best estimate of the documented universe within the time window, not a complete census.
2. **Source quality varies across cases.** Cases with strong investigative reporting (e.g., Project Flo with WFYI's coverage, Pittsylvania with Cardinal News and SELC documentation) had richer public records than cases that received only modest press attention. The variation is reflected in the per-case source counts in *Appendix B* and was a factor in case selection for the deep-dive analysis.

Appendix B: Public records and qualitative data sources

This appendix lists the public-record sources consulted in the case-study analysis for each of the seven cases. Sources are grouped by type: government records, opposition organization documents, media coverage, and third-party reports. Each case shows a representative subset of 10–15 sources across categories. Full per-case inventories (totaling roughly 410 source files across the seven cases) are on file with the authors.

Tract Project Range (Buckeye, AZ)

Government records

- Maricopa County, Planning & Development Department. Project Range rezoning and CPA application portal; received Tract's withdrawal letter (Apr 18, 2024). https://www.maricopa.gov/797/Planning-Development
- Maricopa County, Planning & Zoning Commission. Body that would have heard Project Range. https://www.maricopa.gov/383/Planning-Zoning-Commission
- Maricopa County, Board of Supervisors. Final approval authority for rezoning. https://www.maricopa.gov/324/Board-of-Supervisors-Meeting-Information
- City of Goodyear, Planning & Zoning. Drafted Goodyear's opposition letter (Dec 2023, by Senior Planner David Williams). https://www.goodyearaz.gov/government/departments/engineering-development-services/development-services/planning-zoning
- City of Goodyear, Zoning Ordinance. Includes 50-ft height limit Goodyear cited in opposition. https://www.goodyearaz.gov/government/departments/engineering-development-services/development-services/planning-zoning/zoning-ordinance
- City of Buckeye. Submitted opposition letter to Maricopa County. https://www.buckeyeaz.gov/

Opposition organization documents

- InBuckeye.com. "Small group of petition signers concerned over water for data centers" (2025–2026). Documents the Change.org petition against Buckeye data center water use. https://inbuckeye.com/business/small-group-of-petition-signers-concerned-over-water-for-data-centers/
- Change.org. "Investigate City of Buckeye Water Company and Arizona Corporation Commission" petition. https://www.change.org/p/arizona-state-house-arizona-state-senate-arizona-governor-investigate-city-of-buckeye-water-company-and-arizona-corporate-commission

Media coverage

- ABC15 (KNXV). "$14B West Valley data center project request withdrawn after cities push back" (Apr 30, 2024). https://www.abc15.com/news/business/14-billion-west-valley-data-center-project-request-withdrawn-after-cities-push-back
- YourValley/Goodyear Independent. "Developer pulls Goodyear-area data center application amid grassroots, municipal opposition" (May 2024). https://www.yourvalley.net/goodyear-independent/stories/developer-pulls-goodyear-area-data-center-application-amid-grassroots-municipal-opposition,506154

- The Real Deal. “Tract drops $14B plan to build data centers outside Phoenix” (May 2, 2024). https://therealdeal.com/national/phoenix/2024/05/02/tract-drops-14b-plan-to-build-data-centers-outside-phoenix/
- YourValley / Daily Independent. “Goodyear-area 529-acre AI data center campus application draws opposition, water.” https://www.yourvalley.net/stories/goodyear-area-529-acre-ai-data-center-campus-application-draws-opposition-water,484602
- KJZZ (NPR Phoenix). “Tech giants signed pledge to pay for data center power, but it doesn’t apply to 3 Arizona projects” (Mar 8, 2026). https://www.kjzz.org/politics/2026-03-08/tech-giants-signed-pledge-to-pay-for-data-center-power-but-it-doesnt-apply-to-3-arizona-projects
- AZBEX (Arizona Builder’s Exchange). “Massive data center master plan proposed in West Valley” (March 2024). https://azbex.com/planning-development/massive-data-center-master-plan-proposed-in-west-valley/

Third-party reports

- Data Center Watch. National opposition tracker; documents Tract Project Range withdrawal. https://www.datacenterwatch.org/report

Bolingbroke Technology Center (Monroe County, GA)

Government records

- Monroe County, GA. Dedicated project landing page: “Data Center Rezoning.” https://www.monroecoga.org/data-center-rezoning/
- Monroe County Board of Commissioners. Meeting minutes, Aug 5, 2025 unanimous denial vote (PDF). Documents public comment, attorney Michael Hill testimony, noise projections (35–80 dB), Army Corps wetlands discussion. https://www.monroecoga.org/wp-content/uploads/2025/09/08-05-2025-Regular-Meeting-minutes.pdf
- Monroe County Board of Commissioners. Meeting minutes, Sept 9, 2025 (PDF). Context on 900+ acre rezoning and 328-acre addition. https://www.monroecoga.org/wp-content/uploads/2025/10/09-09-25-Regular-Meeting-Minutes.pdf
- Monroe County Board of Commissioners. Meeting minutes, Dec 2, 2025 (PDF). Post-denial context, moratorium, ordinance rewrite. https://www.monroecoga.org/wp-content/uploads/2025/12/12-02-2025-Regular-Meeting-minutes.pdf
- Georgia Department of Community Affairs. State DRI submissions portal; Bolingbroke Technology Campus DRI filed May 2025. https://apps.dca.ga.gov/DRI/Submissions.aspx

Opposition organization documents

- Monroe/Macon Reporter Facebook group. Public venue for opposition organizing. https://www.facebook.com/groups/mcreporter/
- Historic Bolingbroke, Ga. Facebook community page. https://www.facebook.com/Historic-Bolingbroke-Ga-413579758788061/

Media coverage

- Monroe County Reporter (mymcr.net). "Seeking data center, Ingram pays $408,000+ in back taxes" (April 2025). https://www.mymcr.net/news/seeking-data-center-ingram-pays-408-000-in-back-taxes/article_fcfc8c8e-584f-49d1-a505-3351d60e0aa6.html
- Monroe County Reporter. Sloan Oliver editorial: "JUST THE WAY IT IS: Why data centers, and what are they?" (April 23, 2025). https://www.mymcr.net/news/just-the-way-it-is-why-data-centers-and-what-are-they/article_b0d9e782-5a42-4a56-b94d-366de5cef069.html
- 13WMAZ (CBS Macon). "I'm so grateful: Monroe County commissioners unanimously reject $6 billion data center proposal" (Aug 5, 2025). https://www.13wmaz.com/article/news/local/forsyth-monroe/im-so-grateful-monroe-county-commissioners-unanimously-reject-6-billion-data-center-proposal-community/93-737f9c3b-893f-4dab-adf5-e81a4daee173
- Georgia Public Broadcasting. "Despite the promise of millions of dollars every year, Monroe County says no to a data center" (Aug 6, 2025). https://www.gpb.org/news/2025/08/06/despite-the-promise-of-millions-of-dollars-every-year-monroe-county-says-no-to-data
- Truthout. "Want to Resist a Data Center? These Organizers Share How They Did It" (April 2026). Features Bolingbroke as case study. https://truthout.org/articles/want-to-resist-a-data-center-these-organizers-share-how-they-did-it/

Third-party reports

- Georgia Trend Magazine. "Data Center Dominance" (Dec 31, 2025). https://www.georgiatrend.com/2025/12/31/data-center-dominance/

Project Flo / Google (Franklin Township, Marion County, IN)

Government records

- Marion County Metropolitan Development Commission, Hearing Examiner. Agenda packet, June 12, 2025, for rezoning case 2025-CZN-814 / 2025-CVR-814. https://indianapolis-in.municodemeetings.com/sites/indianapolis-in.municodemeetings.com/files/fileattachments/mdc_hearing_examiner/meeting/5011/6-12-2025_he_agenda.pdf
- MDC Hearing Examiner. Filed remonstrance / letter of opposition (July 16, 2025, PDF) for the 468-acre rezoning. https://indianapolis-in.municodemeetings.com/sites/indianapolis-in.municodemeetings.com/files/fileattachments/mdc_hearing_examiner/meeting/5099/2025-czn-814_2025-cvr-814_-_remonstrance_mdc_7-16-25.pdf
- Indianapolis City-County Council. Current council proposals portal. https://www.indy.gov/activity/current-council-proposals
- City of Indianapolis, Department of Metropolitan Development. Agency landing page. https://www.indy.gov/agency/department-of-metropolitan-development
- Councilor Michael-Paul Hart (District 20, Franklin Township). Council statement post on the Google data center debate. https://www.michaelpaulhart.com/post/google-data-center-indianapolis-council-debate

Opposition organization documents

- Protect Franklin Township. Primary grassroots organizing hub on Facebook; led by Andrew Filler. https://www.facebook.com/p/Protect-Franklin-Township-61574772662657/
- Change.org. "Halt the proposed data center land development in Franklin Township" petition; grew from ~2,400 to 7,000+ signatures. https://www.change.org/p/halt-the-proposed-data-center-land-development-in-franklin-township
- Franklin Township Civic League. Hosted informational forums; helped negotiate Google's 35 commitments. https://www.ftcivicleague.org/
- Citizens Action Coalition of Indiana. "27 public interest organizations call for moratorium" press release. https://www.citact.org/news/27-public-interest-organizations-call-indiana-local-governments-enact-data-center-moratorium
- Hoosier Environmental Council. Data centers issue page. https://www.hecweb.org/data-centers/
- Indianapolis Liberation Center. "Google's thirst: data center threatens Indy's water and power" (July/August 2025). https://indyliberationcenter.org/franklin-township-organizes/

Media coverage

- WFYI (NPR Indianapolis). "Previously unnamed company behind proposed Indy data center named in new documents" (July 1, 2025). Broke the Google reveal. https://www.wfyi.org/wfyi-news/2025-07-01/previously-unnamed-company-behind-proposed-indy-data-center-named-in-new-documents
- WTHR (NBC 13). "Google pulls plan minutes before vote" (Sept 22, 2025). Cancellation moment. https://www.wthr.com/article/news/local/indianapolis-franklin-township-google-data-center-plan-pulled-after-city-county-council-discussion/531-b8223650-5721-4108-a927-9ac38d894b3e
- Mirror Indy. "16 councilors oppose Google's data center; is the proposal dead?" (September 2025). https://mirrorindy.org/indianapolis-city-county-council-oppose-google-data-center-proposal-southside-franklin-township/
- Futurism. "Residents shut down Google data center" (September 2025). https://futurism.com/future-society/residents-shut-down-google-data-center
- PPC Land. "How Indianapolis residents beat Google's $1 billion data center proposal." Long-form analysis. https://ppc.land/how-indianapolis-residents-beat-googles-1-billion-data-center-proposal/

Third-party reports

- Data Center Watch (Substack). Briefing 09/26/2025 covering Project Flo withdrawal. https://datacenterwatch.substack.com/p/briefing-09262025

Harper Road Technology Park (Peculiar, MO)

Government records

- City of Peculiar, Board of Aldermen. Agendas and minutes archive (includes June, Aug 19, and Oct 21, 2024 packets). https://www.cityofpeculiar.com/agendalist.aspx?categoryid=11071
- City of Peculiar, Planning Commission. Agendas/minutes archive covering Sept/Oct 2024 rezoning recommendations. https://www.cityofpeculiar.com/agendalist.aspx?categoryid=11095
- City of Peculiar, Planning Division. Zoning ordinance and application process page. https://www.cityofpeculiar.com/8096
- City of Peculiar, Board of Aldermen and Mayor. Official body page; meets 1st and 3rd Mondays. https://www.cityofpeculiar.com/6723/board-of-aldermen-and-mayor
- Cass County (MO) Commissioners. https://www.casscounty.com/2209/Commissioners

Opposition organization documents

- "Don't Dump Data on Peculiar!" Change.org petition opposing 508-acre Harper Road campus (July 27, 2024). https://www.change.org/p/don-t-dump-data-on-peculiar
- Peaceful Peculiar. Research page compiling noise, light, water, air, electrical, and health/safety research on hyperscale data centers. https://www.peacefulpeculiar.org/research.html
- Peaceful Peculiar. "Don't Dump Data" campaign flyer (PDF, 2024). https://www.peacefulpeculiar.org/uploads/1/5/0/3/150368424/dontdumpdataflyer.pdf
- Peaceful Peculiar. "Response to Mayor" (Sept 21, 2024). https://www.peacefulpeculiar.org/news–updates/response-to-mayor
- Peaceful Peculiar. "The Cloud Is Not Silent" blog post on data center noise impacts. https://www.peacefulpeculiar.org/news–updates/the-cloud-is-not-silent

Media coverage

- North Cass Herald. "Peculiar places 100-day moratorium on data centers" (August 2024). https://www.northcassherald.com/post/peculiar-places-100-day-moratorium-on-data-centers
- KSHB 41 News. "Peculiar reverses zoning for data center after cries from neighbors" (Oct 22, 2024). https://www.kshb.com/news/local-news/peculiar-reverses-zoning-for-data-center-after-cries-from-neighbors
- Fox 4 KC (WDAF-TV). "Peculiar starts process that would block data center development" (October 2024). https://fox4kc.com/news/peculiar-starts-process-that-would-block-data-center-development/
- Tribune and Times. "City of Peculiar announces 504-acre development for data storage facility" (January 2024). Initial announcement. https://tribuneandtimes.com/stories/city-of-peculiar-announces-504-acre-development-for-data-storage-facility,7639
- Yahoo News (Washington Post syndication). "Fighting back data centers, one small town at a time" (October 2024). https://www.yahoo.com/news/fighting-back-data-centers-one-011652561.html

Third-party reports

- Data Center Watch. National report on $64B in blocked/delayed projects; lists Peculiar. https://www.datacenterwatch.org/report
- Missouri Data Centers (missouridatacenters.org). Tracker of proposed Missouri AI data centers by county; includes Peculiar/Harper Road. https://missouridatacenters.org/
- The Maybe. "Where Cloud Meets Cement: A case study analysis of data center development." Research report (2025). https://cdn.prod.website-files.com/680949ac5f1b50bd51e4a964/682e72957dd411556eaeb230_The%20Maybe_Where%20cloud%20meets%20cement-%20a%20case%20study%20analysis%20of%20data%20center%20development.pdf

Highlander SM One / Mayberry Data Center (San Marcos, TX)

Government records

- City of San Marcos. News flash (PSA-25-02 Preferred Scenario Amendment) for Francis Harris Lane Mayberry Data Center. https://www.sanmarcostx.gov/m/newsflash/home/detail/2525
- City of San Marcos. News flash (Zoning Change ZC-25-13, FD/CD 2.5 to LI). https://www.sanmarcostx.gov/m/newsflash/home/detail/2526
- City of San Marcos. Council Recap, Aug 19, 2025. Documents PSA failure of supermajority and 64-acre annexation first reading. https://www.sanmarcostx.gov/4630/August-19-2025-City-Council-Recap
- San Marcos City Council. Final 5-2 denial vote meeting minutes (Feb 17, 2026). https://www.sanmarcostx.gov/AgendaCenter/City-Council-4
- City of San Marcos. Council forum thread for Item 09 (PSA / Data Center). https://councilforum.sanmarcostx.gov/index.php?threads%2Fitem-09-data-center-preferred-scenario-map-of-the-city%E2%80%99s-comprehensive-plan-from-the-designation-of-conservation-cluster-to-commercial-employment-low.5411%2F=

Opposition organization documents

- Save Our Springs Alliance (SOS). Data Center Action campaign page. https://www.sosalliance.org/data-center-action.html
- Save Our Springs Alliance. "San Marcos rejects CyrusOne data center over water, energy concerns" (August 2025 victory statement). https://www.sosalliance.org/news/san-marcos-rejects-cyrusone-data-center-over-water-energy-concerns
- Hill Country Alliance. "Data Centers and Water Usage" community guide (PDF, Dec 4, 2025). https://hillcountryalliance.org/wp-content/uploads/2025/12/Data-Centers-and-Water-Usage_Updated-12.4.2025.pdf
- Greater Edwards Aquifer Alliance (GEAA). "AI Could Be Draining Our Future" fact sheet (PDF, July 2025). https://aquiferalliance.org/wp-content/uploads/2025/07/AI-Water-Fact-Sheet.pdf
- Central Texas Data Center Tracker. Highlander SM One project page. https://centexdatacenters.org/projects/highlander-sm-one

- Public Citizen. “Across Texas grassroots resistance meets the AI data center boom.” https://www.citizen.org/news/across-texas-grassroots-resistance-meets-the-ai-data-center-boom/
- Change.org. “Protect our community: say NO to invasive data centers.” https://www.change.org/p/protect-our-community-say-no-to-invasive-data-centers

Media coverage

- KUT (NPR). “San Marcos City Council blocks proposed data center” (Feb 18, 2026). https://www.kut.org/energy-environment/2026-02-18/san-marcos-city-council-blocks-proposed-data-center
- CBS Austin. “San Marcos City Council votes 5-2 to deny AI data center proposal” (Feb 18, 2026). https://cbsaustin.com/news/local/san-marcos-city-council-votes-5-2-to-deny-ai-data-center-proposal
- Texas Tribune. “Can local officials stop data centers?” (Feb 13, 2026). Statewide framing piece running into the Feb 17 vote. https://www.texastribune.org/2026/02/13/texas-data-centers-local-governments-power/
- Deceleration. “Data center lessons from a San Marcos coalition’s defeat of an AI data center” (February 2026). Treats the coalition as case subject; key narrative document. https://deceleration.news/data-center-lessons-from-a-san-marcos-coalitions-defeat-of-an-ai-data-center/
- Community Impact. “San Marcos council denies map change, stops data center development” (Feb 18, 2026). https://communityimpact.com/austin/san-marcos-buda-kyle/government/2026/02/18/san-marcos-council-denies-map-change-stops-data-center-development/

Third-party reports

- Data Center Watch. Report page tracking blocked/delayed projects ($64B); includes Highlander SM One. https://www.datacenterwatch.org/report
- Greater Edwards Aquifer Alliance. Report (April 2026) sounding the alarm on proposed Texas data centers. Coverage: https://communityimpact.com/austin/san-marcos-buda-kyle/government/2026/05/01/greater-edwards-aquifer-alliance-releases-report-to-guide-data-center-development/

Balico MegaCampus (Pittsylvania County, VA)

Government records

- Pittsylvania County, Board of Supervisors. Agenda packet (PDF) for the April 15, 2025 meeting (the Balico denial vote). https://weblink.pittgov.net/WebLink/edoc/533038/04-15-2025%20Business%20Meeting%20Agenda%20Packet.pdf?dbid=0&repo=PittGovDocs
- Pittsylvania County. News release: “Board denies Balico rezoning for power plant and data centers” (Apr 17, 2025). https://www.pittsylvaniacountyva.gov/Home/Components/News/News/930/15
- Pittsylvania County. News release: “Planning Commission recommends denial” (Jan 8, 2025). https://www.pittsylvaniacountyva.gov/Home/Components/News/News/854/15

- Pittsylvania County (Facebook). Official video of April 15 special-called BoS meeting. https://www.facebook.com/pittsylvaniacountyva/videos/the-pittsylvania-county-board-of-supervisors-reconvenes-its-special-called-meeti/396036656892844/
- Pittsylvania County (LaserFiche). Public records portal where Balico packets and minutes are archived. https://weblink.pittgov.net/WebLink/

Opposition organization documents

- Southern Environmental Law Center (SELC). "Public Health Impacts Analysis Balico Gas Plant Final Report" (Harvard Dominici Lab, Apr 12, 2025, PDF). https://www.selc.org/wp-content/uploads/2025/04/2025.04.12-Public-Health-Impacts-Analysis-Balico-Gas-Plant-FINAL-REPORT.pdf
- SELC. Press release: "Report from Harvard Data Science Initiative and Dominici Lab warns of serious health impacts" (April 2025). https://www.selc.org/press-release/report-from-harvard-data-science-initiative-and-dominici-lab-warns-of-serious-health-impacts-and-associated-costs-from-balico-llcs-proposed-gas-plant-in-pittsylvania-county-virginia/
- SELC. "A rural Virginia county is a case study in community" feature. https://www.selc.org/news/a-rural-virginia-county-is-a-case-study-in-community/ - Virginia Conservation Network. "Data Center and Gas Plant DENIED in Pittsylvania." https://vcnva.org/denying-balico-data-center-and-gas-plant/
- Appalachian Voices. "Rural Virginia community defeats gas plant and data center proposal" (July 9, 2025). https://appvoices.org/2025/07/09/community-defeats-gas-plant-and-data-center-proposal/
- Chesapeake Climate Action Network (CCAN). Victories page. https://chesapeakeclimate.org/victories/
- Change.org. "Prevent the construction of the proposed power plant and data centers in Chatham, VA" petition. https://www.change.org/p/prevent-the-construction-of-the-proposed-power-plant-and-data-centers-in-chatham-va

Media coverage

- Danville Register & Bee. "Pittsylvania supervisors reject data center, bringing hugs, cheers" (Apr 15, 2025). The denial moment. https://godanriver.com/news/local/government-politics/article_03e4656b-612e-41fd-84f0-d52949700f7f.html
- Cardinal News. "A grassroots fight against data centers builds in rural Pittsylvania County" (Apr 14, 2025). https://cardinalnews.org/2025/04/14/a-grassroots-fight-against-data-centers-builds-in-rural-pittsylvania-county/
- Grist. "This rural community fought one of the country's biggest gas-powered data centers, and won." https://grist.org/energy/this-rural-community-fought-one-of-the-countrys-biggest-gas-powered-data-centers-and-won/
- DeSmog. "From farms to data centers: the natural gas industry's newest sales pitch comes to Virginia's Pittsylvania County" (Apr 14, 2025).

https://www.desmog.com/2025/04/14/from-farms-to-data-centers-the-natural-gas-industrys-newest-sales-pitch-comes-to-virginias-pittsylvania-county/
- Chatham Star-Tribune. "County denies Balico withdrawal, rejects rezoning request" (Apr 15, 2025). https://www.chathamstartribune.com/news/article_a03be2a6-06cb-4c94-9284-67c2658a3908.html
- The Daily Yonder. "This rural community fought the country's second biggest gas-powered data center, and won" (June 17, 2025). https://dailyyonder.com/this-rural-community-fought-the-countrys-second-biggest-gas-powered-data-center-and-won/2025/06/17/

Third-party reports

- WHRO (PBS/NPR). Coverage of $64B in data centers stalled by community pushback, citing Balico (May 23, 2025). https://www.whro.org/environment/2025-05-23/report-highlights-community-pushback-stalling-64-billion-in-data-center-development-nationwide

Amazon Warrenton Data Center (Warrenton, VA)

Government records

- Town of Warrenton, Town Council. Regular meeting (Feb 14, 2023) packet portal — Municode public portal entry for the meeting at which the 4-3 vote to approve Amazon's Special Use Permit occurred. https://meetings.municode.com/adaHtmlDocument/index?cc=WARRNTONVA&me=ffcaa83e9b3a4963a8f97c5f54f4ed09&ip=True
- Town of Warrenton. Special Use Permit Materials portal; Amazon application filed as SUP-22-3, Parcel ID 6984-69-2419-000. https://www.warrentonva.gov/506/Special-Use-Permit-Materials
- Town of Warrenton, Board of Zoning Appeals. Sidley Austin LLP filing on behalf of Amazon Data Services (BZA item attachment). https://mccmeetingspublic.blob.core.usgovcloudapi.net/warrntonva-meet-f6462a15a41642e0a3568c0ad292af15/ITEM-Attachment-001-2f2dc7ba6a5543959341f9928a1d5387.pdf
- Town of Warrenton. Agenda Center; central portal for council and board agendas, minutes, packets. https://www.warrentonva.gov/agendacenter
- Town of Warrenton. Meeting archives & minutes. https://warrentonva.gov/483/Meeting-Archives

Opposition organization documents

- Citizens for Fauquier County (CFFC). Data Centers issue page; central hub for opposition campaign materials. https://www.citizensforfauquier.org/data-centers-overview
- CFFC. Press release announcing the March 16, 2023 Fauquier Circuit Court lawsuit to overturn the Town Council SUP approval. https://www.citizensforfauquier.org/post/press-release-suit-filed-to-overturn-amazon-data-center-approval
- CFFC. Press release: "CFFC's Zoning Board Appeal on Amazon Data Center rejected illegally by Warrenton officials" (May 2024).

https://www.citizensforfauquier.org/post/press-release-cffc-s-zoning-board-appeal-on-amazon-data-center-rejected-illegally-by-warrenton-offi

- CFFC. "Warrenton Watch" page tracking Town of Warrenton developments. https://www.citizensforfauquier.org/warrentonwatch
- Reporters Committee for Freedom of the Press. Amicus case page: Citizens for Fauquier County v. Town of Warrenton (FOIA matter). https://www.rcfp.org/briefs-comments/citizens-for-fauquier-v-warrenton/
- Piedmont Environmental Council. Position page: Warrenton transmission line proposal. https://www.pecva.org/warrenton-transmission-line/
- Piedmont Environmental Council. Statement following the Feb 14, 2023 4-3 Town Council vote. https://www.pecva.org/region/fauquier/4-3-vote-to-approve-amazons-warrenton-data-center/
- Protect Fauquier. Candidate endorsement page (Eric Gagnon). https://protectfauquier.com/eric-gagnon

Media coverage

- Fauquier Now. "Warrenton Town Council approves Amazon data center proposal" (Feb 15, 2023). 4-3 vote. https://www.fauquiernow.com/news/business/warrenton-town-council-approves-amazon-data-center-proposal/article_3913e82e-ad0a-11ed-83f3-538a8a5bb411.html
- Fauquier Now. "Oscar winner Robert Duvall attends Warrenton Town Council meeting to oppose Amazon data center." https://www.fauquiernow.com/news/oscar-winner-robert-duvall-attends-warrenton-town-council-meeting-to-oppose-amazon-data-center/article_10eb8d7c-acdb-11ed-9766-9b8a685fa714.html
- Prince William Times. "Warrenton Town Council election results were 'referendum on Amazon'" (November 2024). https://www.princewilliamtimes.com/news/warrenton-town-council-election-results-were-referendum-on-amazon/article_3addfcaa-4ef5-59f2-af36-1d36d78f6ad9.html - WUSA9. "Oscar-winning actor Robert Duvall testifies against Amazon data center" (February 2023). https://www.wusa9.com/article/news/local/oscar-winning-actor-robert-duvall-testifies-against-amazon-data-center/65-0352f865-3514-43e1-b140-7b754dcfa3d0 - Inside NoVa.
- "Despite opposition, Warrenton Town Council approves Amazon data center proposal" (Feb 15, 2023). https://www.insidenova.com/headlines/despite-opposition-warrenton-town-council-approves-amazon-data-center-proposal/article_192c7455-296f-5d51-88a2-3d5799bacba4.html

Third-party reports

- Data Center Dynamics. "The Amazon factor in Virginia" analysis. https://www.datacenterdynamics.com/en/analysis/the-amazon-factor-in-virginia/
- Loudoun Now. "Supreme Court upholds overhead Aspen to Golden power lines." Relevant transmission-line precedent. https://www.loudounnow.com/news/supreme-court-upholds-overhead-aspen-to-golden-power-lines/article_075e7437-6fee-4e7c-a4de-c053d878e73d.html

Appendix C: Notes on data and methodology

This appendix consolidates methodological detail that supports the demographic and environmental burden findings in the main text, and provides insights into technical decisions.

Geographic mismatch: ZIP versus block group

The two demographic data layers in this paper sit on different US Census geographies, and the paper treats them as independent triangulating signals rather than aggregating them.

EJScreen data is published exclusively at the US Census block group level (i.e., approximately 242,336 block groups nationally; v2.3 uses the 2020 Census vintage). Per-project EJScreen summaries are computed across the block groups whose geometry intersects a 1-, 3-, or 10-mile buffer drawn around each project's coordinates. The 3-mile buffer is canonical and corresponds to the buffer distance described as the National Environmental Policy Act gold standard in the EPA's 2016 *Promising Practices for EJ Methodologies in NEPA Reviews*. The 1-mile and 10-mile buffers are reported as sensitivity analyses.

The American Community Survey (ACS) median household income figures, by contrast, are pulled at the ZIP Code Tabulation Area (ZCTA) level from the project tracker. ZCTAs typically do not align with the 3-mile buffer geometry. In rural cases, the ZCTA is often much larger than the 3-mile buffer; in dense urban cases it is often much smaller. The two layers therefore measure overlapping but non-identical communities and cannot be aggregated meaningfully.

The paper handles this by reporting the EJScreen block-group readout and the ACS ZIP-level readout side by side as independent evidentiary inputs. Where the two converge (e.g., low EJScreen low-income percentile and above-median ZIP-level household income), the convergence strengthens the descriptive claim. Where they diverge (e.g., the Tucson case, where the ZIP-level household income is far below the national median but the EJScreen block-group rank is also extreme), the divergence is noted in the case-level discussion rather than averaged away.

Summary statistic: unweighted median of percentile ranks

The EJScreen per-project summaries reported throughout the paper use the unweighted median of the EJScreen national percentile rank across the block groups intersecting the buffer. Every block group is weighted equally regardless of population or the fraction of its geometry inside the buffer.

This is not the EPA's documented buffer summary method. The EPA's *Buffer Reports*, per Technical Documentation v2.3 §6, compute a population-weighted average of the underlying raw indicator value across all block groups whose internal points fall in the buffer, then re-rank that single weighted-average raw value against the national distribution. The EPA method produces one re-ranked percentile per indicator per buffer. The method used in this paper produces a median across the within-buffer block-group percentile ranks.

The two methods do not produce identical numbers and in some cases will not produce the same ordinal rank. Compared to EPA's population-weighted method, the approach using an unweighted median of percentiles has several distinctions:

- It gives equal weight to every block group, so a sparsely populated rural block group on the edge of a buffer counts the same as a dense block group near the project site.
- It compresses the distribution toward the middle, since medians of percentiles tend on average to sit closer to 50 than population-weighted reranked values.
- It disregards the fraction of the block group's geometry inside the buffer.
- It loses the underlying raw values. A claim like "PM2.5 cluster median percentile rank is 49" does not tell the reader whether the underlying PM2.5 concentration is 8 or 9 micrograms per cubic meter.

What the unweighted-median method captures well is the central-tendency rank position of the block groups in the buffer. It is appropriate for the descriptive question "where in the national distribution do the block groups near this project sit?" and is reported in that frame throughout the paper. The qualitative direction of the findings (i.e., that the 46-project set is distributed near the national center rather than concentrated in EJScreen-flagged communities) is robust to either summary method. Precise percentile values would shift in a population-weighted recomputation, and a future researcher reusing these figures in a quantitative regression context would need to recompute.

Threshold of concern: the 80th-percentile rationale

The paper reports demographic findings at two thresholds: the 50th-percentile cut and the 80th-percentile cut. The 50th-percentile cut is a descriptive choice, useful for quadrant analysis and for asking how the 46-project set is distributed relative to the median US block group. It is not the EPA's threshold of concern.

The EPA's documented screening starting point for environmental justice concerns is the national 80th percentile (Technical Documentation v2.3 §5, "Thresholds"). We reports the 80th-percentile cut alongside the 50th-percentile cut so readers can see both reads: (1) at the 80th-percentile threshold on percent people of color (P_PEOPCOLORPCT ≥ 80, 3-mile buffer), 4 of 46 projects qualify (i.e., Tucson; Buck Creek, IN; Ashton Ave, VA; Seattle City Light), which is is 8.5%; and (2) at the 80th-percentile threshold on percent low income (P_LOWINCPCT ≥ 80, 3-mile buffer), 2 of 46 projects qualify (i.e., Tucson; Mill Creek, VA), which is 4.3%.

The 80th-percentile read sharpens the asymmetry between EJ-classic communities and the successful-opposition record reported in the main finding.

Indicator definitions and the 50th-percentile equivalence

Two of the EJScreen demographic indicators have national raw-value equivalents that matter for plain-language interpretation: (1) PEOPCOLORPCT: percent of block-group population reporting any race other than non-Hispanic white alone, or reporting Hispanic or Latino ethnicity. National 50th-percentile raw value: 31%; and (2) LOWINCPCT: percent of block-group population in households at or below twice the federal poverty level. National 50th-percentile raw value: 26%.

A block group "below the 50th percentile on P_PEOPCOLORPCT" is therefore one whose POC share is below approximately 31%. This is "more white than the typical US block group," not "majority white" in the colloquial sense. The paper uses the precise framing where this distinction matters.

P_DEMOGIDX_2 is the average of the Z-scores of LOWINCPCT and PEOPCOLORPCT, re-ranked into a national percentile. It is not a simple mean of the two component percentiles. The paper avoids language that would lead a reader to infer that it is.

American Community Survey (ACS) vintage and national reference

The tracker's per-ZIP median household income column reflects ACS five-year estimates. The ACS vintage used for the white paper is the 2019–2023 5-year ACS, with a national reference value of approximately US$77,000 for the US median household income. The tracker file originally cited "~$75K" as the national reference; that value sits within plausible vintage drift but the canonical vintage used in the paper is 2019–2023.

The Tucson case (ZIP 85706) shows a tracker value of US$38,000, well below the 2019–2023 ACS ZCTA-level estimate for the same ZIP (approximately US$48,000–52,000). The lower figure likely reflects either a sub-ZIP geography (e.g., a specific Census tract near the project site) or an earlier ACS vintage. The directional claim—that Tucson is the lowest-income community in the set and an outlier opposite to the cluster pattern—survives this reconciliation, though the size of the gap to the next-lowest community narrows. The paper labels the column accordingly.

Buffer geometry and the intersection rule

Per the EJScreen analysis pipeline, each project's buffer is constructed as follows:

- **Center point:** The project's approximate latitude and longitude as listed in the cancellations tracker
- **Radii:** 1 mile, 3 miles, or 10 miles
- **Block-group inclusion rule:** All block groups whose geometry intersects the buffer are pulled in. A block group with 5% of its area inside the buffer is treated identically to one with 100% inside.
- **Aggregation method:** Unweighted median of national percentile ranks across all intersecting block groups, computed per indicator per buffer

The 3-mile buffer is canonical and is the buffer reported in all main-text tables and figures unless otherwise stated. The 1-mile and 10-mile buffers are reported as sensitivity analyses. Across buffer distances, 4–6 projects shift quadrant assignment between the 1-mile and 10-mile cuts (typically projects near urban-rural transitions), but the overall distribution shape is preserved. The 1-mile summaries are most sensitive to small block-group counts and should not be quoted in isolation.

Air-quality indicator tract-level inheritance

EJScreen's PM2.5 and ozone indicators are originally produced at the 2020 Census tract level, then assigned uniformly to the child block groups within each tract. The other burden indicators (i.e., diesel PM, RSEI air toxics, traffic proximity, lead paint, Superfund proximity, TSDF proximity, underground storage tanks, wastewater discharge, drinking water non-compliance) are produced natively at the block-group level.

The implication is that within any single buffer, particularly at the 1-mile scale, many block groups share the same parent tract and therefore the same PM2.5 and ozone values. Within-buffer variability on these two indicators is artificially compressed. This is irrelevant for cross-project

comparisons because every project is summarized the same way. It matters only if a reader tries to read within-buffer block-group heterogeneity on PM2.5 or ozone, which the paper does not do.

Investment sizing methodology for figure 1

Figure 1 encodes per-project investment as dot size. Investment values are derived under a five-tier hierarchy applied in priority order:

1. **Disclosed USD:** Where the developer or end-user disclosed a single project investment value in USD, that value is used directly—24 of 46 projects (52%).
2. **Range USD, midpoint:** Where the public record disclosed a USD range, the midpoint is used—2 of 46 projects (4%).
3. **MW conversion at US$12 million per MW:** Where USD is undisclosed but announced electrical capacity in MW is, MW is converted using a mid-range industry rule of thumb for hyperscale AI data center all-in construction cost. For phased disclosures, the disclosed phase value is used without extrapolation, producing a conservative estimate—6 of 46 projects (13%).
4. **Square foot conversion at US$1,750 per square foot:** Where USD and MW are both undisclosed but announced footprint in square feet is known, square footage is converted at a conservative all-in cost reference between shell-only (US$1,500/square foot) and fully fitted (US$2,000/square foot) hyperscale construction estimates—4 of 46 projects (9%).
5. **Not disclosed:** Projects without USD, MW, or square footage are shown as an X glyph in the figure, labeled “investment not disclosed” in the legend. Acres alone is not a basis for conversion because the relationship between site acreage and capital deployment varies too widely—11 of 46 projects (24%).

Public record investment figures for data center projects blend disclosed, projected, and estimated values across multiple axes. Investment values may include or exclude land acquisition, on-site power infrastructure, and IT equipment. Capacity figures may refer to Phase 1 or full build-out. Footprint figures may refer to buildable parcel, campus boundary, or active data hall area. The conversion rules are applied to whatever number is in the public record without normalizing for these scope differences. Where a project’s disclosed figure carries an unusual scope caveat, that caveat is captured in the Investment_quality_note column of the cleaned tracker file (figure1-cleaned-tracker.csv). Readers should treat figure 1 dot sizes as comparative-scale signals, not as precise capital estimates.

Seven projects involved non-trivial coding judgment in the sizing pass and are documented in the accompanying data file: Project Blue (Case 2, classified as Withdrawn & Revised because AWS exited at the city level but the project advanced under county jurisdiction); Project Flo (Case 11) and Rocklocker (Case 17), both MW-derived from estimated capacity values; East Whiteland (Case 27), square footage derived from the originally proposed 1.7 million square feet rather than the reduced 1.5 million square feet version that subsequently advanced; Amazon Warrenton (Case 37), size-encoded via 220,000 square feet footprint rather than land cost; Balico MegaCampus (Case 38), where full-build of US$8.85 billion was used and the partial 300 MW Phase 1 disclosure was set aside; Seattle City Light (Case 45), where the MW conversion captures only the disclosed portion of a partial multi-developer disclosure.

Source data and analysis software

- Demographic and burden data: EJScreen v2.3 (EPA, July 2024 release; 2020 Census block-group vintage).
- Household income data: American Community Survey 5-year estimates, 2019–2023 vintage, at the ZIP Code Tabulation Area level.

Caveats reserved for this appendix

A small number of methodological caveats from the underlying audit do not affect the main-text findings but are recorded here for completeness.

- The P_PNPL (Superfund proximity) and P_DWATER (drinking water non-compliance) indicators show a median percentile of 0 in most buffer summaries, because the median block group in most buffers is not within proximity to an NPL site or a non-compliant water system. The "share of block groups above the 80th percentile" statistic is the more informative read for these two indicators.
- For small-buffer cases, in particular the 1-mile buffer in rural areas where only a handful of block groups intersect the buffer, the "% blocks ≥ 80" share carries large estimation uncertainty. Bolingbroke's 100% on PWDIS at the 3-mile buffer is based on 7 of 7 block groups; this is technically correct but methodologically thin and should not be reported without the underlying n.
- The income-bucket cut points (<US$50K; US$50–75K; US$75–100K; US$100–150K; US$150K+) produce an empty top bucket in the n=46 set. Future presentations may collapse the top two buckets into a single ≥US$100K category (8 of 46, 17.4%) to avoid an empty-bucket optic. The substantive distribution finding (i.e., a thick band between US$50K and US$100K, one outlier below US$50K) is unchanged by the bucket choice.
- The earlier US$150K+ bucket is preserved for reproducibility, even though it is empty under the 2019–2023 vintage.

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