LIVING EDITION

Governing the Demand Shock

Data Centers, Local Power, and the Distribution of Cost in Virginia

The Book Edition

Tommy N. Turner

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The Book Edition — A Living Edition

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INTRODUCTION — The Largest Experiment Nobody Designed

On a Wednesday night in late May 2026, the board of supervisors of Hanover County, Virginia, voted four to three to turn away a data center. The project was not small. It proposed nine hundred megawatts of power and more than two and a half million square feet of building, and the developer had raised the cash in its offer from roughly ninety thousand dollars to about twenty-one million as the vote grew closer, the price of admission rising in step with the board's reluctance. The supervisors said no anyway, and they said no on water: the campus would have drawn two million gallons a day at its peak from a county system still recovering from a service crisis the winter before. Hanover's data center tax reached a single small facility. It walked away from the investment anyway, and it had already put the rate it would charge the next applicant up for review, advertising up to three dollars per hundred; four weeks after the refusal it kept the existing forty-five cents and sent the question to study.

Forty miles south, in a corridor of Chesterfield County that holds the lowest household incomes in the region, the same industry arrived under opposite rules. The county's largest data center campus was approved by right, with no public hearing, no disclosure of how much water it would use, and a tax rate the county had frozen at twenty-four cents per hundred dollars for thirty years inside a private contract that any future board is bound to honor. To serve the load, the state's utility regulator approved a 944-megawatt gas plant on the fence line of a neighborhood that is eighty-four percent people of color and seventy-three percent low-income. Nobody in Chesterfield voted on the campus, because under the rules the county had written, there was nothing to vote on.

Two counties, one industry, one state subsidy, one regulated utility, the same eight-year window. One of them refused the project while it still held every card. The other had given its cards away before the game began. This book is about why.

The experiment

Between roughly 2018 and 2026, Virginia ran an experiment that no one set out to run. The commonwealth already held the largest concentration of data centers on earth, built up over two decades in the Northern Virginia counties around Dulles Airport. As that core saturated, ran out of land and power and transmission capacity, the industry pushed outward, into the Richmond suburbs, down the Interstate 95 corridor, across the Piedmont, and out to the far edges of Southside and the Shenandoah Valley. By 2026 it had reached more than two dozen counties and independent cities. Each of them met the same thing: a capital-intensive,

power-hungry, low-employment land use arriving faster than the local rules built to handle it.

The thing they met was constant. A typical campus carries hundreds of millions of dollars of taxable equipment, which reads to a county as economic development of the first order. It employs about fifty people once it is running, half of them contractors, which means the investment never becomes the payroll that economic development is supposed to produce. It draws power at a scale that has pushed data centers to roughly a quarter of all the electricity used in Virginia1, on the Electric Power Research Institute's measurement, a share no other state approaches, and that the commonwealth's own legislative auditors project will double the state's entire electricity demand within a decade. It consumes water that local systems were never sized for. It generates a low mechanical hum that ordinary noise ordinances cannot measure. And it does almost all of this behind a disclosure vacuum so complete that of the 286 facilities catalogued for this study, fewer than half report how much power they draw and barely one in ten reports how much water it uses.

What was constant was the shock. What varied, wildly, was the governance. By 2026 the commonwealth contained a county whose general fund had become nearly half dependent on data center taxes and a neighboring county that had never collected a cent of them. It contained boards that fixed a tax rate by private contract for twenty years and boards that repriced the rate the moment they sensed they could. It contained a county that ran the by-right model for a decade and collected eight hundred million dollars a year, and a county that looked at the single largest project ever offered it and voted it down. These are not different industries or different incentives. They are the same industry and the same incentive, governed differently. The variation is the subject of this book, and explaining it is its argument.

The argument

The explanation is narrow, and across the cases that follow it holds. What separated the communities that captured the benefits of data center development while containing its costs from the communities that did not was neither geography nor the size of the project. It was the timing of institutional reform relative to the industry's arrival. Communities that wrote demanding rules before the first serious application, while they still held every instrument of approval and every dollar of forgone revenue as leverage, set terms the industry met. Communities that reformed after they had accumulated approvals found that reform reaches only what has not yet been entitled, and that the most valuable terms had already been conceded.

Beneath timing sits a single mechanism, and naming it is the work of the early chapters: leverage is an asset that depreciates with every commitment a community makes. A county's power to dictate terms is at its maximum before it has approved anything. The developer assembling a campus needs things only the county can grant, a rezoning, a favorable rate, water and sewer capacity, the political cover of an approval that will survive a challenge, and before the county grants them it holds all of them. Every rezoning approved, every by-right entitlement left on the books, every rate signed into a contract, and every campus grandfathered under an old ordinance converts a unit of that leverage into a fact the next decision cannot undo. This is why two counties with identical legal authority, facing identical projects, produced opposite distributions of cost. One spent its leverage before it understood the price. The other priced the project while it still held everything.

From that mechanism the cases sort onto a spectrum of five postures, and the spectrum organizes the book. At one pole sits *reform-after*, the posture of Loudoun and Henrico, where the industry was admitted under ordinary commercial rules and reform arrived only once the burdens were undeniable and the largest entitlements were already locked. At the other sits *refusal-before*, the posture of Hanover and a handful of rural counties that declined the flagship project outright while their discretion was intact. Between them lie three more. *Contract-lock*, where Chesterfield and Botetourt fixed tax rates in private agreements that bind every future board, the one move in the entire repertoire that cannot be reversed. *Governance-capture*, where Prince William's fiscal dependence and procedural shortcutting reinforced each other until a court, not the electorate, finally intervened. And *pre-entitlement-by-ordinance*, where Louisa, Goochland, Culpeper, and Orange wrote their hardest rules before the first application and made entry conditional on meeting them. That last posture produced the best outcomes in the portfolio. It was also the most demanding to sustain and the easiest to undermine, which is much of the reason so few jurisdictions reached it.

The spectrum is not a ranking of civic virtue, and reading it as one misses the point. The communities that ended up dictating terms did not care more about their landscapes or their electric bills than the communities that did not. They acted earlier, when caring could still be converted into enforceable conditions.

What grounds it

A book built on prospective cases, on projects approved or refused in the past three or four years, would have a credibility problem. The promised revenue has not been collected. The water has not been drawn at full capacity. The grid bills

have not fully landed. A skeptic could reasonably ask whether the costs this book attributes to the model are real or merely forecast.

Two pieces of evidence answer that, and they recur throughout the chapters as the book's empirical backbone. The first is an audit. In Mecklenburg County, on the North Carolina line, the industry arrived in 2010, which makes it the one place in Virginia old enough to check the brochure against the ledger. The check is unkind to the brochure. The arrangement was sold to the public as a ninety-percent rebate of the operator's personal property tax; the documented figure is 82.5 percent, and the rebated sum exceeded 275 million dollars across six years before a 2024 restructuring let the general fund begin to capture revenue the public had long been told it was already receiving. The host town lost a third of its population over the period. During a 2014 expansion, workers found the graves of a Black farming family in the campus's path, and after officials and operator-funded consultants worked to weaken the finding that the cemetery was eligible for the National Register, thirty-seven graves were excavated and relocated to make room. Mecklenburg is what the prospective cases become when fifteen years pass. It is the reason this book treats announced investment as a promotional genre rather than an accounting category, and the reason it asks readers to apply to the revenue side of these deals the same skepticism that any board applies to the cost side of an ordinary capital project.

The second is an experiment, and it is closer to the genuine article than social science usually gets. Five jurisdictions around Fredericksburg, along the fall line of the rivers, held their data center tax rate identical and constant, at a dollar and a quarter per hundred dollars, under a compact dating to roughly 2018 that was designed to keep the developers from playing the localities against one another on price. The compact held. By 2026 the five had entitled more than five gigawatts of capacity between them while their land-use rules diverged five different ways. Because the price was fixed while the zoning varied, the fall line lets the analysis separate the two instruments and watch the institutional posture, rather than the rate, carry the result. It is the strongest identified comparison the corpus offers, and it gets a full chapter for that reason.

What this book is, and is not

This is an analytical book, not a brief. It describes how Virginia's localities behaved and why the outcomes differ, and where it draws out the implications of its findings it does so as inferences from the record rather than as recommendations. The reader looking for a reform agenda will find the materials to build one, but the building is left to the reader. The aim is to make the mechanism legible, because a mechanism understood travels further than a policy prescribed.

It is also a book with a clock problem, and the clock problem shaped its form. The data center landscape changes weekly. A budget passes, a board flips, a court voids a rezoning, a fusion company signs a power contract that bypasses the regulator entirely, and a fact that was current in the spring is history by the fall. A book that froze the record and spent a year in review would describe a Virginia that no longer existed by the time it appeared. So this is a living edition. It carries a version, it will be revised as the record moves, and the identifier on its title page resolves to whatever the current version is. The reader is holding a snapshot of a moving thing, dated on purpose, and the dating is a feature.

A word on method, expanded in the back matter. The book synthesizes thirteen jurisdiction-level case studies and a statewide facility inventory, each built from primary records: local zoning files, utility filings, regulatory dockets, court opinions, tax ordinances, federal permits, and sustained local reporting. It refers to local officials by role rather than name, because the argument is about institutional behavior rather than individual conduct, and the underlying case studies carry the named record for anyone who needs it. It identifies the analytical lenses it uses by the kind of work they do rather than by the scholars who developed them. And it is candid, throughout, about the disclosure vacuum that makes every statewide total in these pages a floor rather than a measurement.

Why Virginia, and why now

Virginia is the case because Virginia is the extreme. It is the oldest, largest, and most concentrated data center market in the world, which makes it the place where every tendency in the industry shows up first and largest. It is also not alone. More than three hundred data-center-related bills were filed across more than thirty states[2] in the 2026 legislative sessions, and at least eight states moved to shift the industry’s costs away from residential ratepayers or to condition its tax treatment. Georgia commissioned the econometric study Virginia never has and found that only thirty percent of its own data center activity was attributable to the tax break[3] it had been paying for; that finding sits in this book as the comparative benchmark Virginia’s own debate still lacks. The commonwealth has already run the experiment the rest of the country is now entering. What it learned, and what it failed to learn in time, is the rest of this book.

The wave is not finished, and that is the practical stake. The disclosed pipeline sits in the counties that had no operating facility in 2024. The decisions that will set the next decade’s distribution of cost are still ahead, in hearing rooms where the leverage is, for now, still intact. This book offers those rooms no instruction. It offers them the record of what the leverage was worth to the communities that kept it, and what it cost the communities that let it go.

The road ahead

Part One specifies the shock, the five pressures every jurisdiction faced at once and the disclosure vacuum that hid their magnitude. Part Two builds the framework, the depreciating asset and the five postures. Part Three is the heart of the book: the cases, grouped by posture, with the Mecklenburg audit and the fall-line experiment carrying the empirical weight. Part Four draws the patterns together, maps them onto the geography of the industry's spread, and sets them inside the state policy frame that tilted the whole field toward maximum development. The conclusion returns to the unfinished wave. The appendices carry the inventory, the classification, and the sources.

A reader can begin with the cases and work back to the framework, or take the parts in order. Either way the claim is the same, and it is worth stating once more before the evidence begins. The timing of local reform relative to the industry's arrival determined who paid. The leverage that timing reflects is, across much of Virginia, still unspent. And the communities now deciding how to use it are doing so largely in the dark, against a counterparty that treats the entire commonwealth as a single market and has every reason to keep them there.

PART ONE — THE SHOCK

Before the variation in how Virginia's localities responded can be explained, the thing they were responding to has to be specified, because the whole argument of this book rests on the claim that it was the same thing everywhere. Every jurisdiction that confronted a data center proposal between 2018 and 2026 met some version of five pressures at once. A fiscal lure large enough to reorganize a rural budget. An employment return so thin it inverts the usual logic of economic development. A grid consequence that escaped local control entirely. A set of physical burdens, water and noise and the loss of historic ground, that the review process surfaced too late to bargain over. And a disclosure vacuum that hid the size of the other four. These pressures were set by state policy, by the economics of a regulated utility, and by the physics of the machines, not by any choice a county board made. They were constant. They are the shock. The four chapters of Part One lay them out, and they begin with the two that travel together, the scale of the thing and the subsidy that drew it.

CHAPTER 1 — The Scale, the Subsidy, and the Split Incentive

A data center is a strange object for a county to govern, and the strangeness begins with scale. The building looks, on the application, like a large warehouse with unusually good tax numbers. What arrives is something closer to a private power plant that happens to compute. By 2026 data centers consumed roughly a quarter of all the electricity used in Virginia1, on the Electric Power Research Institute's measurement, a concentration no other state comes near; the runner-up, North Dakota, sits near fifteen percent2. The commonwealth's own legislative auditors, examining the industry in the most comprehensive assessment any state legislature has produced, found that unconstrained demand would double Virginia's total electricity use within ten years3, with data centers as effectively the only thing driving the growth.

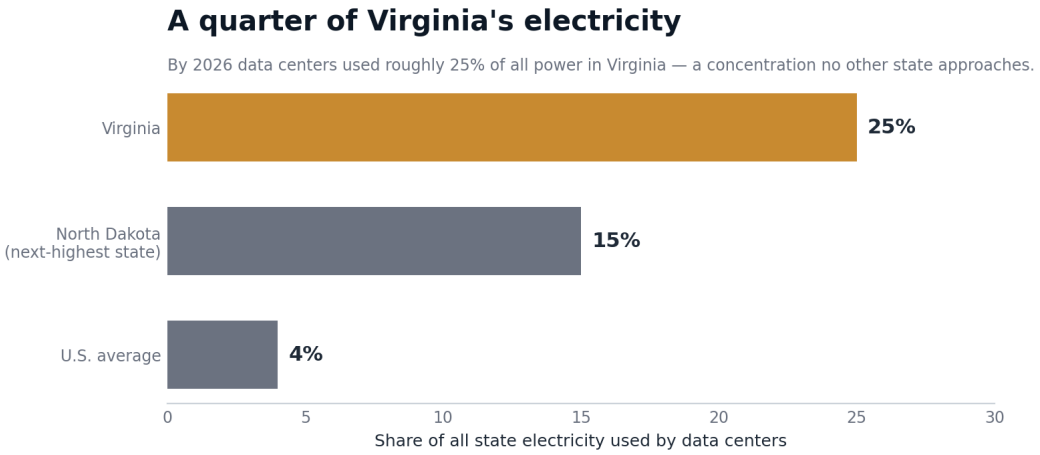


Figure 1. A quarter of Virginia's electricity. By 2026 data centers used roughly a quarter of all power in the commonwealth, a concentration no other state approaches. Source: Electric Power Research Institute; Dominion Energy Virginia annual filings; statewide inventory.

The word *only* is doing real work in that sentence, and it is worth pausing on, because it is the fact that should have changed how counties saw what they were approving. The auditors' independent forecast showed Virginia's electricity demand essentially flat from 2006 to 2020. Every sector held roughly level. Then data center growth bent the curve, and bent it hard: without the new load, the dominant utility's own planning projects the state's energy use rising about fifteen percent by 2040; with it, the projection is one hundred eighty-three percent[4]. The regional grid operator attributes ninety-four percent of all projected peak-load growth between 2024 and 2030 to data centers[5]. A single industry is now setting the planning of the regional grid, which means it is rebuilding one of the largest

public systems in the commonwealth, and it is doing so on a timescale measured in a few years rather than a few decades.

That fact ought to have governed how a county reviewed the use. It mostly did not. The auditors found, and the cases in this book confirm at the local level, that too many planning processes still treated data centers as ordinary commercial projects that happened to carry attractive assessments. The gap between what the industry is, a utility-intensive, capital-heavy facility whose consequences cross county lines and land on the grid, and how it was reviewed, as a tenant on a site plan, is the space in which everything that follows took place. A county that understands it is approving a power plant negotiates differently than a county that thinks it is approving a warehouse. Much of the variation in Part Three reduces to which of those two things the county believed it was doing, and when.

The lure

The proximate reason counties said yes is the tax base, and the arithmetic is arresting, which is why officials in case after case can be found reciting it. A single hyperscale campus places hundreds of millions, sometimes billions, of dollars of taxable equipment inside a jurisdiction that taxes business personal property at a rate it sets itself. For a county with a thin commercial base and a long memory of plant closures, the number on the page can look like deliverance. It is the number that does most of the persuading in the hearing room, and it is the number this book spends the most effort qualifying, because the gap between what is promised and what is collected turns out to be wide, durable, and almost never audited until it is too late to matter.

Behind the local lure sits the state subsidy that makes Virginia attractive to the industry in the first place. The commonwealth exempts data center equipment and the software that runs it from the retail sales and use tax, for any project that invests at least 150 million dollars and creates at least fifty jobs[6]. The Department of Taxation, with the Virginia Economic Development Partnership, reported the value of that exemption, the tax the operators did not pay, at 1,941,390,000 dollars in fiscal year 2025[7]. The figure counts state and local revenue together, and it comes from the operators’ own reports, which the state did not independently validate. It is not a projection or an estimate from a critic. It is the state’s published accounting of revenue forgone in a single year, approaching two billion dollars, for an industry that had already made Virginia the largest data center market on earth. Over the decade from 2015 to 2024, the auditors found, the exemption cost roughly 2.7 billion dollars, more than half of every economic-development tax incentive the commonwealth granted across that period[8]. One industry, one preference, claimed the majority of the state’s incentive spending.

The split

The structurally important feature of these two lures is that they point the same direction but pay out to different governments, and that split, more than any single dollar figure, is what tilted the field.

The sales-tax exemption is a state decision. Its benefit flows to the operator, and its cost falls on the state treasury and, through the one-percentage-point local share of the sales tax, on every locality in Virginia[9], including the many that host no data center and never will. The equipment tax is a local decision. Its benefit flows to the host county and to no one else. So a county weighing a project sees the local revenue with great clarity and pays none of the exemption's cost directly. The state has, in effect, pre-loaded the incentive structure in favor of saying yes. It hands the county the upside and absorbs the downside itself.

The consequence is asymmetry, and it runs through every case. A board inclined to maximize development does not have to do anything clever. It accepts the state's pre-loaded incentive and votes to approve, and the revenue lands in its own budget while the costs disperse across the commonwealth and the grid. A board inclined to manage the industry on terms has to work against that grain. It has to invent conditions the state never required, write rules the state never provided, and hold a line against a counterparty that can credibly say the investment will simply go to the county next door. The state did not merely permit the maximum-development outcome. It subsidized the easier path and left the harder one to be built locally, by hand, against resistance. This is why the posture that performed best in the entire portfolio, writing demanding rules before the first application, was also the rarest. The structure made it expensive to choose, and most counties, offered deliverance on the page, did not.

That asymmetry is the reason Part Four treats state policy not as background but as the structuring condition of the whole field. For now it is enough to see the shape of it. The money that draws the industry to Virginia is spent by the state. The money that rewards a county for admitting it is collected by the county. And the costs that the next three chapters describe, the ratepayer exposure, the grid strain, the water, the noise, the things no one mentions in the hearing where the tax base is recited, are paid by people who, in most cases, were never in the room.

CHAPTER 2 — The Thin Return: Jobs, Ratepayers, and the Grid

The case for a tax incentive is almost always a case about jobs, and data centers are the place where that case is weakest. This is the inversion at the center of the industry's economics, and a county that does not see it clearly will misprice everything that follows. The investment is enormous and the payroll is tiny, which means the usual machinery of economic development, the multiplier from a few hundred new wage-earners spending in town, never engages. What the county gets instead is a building full of equipment and a handful of people to watch it.

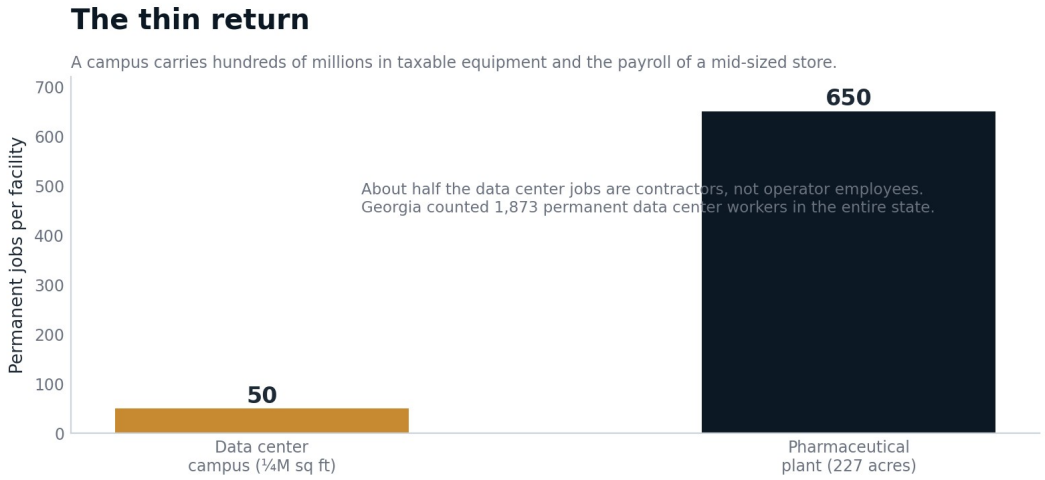


Figure 2. The thin return. A quarter-million-square-foot campus employs about fifty people, half of them contractors, against a pharmaceutical plant's payroll on comparable ground. Source: state legislative auditors; county announcements.

The jobs

The numbers are not in dispute, because the industry's own boosters and the state's auditors arrive at the same place. A typical campus of a quarter-million square feet employs about fifty people once it is running, and roughly half of those are contractors[1] rather than employees of the operator. Georgia, examining its own industry, counted 1,873 permanent data center workers across every facility in the state[2]. An econometric study of data center openings in Texas found the net effect on county employment[3], across all the related industries that were supposed to benefit, to be effectively zero; the apparent gains turned out to be existing workers reclassified rather than new people hired.

The thinness was legible from the very first hyperscale campus in Virginia, for anyone who read past the press release. When the industry came to Southside in 2010, the operator told the host town that it would station two of its own

employees on site, a data manager and an operations manager, and that the fifty promised jobs would belong to a staffing contractor working in shifts. Two badges and a vendor. A building-trades official in the same county, watching the construction boom give way to the operational reality, put it more bluntly than any auditor would: people thought the arrival would create jobs, but that was not the case, the first thing they built was a guard shack and a fence, and none of it lasted.

The industry's strongest rejoinder is about construction, and it deserves a fair hearing because it is partly right. Building these campuses is real, well-paid, skilled work, often union work, and in Northern Virginia the electrical trades report that data center construction has doubled their members' hours. Because hyperscale campuses are built in phases over a decade or more, a continuous pipeline of new projects sustains a construction workforce that does not vanish the way a single building project does. Two facts bound the rejoinder. Construction at any one site ends when the building opens, after which the workforce collapses to the operational fifty. And the sustained aggregate depends entirely on new projects continuing to arrive, which depends in turn on power, approvals, and Virginia's competitive position, none of which the exemption secures. The tax break subsidizes the equipment inside the building, not the contract to build it. The construction economy is real, and it is driven by the same structural advantages that bring the industry to Virginia in the first place, which is to say it would largely happen with or without the subsidy.

The ratepayers

The exemption is the cost the state chose. The ratepayer exposure is the cost that arrives uninvited, through the monthly electric bill, governed not by any board or legislature but by a regulated monopoly's capital plan and the commission that oversees it. It is the largest cost in the entire story, and it is the one least visible at the moment of approval, because it lands years later on people who never appeared at the hearing.

The state's auditors, running their own numbers, found that a typical residential customer could face generation- and transmission-related increases of fourteen to thirty-seven dollars a month in constant dollars by 2040, as much as four hundred forty-four dollars a year4 added to a household's bill for electricity it did not use. The utility's own filings project larger figures. Its 2025 resource plan shows the average monthly residential bill climbing from one hundred fifty-nine dollars toward two hundred fifty-five by 2035 under the utility's accounting, and toward three hundred eight under the commission's preferred method5. The capital program behind those bills has swelled repeatedly, from a five-year plan of fifty billion dollars in early 2025 to nearly sixty-five billion by year's end6, an increase

the utility attributed directly to data center demand. The company has told the commission it holds 16,913 megawatts under firm contract and a further 30,132 megawatts under study, 47,045 megawatts of data center load in all (a figure later merger filings restate higher, toward 51 gigawatts), that the transmission buildout alone will cost 28.3 billion dollars, and that the wait to connect a large new customer may stretch to seven years7.

Some of the exposure has stopped being a forecast. In the regional capacity market, prices in the Virginia zone cleared at the cap, 444.26 dollars per megawatt-day for the 2025–26 delivery year, an increase of more than eight hundred percent[8], and the market's independent monitor attributed the majority of the jump to data center load. The commission ordered a residential bill increase of eleven dollars and change a month in late 2025, and in the same season it created an entirely new rate class[9] for the largest electricity users, an admission that the old structure was never built for load at this concentration. A note belongs here about the demand projections, because they rest substantially on artificial-intelligence workloads that may or may not materialize as forecast. The uncertainty does not relieve the ratepayer; it traps him. If the demand arrives, he pays to serve it. If it does not, he pays for the infrastructure built on forecasts that did not hold. The household that had no hand in creating the risk is positioned to absorb it in either direction.

The grid

The ratepayer exposure has a physical body, and it is not abstract. Behind the bill sits a machine that has to be enlarged, and the enlargement has already shown it can fail in new ways. On the tenth of July, 2024, a surge protector failed on a transmission line near Fairfax, and roughly sixty data centers, doing exactly what their engineering told them to do, simultaneously disconnected from the grid[10] and switched to their own generators. Fifteen hundred megawatts of demand vanished in milliseconds, the rough equivalent of a large power plant disappearing at once, and the grid operator and the utility scrambled to shed output fast enough to keep the sudden surplus from damaging the system. The federal reliability authority opened a task force and stated plainly that the grid was not designed to withstand the instantaneous loss of load at that scale. The event happened under current conditions. The contracted pipeline is many times larger than what runs today.

The county that approves a campus sets this in motion and governs none of it. The load it admits joins a regional grid the county does not run, priced by a market the county does not sit in, served by generation and transmission the county does not site. This is the first appearance of a theme that recurs through the whole book: local approval summons consequences that are resolved, if they are resolved at all,

somewhere the county cannot reach. The jobs are thin, the building is local, and nearly everything that makes the facility expensive to the public, the bills, the capacity prices, the reliability risk, is socialized outward onto a system and a ratepayer base far larger than the jurisdiction that said yes. The next chapter takes up the part of the cost that does stay local, and that the review process, for reasons that turn out to be structural, almost always surfaces too late.

CHAPTER 3 — Water, Noise, and the Late Surprise

The costs in the last chapter, the bills and the reliability risk, disperse across a region. The costs in this one stay home, and they share a single defining feature: they become legible only after the decision that produced them has been made. A community hears about the tax base and the investment early, in the announcement and the rezoning hearing, when the developer needs something and the mood is favorable. It learns the water draw, the night-time hum, and the route of the transmission line afterward, often once the facility is operating and the leverage to do anything about them has drained away. The state's auditors catalogued these burdens and the local processes that handled them poorly[1]. What the auditors described as a list of problems is better understood as a sequence, and that sequence is built into how the projects are sold rather than incidental to them.

The late surprise

Consider how a transmission conflict reaches a community. By the time a 765-kilovolt line appears on a map crossing a county's farms, the residents experience the conflict as something that arrived overnight. It did not. The conditions that produced it built for years, through load growth, planning assumptions, and the cumulative approval of very large users in counties that may be a hundred miles away. Virginia's own regulatory structure deepens the lateness. Lines above 115 kilovolts generally require a certificate from the state commission[2], and by the time a project reaches that proceeding, the public is facing a formal state docket where opposition feels technical, expensive, and already behind. The proposed Valley Link line and the substation relocations that the data center boom required drew exactly this response from the Piedmont counties in its path[3]: formal resolutions, appeals to the grid operator, the discovery that a regional decision had already been substantially made elsewhere. The transmission fight is the clearest case of the late surprise because the distance between cause and effect is geographic as well as temporal. A campus approved in the Richmond suburbs is felt as a tower line through a Piedmont viewshed, and the people under the towers were never parties to the approval.

Water

Of all the local burdens, water moved fastest over the period this book covers, from a secondary consideration to the single externality most capable of stopping a project outright. The reason is structural. Electricity can be promised from somewhere on the system; the grid is large and the source is fungible. Water cannot. A county's water comes from a specific reservoir or a specific aquifer with

a specific safe yield, and when a single operator's draw approaches that yield, the question lands back on the host community with nowhere to disperse to.

The figures are sobering once they are disclosed, which is not often. A hyperscale campus can draw on the order of hundreds of thousands of gallons a day on average and several million at its peak[4], against county systems sized for ordinary residential and commercial growth. In one county a flagship project's two-million-gallon peak demand, set against a system still recovering from a winter service crisis, was the ground on which the board refused it. In another the reservoir serving a 6,400-acre overlay district had a safe yield near three and a quarter million gallons a day[5], and a single operator's two campuses projected a draw approaching that figure on their own. The pattern that recurs runs deeper than water being the binding constraint: water is also the constraint operators most consistently refuse to disclose. The data point most capable of changing a local decision is the one hardest to obtain, which is why, as a later chapter records, it took a lawsuit and a contempt proceeding to establish in a Virginia court that a data center's water use is not a trade secret[6].

Noise

Noise operates on a different register but lands in the same after-the-fact place. The sound a data center makes is not the sound an ordinance was written to measure. It is a chronic low-frequency hum from cooling systems and, during testing and outages, from banks of diesel generators, and it carries and persists in ways that the A-weighted standards most counties use are poorly built to capture[7]. A community cannot hear it at the hearing. It hears it after the building is running, at night, when the rest of the world is quiet enough for a low constant tone to become the thing a household cannot stop noticing. By then the conditions that might have required a quieter design, a deeper buffer, an enforceable nighttime limit, are no longer on the table, because the operator no longer needs anything from the county.

Why the sequence holds

The common thread, the reason water and noise and the transmission route all surface late, is that the review process is structured to present the benefits before the costs, and the developer has every incentive to keep that order. The tax base is concrete and immediate and goes in the staff report. The water draw is contingent, technical, and frequently withheld as proprietary. The noise is a lived experience that does not exist until the facility does. The transmission line is somebody else's docket. A county that wanted to reverse the sequence, to force the costs onto the table while it still held the leverage to bargain over them, would have to demand

disclosure the state did not require and impose conditions the application did not volunteer. The counties that managed the industry well did exactly that, in the ordinance, before the first application, when the operator still needed the rezoning and the rate. The counties that did not manage it well met the costs the way their residents did, as complaints, after the building was already humming. Which of those two things a county did is, again, a question of timing, and timing is the subject the framework in Part Two is built to explain.

CHAPTER 4 — The Disclosure Vacuum and the But-For Question

Two problems sit beneath everything in Part One, and they are problems of knowledge rather than of cost. The first is that Virginia does not require the industry to say what it is doing, which means no one, not a county board, not a legislator, not an analyst, can fully measure what the commonwealth is subsidizing. The second is that Virginia has never asked the one question that would tell it whether the subsidy is buying anything at all. The chapters before this one described what the industry costs. This one describes how little of that the public record is built to show, and how thin the evidence is for the proposition that the costs are worth bearing.

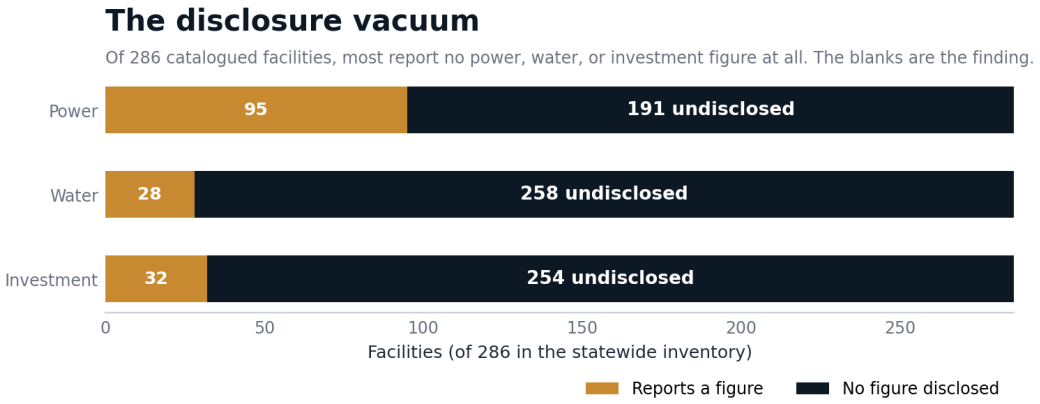


Figure 3. The disclosure vacuum. Of the 286 facilities in the statewide inventory, most report no power, water, or investment figure at all. The blanks are the finding. Source: statewide facility inventory (Appendix C).

The vacuum

The disclosure vacuum is not a metaphor; it is a count. The statewide inventory assembled for this study catalogs 286 data center facilities across at least two dozen Virginia jurisdictions[1]. Of those 286, one hundred ninety-one report no power figure at all. Two hundred fifty-eight report no water figure. Two hundred fifty-four report no investment figure[2]. The blanks are not gaps in the research. They are the disclosure vacuum itself, recorded. Virginia requires no operator to publish facility-level data on power, water, or investment, and most operators do not, so the public record is mostly empty exactly where it would need to be full for anyone to manage the industry on the merits.

The consequence for this book, and for anyone who would govern from the same record, is that every statewide total in these pages is a floor of unknown height above the true number. Among the facilities that do report power, the operating

fleet totals on the order of 3,100 megawatts and the disclosed pipeline on the order of 21,700[3], roughly seven times larger. Both figures understate, and the operating figure, drawn from older facilities built before even the current thin disclosure norms, understates more severely. The honest statement is directional: the pipeline is several times the size of what runs today, and the precise multiple matters less than the order of magnitude. A state cannot manage what its own framework does not require anyone to disclose, and Virginia has spent fifteen years not requiring it.

The vacuum is at its most acute precisely where the stakes are highest. Water, the externality most capable of stopping a project, is the figure least often disclosed, which is why the first Virginia court ruling that a data center's water use is not a trade secret, recorded later in this book, marks a genuine shift rather than a technicality. The 2026 enactment of a water-reporting requirement is the first statutory step toward closing any part of the gap[4], and it reaches only water. Power and investment remain, for now, whatever the operator chooses to say.

The but-for question

The most important question in the entire policy debate is also the one Virginia has worked hardest to avoid answering. Economists call it the but-for question: of all the data center investment the exemption claims credit for, how much would have come to Virginia anyway, without the subsidy. If the answer is most of it, the commonwealth is paying close to two billion dollars a year for activity it would have gotten for free. Virginia has never commissioned the study that would answer the question with its own data. What exists instead is a range of estimates, and the honest thing is to lay them out in order of how much weight each can bear.

At the top sits the state's own survey number. The auditors reported that ninety percent of data center companies said they would not have built in Virginia without the exemption[5]. The figure comes from asking the direct beneficiaries of a subsidy whether the subsidy mattered, and the predictable limitation is that a company has every financial reason to say yes, because saying yes protects the policy that enriches it. A University of Virginia regional economist who has worked on the state's incentive studies has publicly put the share nearer fifty percent and falling[6]. Georgia did the work Virginia did not: its Carl Vinson Institute built an econometric model on actual departmental filing data for thirty-four facilities, controlled for the things that drive siting, and found that only thirty percent of Georgia's data center activity was attributable to its exemption, with the other seventy percent occurring regardless[7]. The broadest body of evidence, the incentives literature associated with the Upjohn Institute, finds that roughly three-

quarters of all business tax incentives change no firm's location decision at all, which points toward an attributable share near twenty-five percent[8].

The estimates built on what companies say sit at the top. Every estimate built on what companies do sits well below it. And they converge on a direction even where they differ on a number: as a market matures, the marginal pull of any single incentive shrinks, because the things that actually anchor the industry, the fiber, the federal proximity, the labor and vendor clusters, the decades of compounding infrastructure, are already there and are not things the state has to keep paying for. Virginia's market is the most mature in the world. The inferential distance between that fact and the conclusion that a large share of its investment would arrive without the exemption is not great. This book does not claim a precision the evidence cannot support, and it will not invent a Virginia-specific number where none has been measured. It observes only what every data point built on behavior rather than self-report indicates: that the causal share of the exemption is almost certainly far below what its beneficiaries report, and that the commonwealth has been paying for fifteen years without ever measuring what it bought.

That is the shock, in full. An industry whose scale rebuilds the grid, whose payroll is negligible, whose largest costs fall on people who never appear at the hearing, drawn by a subsidy the state has never tested, operating behind a disclosure vacuum that keeps even the basic magnitudes from view. It was constant across the commonwealth. What was not constant, what every remaining chapter is built to explain, is what each county did when it arrived. The framework that explains the difference is the work of Part Two.

PART TWO — THE FRAMEWORK

Part One established that the shock was constant. The same industry, the same subsidy, the same utility, the same disclosure vacuum reached every jurisdiction that confronted it. If the input was uniform and the output was not, the explanation has to live in what the localities did between the two, and Part Two builds the apparatus to name it. It needs only two pieces. The first is a mechanism, a single account of where a community's power over the industry comes from and how it is lost, which is the work of Chapter 5. The second is a typology, a small set of recurring postures that the mechanism produces, which is the work of Chapter 6. Everything in Part Three is an application of these two chapters to one county at a time.

CHAPTER 5 — Leverage as a Depreciating Asset

The mechanism is simple enough to state in a sentence, and consequential enough to organize the rest of the book. A community's bargaining power over a data center developer is at its maximum before the community has approved anything, and it declines with every commitment the community makes. Leverage, in this setting, is an asset that depreciates. Understanding that one fact is most of what separates the counties that dictated terms from the counties that took them.

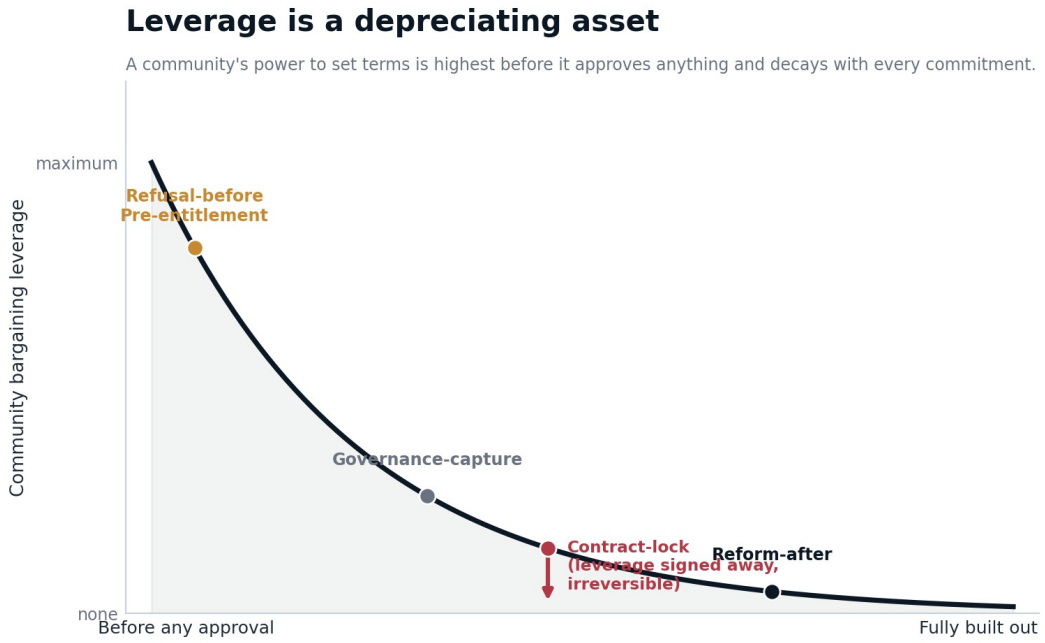


Figure 4. Leverage is a depreciating asset. A community's power to set terms is highest before it approves anything and decays with every commitment; contract-lock drops it to zero at once.

Where the leverage comes from

Leverage has a specific and concrete source, and it is worth being precise about, because the abstraction misleads. A developer assembling a hyperscale campus needs a short list of things that only the county can grant. A rezoning or a special-use permit, because the land is almost never zoned for this by accident. A favorable equipment-tax rate, because the assessment runs to hundreds of millions of dollars and a few cents on the rate is real money over the life of the campus. Water and sewer capacity, allocated from a public system. Road improvements, buffers, and conditions that the county can require or waive. And, underneath all of it, the political cover of an approval that will survive a legal challenge, which only a properly noticed, properly conducted local process can provide. Before the

county grants these things, it holds every one of them. The developer's announced investment, its job projections, its willingness to negotiate proffers, are bids for what the county controls rather than gifts.

Because they are bids, their size tracks the county's willingness to grant the approval, and the clearest illustration in the entire corpus is a single proffer package that moved in real time. When a developer brought a flagship project to one Richmond-area county, the cash component of its offer stood at roughly ninety thousand dollars. As the board's reluctance deepened over the following weeks, the same package swelled toward twenty-one million[1], including a multimillion-dollar water-infrastructure commitment that had not been on the table when the mood was friendlier. The developer was reading the board rather than feeling generous, and the price of admission rose precisely as the probability of admission fell. That is leverage made visible: the more credibly a county can say no, the more the project is worth to it, because the developer will pay to convert a no into a yes.

How it depreciates

The asset does not hold its value, and the loss is mechanical. Every rezoning the county grants, every by-right entitlement it leaves on the books, every rate it signs into a contract, every campus it allows to vest under an old ordinance, converts a unit of future leverage into a present fact that the next decision cannot reach. Reform undertaken after these commitments operates only on the residue, the parcels not yet entitled and the rates not yet locked. And the moment the county grants what the developer needs, the relationship inverts. The entitlement is vested, the rate is set, the campus is rising, and the instruments the county has left, a complaint, an enforcement action, the next assessment cycle, are weaker and slower than the ones it held before it said yes. The developer who would negotiate hard for a rezoning has no reason to negotiate anything once the rezoning is in hand.

This is why two counties with identical legal authority, facing materially identical projects, produced opposite distributions of cost. The authority was the same. The timing was not. One county spent its leverage before it understood the price of the thing it was buying, and discovered the costs only after the building was approved, when it had nothing left to bargain with. The other priced the project while it still held everything, and either set terms the developer met or let the project go elsewhere. Neither county had more power on paper. One simply used its power while it still had it.

The one move that cannot be undone

Most mistakes in this domain are recoverable, and the recoverability is itself a part of the framework, because it isolates the single exception. A permissive board can be voted out, and in more than one Virginia county it was. A careless ordinance can be rewritten, and the counties that wrote bad rules early often wrote better ones later. A lost lawsuit can change a county's posture going forward. Each of these spends leverage, but none of them spends it permanently. The exception is the tax rate fixed inside a private contract. When a county signs an agreement that holds an operator's rate for twenty or thirty years and binds every future board to honor it, it has not merely spent its leverage. It has signed it away. A successor can reverse almost anything except a rate its predecessor wrote into a binding contract, and that single irreversibility is why the framework treats the contract-lock posture as a category of its own, distinct from the recoverable errors around it.

The practical upshot governs everything that follows. Because leverage is highest at the start and falls with each commitment, the decisive variable in how a county fares is not how much it cares, or how sophisticated its staff is, or how wealthy its residents are. It is when it acts. A county that writes its demanding rules before the first serious application is negotiating from the top of its leverage. A county that waits until the burdens are undeniable is negotiating from the bottom, over the few entitlements it has not yet granted, against a counterparty that no longer needs much from it. Timing is the master variable, and the five postures of the next chapter are five positions along it.

CHAPTER 6 — The Five Postures

If timing is the master variable, the cases ought to sort by it, and they do. Read across the corpus, Virginia's localities fall onto a spectrum defined by one thing: the relationship between when a community reformed its rules and when the industry arrived to test them. Five postures recur. They are positions along that spectrum rather than fixed identities, and several counties move between them as their situation changes, but the five are stable enough to organize the case chapters and sharp enough to predict outcomes. Each has an internal logic that makes sense from inside the county, and each has a limit that the framework can name in advance.

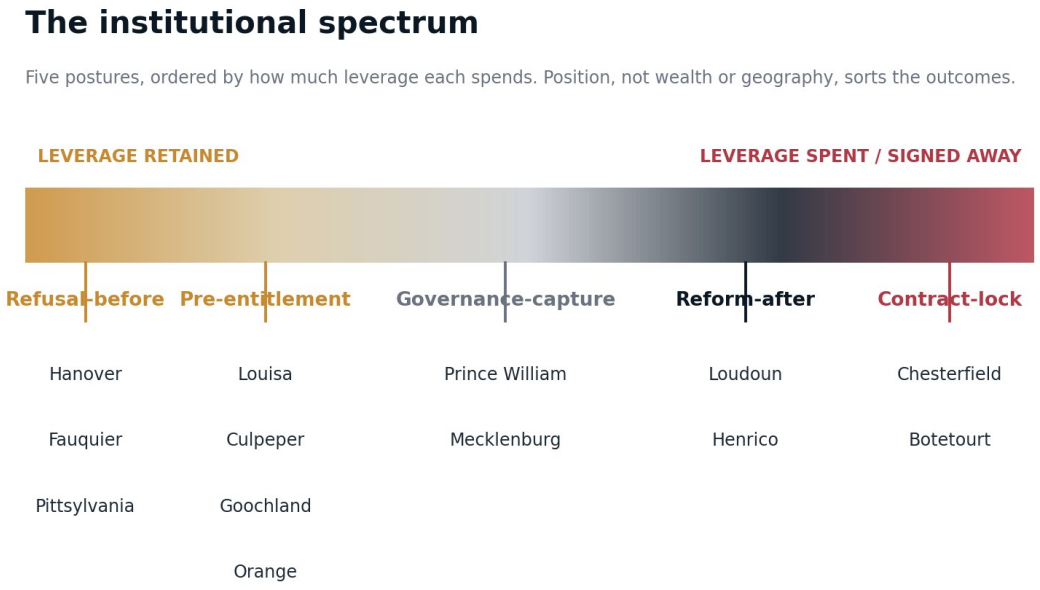


Figure 5. The institutional spectrum. The five postures ordered by how much leverage each spends, with the jurisdictions of Part Three placed along it. Position, not wealth or geography, sorts the outcomes.

Reform-after

The first posture admits the industry under the rules it already has, rules written for ordinary commercial development, accumulates approvals and commitments, and reforms only once the burdens have materialized and the opposition has organized. The reform, when it comes, is usually genuine and well drafted. It arrives too late to govern the projects that created the problem, because those are already entitled, so it governs the next one instead. Loudoun is the archetype, the

county that ran the by-right model longest and reformed only after a decade of buildout had locked in most of what it would ever reform against. Henrico is the same posture caught earlier in its arc, attentive enough to tighten its rules mid-stream and still unable to reach the eight million square feet that had already vested. Reform-after is not failure. It is reform purchased at the moment when leverage is nearly spent, which is why it protects the future and abandons the present.

Refusal-before

The second posture confronts a large project, finds the terms unacceptable, and refuses it outright, often before any reform ordinance is on the books. Refusal preserves leverage by exercising it, accepting the forgone revenue as the price of keeping control. Hanover is the clearest recent instance, a county that turned away a nine-hundred-megawatt project on water grounds while its discretion was fully intact and then, four weeks later, held its rate for the next applicant at forty-five cents and sent the question to study. Fauquier and Pittsylvania occupy the same pole, having looked at the largest projects offered them and declined. The limit of the posture is structural, and it is worth stating plainly: refusal is reactive and case-by-case. It defeats the application in front of the board and leaves the next applicant to be fought from the same starting line, because a refusal is not a rule. A county can refuse its way to safety, but it has to win the fight every time, with nothing standing to carry the terms forward.

Contract-lock

The third posture grants entitlements, or more consequentially rate commitments, inside private agreements that bind future boards. Contract-lock trades away the single most valuable instrument a host county holds, the power to reset the equipment-tax rate at the next assessment, in exchange for a one-time commitment from the operator. As the last chapter established, the trade is effectively irreversible, which sets this posture apart from every other on the spectrum. Chesterfield fixed a twenty-four-cent rate for thirty years through a grant-back its development authority is bound to honor. Botetourt capped a rate for twenty years inside a performance agreement that also bound the county to help the operator resist disclosure. Both counties may still tighten their zoning, and one has, but the rate is gone, beyond the reach of any board that comes after. Contract-lock is the posture that most resembles a good deal in the hearing room and most clearly is not one over the life of the campus.

Governance-capture

The fourth posture is less a decision than a drift. A community becomes fiscally dependent on data center revenue to a degree that begins to discipline its own politics, softening enforcement and raising the internal cost of refusing the next project. Capture is a trajectory rather than an event, and its fiscal preconditions are visible long before any threshold is formally crossed. Prince William shows the trajectory and its correction: a board that pushed a vast rezoning through a twenty-seven-hour lame-duck hearing, amid conflicts of interest that the disclosure systems failed to catch, until a court voided the approval on the county's own defective notice. Mecklenburg shows the mature condition, fifteen years on, a county whose general fund now rises and falls with one operator's equipment-refresh cycle. The posture is dangerous precisely because it feels, from inside, like prosperity. The dependence that disciplines the politics is the same dependence the boosters celebrate.

Pre-entitlement-by-ordinance

The fifth posture writes the demanding rules first. Before the first serious application, the community sets its noise limits, its buffers, its overlay boundaries, its disclosure requirements, its conditional-use triggers, and makes entry conditional on meeting them. This posture negotiates from the top of the county's leverage, while the operator still needs the rezoning and the rate, and across the portfolio it produced the most favorable balance of captured benefit to contained cost. Louisa invented the instrument, drew an eleven-billion-dollar commitment on its terms, and then tightened those terms further once it understood them. Goochland, Culpeper, and Orange occupy variants of the same end. The posture has two weaknesses that the cases expose, and both are exactly the kind that the framework would predict. It is the hardest to sustain, because it asks a county to regulate a problem it has not yet experienced, on the strength of watching what happened to someone else. And it is the easiest to undermine, through the procedural carelessness that exposes the ordinance to a lawsuit or the grandfather clause that exempts the very projects that prompted it. Pre-entitlement is the posture that works, and it is the one fewest counties managed to reach and hold, because the structure made it costly to choose.

A map of leverage, not virtue

One caution governs the whole spectrum, and getting it wrong distorts everything the cases show. The spectrum is not a ranking of civic virtue. The communities that ended up dictating terms did not care more about their landscapes or their electric bills than the communities that did not. Some of the counties that gave the most

away cared a great deal, and said so, at length, in hearings that changed nothing because they came too late. What separated the postures was not the depth of concern but the timing of action, the willingness and the foresight to convert concern into rules while the leverage to enforce them was still in hand. The spectrum measures when a county acted, and against what stock of leverage. Read that way, it predicts. Read as a morality table, it misleads, and it lets the counties that acted in time take credit for virtue when what they really had was better timing. The chapters of Part Three follow each posture into the counties that lived it, and they begin where the industry itself began, with the places that reformed only after the leverage was gone.

PART THREE — THE CASES

CHAPTER 7 — Reform-After: Loudoun and Henrico

Every posture in this book has a purest case, and the purest case of reform-after is the county where the whole industry began. Loudoun ran the by-right model longer than anywhere on earth. For more than a decade it permitted data centers as ordinary industrial development across the land east of Dulles Airport, asked little, conditioned less, and watched the buildings multiply until they formed the densest concentration of computing on the planet. The result, by the mid-2020s, was a single county with more than three hundred fifty operating facilities, a known total above four hundred fifty, and a general fund that drew on the order of eight hundred million dollars a year from the industry[1]. More data centers sat in Loudoun than in the rest of the commonwealth combined.

Reform reached Loudoun the way it reaches the archetype, which is to say late and under duress. It took a galvanizing transmission fight, a first-ever denial of a major application, and an ordinance overhaul that arrived only once the bulk of the buildout was already entitled[2]. By the time the county decided it wanted terms, it had spent the leverage that would have let it set them, and it has spent the years since trying to contain commitments it can no longer easily unwind. Loudoun is the destination of the unmanaged model rendered at a scale no other county reached. It is also the county every later jurisdiction watched, which is why its trajectory carries weight in this book far beyond its own borders. The more instructive case, though, is the one that watched Loudoun closely, learned something real from it, and still could not escape the posture’s logic, because the fuller record shows the mechanism in motion rather than only at its endpoint. That county is Henrico, and its data center base grew, improbably, on the bones of a failed semiconductor plant.

Three industrial lives of one tract

The White Oak Technology Park occupies about 2,270 acres at the meeting of Interstates 64 and 295 in eastern Henrico, and its transformation from tobacco ground into one of the most consequential pieces of digital infrastructure on the East Coast unfolded across three distinct eras, each launched by a public decision and none of which anticipated what the next would do with it. The pattern is the chapter’s first lesson, because it shows how completely a county’s infrastructure choices outlive the assumptions that justified them.

The first era was a semiconductor gamble. In the mid-1990s the county’s economic development authority and the board committed forty-four to forty-five million dollars in public infrastructure to recruit chip manufacturers[3], then the most prestigious industrial tenants in the world: water and sewer networks, a redundant

sewer pumping station rated at thirteen million gallons a day, and a 230-kilovolt Dominion transmission system. The anchor arrived as a Motorola and Siemens joint venture that opened in 1998, passed through the consolidation of the global memory industry into Infineon and then Qimonda, and at its peak employed roughly fifteen hundred workers in the largest concentration of advanced manufacturing in the county's history. Then the 2008 financial crisis met a collapse in memory-chip prices, and Qimonda filed for bankruptcy and closed the Henrico plant in February 2009, leaving a 1.3-million-square-foot fabrication building on 212 acres[4] and a county that had sunk tens of millions into infrastructure built around a tenant that no longer existed. The closure is worth pausing on, because everything that follows depends on it. A chip fab is among the most infrastructure-intensive buildings on earth, demanding redundant high-voltage power, industrial cooling, and ultra-clean water, and in 2009 Henrico owned exactly that infrastructure with no tenant to use it. There was precisely one other industry whose physical requirements matched a fab's, and it was about to enter the steepest growth curve in the history of commercial real estate.

The second era was the data center pivot, and it began as salvage. In 2010 Quality Technology Services bought the shuttered plant for twelve million dollars[5], a fraction of what had been sunk into the site, and retrofitted the fab's power and cooling into the QTS Richmond data center, opening with 1.3 million square feet. QTS expanded through the decade, announced another 1.2 million square feet in 2019, and in 2022 broke ground on two hundred additional acres bought from the development authority[6]. The third era converted a regional industrial park into a node in global internet traffic. Three transatlantic subsea cables came ashore at Virginia Beach, a hundred miles to the southeast: one to Spain funded by a consortium that included Facebook and Microsoft, one to Brazil, and one to France built primarily by Google and, at the time, the highest-capacity cable to cross the Atlantic[7]. They connected inland to a network access point that QTS established in Henrico in 2019[8], and by 2022 the county's development authority reported that roughly eighteen percent of all East Coast internet traffic flowed through the Henrico and Virginia Beach corridor, while White Oak's assessed value reached about $2.25 billion[9]. The geography is the point the energy-geography reading insists on: digital infrastructure does not disperse at random, it follows entitled land, existing wires, and the path of least regulatory resistance, and Henrico had all three because a chip plant had failed there a decade earlier.

The rate cut, and the framework that hid the consequences

Data centers existed in Henrico's industrial zones before 2017, but the industry's explosive local growth was catalyzed by one fiscal decision. That year the board

cut the data center equipment rate from $3.50 to $0.40 per hundred dollars, a reduction of nearly ninety percent[10], to compete with the Northern Virginia market it could not match on network density. The response was immediate. Meta announced a $750 million campus on three hundred acres[11], and county officials, eager to accommodate it, prepared land-disturbance permits in advance of the formal announcement, processing the approvals before the public knew the project existed[12], a fair measure of the institutional posture of the era. Meta's footprint grew past eight hundred acres and $1.5 billion. Paired with an aggressive depreciation schedule that assessed equipment at ten percent of cost after four years, the $0.40 rate made Henrico one of the most cost-effective data center jurisdictions in the country, and from 2017 to 2024 the industry contributed a relatively modest eighteen million dollars to county funds at the incentive rate. By 2024 the county hosted thirty-seven data centers[13].

The instrument that let all of this happen without a single public hearing was the by-right framework, and its procedural meaning is the heart of why reform came too late. Data centers were permitted by-right in the county's industrial districts, which meant a developer needed only administrative site-plan review: staff checked the plan against setbacks, height, parking, and stormwater, and if it met the code the planning director was required to approve it. There was no public hearing, no board vote, and no mechanism for residents to impose conditions or object before approval. The only notice was a mailing to owners of directly abutting parcels. A resident living a quarter mile from a proposed million-square-foot campus, close enough to hear it for the rest of her life, had no standing to learn of it in advance. Two administrative details deepened the opacity and both return later as load-bearing facts: since 2020 the county had let the planning director approve development plans without the planning commission, a pandemic-era rule never revoked[14], and the routine zoning-confirmation letter functioned in practice as the only written assurance a developer needed before committing capital. The framework did more than permit data centers. It structured the absence of public accountability as a feature, and it meant that the cumulative grid and water demand of successive approvals was never reviewed at the system level, because each project was judged parcel by parcel against the code and no one was assigned to add them up. The arrangement produced no visible conflict for years, because the projects stayed inside White Oak, far from homes. It stopped working when the industry moved toward people's neighborhoods.

The 2024 inflection, and the fund that was born from a yes

The conventional account dates Henrico's reversal to a 2025 fight, but the record starts a year earlier, with the rezoning that first drew organized resistance, first

conceded that data centers needed conditions beyond the code, and gave birth to the housing fund. The case covered 622 acres of woodland and wetland between the two interstates, and the board heard it on May 14, 2024[15], before a room that included skeptical residents and an organized conservation group. The residents' core request was not denial but delay: the legislature had commissioned its auditors to study the industry's cumulative impacts, with a report due that fall, and speakers asked the board to wait for the evidence before entitling another square mile. One asked the board, if it had to err, to err on the side of its constituents. Another pointed to Northern Virginia and warned that the county was on the heels of neighbors "trying to unring the bell."[16]

The board did not wait, and it did not simply approve. It attached roughly thirty proffers[17], conditions volunteered by the developer and binding on the land, that staff had assembled by studying what high-concentration jurisdictions had learned the hard way and by incorporating residents' demands: a cap holding structures and parking to no more than sixty-five percent of the site, air cooling rather than evaporative, a green-building certification, decibel-specific noise limits, restrictions on generator use outside emergencies with supervised testing, published air-quality monitoring, conservation areas, funding for archaeological and battlefield study on the Civil War ground within the site, and five million dollars toward rooftop solar on a couple hundred homes[18]. Two things are true about that package at once. It was the most environmentally serious set of conditions ever attached to a Henrico data center, and it was available only because the project required a rezoning. The thirty-seven data centers already operating had been approved by-right, with no mechanism for any of it. The proffer set was, in effect, an admission against the by-right framework: the county had just shown what it would ask for whenever it had the leverage to ask, which made the absence of leverage everywhere else impossible to ignore.

The board chair told the room what he wanted done with the money the project would generate: dedicate it to something that would help people, including people who did not know the conversation was happening. Two days later, on May 16, 2024, he and the county manager announced the Housing Affordability Trust Fund, seeded with sixty million dollars in data center revenue not built into the budget[19]. "This is not debt," the county manager told reporters. "This is cash."[20] The county had paired its most controversial data center approval with the most visible community benefit its revenue had ever produced. And ten weeks after the vote, on the day it completed assembling the land, the developer sold the 622-acre site to QTS at a markup that measured precisely what the board's yes had been worth, a transaction the chapter returns to when it reaches the grandfathered pipeline. The 2024 inflection set the template for everything after: residents organized and lost

the vote, the county extracted conditions and invented a redistribution mechanism, and the entitlement went through anyway and grew.

Two communities, one conclusion

What turned a single contested rezoning into the end of an era was that the opposition came from both ends of the county's demographic spectrum and converged on the same demand. The two communities had nothing in common except the conclusion they reached independently, and the independence is what made the conclusion politically unanswerable.

The first was Varina, the county's large eastern district, lower in income than the county as a whole and, in the neighborhoods nearest the data center sites, substantially Black. The district reports a median household income around $74,000 against the county's roughly $89,000[21], and the area closest to the proposed campuses is nearly sixty percent African American. It is also the district that has historically absorbed the county's heaviest uses, sandwiched among landfills, the airport, warehousing, and the White Oak park, and residents reached in the hearings for the term environmental-justice scholarship reserves for places where burden is concentrated by design while the benefits flow elsewhere: a sacrifice zone. The specific project at issue proposed a million square feet of data center, eight buildings running around the clock with the diesel generator banks that around-the-clock operation requires, on a parcel directly across the street from a Black middle-class subdivision and less than half a mile from an elementary school that is eighty-nine percent Black and ninety-three percent economically disadvantaged[22], a Title I school serving one of the most vulnerable student populations in the county. The proximity of a twenty-four-hour industrial facility to that school became the single most powerful argument in the opposition, and it carried a question with no good answer: who chose to put this here, next to these children, and why was no one required to ask first. No one was.

The developer had not stumbled into Varina. A small firm founded in 2022, it had gone to the county's economic development authority in 2023 seeking space in White Oak, and when none was available, it identified the Darbytown Road parcel, which was zoned industrial and therefore available by-right. In June 2024 it obtained the routine zoning-confirmation letter, put the property under contract in early 2025, and submitted a development plan, expecting a June 2025 hearing. The board voted on the new regulatory framework instead. The land purchase itself came much later, and the date matters: the developer's subsidiary did not buy the 195-acre parcel until November 14, 2025, five months after the rules changed[23], a fact that would become the central weakness of its legal claim. The opposition that met it was not a professional campaign but neighbors organized through churches

and group texts who taught themselves zoning procedure in real time. One resident drove to White Oak to experience an operating data center's noise firsthand and described it as the buzzing of a mosquito, "except louder and constant, with no stopping,"[24] and asked publicly whether the site had been chosen "because it's a Black community, that we don't matter." Another answered the developer's million-dollar schools proffer with the math of the bargain: the dangling of a million dollars for three schools was nothing, it would not replace a single roof, "and it's still not worth the health of our community. It's not worth it."[25] The residents rejected the proffer as an attempt to buy consent, and the rejection became its own argument: the community was not negotiating the price of the project, it was contesting the premise that the project belonged there at all.

The second community was Wyndham, a master-planned enclave in the affluent West End with a median household income above $235,000, a ninety-percent homeownership rate[26], and a professionally managed homeowners association with the institutional capacity for collective action that most neighborhoods facing industrial proposals lack. The developer there was the same firm that had built Wyndham's homes, and the history gave the proposal its edge: the neighborhood had beaten the same developer in a 2019 dispute, and read the 400-acre data center campus it now proposed nearby as a retaliatory sequel, a power play by a developer told no once and returned with something worse. Wyndham did not invoke environmental justice or racial equity. It invoked property values, rural character, and the sensory assault of constant low-frequency noise on homes bought for a million dollars or more, and a resident's description of the expected "constant buzzy note" became a defining phrase of the opposition. The association's machinery converted individual anxiety into coordinated pressure faster than Varina's volunteers could manage, and facing overwhelming resistance the developer withdrew the application on January 30, 2026, before it ever reached a public hearing[27].

The convergence is the finding. Objections came from a predominantly Black, middle-income community framing its case as environmental justice and from a predominantly white, high-income community framing its case as property protection, and they arrived at the same procedural target: no more by-right approvals. Neither needed the other, and there is no evidence they coordinated. A board can dismiss one angry neighborhood as not-in-my-backyard parochialism. It cannot dismiss two demographically opposite neighborhoods making the same structural diagnosis without conceding that the structure is the problem. The common enemy was the by-right mechanism, not the industry, and the diagnosis was unanswerable because it was structural rather than strategic.

The regulatory pivot

The board did not move first; the staff did. On May 1, 2025, the planning department published an analysis of data center impacts[28] that read, against the county's prior posture, like a quiet confession. It catalogued what the by-right era had never required anyone to total: the carrying quality of low-frequency mechanical noise, the three to five million gallons a day that evaporative cooling consumes at a single large facility, diesel emissions, the visual mass of windowless buildings approaching a million square feet, and the procedural fact that none of it had ever faced public review. The analysis became the evidentiary foundation for the ordinance that followed five weeks later.

On June 10, 2025, the board voted five to nothing to adopt a comprehensive-plan amendment and a zoning revision that removed data centers as a by-right use[29] in every industrial district and established a mandatory permit process requiring public hearings before the planning commission and final approval by the board, with authority to impose site-specific conditions and a formal mechanism for residents to participate and object. A board that had cut the equipment rate to forty cents eight years earlier now agreed, without dissent, that the model built on that recruitment posture had failed. The accompanying design guidelines answered the testimony point by point: a recommended five-hundred-foot setback from residential lines, up from the standard two hundred[30], enforced in practice through the permit process; mandatory closed-loop or recycled cooling, the direct legacy of the staff's three-to-five-million-gallon finding; generator testing confined to weekdays between ten in the morning and four in the afternoon, the hours when working residents are least likely to be home; required pre- and post-construction noise studies, an acknowledgment that predicted decibels and lived sound are different things; and facade articulation to break up the windowless mass. The communities had written the ordinance's agenda and the staff had written its text. The board also raised the equipment rate from forty cents to $2.60[31], still below the state average but high enough to convert the industry from a recruitment trophy into a funding stream, and to reprice the county's relationship with it from recruitment to extraction. If the county was going to live with the facilities it had already approved, it would be paid for doing so.

The legal test, and the warehouse that proved the point

The June 2025 ordinance was a political settlement. The vested-rights case that followed tested whether it was a durable legal one, and the new framework survived intact, in a way that demonstrates the leverage principle with unusual precision. Facing a recommended denial of its permit application, the Darbytown developer changed theories and claimed a vested right to build under the old by-

right rules, arguing that it had relied on the June 2024 zoning-confirmation letter and on encouragement from county economic development staff. Virginia law sets a high bar: development rights vest only on a significant affirmative governmental act, a rezoning or a site-plan approval, something in which government commits to a specific project. A zoning-confirmation letter merely states what the zoning map already says; it approves nothing. The planning director denied the claim on exactly that ground, and the Board of Zoning Appeals affirmed unanimously on February 26, 2026[32]. The most damaging fact in the record was the timing of the purchase: the developer's subsidiary had not bought the land until November 2025, five months after the ordinance changed and a month after it filed the vesting claim, so its assertion of good-faith reliance on the old framework sat awkwardly next to an acquisition that postdated the new one. Two supervisors appeared to speak against the appeal, an unusual show of board presence at a quasi-judicial hearing, and a hot microphone caught a commissioner telling the chair during a break that the county's objection was "a matter of location, not a matter of the project,"[33] which confirms what the formal record implies: data centers remained welcome in Henrico, just no longer across the street from subdivisions, and the new process existed to enforce that line. The welcome had an address.

The county won the case it could reach, and what happened next on the same parcel measured the limit of the win. Even before the appeal was denied, and two days after the county rejected the vesting claim, the developer filed a new plan for the identical 195 acres: seven warehouses totaling 1.82 million square feet[34]. Because warehouses are by-right under the site's existing zoning, the plan required no permit, no public hearing, and no board vote, and the planning director approved it administratively in January 2026. The community had blocked a million square feet of data center through more than a year of sustained organizing, only to see the same site approved for nearly twice the square footage of a use that would generate more truck traffic and daily disruption, through the very by-right mechanism the community's resistance had been built to challenge, with the 2020 rule allowing administrative approval doing the rest. The lesson is structural and the chapter will not soften it. Henrico's reform addressed data centers specifically; the by-right framework that enabled them remains intact for every other industrial use. The governance problem was not solved. It was redirected, and a community that organized for months to challenge one project discovered that the next one, larger and arguably more disruptive, could be approved by a single administrator with no hearing at all.

The eight million square feet the reform could not reach

The ordinance governs what Henrico approves next. It does not govern what Henrico already approved, and in May 2026 the scale of that distinction became public. QTS is proceeding with two campus expansions, designated RIC4 and RIC5, that would add roughly 1,100 acres and seventeen buildings totaling nearly eight million square feet to its footprint in Varina[35]. The company had built over three million square feet at White Oak to date; the expansion would more than triple it. Every square foot of it is entitled under the old rules, beyond the reach of the new ones, and the entitlement history runs straight through the 2024 inflection. QTS bought the 478-acre RIC4 site from the development authority for $43.8 million in April 2024[36]. Weeks later the board approved the Hourigan rezoning of the 622-acre RIC5 site, the case with the thirty proffers and the housing-fund announcement, and the developer that had assembled a portion of that land for fifty-eight million dollars sold it to QTS the same day for nearly $119 million[37]. The same-day markup measures what a data center entitlement was worth in Henrico in 2024, and it is the precise mechanism by which the board's most carefully conditioned approval became, within hours, an asset on a hyperscaler's books. RIC5 was the last major data center rezoning the county approved before it ended by-right development.

The generator arithmetic shows the buildout's physical mass. To support the expansion, QTS applied to the state for permits covering 370 diesel emergency generators, on top of 544 generators and eleven cooling towers it was already permitted to build[38]. A single operator in a single magisterial district would hold permits for more than nine hundred diesel generators. The county notes correctly that state rules taking effect in July 2026 will require newly permitted generators to meet stricter emission standards[39], and that the 544 already permitted are not subject to it, and that the units run only in emergencies. The emergency-only profile is accurate as far as it goes; the count still represents a contingent emissions source of unprecedented local concentration, plus weekly test cycles for every unit, conducted under the new daytime window for the facilities the ordinance reaches and under older terms for the facilities it does not.

What this did to the register of citizen voice in Varina is the chapter's quietest and most telling finding. In May 2026 county officials convened a community meeting in the district. The agenda did not include data centers. The residents did, holding signs reading "No More Data Centers" and pressing officials on power bills, grid capacity, water, air quality, and noise. The first question was not about any of the usual subjects; it was, "What's going to happen to our power bills?"[40] A resident put the water plainly: data centers "drink water like nobody's business." A

longtime resident described the stakes in sensory terms, the fear of walking outside and finding a constant hum where the night sky used to be quiet. The Varina supervisor, who had chaired the board that approved the Hourigan rezoning and then led the vote that ended by-right approval, told the room that most of what residents were now seeing had been approved before the county changed course, and acknowledged there was little officials could do to stop developments already in the pipeline. A resident's reply distilled the community's position into a sentence: "We are getting what we're getting, so it's just dealing with it, I guess."[41] Between the 2024 hearings and the 2026 meeting, the register had shifted from opposition to resignation, and the shift is itself the finding. The process now offered residents a hearing for the projects that did not matter and no hearing for the ones that did. Every building in the grandfathered pipeline lands in Varina, the district whose residents organized the resistance that ended by-right approval. The reform redistributed future discretion. The existing burden stays where the by-right era put it.

What the county did with the money, and what reform-after means

Henrico did something with its data center revenue that no other county in this book attempted, and the program is the strongest evidence that reform-after, even arriving late, can do real work on the half of the problem it can still reach. The Housing Affordability Trust Fund, seeded with the sixty million dollars announced two days after the Hourigan vote, is administered by a regional nonprofit that reviews builders who commit to reducing sale prices for buyers earning between sixty and a hundred twenty percent of the area median income, the teachers and nurses and service workers priced out of the county where they work. In its first two years the fund moved toward 383 affordable units, with thirty buyers closed on newly built homes at an average of eighty thousand dollars of assistance each[42], under a ten-year affordability clause that converts the subsidy into household wealth rather than a permanent deed restriction. The sixty-million-dollar figure is nearly equal to the housing trust fund for the entire commonwealth, and the program drew national attention as a model, with one buyer, a math teacher in her twenties, purchasing a home for $180,000, roughly ninety-two thousand below market[43]. As far as the available evidence shows, it is the first program in the country to dedicate data center tax revenue specifically to affordable homeownership.

The fund's design also encodes the same refresh dependency that runs through the contract-lock chapter, and the board's handling of it shows an unusual fiscal literacy. The revenue from existing facilities is not a fixed asset; under the depreciation schedule, installed equipment falls to ten percent of cost within four

years[44], so the taxable base would erode on a predictable curve if operators stopped replacing hardware. Because the campuses were built in phases and because servers turn over every few years, the aggregate base tends toward a rolling steady state rather than a cliff, old equipment depreciating as new equipment resets at full value, but the dependency is real: the fiscal health of the program rests on the operators' continued commitment to refresh, a variable the county does not control and that no public filing discloses. The board structured the fund as a one-time appropriation from unbudgeted surplus rather than as a recurring commitment funded by projected revenue, an implicit recognition that the revenue might not hold, and a genuine structural advantage. The dual-track strategy, restricting new approvals while harvesting the existing revenue for an identifiable public benefit, is a deliberate fiscal strategy rather than a simple development freeze. The county did not reject the industry's money. It refused to accept the industry's growth without discretionary review while converting the existing revenue into visible public work.

Henrico is reform-after caught in the act, and the case closes on the principle the whole posture turns on. The county was attentive enough to read the Loudoun warning, to attach serious conditions the moment a project required a rezoning, to end by-right approval under pressure from both ends of its demographic map, and to do something novel with the revenue. It still governs only what it had not already approved. It held its leverage exactly where a discretionary vote was required, on the Hourigan proffers and on the vested-rights parcel the developer bought five months too late, and it had no leverage at all over the eight million grandfathered square feet, because the purchases there came first and the rules came after. The same principle decided the two outcomes in opposite directions, and the difference between them was nothing but timing. That is reform-after in a sentence: the county wins the cases it reaches in time and loses the ones it does not, and which is which is settled before the reform is ever written. The next posture belongs to the counties that refused the flagship project outright while their discretion was still whole, and the first of them is a county that, unlike Henrico, never collected a dollar of data center tax before it learned to say no.

CHAPTER 8 — Refusal-Before: Hanover and Pittsylvania

The most instructive refusal in Virginia came from a county that wanted to say yes. That is the first thing to understand about Hanover, and it is what separates a refusal that reflects a posture from one that reflects mere hostility. A county that says no to everything teaches the framework nothing. A county that spends more than a decade building the machinery of welcome, admits the industry once at enormous scale, and then turns away a second flagship on a specific ground while its discretion is fully intact, is showing exactly where its limit sits and what it takes to reach it. Hanover did all three. What it has not yet done is the thing the framework says a refusing county should do next and almost none manage: convert the no into a price charged to everyone still in line behind it.

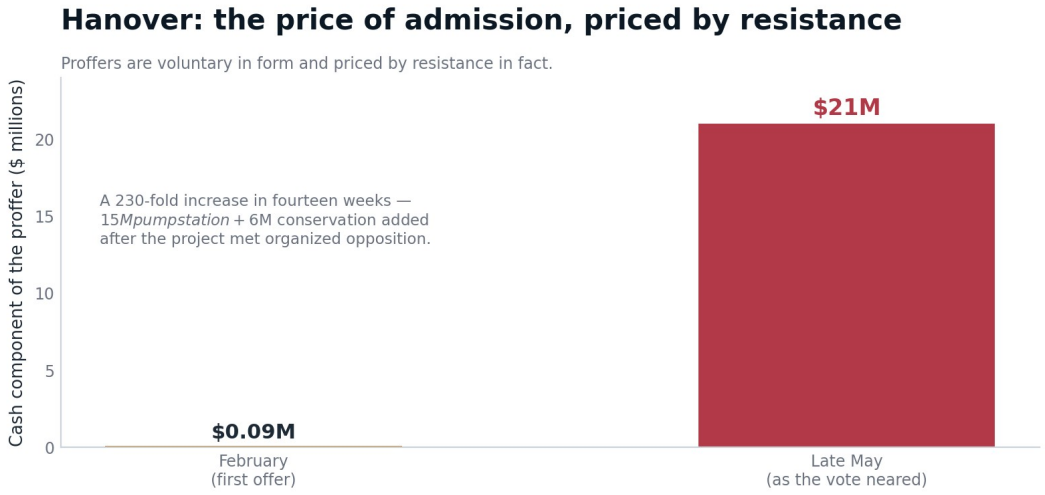


Figure 6. Hanover: the price of admission, priced by resistance. The cash component of the proffer rose 230-fold in fourteen weeks, almost all of it added after the project met organized opposition. Source: county proffer record.

A county that built the on-ramps

Hanover is a rural county of roughly 115,000 north of Richmond, seventy-eight percent of it outside the suburban service area, with a real estate rate unchanged since 2007 and a comprehensive plan that still uses the phrase “rural character” without irony. It is also a county that had been preparing, deliberately and through public processes, to receive large-scale industrial investment for more than a decade. In 2013 it designated the Route 33 corridor an economic development zone. In 2015 it adopted a strategic zoning initiative that cut rezoning fees to a flat eleven hundred dollars[1], let developers defer expensive studies from the rezoning stage to the site-plan stage, and relieved applicants of the rollback taxes that come

with converting farmland to industrial use. Its 2023 comprehensive plan update labeled the corridor an employment center. And the culmination arrived on August 27, 2025, when the board adopted a small-area plan for the corridor that explicitly named data centers a “preferred” business type[2], one month before the developer of the project this chapter turns on filed its application. The corridor designation that began in 2013 for general industry had, by 2025, oriented specifically toward data centers, and by the time the first public hearing was held the planning framework was already in place. The county had built every on-ramp. What no one tested until 2026 was whether the framework’s invitation bound the board that issued it.

The county had also, by then, already said yes to the industry at a scale that dwarfs the project it would refuse. In March 2024 it approved, on a unanimous vote, a 1,211-acre campus called Hickory Hill, designed for 2.4 gigawatts of power and a developer-projected $1.78 billion in tax revenue over twenty years, on land the same developer bought for $32.7 million[3]. Hickory Hill is the approval that frames everything after it. When the board rejected the second campus two years later, it was not rejecting the industry; it had already admitted the industry at nearly three times the acreage and nearly three times the power capacity, through a rezoning from agricultural to industrial, and that campus is under construction. What the board rejected was a second project, in a different part of the corridor, on terms a four-member majority found inadequate. And it rejected it knowing that no county document had ever performed the cumulative assessment, of water, power, roads, and ratepayer cost, that would total the two campuses together rather than weigh each in isolation.

Hanover had also, by the time the Mountain Road case arrived, already refused one data center, which is part of why the second refusal reads as a posture rather than a one-off. A regional developer proposed a 468-acre campus near the Wyndham community in the county’s South Anna District[4], on a site whose residential development a 2019 court ruling had blocked[5], requiring a comprehensive-plan amendment to reclassify the land from residential to industrial. The planning commission voted unanimously to recommend denial in January 2026, finding the proposal failed the county’s rural-character standards, and the developer withdrew within two weeks.[6] Two features of that refusal connect it to the wider story. The opposition was cross-boundary: the Wyndham community that organized against it sits on the Henrico side of the county line, and its residents are the same constituency whose resistance helped drive Henrico’s own reform, so a single neighborhood was shaping data center governance in two counties at once. And the refusal was, in a sense, cheap, because the proposal sat outside the corridor Hanover had designated for data centers, so denying it cost

the county nothing it had planned for. The project inside the designated corridor, with the “preferred” label attached, was the test that counted, because it asked whether the board would refuse a project its own framework had invited. The answer to the cheap question was already yes. The answer to the expensive one was the four-to-three vote.

The corridor the county had designated for this development is its lowest-income, which gives the case a distributional dimension worth marking even though it differs from the racial pattern of the eastern counties. The census tract nearest the proposed site reports a median household income around $38,000, roughly a third of the county’s $112,805[7], and the elementary school serving part of the corridor reports eighty-three percent of its students economically disadvantaged. The corridor is predominantly white, so the concern is economic rather than racial, but the structure is the same one the book documents elsewhere: the infrastructure burden was planned for the county’s poorest corridor while the fiscal benefit would flow to the county budget at large. The contrast with Hanover’s own prior record sharpens the point. Six years earlier the county had approved, over the sustained objection of Brown Grove, a Reconstruction-era community founded by formerly enslaved people, a 1.1-million-square-foot distribution center sited amid its homes, its church, and graves residents attribute to the community’s founders[8]. The historic district received state and national recognition after the warehouse was built. A historic Black community’s opposition to a warehouse failed in 2020; a predominantly white rural corridor’s opposition to a data center succeeded in 2026. The two are not a controlled comparison, separated as they are by geography, land use, and six years, but they are the county’s two most visible siting fights in a decade, and they resolved in opposite directions. Whether the difference reflects the shift in regional politics, the projects’ different demands, or whose objection the institution weighed, is the kind of question the record raises and does not by itself settle.

Mountain Road, and the price of a deepening reluctance

The project that became the test was the Mountain Road Technology Park, a proposed 427-acre campus in the county’s western corner near the Henrico line, brought by Tract, a Denver-based developer[9] whose model is to acquire land, secure entitlements, and build utility connections before selling or leasing to an end user it never names. The application proposed 900 megawatts of power, six buildings of 150 megawatts each, and 2.6 million square feet, with a developer projection of 300 to 350 permanent jobs.[10] One fact about the developer is essential context for what followed: it had already withdrawn a 744-acre proposal in Chesterfield after the planning commission there recommended denial over

water and noise[11], which establishes that the company walks away from jurisdictions where the friction is high. It chose, in Hanover, to ride the application all the way to a board vote.

The site itself carried a comparison the developer pressed and the county half-accepted. A Tyson chicken-processing plant on Mountain Road had closed in May 2023, laying off 692 workers and relinquishing a water allocation of roughly 800,000 gallons a day.[12] Tract's filing argued that the project's average water demand could be met by the capacity the shuttered plant had freed, and county staff repeated the framing to the board. The comparison is instructive and imperfect at once. The 800,000-gallon figure is the plant's permitted allocation, not its verified use, and the employment trade is stark in the other direction: a facility that had employed 692 people would be replaced by one projecting fewer than half that, before accounting for the temporary construction surge. The permanent employment differential is not temporary.

The proffer record is where the leverage dynamic becomes visible in dollars, because it exists in three versions and the differences among them document how scrutiny repriced the developer's commitments as approval grew less certain. The first version, submitted for the February hearing, carried a cash component of about ninety thousand dollars. After the planning commission voted unanimously to defer and directed the developer to increase buffers, clarify water use, and address construction traffic, the March version added substantially: perimeter buffers of two to three hundred feet, a double row of evergreens behind the largest buffer, decibel-specific noise commitments tied to the county's ordinance[13], generator testing narrowed to weekday daytime hours with Tier IV units only, a prohibition on single-pass cooling and private wells, and a public riverside trail. Then, between the commission's April recommendation and the board's May vote, the package grew again, and decisively: the developer agreed to pay fifteen million dollars for a pump station and water storage tank at the site, added an offer to fund sheriff's traffic control during construction, and floated a six-million-dollar payment for land conservation[14]. The cash component moved from ninety thousand dollars in February to roughly twenty-one million by late May, a two-hundred-thirty-fold increase in fourteen weeks[15], almost all of it added after the proposal ran into organized opposition and a deferral. Proffers are voluntary in form and priced by resistance in fact. The March version reflected what the developer believed approval cost when the commission was the obstacle. The May version reflected what it believed approval cost when four votes on the board were.

Even the final package left telling gaps, and the gaps measure how far the developer's concessions stopped short of the protections that peer jurisdictions had learned to require. There were no pre-operational noise limits, only post-

operational studies and after-the-fact mitigation; no per-acre water cap of the kind Chesterfield's reform imposed; no decommissioning escrow of the kind Prince William required; and no cash contribution at all to the $53 million widening of Mountain Road, a county corridor project that remained roughly $17.5 million unfunded[16]. And the developer-commissioned tax analysis that anchored the fiscal case for the project, projecting $901 million over fifteen years, rested its $456 million personal-property component on a $0.45 equipment rate[17], a rate the board had voted five weeks earlier to put to a public hearing at up to three dollars, which meant the central financial argument for the project assumed a tax environment the county had opened to review.

The decision, and the override

The case ran through four months of hearings. The planning commission deferred in February after more than two hours of testimony in which roughly thirty people spoke against the project and six in favor[18]. The developer ran a balloon test in March to show the buildings' height against the skyline. In April the commission voted six to one to recommend approval, the lone dissent citing traffic and the unknown cumulative impact of too many data centers.[19] The board heard the case on May 27, 2026, in a meeting that ran nearly six hours, and during the two-hour public hearing more than thirty residents spoke against the project and eight in support.[20] The opposition's case had been consistent across all four months, and a single resident's formulation at the final hearing distilled it: "I am not here to argue against business or growth. I am asking for the right order. Standards first, approval second."[21] Just before the vote, the developer's entitlements director addressed the board directly, in the language the county had taught its applicants to speak: "We've heard loud and clear that keeping Hanover rural is really important, and we think that this project is going to actually help you achieve that goal. And this is consistent with the county's plan."[22]

The board denied the rezoning four to three, and the internal politics of the vote are the chapter's sharpest institutional finding.[23] The supervisor who represents the district where the project would have been built supported it[24], arguing it would be the first step in implementing the corridor's vision and that the developer had worked extensively to address constituent concerns. In most Virginia counties the district supervisor's position on a land-use case in her own district carries the board, an informal courtesy strong even where it is not absolute. Here the majority overrode it, and overrode with it the staff's alignment, the comprehensive plan's designation, the small-area plan's "preferred" label, and a proffer package that had grown by eight figures since March. A board majority set aside every formal signal pointing toward approval and refused the project anyway. Water ran through every

one of the majority's rationales, though none of the four said the county lacked water, and three of the four said in substance that they could not tell whether the project worked. One member of the majority joined the water point to the county's gateway identity: the water concern was a valid issue, the proposed infrastructure investment was a great part of the project, and still he did not know that it went far enough to meet the need; and the corridor was a gateway, so he wondered what message approving an industrial use there would send about what kind of development would follow. Another member of the majority joined the water concern to the buffers between the buildings and nearby homes. The chair, casting what one outlet called the deciding vote, joined them, and cheers went up in the chamber when the result was recorded.

The board's freedom to vote that way was never seriously in doubt, and the legal predicate is worth stating because it is the doctrine on which the entire refusal-before posture rests. Under Virginia law the comprehensive plan guides but does not bind a zoning decision. The Supreme Court of Virginia held half a century ago, in a 1974 case, that the plan is a guideline rather than an ordinance[25] and that a governing body retains legislative discretion to approve or deny a rezoning under a standard of reasonableness. The corridor plan's "preferred" label did not compel approval, and a denial creates legal exposure only if it is arbitrary or capricious. A county that has built every on-ramp for an industry retains, right up to the moment of the vote, the discretion to decline a specific project on the on-ramp, and Hanover exercised exactly that discretion.

Water, the ground the refusal stood on

Water ran through the case, so the system the case was decided about deserves precision, and the precision shows why water rather than any other externality became the ground a refusing board could stand on. Hanover's public water system carries a total capacity of 24.7 million gallons a day[26], drawn from a small county treatment plant and, principally, contracts with the City of Richmond and Henrico. Average daily production is about 9 million gallons and peak-day production about 13.5 million, leaving a theoretical surplus of roughly 15.7 million gallons on an average day that narrows to about 11 million at peak. The project's projected demand was 600,000 gallons a day on average, with a peak of 2 million on a worst-case hot and humid day.[27] On paper the average demand is a manageable fraction of the surplus. The risk sits in the peaks, and in the absence of any published analysis combining the new campus with the 2.4-gigawatt campus the county had already approved, whose own demand has been reported near 700,000 gallons a day.

The political context made the arithmetic heavier than the numbers alone. In January 2025 a power failure at a partner treatment plant had caused a day to a day and a half of water outages across Hanover, a crisis that produced a proposed rate increase to fund $218 million in long-term water resilience.[28] Sixteen months later the board was asked to approve a rezoning that would add significant new peak demand to that same system, before the resilience investments were complete. The developer's answer was the Tyson allocation argument and, by May, the fifteen million dollars for a pump station and storage tank, and county staff accepted the comparison. Four supervisors did not find it sufficient, and the reason they gave is the analytically important one. The fifteen million dollars addressed conveyance and storage at the site. It did not address source capacity, it did not address peak-day exposure, and it did not supply the cumulative analysis covering the campus already approved. The majority's no was, in effect, a refusal to price the county's peak-day water risk at the developer's number. Water, more than noise or ratepayer cost, became the ground on which refusal stood because water is locally finite in a way that forces the question back onto the host community. A county can be told its power will come from somewhere on the regional grid. It cannot be told that its reservoir will, and a board that doubts the water can refuse the project on a ground no proffer fully answers.

Refuse first, price second

The sequel is the move the framework would prescribe if a county were trying to extract the most from a refusal, and Hanover's record shows how close a county can come to it and still stop short. Hanover had created a dedicated data center equipment rate of forty-five cents per hundred in its FY2024 budget, and by 2026 the rate reached a single small facility[29], because the county had no large data center operating. What the rate had generated was applications: at least five data center proposals filed since 2023. The forty-five-cent figure sat barely above the recruitment-era rate Henrico had adopted in 2017 and since abandoned, far below Prince William's $3.70, a price set to attract an industry the county had not yet hosted.

Then, on April 22, 2026, the board authorized a public hearing on raising the rate, advertised at up to three dollars per hundred[30]. Hanover sets the rate by calendar year, so nothing was stripped from a budget; the board had not yet set the 2026 rate, and it would set it after the vote on Mountain Road rather than before. The sequence the framework prescribes inverts the one every neighbor followed. Henrico repriced after its entitlements were granted and now collects its higher rate only from facilities its old rules already admitted; it is taxing a base it can no longer refuse. Hanover, holding one approved campus not yet energized and a

queue of pending applications, could set the rate before the equipment arrived. A rate near three dollars would have moved the county from the cheapest effective data center tax environment in the region to among the most expensive without a single large operating facility, and shifted the assumed economics of the already-approved campus under its developer. On June 24, 2026, four weeks after the refusal, the board did not do that. It adopted forty-five cents for calendar year 2026, seven to nothing, and referred the rate to its Finance Committee for further study, with a recommendation expected in the FY2028 budget process. The committee's chair called a raise ahead of the study premature and said it could affect the county's ability to attract desirable business investment. The county had reached the point the framework marks as decisive, its pricing power at its peak before construction, and it chose to study that power rather than use it.

The depreciation arithmetic compounds whatever rate emerges and shows why the rate choice, not the depreciation schedule, is the consequential one. Under Hanover's aggressive schedule, the effective first-year tax on a hundred dollars of equipment was about thirty cents at the forty-five-cent rate, roughly a quarter of Henrico's burden and a sixth of Prince William's. At three dollars the same arithmetic would yield nearly two dollars, the highest effective first-year rate in the region. Because data center equipment turns over on cycles of eighteen months to a few years and each replacement re-enters the rolls at full cost, and because phased buildout staggers those waves across buildings, the revenue stream smooths over time more than a single-asset reading suggests, which is precisely what makes the rate the decisive variable. It is the multiplier on the one component the county controls, applied to a base that keeps coming back.

Refuse first, price second: done in that order, a single no becomes a higher floor under every yes that follows. Hanover did the first half. The queue behind Mountain Road was already formed when the vote came down. The 2.4-gigawatt campus continues toward energization, untouched by the refusal, and whatever rate the board adopts will be the rate its eventual tenants pay. A seventy-eight-acre proposal along the Ashland line, refiled after a predecessor was voted down in 2024, was scheduled for the planning commission within weeks.[31] A roughly two-hundred-acre proposal south of an amusement park was pending. The repricing vote and the next applicant's hearing were set to land within weeks of each other, which made the test unusually clean: a county that had just shown it could say no would set its price and apply it to the next applicant. It set the price where it was. The pattern across the county's full record is sequencing. The board that said no in May 2026 had said yes at larger scale twenty-six months earlier, and the variable that moved in between was not the industry but the county's information: a water

crisis, a neighboring county's visible regrets, an unresolved statewide fiscal fight, and an organized opposition that had not existed in early 2024.

The frontier refusal, and the county that only looked like one

The rural frontier supplies a starker refusal than Hanover's, without the elaborate fiscal sequel, and it shows the posture stripped to its essentials. In Pittsylvania, a proposal that paired eighty-four data center buildings with a gas plant that would have ranked among the largest in the country was defeated by the board 6-1.[33] The county looked at the single largest project anyone had offered it and declined outright, before any reform ordinance existed, preserving its leverage at its maximum by never spending it.

Fauquier shows what the same posture looks like from outside when the vote never comes. Its board recited in September 2025 that the county had denied the vast majority of data centers proposed within its boundaries, and the outcomes are close to that: of nine Business Park applications covering six projects, one project was approved. The board got there without voting no. Applicants withdrew, several after the planning commission moved against them, and the record does not establish why any of them left; an eight-hundred-megawatt proposal at Remington went that way in 2025.[32] The Warrenton council, meanwhile, approved an Amazon campus four votes to three in February 2023, and the restrictions the county wrote afterward did not undo it. A county can earn the reputation of a refuser without acquiring the thing that makes refusal durable, which is a decision on the record.

The posture has a limit, and it is the same limit in both counties. Refusal is reactive and it does not generalize. A refusal defeats the application in front of the board, but a refusal is not a rule. The projects behind Mountain Road remain to be addressed one at a time, each from the same starting line, and a future board with a different temper could approve what this one declined. The denial in Hanover left the property zoned agricultural, but it left the corridor plan in force, still naming data centers a preferred use, which means the framework that produced the application is intact and will keep producing applications unless it is amended. The board rejected the application, not the invitation. A county can refuse its way to safety only by winning every fight, because nothing it has done stands to carry the terms forward to the next applicant. What Hanover could add, that the bare refusers did not, is a higher price built into the ground it left open, the closest a reactive posture comes to a standing rule. As of its June 24, 2026 vote it had not added it.

One feature of the Hanover coalition deserves a final note, because it recurs wherever this industry is contested and it scrambles the usual expectations about

who opposes development. The coalition that helped move the board was politically heterogeneous and said so, organizers describing people from every part of the political spectrum arriving at the same conclusion that the project was not good for the community. The cross-demographic convergence that reshaped the eastern counties, where a poor Black district and an affluent white one reached the same demand, appears in Hanover as a cross-partisan convergence within one corridor. Data center siting scrambles coalitional lines because the burdens it threatens, the water, the noise, the landscape, the rural identity, do not sort by party. The institutional lesson is the same one the whole posture teaches. A board that refuses before it has entitled anything keeps the discretion to refuse, and a community that organizes before the entitlement is granted has something to organize against. The next posture is the one that forecloses both, fixing the price so firmly in a private contract that no later board can move it and no organized opposition can reach it, and it is the one move on the entire spectrum that cannot be undone.

CHAPTER 9 — Contract-Lock: Chesterfield and Botetourt

Every other posture in this book is, in principle, recoverable. A board that approved too much can be voted out, an ordinance that asked too little can be rewritten, a county that lost in court can change course for the next applicant. Contract-lock is the exception, and it earns its own chapter because of that exception. When a county fixes the fiscal terms of a data center inside a private agreement that binds every future board, it does not merely spend its leverage on that project. It removes the leverage from the reach of everyone who comes after, including the residents who will live with the buildings for thirty years and the officials they will elect to govern them. The instrument that does this is always the same one: the tax rate. The rate is the single most valuable thing a host county controls over the life of a campus, because everything else, the building, the buffers, the noise conditions, is set once at approval and never revisited, while the rate can be raised at every annual assessment as the county learns what the industry is worth. To surrender the rate by contract is to surrender the one lever that keeps working after the leverage of approval is gone.

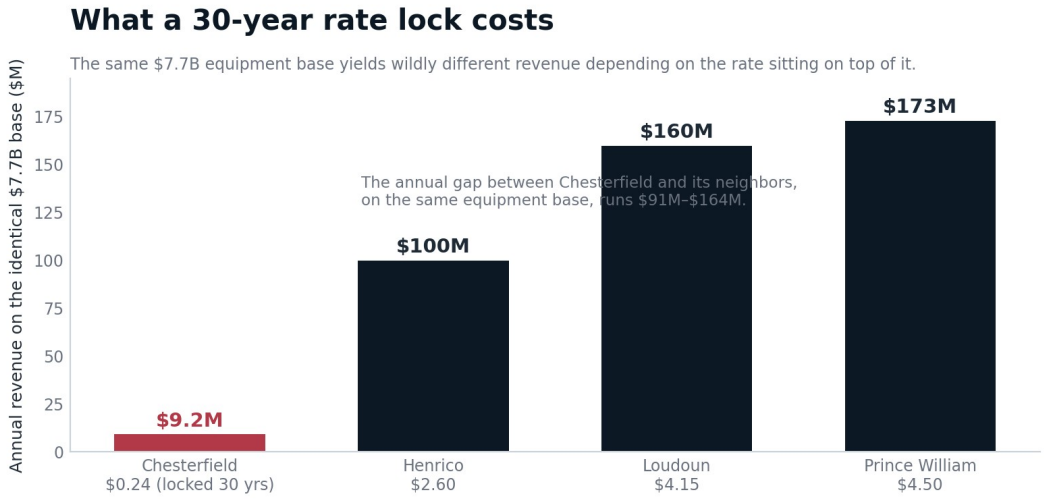


Figure 7. What a 30-year rate lock costs. The same $7.7 billion equipment base yields $9 million a year at Chesterfield's locked rate and up to $173 million at a neighbor's. Source: county rate schedules; equipment-base derivation in text.

Two Virginia counties surrendered it through opposite instruments, and the pairing is the chapter's argument. Chesterfield did it in the open, with a published ordinance that set the lowest data center rate in the Commonwealth and then wrapped a thirty-year contractual guarantee around it. Botetourt did it in the dark, with no ordinance at all, hiding a twenty-year rate cap inside a performance

agreement so that the county's largest taxpayer pays a rate that appears nowhere in the county's own tax code. The first county competed on price and locked the price. The second county refused to publish a price and locked one anyway. Both got a single round of investment commitments in exchange for a generation of forgone rate-setting, and neither can take the trade back. They are the two purest specimens in the portfolio of the one move that cannot be undone, and they show that the trap lives in the structure of the contract rather than in the particular device the county uses to enter it.

Chesterfield: a rate built to undercut a neighbor

Chesterfield set out to win the industry on price, and it is important to see how deliberately the price was chosen, because the deliberation is what makes the lock that followed a considered act rather than an accident. On April 10, 2019, the Board of Supervisors adopted Resolution 19-175 as part of the FY2020 budget[1], creating a separate tax classification for "computer equipment and peripherals used in a data center" at twenty-four cents per hundred dollars of assessed value, under the county's authority in Virginia Code Section 58.1-3506[2]. The vote was unanimous, following a public hearing on March 27. The rate took effect on July 1, 2019. To grasp the size of the concession, set the new rate beside the old one and beside the rate the same equipment would carry in any other use. Before 2019 the county had no dedicated data center class; servers were taxed as ordinary business personal property at a nominal $3.60 with a fifty-percent first-year assessment ratio, an effective rate of $1.80. The move to twenty-four cents was an 86.6 percent reduction[3], the largest single tax cut for any industry classification in the county's modern history. A server rack in a Chesterfield corporate office is taxed at $3.35 per hundred. The identical rack in a Chesterfield data center is taxed at twenty-four cents, seven percent of the office rate.

The competitive motive was explicit in the room. During the April 10 discussion the rate was described as the lowest in Virginia, and it was set where it was set in order to undercut a specific neighbor. Henrico County had disrupted the Central Virginia market in 2017 by cutting its own data center rate from $3.50 to $0.40[4], a move that immediately landed a major hyperscaler's $750 million campus at White Oak. Chesterfield's officials concluded they could not merely match Henrico but had to beat it, and twenty-four cents against forty created a tax advantage of roughly forty percent at the moment of adoption. The county administration framed the logic in the language of fiscal hygiene. The county's tax base was historically about eighty percent residential and twenty percent commercial, the profile of a bedroom community, and data centers were presented as the ideal corrective: high-value taxable property that, in the administration's recurring

phrase, brought “zero kids in schools” and made few demands on public safety. A low rate on an enormous base, the theory ran, would diversify the base and let the county hold down the residential real estate rate. The theory has a name in this book, the volume-over-rate theory, and the rest of the Chesterfield record is, in effect, a test of it.

The depreciation curve and why the rate is what matters

A first objection to any alarm about the rate is that the county’s depreciation schedule erodes the taxable value so quickly that the headline rate barely matters. The objection is worth taking seriously, because the schedule is aggressive. Under the $0.24 rate, data center equipment is assessed at fifty percent of cost in year one, forty percent in year two, twenty in year three, ten in year four, five in year five, and one percent in year six and after. A billion-dollar tranche of servers generates $1.2 million in revenue in its first year and, left in place, $24,000 by its sixth. Read in isolation, the curve implies steep and rapid fiscal erosion, and an observer could conclude that the rate is close to irrelevant because the base vanishes regardless.

The conclusion would be wrong, and the reason it is wrong is the equipment refresh cycle, which is the single most important and least understood mechanic in data center public finance. Hyperscale operators do not install servers and leave them for a decade. Artificial-intelligence accelerators are replaced on cycles as short as eighteen to thirty-six months, because the performance-per-watt advantage of new silicon makes an old cluster a financial liability once its power and cooling cost exceeds the capital cost of replacing it. Google designs its own processors and has cycled through six generations since 2020[5], implying an operational refresh of roughly three years. Under Virginia law, replacement equipment is a new asset: when a rack is retired it leaves the tax rolls and the new rack enters at full original cost, restarting the depreciation clock. The practical effect is that a single tranche, refreshed every four years, generates not the $3.4 million of cumulative revenue the decay model projects over twenty years but something closer to $14.4 million[6], because the base keeps resetting to its peak. Across a campus of several buildings coming online in different quarters, each on its own refresh cycle, the sawtooth smooths into a gradually rising plateau. The taxable base does not erode. It persists at or near steady state for as long as the operator keeps replacing equipment, which is to say for as long as the operator stays.

This is the finding that makes the rate decisive rather than incidental. Because the refresh cycle holds the base near its peak, the revenue a county collects over the life of a campus is governed not by the depreciation schedule but by the rate

applied to a continuously renewed base. A county that locks a low rate is locking the multiplier on a base that will keep coming back, every year, for the life of the agreement, not a number that will shrink to nothing on its own. Chesterfield's twenty-four cents will apply, in full, to a perpetually refreshed multibillion-dollar base for thirty years, and depreciation will not quietly retire it.

The revenue gap, measured against the neighbors

What the locked rate costs can be measured, because the neighbors kept moving. The county's projected equipment base at full build-out is approximately $7.7 billion[7], derived from the documented seventy-thirty split between equipment and real estate in data center investment. At year one of full build-out, with a fifty-percent assessment ratio, the same base produces wildly different revenue depending on the rate that sits on top of it. At Chesterfield's $0.24, it yields about $9.24 million a year. At Henrico's $2.60, it would yield about $100 million. At Loudoun's $4.15, about $160 million. At Prince William's $4.50, about $173 million. The annual gap between what Chesterfield collects and what its peers would collect on the identical base runs from roughly $91 million against Henrico to $164 million against Prince William[8]. The refresh cycle makes that revenue more durable than the decay model suggests; it does not change the rate, and the gap is a function of the rate.

The volume-over-rate theory holds that this gap is illusory, because the choice is not between $0.24 and $2.60 on the same base but between $0.24 on a base that came and $2.60 on a base that went elsewhere. The theory has an embedded empirical claim about the industry's sensitivity to the rate, and the evidence from the county's own neighbors does not support it. Henrico raised its rate more than sixfold, from $0.40 to $2.60, in April 2025, and kept its entire installed operator base[9]; the operators did not leave. The Northern Virginia jurisdictions charge between $4.15 and $4.50 and remain the most concentrated data center market on earth. The elasticity the volume theory assumes, in which a rate above the floor drives the industry away, has never been observed in the region and has never been tested in Chesterfield. The county set the lowest rate in Virginia on the assumption that the industry would not tolerate a higher one, in a market that visibly tolerates rates an order of magnitude higher a county line away.

By June 2026 the ground under the $0.24 rate had moved again, and every move widened the spread. Henrico's $2.60 had been collected through a full levy cycle with its operators intact. Prince William had gone from $3.70 to $4.15 to $4.50 in fourteen months. Loudoun applied its $4.15 general rate[10]. Hanover, having rejected its flagship project on water grounds in May, had in April authorized a public hearing on raising its dormant $0.45 rate, advertised at up to $3.00. That

rate is set annually on a calendar-year basis, so nothing had been stripped from a budget and nothing lapsed; the board simply had not yet set a rate for 2026[11]. On June 24, 2026 it adopted $0.45 for calendar year 2026 by resolution, 7-0, and referred the rate to its Finance Committee for further study. The advertised increase was not adopted, and Hanover has one small data center subject to the tax. That leaves the regional picture more mixed than the spring suggested. Henrico collects $2.60, Prince William $4.50, Loudoun applies its $4.15 general rate, and Hanover sits at $0.45, within twenty-one cents of Chesterfield. Chesterfield's rate is not singular in the Commonwealth. What is singular is that Chesterfield alone cannot move: every other low-rate jurisdiction can reprice at any budget cycle, and Chesterfield is contractually held until the 2050s. The exposure is not the level of the rate. It is the loss of the option to change it. No supervisor or announced candidate had called for revisiting the rate as of mid-2026, and the supervisors do not face election until November 2027, by which point the first building will have reached occupancy and started the thirty-year clock.

The thirty-year lock, and the operator it spared

For Google, the $0.24 rate is not a policy the county happens to maintain but a contractual guarantee the county cannot withdraw. The mechanism is an Economic Development Authority performance agreement under Virginia Code Section 15.2-4905[12], and its operation is worth stating precisely, because the precision is the point. If a future Board of Supervisors raises the data center rate above twenty-four cents, the county collects the higher amount from Google, and the EDA is then contractually obligated to pay Google an annual grant equal to the difference. The board retains the legal power to set the rate and loses the practical power to make a higher rate apply to this taxpayer. The agreement covers all three Google sites, held through the shell entities Peanut LLC, Skyward Holdings LLC, and Aeris Investments LLC, and its term runs thirty years, structured as one ten-year period with two automatic ten-year renewals[13] tied to construction benchmarks rather than fresh board votes, beginning at the first certificate of occupancy. The agreement carries a subject-to-appropriation clause, because a board cannot legally bind its successors to an expenditure[14], so each year's grant must be appropriated in the budget. In law this makes the grant discretionary. In practice it is close to ironclad, because a county that refused to honor a performance agreement would damage its credit rating and its ability to attract any future investment, and everyone who signed it understood that. The board can change the base rate for a new operator that arrives without an agreement. It cannot change Google's effective rate. That distinction is the whole of what the lock protects.

The value of the lock is not a matter of speculation, because the county ran a natural control without meaning to. Chirisa Technology Parks, which is building a $2 billion campus at Meadowville and is by some measures the county's second-largest data center investor, received no grant-back[15]. No thirty-year agreement was extended to it. Chirisa operates under the standard county code at the prevailing $0.24 rate, with no contractual protection against future increases. If the board raises the rate, as Henrico raised its rate, Google's effective rate does not move and Chirisa's does. The two largest data center investments in the county sit under fundamentally different fiscal terms for the same tax classification, and the only difference between them is a contract. Chirisa is what Google would be without the lock, exposed to the rate ratchet that the rest of Virginia rode upward. The grant-back is worth exactly the difference between those two futures, multiplied across thirty years and a multibillion-dollar refreshed base, and the county handed that difference to the one operator large enough to demand it.

The clock on all of this is no longer hypothetical. On June 4, 2026, five building permits were filed at 2700 Bermuda Hundred Road for "Peanut Data Center Hall #1,"[16] the first of the campus's three buildings: $115.4 million in electrical work, a $55.4 million cold shell recorded as the "first bldg on site," $23 million in temporary electrical, $18.9 million in mechanical, and $2.1 million in plumbing, roughly $214.7 million in declared value for a single hall before any servers are installed. The permits also answered a question Google had declined to: the shell is being built by Holder Construction Group. Vertical construction starting in 2026 sets the first certificate of occupancy on its path, and the first certificate of occupancy starts the thirty-year term. The lock is no longer a thing the county might someday regret in the abstract; its meter began running the month these permits were filed.

What the rate bought, and what cannot be checked

The county is getting real things for the $0.24 rate, and a fair account has to say so before it weighs whether they are proportionate to the concession. Data centers pay the standard $0.89 real estate rate on land and buildings[17], a stream often lost in the focus on the equipment rate, and between 2025 and 2026 the taxable value of commercial and industrial real estate in the county rose by $1.3 billion, about 9.5 percent, with the industrial corridor where Google and Chirisa build a significant component. The county has translated its commercial growth into visible household relief. It cut the residential real estate rate by six cents since 2022, from $0.95 to $0.89, the lowest in its modern history, forgoing on its own estimate roughly $106 million[18] in potential revenue, with each penny of the rate worth nearly $6.8 million. In 2023 and again in 2025 it issued a one-time five-

percent credit on residential bills, funded in 2025 with about $15 million, roughly half the prior year's operating surplus, worth just over $100 to the owner of a $450,000 home. Google's community package centers on an AI education accelerator, part of a larger national commitment[19], that gives Virginia college students, including those at a community college with a campus in the county, free access to its AI tools and career certificates.

The trouble is not that these benefits are unreal. It is that the link between them and the data centers is asserted rather than documented, and the county has built the books so that the assertion cannot be tested. The Commissioner of the Revenue publishes no breakout that isolates data center equipment from other business personal property, which means neither the county's own revenue projections nor the gap analysis in this chapter can be independently verified against actual collections. The residential credit is drawn from the general-fund surplus, not from a dedicated data center line, so the dollar-to-dollar connection between the campuses and the relief is a narrative the administration offers rather than an accounting anyone can audit. The education accelerator's Virginia-specific dollar allocation has not been disclosed, which makes any proportionality judgment impossible; for scale, Google's established data center communities elsewhere receive direct annual grants on the order of $200,000 to $1 million. And the benefits that are documented are countywide, the rate cuts and the credits that flow to every homeowner, rather than targeted to the corridors that actually host the facilities. The contrast that sharpens the point sits one county north: Henrico seeded a $60 million affordable housing trust fund from data center revenue[20], the first program in the country to dedicate the industry's taxes to homeownership in the communities that bear it. Chesterfield established no comparable instrument. The eastern corridor that hosts the county's largest campus, by-right and without a hearing, receives the same countywide credit as the western subdivisions that negotiated 350-acre preserves, and nothing more.

The state budget fight that consumed Richmond through 2026 changes none of this, and the reason is the chapter's whole subject. The Commonwealth's data center sales-tax exemption, which operators reported at roughly $1.94 billion in forgone state and local tax in fiscal 2025[21], is a separate instrument from the county's local rate, and the two run on parallel tracks. If the Senate prevails and the exemption is repealed in 2027, the operators with the deepest Chesterfield exposure will lose the state half of their incentive package and keep, by contract, the local half: the $0.24 rate and the thirty-year grant-back stand regardless of what the General Assembly does to the exemption, because the performance agreement was structured to survive exactly this weather. That is what it is for. The one operator without the contract, Chirisa, faces the reverse exposure on the

state side as well, with a June 30, 2026 deadline to meet the $150 million investment and fifty-job thresholds the state exemption requires, on pain of clawback. The county's protected operator is insulated from both the state's reform and the county's; the unprotected one is exposed to both. The grant-back is the only thing that distinguishes them, and it is the thing no future board can reach.

How the corridor was assembled, and who never saw it

The institutional pathway that produced Chesterfield's data center corridor ran on a single repeated technique: the Economic Development Authority as a buffer that let an operator stay invisible while the county did the assembling. The clearest instance is the chain of title at the anchor site. On March 25, 2020, two days before anything closed, the Board of Supervisors approved an ordinance, listed on the agenda as Item 7.A.4, authorizing a "Fixed Tax Rate and Water and Wastewater Capacity and Service Agreement with Peanut LLC."[22] Two days later, on March 27, the EDA bought roughly 353 acres from a private couple for $21.1 million and, the same day, in a simultaneous closing, sold 307 of those acres to Peanut LLC for $18.1 million[23], retaining 46 acres. The holding period was effectively zero. The EDA had served as a pass-through, taking the land from a private seller and deeding it to the operator so that the operator's name never appeared in the open-market transaction. The arrangement surfaced almost by accident when a local business outlet reported in February 2021 that the EDA had sold most of its Meadowville expansion land for $18 million, and the EDA's director acknowledged that the simultaneous purchase and sale had not been disclosed when the original acquisition was publicized, citing the non-disclosure agreement. Google's identity as the operator behind Peanut LLC stayed sealed until August 27, 2025, more than five years after the land changed hands, when the company was unveiled at a community college as part of a $9 billion Virginia announcement.

The western sites show the same technique applied at larger scale and with a sharper fiscal logic. In December 2020 the EDA bought the 2,057-acre Upper Magnolia Green tract from a New Jersey developer for $13 million, roughly $6,320 an acre[24], funded from one-time budget savings. The tract carried residential entitlements dating to a 1991 approval, some 1,336 housing units plus hundreds of additional lots. The county nullified those entitlements, rezoned the land to industrial, rebranded it a "Technology Village," and in June 2025 sold 979 acres of it to Google's Skyward Holdings for approximately $31 million[25]. The county's own officials described the move at the time in the language of growth management: replacing residential rooftops, which cost the county money in schools and services, with a high-value commercial tax base that generates net revenue. The

sequence is the finding. The county used its development authority to intercept a site entitled for housing, extinguish the housing, convert the land to industrial use, market it to data center operators, and sell it to Google at more than double what it had paid, all before any operator was publicly involved. The fiscal calculation, not a developer's request, initiated the conversion. It is municipal land assembly in the service of a single industry, executed under non-disclosure, with no parallel in the other counties in this book.

The board's own words, spoken in the June 2025 meetings that approved the western agreements, show that the supervisors understood the trade they were making and made it on the volume theory. One supervisor defended the thirty-year lock directly: the operators' investment was massive and their operational lifespans measured in decades, a tax-rate guarantee provided the predictability essential to their capital decisions, and the point was "not just a 24-cent tax rate, it is about the volume of the taxable assets this rate will apply to." Another framed the whole enterprise in terms of the residential base: the county had been eighty percent residential, a bedroom community where everyone complained about the houses, and the only way to lower the real estate rate was to bring the commercial base in. The county's economic development director cast it as competitive necessity, arguing that the low rate and long-term stability had neutralized the disadvantage Chesterfield faced against its northern neighbors and positioned it to lead the next wave of AI and cloud growth. These are the statements of officials who believed the volume theory, accepted the rate gap as its price, and signed a thirty-year guarantee to secure the volume, rather than officials who were deceived about the bargain.

The reform that came too late, and what it could not reach

Chesterfield did reform, and the reform was real, which makes it a precise demonstration of how little reform can do once the fiscal leverage is gone. On September 17, 2025, the Board of Supervisors voted unanimously to adopt the Zoning Ordinance Modernization Project, which repealed the old code and, effective January 1, 2026[26], made data centers a conditional use requiring board approval in two employment districts and prohibited them everywhere they had previously been by-right. The same meeting approved the conditional use permit for the fusion plant taken up in a later chapter. The new standards were substantive: a sixty-decibel noise cap at the property line with mandatory pre-construction sound modeling and post-construction verification, generator testing restricted to weekday business hours, a two-hundred-foot setback from residential or agricultural lines, a one-hundred-ten-foot height limit reduced from the prior industrial standard, closed-loop cooling, and a target water consumption of no

more than two thousand gallons per day per acre. The board that adopted these standards shared no members with the 2019 board that adopted the $0.24 rate; the institutional pivot from price competition to conditional use coincided with complete turnover. During the work sessions the county attorney advised that vested rights protected projects with already-approved proffers and zoning[27], and that forcing a conditional use permit onto previously approved by-right industrial land would likely trigger immediate takings litigation. The reform was not made retroactive.

Its first test came at the Board of Zoning Appeals, and the test maps exactly what the reform governs and what it does not. A developer that had bought 89 acres on Old Bermuda Hundred Road in late 2023[28] “for the specific purpose of developing data centers,” in its counsel’s words, had filed a site plan in 2024 but never obtained approval, and watched its land convert under the new ordinance from a district where data centers were by-right to one where they require a board permit. Nine days before the ordinance took effect, the developer requested a written determination that its rights had vested. The planning director denied it in February 2026, on a single dispositive fact: the county had never approved the site plan before the ordinance took effect. The Board of Zoning Appeals heard the appeal on June 3, 2026, the first data center case under the new ordinance[29] and the first public hearing of any kind on a data center question in the county’s eastern corridor. A county staff member reported 97 emails in opposition; about a dozen residents spoke against data centers. The developer’s attorney argued that a substation rezoning approved two weeks before the ordinance’s effective date supplied the affirmative governmental act that vested the whole assemblage, and that the planning director lacked authority to issue the determination at all. The deputy county attorney answered that prior zoning alone confers no entitlement absent an approved site plan, and that the rezoning of one parcel grants no rights as to another. The board denied the appeal unanimously and upheld the determination.

A second appeal, larger and closer to the county’s marquee assets, was pending behind the first. A Reston developer challenged staff’s determination that a conditional use permit was required for a planned campus of more than 430 acres in the James River Industrial Center[30], adjoining the fusion plant site, claiming it had “obtained certain vested rights for the development of the Property with data centers by-right” that the county “cannot divest… through an amendment to its Zoning Ordinance.” The case had been slated for the zoning board in May, then deferred for lack of a quorum of cases, and remained undecided as of the June 3 ruling. If the June 3 reasoning is applied consistently, the second appeal turns on the same single question: whether the developer holds an approved site plan or an

equivalent affirmative governmental act predating the ordinance. The pattern across both cases, and across Henrico's parallel test of its own reform a few months earlier, is that the reforms hold at the edge. No developer in the region established a vested right, and no board was forced to approve anything it did not want. What each reform could not reach is the variable worth studying, and in Chesterfield what it could not reach was the largest installed base in the region, held at twenty-four cents for thirty years by a contract no zoning board has any power over.

The county defended the edge of its reform and won, and the victory measures the reform's reach with precision. The edge governs entrants: a new project, or one without an approved site plan, now goes through a public hearing the eastern corridor never had. The reform does not reach the incumbents. The $0.24 rate, the thirty-year grant-back, the by-right Bermuda Hundred approval, and the absence of any water disclosure for the county's largest campus all remain exactly where they were. No board, no zoning appeal, and no election can move the performance agreement. The June 3 hearing is the right note on which to read the limit, because of its timing. It was the first forum in which the eastern corridor's residents could speak to a data center decision, and it arrived six years after the first land assembly and the day before Google's contractors filed $215 million in permits for the campus next door. Given a forum, the corridor used it. The forum simply came after everything that mattered had been decided.

Two corridors, one county

The deepest record Chesterfield produced is distributional, and it is the strongest such record in this book, because the county's own documents wrote both halves of the comparison and this analysis only puts them on the same page. Chesterfield's data center development split along two corridors that differ in almost every demographic and every regulatory particular. The split is no metaphor; it sits in the proffers and in the census.

In the affluent western corridor, every project arrived through a rezoning, which meant public hearings, community meetings, and negotiated conditions. The proffers there are stringent: buffers of two hundred to seven hundred fifty feet where the sites border homes, noise caps of fifty to fifty-five decibels well below the standard code, closed-loop cooling with mandatory daily usage reporting and a two-thousand-gallon-per-acre cap, road improvements, fiber upgrades, cash for fire and EMS equipment, and a 350-acre permanent conservation area, the Swift Creek Preserve, dedicated to protect the watershed feeding the county's drinking-water reservoir[31]. The preserve is a textbook instance of green mitigation: a permanent greenbelt that made an industrial conversion acceptable to the Magnolia Green

and Dogwood Creek communities, whose residents turned out to the hearings. One of them told the board they had moved there “for the trees and the quiet, not for a 24/7 hum of generators and 100-foot concrete walls,”[32] and the proffers answered the complaint.

In the eastern corridor, the county’s largest campus arrived by-right, and the contrast is total. The Bermuda Hundred site was zoned heavy industrial, which permitted data centers without any rezoning, so there was no public hearing, no board vote, no proffer negotiation, and no forum in which a resident could ask a question. The noise limit is the standard county code rather than a site-specific cap. There are no water controls and no water disclosure. There is no conservation land and there are no community benefits beyond standard permit fees. The same county that negotiated seven-hundred-fifty-foot buffers and a 350-acre preserve for its wealthiest neighborhoods approved its single largest data center campus, in its most diverse and lowest-income corridor, without buffers, a noise cap, water disclosure, or a public hearing.

The census makes the two corridors concrete. The tract nearest the Bermuda Hundred industrial core reports a median household income of $34,609[33], roughly a third of the county’s $101,931. It is 43 percent Hispanic and 35 percent Black, against a county that is 56 percent white, and it is majority-renter, which means that whatever property appreciation the data centers might drive, more than half the nearest residents will not capture it as equity and may instead face rising rents. A neighboring tract, a few minutes west, reports a median household income of $136,370, is 84 percent white, and is 86 percent homeowner. The industrial engine sits in the diverse, low-income corridor; the affluent residents nearby draw the county-wide fiscal benefit, the rate cuts and the residential credits funded from the surplus the data centers help produce, without hosting the industry that produces it. The education data closes the circle: in the eastern tract, 57 percent of adults have a high school diploma or less, and only 6 percent work in the professional and technical sector that data center operations require, against 24 percent in the western tract. The residents nearest the campuses are the least likely to hold the jobs the campuses create.

The corridor also carries a history the by-right process never had to acknowledge. The Bermuda Hundred site sits beside a historic district that includes one of the oldest English settlements in Virginia, established in 1613[34], and that the county’s own museum has documented as a center of the transatlantic slave trade. Between 1690 and 1775, white Virginians bought roughly 100,000 enslaved Africans from transatlantic traders, and Bermuda Hundred, with a deep-water port that could receive vessels unable to navigate the falls at Richmond, was the dominant point of sale for the Upper James region, where enslaved people were marched from the

wharves to a central marketplace and auctioned to Piedmont planters. A data center was sited beside that ground with no public hearing and no acknowledgment of the place's history in the approval, because the by-right framework required none.

The generation side of the same corridor produced the sharpest exhibit of all. To serve the data center load, the State Corporation Commission approved in November 2025 a 944-megawatt gas peaker, at a cost of $1.47 billion, sited within the footprint of a retired coal unit[35] at the existing power station in the Bellwood and Bensley area, in a census tract that the utility's own environmental-justice review found to be 84 percent people of color, 73 percent low-income, and 41 percent Hispanic, with 26 percent of households linguistically isolated[36]. The utility's review found that 22 of the 24 census block groups within three miles of the site qualify as environmental-justice communities[37]. The tract already carried elevated burdens before the new plant: federal screening data place it above the eighty-fifth state percentile for fine-particulate pollution and above the ninetieth for proximity to hazardous waste, and county health data show adult asthma prevalence around 10.2 percent against a county average of 8.6. There is no air monitor within three miles of the site. Environmental groups, including a local NAACP branch and two community organizations, petitioned the commission for reconsideration[38], arguing that the commission's environmental-justice analysis applied the wrong legal standard and that re-siting fossil infrastructure on the same fenceline that hosted the last fossil infrastructure was precisely what the state's Environmental Justice Act was written to interrupt. The commission denied the petition, reasoning that fossil-plant impacts dissipate over distance and that the petitioners' theory, taken to its conclusion, could preclude siting such a facility anywhere. The two readings of the same statute are now before the Supreme Court of Virginia, and a parallel challenge to the air permit is pending in circuit court[39]. An environmental attorney for the challengers put the procedural failure in a sentence the record supports: the Environmental Justice Act is meant to be followed, "it's not just a box to be checked, but in this case, even that wasn't attempted." Meanwhile the rate adjustment that recovers the plant's cost, about seventy-five cents a month for a household using 1,000 kilowatt-hours, began appearing on residential bills in March 2026[40], while the plant's certificate sat under petition at the state's highest court. The county locked the rate for the operator. The cost of serving the operator's load is being collected from the households on the fence line, in advance, by a different institution, on a timeline that runs years ahead of the carbon-free power the same hyperscaler has promised for the early 2030s.

Botetourt: the rate that does not exist

Two hundred miles west, at the head of the Roanoke Valley, a county of 34,129 people reached the same irreversible destination by the opposite road[41]. Botetourt has never adopted a data center tax classification. There is no $0.24 rate to point at, no ordinance, no public number. Google's servers will be taxed as ordinary business personal property, at the county's standard rate of $2.94 per hundred[42]. What Botetourt has instead is a clause buried in a performance agreement, and the clause does in private what Chesterfield's ordinance did in public, which is to fix the effective rate for the operator for twenty years and put it beyond the reach of any future board. The county that competed on price published its price and locked it. The county that refused to publish a price locked one anyway, and the refusal is itself the more advanced technique, because a contractual cap that appears in no rate survey draws none of the scrutiny that Chesterfield's twenty-four cents drew across the state.

The Botetourt deal also sits on ground that makes the distributional questions of the Chesterfield chapter look almost abstract, and the ground has to come first. The county's only data-center-zoned land is a 750-acre business park called Greenfield, and Greenfield was a plantation for two centuries before it was an industrial site. It was established by Colonel William Preston, whose operation began, in the words of the National Register nomination, "with his purchase of 16 Africans from the ship True Blue on August 28, 1759."[43] The plantation grew past 1,200 acres; in 1860 the Preston family enslaved 38 people there. After emancipation some of the freed families stayed as tenant farmers, and the nomination records that many of their descendants still live in the Amsterdam area, which is to say along the corridor that now borders the park. The county bought the farm in 1995 and has spent thirty years filling it. And the county had already, in 2016, demonstrated exactly what it would move out of the way for a recruited employer. Landing an Italian auto-parts plant required leveling a pad where two surviving log dependencies stood, one of them a slave dwelling built around 1864[44]. A descendant of people enslaved at Greenfield sued all five supervisors, the development authority, and the deputy administrator to stop the relocation, arguing her ancestors lay in unmarked graves nearby. The county paused, surveyed, reported no graves found, and moved the buildings half a mile. The original Greenfield National Register listing was delisted in 2022 because of the relocation. The episode establishes two things the Google deal would test again: that the county will move the physical remnants of the enslaved community to seat a recruited employer, and that the constituency for Greenfield's history had already been organized, named, and defeated once before Google arrived.

Project Raspberry, and the night the use was legalized

Google's site selection reached Botetourt in early 2024 and ran for seventeen months under the code name Project Raspberry[45], behind non-disclosure agreements binding county officials and, eventually, the regional water authority. The county administrator later called the NDA the project's "safety rail." The paper trail shows how much was settled before any of it was public. On October 1, 2024, the county and its development authority signed a real-estate option giving Google's acquisition entity the right to buy the park land[46]. On October 13, the authority bought an adjacent 62-acre tract and merged it into the parcel. On November 7, the rezoning application for that addition was filed. And on the night of November 26, 2024, the Tuesday before Thanksgiving, the board did the rest.

That evening's meeting is the load-bearing mechanism of the entire case, and it deserves to be walked through. The board convened in the afternoon and went into closed session under the economic-development exemptions of the Freedom of Information Act, the agenda citing prospective businesses "where no previous announcement has been made." At six o'clock it sat jointly with the planning commission for two advertised public hearings. One item rezoned the 62-acre addition from agricultural to the park's research-and-manufacturing district. The other was a text amendment, requested by the board itself, to add "data center and its definition," bundled on the agenda with "greenways and trails," to that district. The words "data center" were on the face of the agenda. What was nowhere in the room was the option agreement signed eight weeks earlier. The staff report stated that "as this is a speculative request, no use or concept is identified at this time."[47] The community development director told the joint meeting the rezoning was "for speculative purposes now." The planning supervisor presented the text amendment as bringing the district "into the 21st century," noting that data centers would be allowed only in that district, that Greenfield was the only park so zoned, and, to his credit, that data centers used extensive electricity and water. On the text amendment itself, exactly one citizen spoke, and he asked only for time between the planning commission's recommendation and the board's vote, so the public could learn more. He did not get it. The planning commission recommended both items five to nothing, and the board approved both five to nothing the same evening, then voted five to nothing again to relocate the park's open-space easement[48] to make room. The county would later state, accurately and incompletely, that the data center use "was adopted after a public hearing at which no opposition was expressed."

The sequence is the finding, and it is worth setting against the refusal chapter for contrast. Hanover's planning framework invited an application that its elected

officials then spent six months and six hours of hearings deciding, in public, with the project named. Botetourt compressed the entire entitlement, the legalization of the use, the rezoning of the site, and the relocation of the easement, into a single evening fourteen months before the public learned who would benefit, with the deciding bodies stacked in one room and the applicant of record being the board itself. Nothing about the procedure was unlawful, and that is precisely the finding. In Chesterfield the use was already by-right and the EDA flipped the land under an NDA. In Botetourt the use was not by-right, so the board manufactured the by-right condition while already under contract, which makes it the quieter and the more complete of the two maneuvers. The closing came the following June: the authority and Google executed the sale on June 20, 2025, and title transferred on June 24 after the board approved the performance agreement, with the buyer named at last as Helio Capital LLC[49], a Delaware entity whose notice address is a Richmond law office, the Botetourt cousin of Chesterfield's Peanut LLC. Google's own formal corporate confirmation that it would proceed waited until March 26, 2026, after its grading-permit applications were already filed.

The agreement, read closely

The performance agreement, effective June 24, 2025, is the central document, and the county posted it in full, which allows the close reading the secrecy elsewhere prevents. It contemplates up to three data centers, and for each it sets a capital-investment floor of "not less than One Billion Dollars" and "not fewer than fifty (50) new full-time jobs at a median salary of at least $86,000."[50] The figures that circulated in 2026, at least $3 billion and at least 150 jobs, are these per-building floors multiplied by three. The agreement runs twenty years per building from the date each becomes operational. Section 4.3, titled "No Obligation to Develop," means what it says[51]: the company "may delay, or choose not to, develop a Data Center," and if the first building is not substantially complete within five years the agreement simply terminates, with the county not required to return any community payments already made. The structure is a one-way option. Google's money stays whether or not anything is built, and the investment and jobs floors bind only buildings that actually rise. As a hedge against an empty park this is shrewd drafting for the county. As the $3 billion guarantee the headlines implied, it is nothing of the kind.

The tax architecture is Section 6.2, and it inverts the Chesterfield structure while reaching the same end. Where Chesterfield adopted a public ordinance setting $0.24 for everyone and then locked it for Google, Botetourt skipped the ordinance entirely. The agreement provides that whenever the business personal property bill on Google's equipment exceeds an effective $2.40 per hundred of depreciated

value, the county pays the excess to the authority[52], which grants it back to the company, for twenty years per building. Three properties of this structure matter. It is a discount on day one, not merely insurance against the future: $2.40 against the standing $2.94 is an 18.4 percent reduction, effective immediately, available to no other business in the county. It is invisible in the tax code: a resident or a competing county reading Botetourt's rate schedule would conclude data center equipment is taxed at $2.94, because the real rate lives in a contract. And the level is itself informative. At $2.40, Botetourt's effective cap sits ten times above Chesterfield's $0.24, in a county with no competing bidder west of the Blue Ridge. Google paid far more where its alternatives were fewer, which says something about how these rates are actually set: to the operator's alternatives rather than to any measure of cost.

Then there is Section 9.4.1, and it is the clause that takes Botetourt past every other case in this book[53]. The confidentiality provision binds the county not to disclose the company's information without written consent, and, on receiving a FOIA request, to notify Google and "cooperate with Company in asserting any applicable exemptions." Its last sentence should be quoted without paraphrase: "Company will manage all media and press relation services regarding Company's involvement with the County and the Authority." A Virginia county government signed an instrument assigning a private company the management of public communications about a public deal, and agreeing to help that company resist the state's transparency law. Contract-lock in Chesterfield reached the tax rate. In Botetourt it reached the county's own transparency, turning secrecy itself into a negotiated deliverable with the public's agents as the counterparties.

The community payment that headlines the county's materials shows who the deal was for. The agreement specifies $4 million in fixed payments to the dollar: $1.1 million for three ambulances[54], $600,000 to retire financing on three fire trucks, five annual payments for parks, two for heart monitors, and five annual payments of $300,000 for body cameras and less-than-lethal weapons for the sheriff's office. Of the $4 million, the single largest stream, $1.5 million, buys sheriff's equipment, and $3.5 million of the $4 million flows to public-safety hardware in some form. Nothing in the schedule touches the corridor communities nearest the site, the descendant community at Amsterdam, housing, or any mitigation tied to the project's actual externalities. The $4 million is, functionally, a general-government equipment budget paid in advance by the applicant whose project the equipment will in part serve.

The water, and the body that did not approve the project

The water commitments are where Botetourt's structure produces its most consequential finding, because the body that absorbed the demand is not the body that approved the project. Botetourt's water comes from the Western Virginia Water Authority, an independent regional authority whose eight-member board seats three appointees from Roanoke City, three from Roanoke County, one from Franklin County, and one from Botetourt[55]. The county that recruited Google, optioned it the land, rezoned the park, and signed the performance agreement controls one-eighth of the board whose reservoirs will supply it. On September 10, 2025, that board voted unanimously to execute two agreements: a funding agreement with Google's entity reserving no more than 2 million gallons a day for the campus, and a services agreement with the county, in which the county requested that capacity "on or about January 1, 2028"[56] and committed to fund a new regional water source. The usage figures, a Day 1 ceiling of no more than 2 million gallons a day and an eventual 8 million that the funding agreement names only as the parameter a required study must be scoped against, were redacted from the versions first shown to the public.

The arithmetic explains why those figures were worth hiding. The authority's primary source for the campus, Carvins Cove, currently supplies about 10 million gallons a day of treated water against a reported safe yield of 14 to 18 million, leaving headroom of 4 to 8 million. An 8-million-gallon draw would equal or exceed that headroom, and would be roughly thirty times the authority's current largest customer, a Coca-Cola bottling plant drawing 270,000 gallons a day; the Day 1 allocation the board actually approved is about seven times it[57]. A 2010 long-range plan had projected the region's supply adequate through 2060, and the county, citing the authority, says the region was already expected to search for a new source by about 2040 and have it in service around 2060 before Google arrived. The authority has named no year by which a new source must be online. What the campus moved is the planning. The county attorney told the board in February 2026, "If Google happens, it's going to happen much sooner, probably more like the 2030s." Who pays for that new source is contested terrain, and the contest is over the documents' own language. One broadcast outlet, reading the released agreements, reported that Botetourt bears the first $100 million of new-source costs, with total commitments that could reach $300 million[58]; the county's framing assigns Google a pro-rata share by 2060 based on actual usage. Both agreements were read in September 2026 and neither account survives them intact. The county agreement caps the county at 100 percent of the first $100 million on a four-tier ladder running to $300 million, and it contains neither the date 2060 nor any mechanic calculating the company's share from usage. What is not contested

is that Carvins Cove is the drinking supply for roughly 98,000 Roanoke-area residents, who are overwhelmingly not residents of the county collecting the revenue. Roanoke's mayor noticed, and in July 2025 formally requested 15 percent of the project's tax revenue and replacement of the drawn water; the county did not respond[59], and no revenue-sharing arrangement had been reported as of September 2026. When the serving institution is regional and the taxing institution is local, the mismatch generates claims that Virginia law has no instrument to settle, and the water authority took the decision on the vote of a board where the host county holds one seat of eight, Roanoke City and Roanoke County together hold six, and Franklin County holds the eighth.

Gendreau v. McEvoy, and the limit of the lock

The water figures are public at all only because a one-person newsroom litigated them loose, and the litigation is where contract-lock met its outer boundary. After the September 2025 votes, The Roanoke Rambler, a subscription outlet founded in 2021, requested the authority's Google agreements; the authority released them with the usage figures redacted, citing the proprietary-information exclusion of the Freedom of Information Act. On October 9, 2025, the Rambler's founder sued the authority's executive director in his official capacity. On November 5, in Gendreau v. McEvoy, Judge Leisa Ciaffone ruled that a data center's water use is not a trade secret[60], the first ruling in Virginia to say so, writing in her November 5 ruling that "there are few resources more precious than water." Google had intervened alongside the authority, and the fight continued past the ruling: the Court of Appeals twice declined to stay the order, and, facing a contempt hearing at which the Rambler sought personal fines, the authority released the unredacted records on February 23, 2026, eight months after the land sale closed[61].

The authority's executive director supplied the episode's most revealing detail. Confidentiality agreements in economic-development recruitment are routine, he told a public-radio reporter, and the authority had signed them before, but in every prior case the NDA expired when the project was announced. This one did not. His phrase, "the first time after an announcement that confidentiality continued,"[62] is the executive director of a public water authority describing the instrument he remained bound by months after the company's name was on a county press release. The continuation was no oversight; it is Section 9, written in.4.1 operating as designed, the county obligated to assert exemptions on the company's behalf, the company managing all press relations, the regional authority swept into the same architecture through its own agreements.

The ruling marks the precise limit of contract-lock, and the limit is worth stating exactly, because it is generalizable. The court pried loose the water figures, which

is real, and it established a precedent with statewide reach: after Ciaffone's ruling, no Virginia water utility can promise a data center developer that usage figures will stay sealed, which raises the price of secrecy in every negotiation that follows, and no government body produced that leverage. What the court did not do, and could not do, was reopen the rate. The twenty-four-cent guarantee in Chesterfield and the $2.40 cap in Botetourt sit beyond the reach of any court applying the contracts as written and any board that succeeds the one that signed them. A county in this posture can still be forced to disclose, can still tighten its zoning, can still lose a water case. The one thing it cannot do is collect, from these operators, the rising rate that the rest of Virginia learned to charge.

The first Appalachian power case

Everything this book has established about data center power was built in Dominion's territory, and Botetourt is the first case where none of it transfers unmodified. The campus sits in Appalachian Power's service area, the AEP subsidiary that serves roughly 530,000 customers across the part of Virginia west of the Blue Ridge, on a generation fleet still anchored by the Amos and Mountaineer coal plants, with full exposure to fuel-price shocks and a residential rate that has risen 158 percent since 2007, more than triple inflation[63]. Affordability was already the dominant utility politics of the region before any hyperscaler arrived. Dominion's role across the eastern cases is a growth utility socializing enormous new infrastructure across a swelling rate base. Appalachian Power's is the opposite predicament: a shrinking-load utility in a poorer territory, suddenly offered the largest new customer in its Virginia history. For such a utility the data center is salvation and exposure in the same instrument, and the regulatory architecture for managing that ambivalence was being built in real time as Google closed on Greenfield.

Dominion answered the load with a rate class; Appalachian Power answered it with contract terms. In a case filed at the State Corporation Commission in March 2025, the company petitioned to revise its Large Power Service schedule for new loads of 100 megawatts at a single site or 150 megawatts aggregated, imposing minimum contract terms of twelve years[64] following a ramp-up period of up to four, collateral requirements, and exit obligations, and it told the commission the design tracked a settlement it had just reached in West Virginia. The West Virginia template is the revealing part, because Google negotiated it. In Appalachian Power's large-load tariff case across the state line, Google had intervened to object to the contract duration and minimum-take terms, and the January 2025 compromise, struck among the company, Google, and the state's industrial energy users, landed at twelve-year contracts with an eighty-percent minimum power commitment[65],

modeled on a settlement in Indiana. The company building in Botetourt had already litigated the shape of Appalachian Power's large-load protections in an adjacent state, and the broader AEP pattern is consistent: the parent's Ohio tariff, approved in July 2025, requires new data center customers to pay for at least eighty-five percent of subscribed demand for up to twelve years with a multi-year exit fee. These settlements are the live answer to the question the eastern cases answer by rate class, which is who holds the bag if the load does not come. What no public document yet discloses is the campus's actual contracted load. Google has stated no megawatt figure for Greenfield, and the utility's own resource plan acknowledges more than a gigawatt of expected demand additions "not modeled in the plan due to timing considerations." The Botetourt campus sits somewhere inside that unmodeled gigawatt.

The physical buildout is public in outline. The utility's Daleville-area transmission project would rebuild or reconductor about seventeen miles of 138-kilovolt line, upgrade four substations, and construct a new one[66], with an application expected at the commission in the summer of 2026 and construction beginning in the fall of 2027. The company's public position on who pays is categorical: the project "won't raise rates" for residential customers because Google is covering the upgrades, while the rebuilt lines also serve existing reliability. The claim is presently unverifiable and partial by construction. Direct assignment of one transmission project's cost says nothing about the generation, capacity-market, and system-upgrade costs that a gigawatt of new load imposes over time, which is precisely the category the tariff fights exist to allocate, and the commission docket, once opened, is where that claim acquires or loses content. It is also the opposition's second formal intervention point after the federal wetlands permit. On the generation side, the campus's announced renewable supply is a power-purchase agreement signed in December 2024 for the full output of Rocky Forge Wind, a 79-megawatt project on North Mountain in Botetourt itself, Virginia's first onshore wind farm[67], which Google concedes "will not fully cover" the campus and at hyperscale load factors would supply a fraction. The balance comes from the system, which is to say from Amos, Mountaineer, gas, and whatever the company builds next, its planning now including recoverable site-development costs for a small modular reactor near Lynchburg that the commission approved in November 2025. The ratepayer context into which this load arrives is an affordability crisis the legislature has already legislated against, with the company filing a $61.4 million base-rate request in May 2026 that it called its smallest in three decades[68] and a 2025 securitization statute passed specifically to manage the region's rates. The national posture frames what the valley should expect next: AEP reported 63 gigawatts of incremental load expected by 2030, roughly ninety percent of it data

centers, and raised its five-year capital plan to $78 billion. The wave did not stop at Greenfield. Greenfield is where it came ashore.

The opposition that arrived too late, and the proportion of the bet

The shape of the Botetourt opposition is the clearest evidence in the book of what the timing of entitlement does to the public's options. By the time residents organized, in the fall of 2025, there was nothing left to vote on. The use was by-right, the land was sold, and the agreements were signed. Hanover's opponents had a rezoning to defeat and defeated it; Henrico's Varina residents faced entitlements already granted and shifted to containment, winning reforms that bound the future; Botetourt's opposition opposes a project that was never theirs to approve, so its work is leverage-hunting at the margins of other bodies' proceedings. Its leverage map is thin and the group has read it accurately: the federal wetlands permit, whose comment period the Army Corps held open through April 2026[69]; the transmission application the regional utility is expected to file at the State Corporation Commission; the water authority's monthly public board; the General Assembly's fight over the sales-tax exemption. Elections are the slowest lever, and the calendar is unkind, because the county's supervisors run in odd years and the seats covering the site do not return to the voters until 2029. As one regional outlet assessed the procedural reality, there were multiple protests but "likely nothing procedurally that can stop the project."

The bet the county placed is, in proportion to its size, the largest in this book. A $3 billion commitment in a county of 34,129 is roughly $87,900 per resident, against Mecklenburg's $64,900 per resident[70] from a Microsoft investment that accreted over fifteen years rather than arriving at once. No county in this study has staked a larger share of its civic scale on a single corporate counterparty, and the western edge of the diffusion wave is landing in jurisdictions so small relative to the projects that one deal reorganizes the county's fiscal identity. The county advertises that the campus could yield $30 million a year at full build-out, "more than twice the contribution of the County's current top three companies combined," against its roughly $98 million annual budget; the contractual floor Google actually signed is about $1 million a year. The entire fiscal case for the deal lives in the gap between that floor and that ceiling, and nothing in the public record yet adjudicates where it will land.

One absence belongs in the frame, and it is the same absence the 2016 episode warned would recur. The visible 2025 and 2026 opposition organized from the county's most affluent corridor, meeting at a country club and a high school, led by well-resourced newcomers and retirees. The descendant community at Amsterdam[71], the population with the longest stake in Greenfield and the one

whose ancestors' graves the county had already disturbed once, is absent from every account of the opposition the record contains, as it was not absent in 2016. That silence is a finding awaiting fieldwork rather than a conclusion, but it is the kind of silence this book has learned to read. The community with the deepest claim on the ground is, again, not in the room.

The cautionary case its neighbors are legislating against

Botetourt is the first hyperscale commitment west of the Blue Ridge in this study, and the diffusion behavior around it is already legible and runs opposite to the eastern pattern. East of the ridge the wave moved from a saturated Loudoun into counties competing to receive the overflow. West of the ridge the neighbors' first institutional response to Botetourt has been to write defensive ordinances before any project arrives at the door. Franklin County, which sits inside the same water-authority service area and was named in Google's own alternatives analysis, confirmed in May 2026 that data center companies had contacted it[72], and began rewriting its zoning preemptively: bans on private-well service, noise limits, two-hundred-foot setbacks, confinement to designated districts. Montgomery County directed its planning commission to study data center land uses, which its ordinance currently neither defines nor allows. Campbell County adopted regulations in January 2026, and Appomattox County is weighing a 452-acre campus of its own. The posture the neighbors are adopting is Hanover's, setting the terms before the industry arrives, rather than Henrico's, admitting it first and reforming afterward. Botetourt, having entitled first and disclosed later, now functions as the cautionary case its own neighbors are legislating against, eighteen months before its first building opens. The county that built its model to make sure nothing stood between a prospect and the pad has become the regional argument for putting something there.

What the two counties prove together

Chesterfield and Botetourt reached the same place by opposite means, and the convergence is the chapter's whole argument. One county set the lowest published rate in Virginia and guaranteed it for thirty years through a grant-back; the other published no rate and hid a twenty-year cap in a contract. One ran a natural control, in Chirisa, that measures the lock's worth as the difference between an operator the county protected and an operator it left exposed to the ratchet the rest of the state rode upward. The other extended the lock past the rate into the county's own transparency, signing away its obligation to tell its residents what its largest taxpayer pays and what its largest customer draws. In both, the distributional cost landed where these costs land, on the corridor that got the campus without a hearing and on the fenceline community that got the power

plant, and in both the ground itself carried a history of slavery that the by-right and the contracted processes never had to acknowledge. And in both, a later board retains every power except the one that matters. It can tighten the zoning, as Chesterfield did and as Botetourt's neighbors are now doing preemptively. It can be forced to disclose, as a one-person newsroom forced the water authority to disclose. It cannot reopen the rate. That is the meaning of the irreversible move, and it is why the next posture, where the dependence arrives not through a signed contract but through the slow accumulation of revenue in the budget, is the one that most resembles prosperity from the inside even as it does the same work to a county's freedom of action.

CHAPTER 10 — Governance-Capture and the Fifteen-Year Audit: Mecklenburg and Prince William

Every case before this one in Part Three describes a risk that has not yet fully arrived. The revenue Chesterfield gave away has not all gone uncollected, the water Botetourt promised has not been drawn at full draw, the burdens Hanover refused were refused before they could land. A skeptic could read the first chapters of this part and reasonably ask whether the costs the book attributes to the model are real or merely forecast. This chapter exists to answer that question, and it answers it with the one county in Virginia old enough to settle it. Mecklenburg admitted the industry in 2010. Fifteen years later the brochure can be checked against the ledger, and that check is the empirical foundation on which the credibility of every prospective case in this book rests. The chapter pairs it with Prince William, which shows the same posture as a live process rather than a finished one, and which establishes that the trap closes on a wealthy county as readily as a poor one. Mecklenburg shows what capture becomes; Prince William shows how it happens.

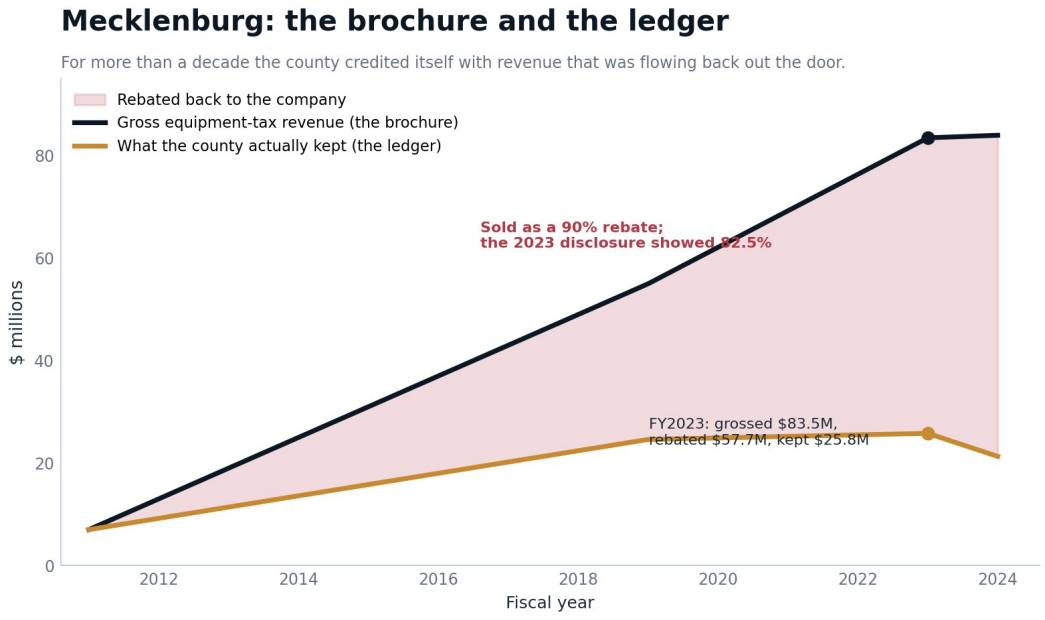


Figure 8. Mecklenburg: the brochure and the ledger. Gross equipment-tax revenue against what the county actually kept after the rebate; the shaded gap is the money flowing back to the company. Source: state auditor comparative reports; county audited financial reports.

CHAPTER 10 — Governance-Capture and the Fifteen-Year Audit: Mecklenburg and Prince William

A county that could not afford to say no

Mecklenburg arrived at the industry with no leverage at all, and the audit has to begin there, because the absence of leverage shaped everything that followed. By the late 2000s the county on the North Carolina line had spent a decade absorbing the collapse of every economic pillar it had. The Russell Stover candy plant closed in 2001 and took seven hundred jobs; the Burlington Industries plant, which had employed more than two thousand at its height, closed in 2002; the state shuttered the correctional center across the highway the same year. Tobacco buyouts had ended the crop economy that had organized the county for two centuries. Median household income in 2011 was $36,069[2], less than sixty percent of the state figure, and roughly one resident in six lived below the poverty line. The county seat, Boydton, held 431 people[1].

Three assets made the county a candidate for whatever came after tobacco. The first was an empty 175-acre industrial park that had never attracted a tenant in thirteen years of trying. The second was fiber: a carrier-grade open-access network built across Southside in the mid-2000s with money from the tobacco Master Settlement, running past the empty park with capacity to spare, which the governor's own 2010 announcement called a key component of the company's decision. The third was statutory, and its provenance is one of the great ironies of Virginia data center policy. In 2008 the district's delegate carried a bill creating a sales-and-use tax exemption for data center equipment, drafted as an incentive for a specific unnamed prospect to locate in Mecklenburg County, with a fiscal-impact estimate of $1.54 million[3]. Broadened to apply statewide, that same exemption would be worth $1.94 billion a year to operators by fiscal 2025, in state and local tax combined[4] and would hold the state budget hostage into the summer of 2026. The county that asked for the seed never controlled the tree.

The recruitment that closed in 2010 set the pattern the audit later indicts. The local approvals came before the public announcement: in July the board agreed to rebate ninety percent of the company's personal property tax for twenty years[5], and in August the development authority agreed to sell the entire industrial park for two million dollars to a firm then worth a quarter of a trillion dollars. Neither action drew recorded opposition, and the minutes survive only as references inside a newspaper story, because they were never digitized. On August 27, 2010, the governor announced that Microsoft would invest up to $499 million and create fifty jobs[6], the largest economic investment in Southern Virginia history. Three features of that founding deal deserve the audit's attention before the first server was racked. The headline taxpayer arrived pre-discounted, ninety cents of every property-tax dollar flowing back by contract. The fifty promised jobs were never

Microsoft's: the company's first project manager told the town council that fall that Microsoft itself would station two employees on site, a data manager and an operations manager[7], and that the fifty jobs would belong to a staffing contractor working in shifts of about fifteen, which makes the earliest on-record description of the labor model two badges and a vendor. And the land sold for two million dollars because, after a decade of plant closures, the county's negotiating position rounded to zero and the company knew it. The distributional question the rest of the chapter carries is the one that deal raises: what does bargaining look like when one side cannot afford to say no?

By-right before the buyer had a name

The decision that guaranteed the public would never weigh the buildout came years later and almost without notice, in the quiet phase after 2019, when the campus stopped growing by press release and started growing by deed. In mid-December 2020, with no announcement from the company or the state, Microsoft bought roughly nine hundred acres across three industrial parks in a coordinated five-seller transaction[8], and the county administrator said only that he was not at liberty to disclose the terms; the county's own parcel records recover the price of just one of the three. The local governments had prepared the ground in advance and in the correct order. In September 2020 the largest town's council had amended its zoning to allow data centers by-right in its industrial districts[9], a change officials described as routine marketing housekeeping, and it did so before the buyer was named. In January 2021 it cleaned up a title defect at the company's request, rezoning a residual parcel that nineteenth-century records had designated for a cemetery, after a survey found no graves, and in the same meeting raised the industrial height limit[10]. In March the county and town negotiated a revenue split so the company would face a single taxing authority[11] before the first assessment existed. Each step was unanimous or without recorded objection. The sequence is by-right development as practiced by jurisdictions that want the outcome: no rezoning fight, because the zoning was fixed before there was a buyer to fight over, and no tax fight, because the split was settled before there was a bill to divide.

The scale that resulted is legible only through environmental permits, because the company never announced it. By late 2024 the county held twelve data center sites on roughly 3,762 acres[12], about one percent of its land, eleven of them Microsoft's, and the live parcel record now puts the company's holdings above four thousand acres across thirty-one parcels. The later land came not from development authorities but from farms bought on the open market at roughly ten thousand dollars an acre[13], with no incentives attached and none requested, because the recruitment-subsidy era had ended quietly once it was no longer needed. The

county never held a public hearing on whether the buildout should continue, because the by-right framework adopted for marketing reasons before the question could become controversial guaranteed the question would never reach a public room. Loudoun and Henrico ended by-right approval in 2025. Mecklenburg extended it. That is the entire regulatory divergence between the saturated north and the recruiting south, visible in one county.

The audit, part one: announced investment is a genre

The first finding of the audit is that the numbers the public was given were never an accounting, and the company's own grant-compliance file proves it from both directions. For nine years the campus grew by gubernatorial press release, six announcements that summed, by their own internal arithmetic, to $1.998 billion by 2016[14]. Then the 2019 expansion carried no dollar figure, the 2020 land assembly carried none, and the campuses built since have never been priced publicly, which means that the buildout that constitutes the majority of the company's footprint is, in the announced ledger, dark. Any cumulative figure in circulation since is a journalist's floor rather than a corporate tally. The methodological finding travels beyond Mecklenburg: announced investment is a press-release genre, not an accounting category, and every projection the prospective counties cite should be read with that genre's conventions in mind.

The quiet companion to the press-release ledger is the state's post-performance verification file, the closest thing to an audited record that exists, because grant disbursement required the commonwealth to check jobs and capital against contract targets at the close of each window. Three things in that file rewrite the announcements above it. The founding 2010 deal's contract target was $299 million[15], not the announced "up to $499 million," so even the first number was a ceiling for the press and a floor in the contract. The 2019 round whose investment was called undisclosed had a contract target of $1.07 billion all along, and the state verified $1.82 billion against it by September 2024, with 387 jobs at a $90,000 average wage against a forty-seven-thousand-dollar target[16]. And every grant closed with metrics achieved and no clawback ever triggered, which means the only institution that ever checked the company's promises checked only whether the floor was met. The announced ladder understates the buildout, the contracts understate the announcements, and the one audit anyone performed asked the narrowest possible question. The sales-tax exemption ran on the same machinery: statutory minimums verified met, value never disclosed.

The audit, part two: the rebate that ran for a decade

The second and sharpest finding is the gap between what the dependence is assumed to deliver and what it delivered, and it sits in two curves the county does not publish together. The first is the revenue curve, recoverable from the state auditor's comparative reports: gross personal property tax revenue to the county, the category that holds the data center equipment, rose from about seven million dollars in 2011 to about eighty-four million in 2024[17], a twelvefold climb, while real property barely doubled underneath it. The second curve is the one the county carried as an expenditure line and almost no one ever wrote about: the rebate. Routed through the development authority as an "Industrial Stimulus Grant," the documented payments back to Microsoft ran from $30.4 million in fiscal 2019 to $62.7 million in fiscal 2024[18], and the county's own audited 2023 financial report carries the formal disclosure, that it abated 82.5 percent of the relevant taxes and abated $57,719,970 in that single year[19]. Documented rebate payments from fiscal 2019 through 2024 total roughly $275.9 million[20], and because the earlier years exist only in scanned budget books, the lifetime rebate exceeds three hundred million dollars on any reasonable reading. The fifteen-year fiscal actual is therefore two curves, not one: in fiscal 2023 the county grossed $83.5 million in personal property revenue and rebated $57.7 million of it, and the general fund's actual keep was about $25.8 million[21].

This is the audit's pivot, and it resolves the discrepancy that first drew attention to the case. The arrangement was sold to the public in 2010 as a ninety-percent rebate; the operative figure by the 2023 disclosure was 82.5 percent[22]. Both numbers were real in their moments, and the amendment that moved one to the other sits in an undigitized minute book. What matters is not the precise percentage but the duration and the opacity: a corporate rebate that reached sixty million dollars a year and ran for more than a decade as a budget line no journalist ever examined. In May 2024 the board finally enacted a separate tax class for data center equipment at sixty-six cents per hundred and retired the rebate remittance in the same motion[23], an arithmetic that was roughly revenue-neutral by design. What the restructuring ended was not the discount but the concealment. For more than a decade the county had been crediting itself with revenue that was flowing back out the door, and the public had been told it was receiving money it was not.

The dependence that produced those curves is now the county's defining fiscal fact, and it has the peculiar shape the prospective cases only anticipated. The fiscal 2027 budget shows business personal property supplying $63.5 million of a $133.8 million general fund, up nearly seventy-two percent in a single year[24], a figure worth twice the entire real estate levy paid by every landowner in the county

combined. The revenue funded real things, and the audit states them without hedging: a $154 million school complex built and opened in 2022[25], three more elementary schools budgeted at roughly a hundred million on a pay-as-you-go basis, and a real estate rate cut from forty-two cents early in the decade to thirty-one in the fiscal 2027 budget[26], which the county announced as the lowest in Virginia. A county that fifteen years ago was among the poorest in the commonwealth now cuts taxes annually as routine and builds schools with cash. This is the projection come true, and then some, because nobody in 2010 promised the county forty-seven percent of its general fund. Two countervailing entries keep the ledger honest. The state's school-funding formula rebenchmarked in late 2025 to capture the data center wealth, handing Mecklenburg the largest such increase in Virginia and costing its schools roughly four million a year[27] in state aid the county now backfills: the revenue made the county look rich, so the state pays it less. And the dependency is itself the risk, conceded by the administrator's own estimate that the net contribution after data-center-related costs is closer to a fifth of the budget, and by the county's 2025 decision to create a regional industrial authority expressly to diversify away from its single company[28]. The institution that benefits most from Microsoft is the one now hedging against it. The county fisc is keyed not to land or labor but to the rhythm at which one organization replaces its servers, a variable set in Redmond and invisible to any county forecaster.

The labor actual, at scale

The employment record is where Mecklenburg proves the industry's central paradox at a scale no prospective case can. Across fifteen years and eleven sites covering one percent of the county, the operational workforce runs to roughly seven hundred people, Microsoft and its vendors combined, in a county of about thirty thousand. The number is not a shortfall against the industry's own arithmetic; it is the industry's arithmetic. The legislative auditors found that a typical facility employs about fifty workers per quarter-million square feet, roughly one per five thousand, against one per six hundred fifty at a distribution warehouse[29], and applied to Mecklenburg's footprint that rate predicts a workforce in the five-to-seven-hundred range, which is exactly what the mixed-category figures show. The campus is not underperforming the model. The model is the disappointment: two billion dollars announced, eleven sites, one percent of the county's land, and the operational payroll of a mid-sized grocery chain, half of it contracted. The wage texture survives only in a 2016 account from the local electrical union's business manager, who described construction-era work that ran from entry ditch-digging near eleven dollars an hour to wiring near twenty-nine[30], in jobs that lasted about six months with heavy attrition and hundreds of applicants for whatever opened. The skills pipeline the company built around the campus is

the most developed in rural America, a data center academy, scholarship tracks, a training lab, and the audit's reading of it is unsentimental: with five hundred candidates turning out for ninety-five openings[31] against an employment ceiling fixed by square footage, the training infrastructure's principal product may be credentialed out-migration, workers prepared in Southside for data center jobs that exist mostly in Northern Virginia. The county prepares its children to leave.

What the buildout did, and did not, do to the town

The town that hosts one of the largest server concentrations on earth had 431 residents when Microsoft was announced and 302 at the 2020 Census, a thirty-percent decline[32] across the company's first decade. The campus did not repopulate or commercially revive the county seat. A national feature found that its main contribution to the town's street life was a couple of lunch tables at a gas station, and the town librarian's observation belongs in the institutional record: the company came to a couple of town meetings early on, and then "they're off by themselves. We hear they have a really nice Starbucks machine[33]." A hyperscale campus, it turns out, can sit a mile from a dying main street for fifteen years without resuscitating it, because spending happens where workers live and commute through, not where the servers sit. The company's community investments were real and characteristically infrastructural: public Wi-Fi, a sewer-jetting unit, wastewater-plant funding, school greenhouses, a fiber homework network, a server-recycling center, and now a wetland mitigation bank and conservancy. The pattern is coherent. The company invests in systems rather than places, and the systems it funds are the ones that serve its own operations first.

The distributional core of the chapter is not a budget line. In March 2014, during clearing for an expansion, workers found graves in the woods on the campus's path: the cemetery of the Moseley family, Black tobacco farmers who had owned and worked the land after Emancipation, the most legible stone belonging to a man who died in 1930[34]. A national investigation later documented what followed: county officials, consultants funded by the company, and state authorities worked to soften the finding that the cemetery was eligible for the National Register, the designation that would have complicated the expansion, and after the eligibility was weakened, the thirty-seven graves that were located were excavated and relocated to make room[35]. A county official's contemporaneous reassurance survives in the record, and the casualness is the point: "This is not as bad as it sounds. We should be able to relocate these graves." The episode is the book's recurring question of the buried Black community at a particular extreme. In the refusal chapter a historic Black community organized, litigated, and forced its claim into public process. In Mecklenburg there was no organized community left

to object: the family had dispersed, the land had been sold, the county government was the project's own sponsor, and the discovery surfaced publicly only when a national outlet arrived eight years later. What the community closest to the buildout absorbed, in the most literal sense, was the physical removal of its dead to make room for cloud capacity, decided by parties none of whom represented it. The county is among the highest-Black-share and deepest-poverty jurisdictions in this book, and the question the record cannot answer is who within the county captured the gains, whether the tax cuts and the schools and the contract work reached the tracts that absorbed the land conversion and the cemetery, or whether the gains pooled around the lake and the property-owning class while the costs concentrated where they always do. The public record establishes only that in fifteen years no one publicly asked.

The three findings the audit returns

From all of this the audit returns three findings, and they recur, named, through every prospective case. Promised revenue and delivered revenue diverge, here by the distance between a ninety-percent claim and an 82.5-percent rebate that ran for a decade as a hidden expenditure line. The divergence persists until something external forces an accounting, here a 2024 restructuring rather than any audit the county performed on itself. And the costs concentrate where the community has the least capacity to refuse them, here in a shrinking, poor, substantially Black town whose dead were moved to make room for cloud capacity. Mecklenburg is the retrospective check the prospective cases cannot supply for themselves, and its verdict is that the gap between the brochure and the ledger is real, large, and durable. The remaining question is whether capture of this kind is a story only about poor counties with no alternatives, and the answer comes from the opposite end of the wealth distribution.

Prince William: the trap closes on the wealthy

Prince William shows the same posture as a process still underway, and it adds the finding Mecklenburg cannot, because the two counties sit at opposite ends of the wealth distribution. Prince William is affluent, and the district at the center of its data center fight is among the most affluent parts of it, with a median household income above $137,000[36]. If governance-capture were merely a story about poor counties with no options, it would not have happened there. It happened there in full.

The county had treated data centers as a targeted industry since the 1990s and carried a vast by-right overlay since 2016, but the case that defines it is the Digital Gateway, a corridor of roughly two thousand acres against the Manassas

Battlefield and the Occoquan watershed[37]. The comprehensive-plan amendment that opened it passed five to two in November 2022, after a hearing of about fourteen hours and some two hundred forty speakers[38]. The rezonings that followed, some 1,760 acres and twenty-two million square feet, were approved four to three in the early hours of December 13, 2023[39], after a public hearing that ran roughly twenty-seven hours[40], by a board the voters had already turned out and that was sitting out its lame-duck weeks. A board the electorate had replaced used its final meetings to entitle the largest data center corridor in the county's history.

The conflicts of interest run through the record, and the disclosure systems failed to catch a single one in time. A sitting supervisor had signed a contract to sell his own land to one of the project's developers on October 25, 2021, ten days before he joined the application as a co-applicant[41]; he was required to recuse, resigned at the end of 2022, and was working for a lobbying firm within months, a revolving door completed inside a single sequence. The board chair held a position of between fifty thousand and a quarter-million dollars in the parent company of one of the project's data center operators throughout the proceedings and did not recuse[42]. After the politics turned, a supervisor's political action committee received a hundred thousand dollars from a data-center landowner following a favorable vote, and then a second hundred thousand[43], a sum local reporting described as likely the largest individual contribution any county supervisor had ever received. The fiscal dependence built underneath all of it: the county had frozen its equipment rate at a dollar and a quarter for nearly two decades and then, as the revenue arrived, raised it in steps to $2.15, $3.70, $4.15, and $4.50 per hundred between 2024 and 2026[44], the highest in Northern Virginia, while collecting $293.7 million from the industry in a single year and projecting more than half a billion for the next[45]. Fiscal dependence and procedural shortcutting reinforced each other, which is what capture looks like as a process rather than an event.

The correction, when it came, came from outside the board entirely, and that is the chapter's institutional point about Prince William. A circuit court declared the three rezonings void from their inception in August 2025, on the ground that the county's own public notice had been defective[46], and the Court of Appeals affirmed unanimously in March 2026, in an opinion warning that the county's reading of the notice rules would invite sandbagging[47]. The county had spent roughly $1.7 million defending the approvals before it declined to appeal further[48]; one developer withdrew, and a single petition to the state supreme court remained pending. A dissenting supervisor, who would not live to see the matter resolved, had named the fiscal logic of the whole enterprise from the losing side of the vote: the first law of holes is that when you find yourself in one you stop digging[49], and the

alternative was lengthy, expensive litigation paid for with county tax dollars. He was right on the law and right on the cost. The board chair had defended the project in a different register, that most places would kill for that kind of investment, that the county was trying to keep up with the Joneses[50]. The board could not correct itself. A judge applying a procedural rule did it instead, and the residents whose land had been entitled and then un-entitled, the sellers who had signed contingent contracts and watched their reassessed land value collapse, were left to absorb the whiplash.

What the pairing proves

The two counties are the chapter's argument, and they prove it from opposite directions. Mecklenburg shows what capture produces when it runs to maturity in a county that never had the leverage to resist it, and the bill is paid in a vanished town, a hidden rebate, and relocated graves. Prince William shows that the same posture takes hold in a county with every resource and every option, that fiscal dependence and procedural shortcutting reinforce each other regardless of how wealthy the affected residents are, and that the political process is poorly built to interrupt the cycle once it starts. In both, the correction either never came or came late and from outside, an auditor's recovered ledger and a national reporter's investigation in the one case, a circuit judge and a court of appeals in the other. That is governance-capture: the one posture that feels, from the inside, like winning, right up until a court or an auditor or a national reporter arrives to total the cost. It is dangerous precisely because the dependence that disciplines the politics is the same dependence the boosters celebrate, and a county deep inside it can mistake the trap for prosperity for fifteen years, or until a lame-duck board's twenty-seven-hour hearing forces the question into a courtroom. The counties in the next chapter found the way to avoid all of this, and they found it by doing the one thing none of the counties in this one did, which was to write the rules before the industry ever filed.

CHAPTER 11 — Pre-Entitlement by Ordinance: Louisa, Culpeper, Goochland, and Orange

The four counties in this chapter share a single move, and it is the most consequential institutional invention in the Virginia record. Instead of waiting for a developer to assemble land and ask for a rezoning, they decided in advance where the industry could go, attached development rights and performance standards to a map, and adopted the entitlement before any project existed to oppose. The earlier chapters describe counties reacting to applications. This chapter describes counties deciding the application in advance, wholesale, on their own initiative, and it is the posture that performed best on the balance of captured benefit to contained cost. It is also the hardest to execute and the easiest to break, and the four cases here are arranged to show why.

The instrument has a birthplace and a diffusion path. Louisa County invented it in 2023 and then spent two years walking it back, which makes Louisa the only county that has run the full life cycle of its own creation. Culpeper drew a narrower version, a one-square-mile box around infrastructure that was already industrial, and got the quietest buildout in the state by doing so. Goochland copied Louisa's most aggressive setting, adopted it after a midnight hearing at which no member of the public spoke in favor, and was in court within a month. Orange built the reform too late to reach the entitlement that prompted it, and now owns the rules without the decision they were meant to govern. The energy geography framework should treat the four as one diffusion event with a fork in it: what spread from county to county was not a project or a developer but ordinance text, and each county metabolized its predecessor's controversy as design input.

Louisa: the county that invented the instrument and then unbuilt it

Virginia's first Technology Overlay District went from board direction to adopted ordinance in eight weeks. On February 6, 2023, the Louisa board directed staff[1] to make the county competitive for technology investment. Staff produced a draft overlay and map within the month, the planning commission held its hearing on March 9 and forced the proposed noise limits down five decibels[2], and on April 3 the board adopted the district on a 6-1 vote[3]. A companion amendment writing the district's 65/60 dBA limits into the county noise ordinance passed the same night by the same margin, the dissenting supervisor voting no on both because he wanted the limits stricter still. Nine residents spoke at the hearings[4], most of them opposed or concerned, and the Lake Anna Civic Association objected to the speed itself: first draft to adoption in roughly two months, for an instrument that would pre-entitle industrial campuses across ten square miles of a rural county. The

objection slowed nothing in 2023. It reads differently now, because Louisa's own board spent 2024 and 2026 walking the ordinance back, and because a neighboring county's overlay is in court three years later on exactly the defect the speed produced.

What the ordinance did was remove the project-level public process. Under the district's siting rule a campus required a minimum of 125 contiguous acres and proximity to transmission of 115 kilovolts or more, and total district acreage was capped at one percent of county land[5]. As adopted, data centers and a short list of allied uses were by-right inside the overlay. A qualifying project needed administrative site-plan approval and nothing else: no rezoning, no conditional use permit, no public hearing, no board vote. Both Amazon campuses now under construction in the county were approved this way, and neither ever appeared on a public agenda as a question. The performance standards were the trade for the entitlement. Noise capped at 65 dBA day and 60 at night, buffers of 200 feet against homes and 300 against farmland, an 80-foot height limit, dark-sky lighting, and 20 percent open space[6]. Those standards sit in the county code as the price of admission the county set, and the entitlement attached to the land before any resident had a project to organize against.

The adoption paperwork carries a defect worth recording, because it prefigures the litigation that later caught the instrument's imitator. The ordinance text in the April 3 board packet still showed 70/65 dBA limits and a uniform 200-foot buffer. The version the county posts as approved carries an editing date of April 6[7], three days after the vote, and shows the 65/60 standard and a 300-foot agricultural buffer. The minutes record no floor amendment to either figure. The noise change is at least partly explained by the companion vote the same night; the agricultural buffer is not, and nothing public documents when it entered the text. Goochland's overlay is in court on exactly this class of defect, an adopted version that differed from the advertised one. Louisa's version of the problem has sat unexamined in its own document center for three years.

The map is where pre-entitlement becomes legible at parcel scale. The adopted district covered roughly 6,400 acres across about 100 parcels in six contiguous groups[8], most near high-voltage transmission, and staff deliberately drew it around the county's protected landscapes. The Green Springs National Historic Landmark District, the Trevilian Station battlefield, the agricultural and forestal districts, and the towns were all excluded. The district was drawn toward transmission lines and away from the protected places, which means it was drawn toward the unprotected ones. The people who live along Kentucky Springs Road and Mt. Airy Road got an industrial overlay; Green Springs got a buffer. No one who lived inside the six

assemblages had procedural recourse once the map was adopted, because the entitlement vested at the map level before any campus had a name.

The overlay worked faster than anyone publicly predicted. On August 30, 2023, 149 days after adoption, the county announced that Amazon would invest $11 billion by 2040 to build two campuses inside the district[9]. The site contractor filed water-quality permits two days later. The speed is the instrument's actual sales pitch: Amazon did not buy land and then ask Louisa for permission, because the permission predated the purchase. The board then papered the relationship across the autumn of 2023 in public session, unanimously, and fast. A performance agreement approved 7-0 in September returns a rising share of incremental tax revenue[10] to the company through the development authority, 15 percent on investment up to $11 billion climbing to 30 percent above $30 billion, with the marginal generosity increasing at exactly the scale residents would later organize against. An alternative equipment rate of $1.25 per $100 followed the same month[11], on a depreciation schedule that assesses equipment at half its value in year one falling to a nickel by year five. Water and sewer agreements approved in December carry the watermark "Amazon Confidential" and commit the county to peak cooling flows of 1,370 and 3,522 gallons per minute against reservoir infrastructure the county would spend $87.9 million to build[12]. The executed incentive agreement that determines how much revenue flows back out has never been posted, and the county's net-revenue projections rest on a methodology it has never published. A net-revenue assertion whose two inputs are both non-public is an assertion, and the record will treat it as one until the documents surface.

Sixteen months after adopting the instrument, the county cut it by a third and removed its central feature. On August 5, 2024, the board unanimously adopted an ordinance that did two things[13]. It removed two assemblages totaling roughly 2,000 acres, and it converted every district use from by-right to conditional use permit, which means that since August 2024 nothing in Louisa's overlay proceeds without a public hearing and a board vote. The county that invented by-right pre-entitlement in Virginia kept the overlay, the map, and the standards, and abandoned the by-right core after a single deal cycle. Measured by its own amendments, Louisa's experience with its own instrument was: too much, too fast, never again without a hearing. The two campuses already under construction were grandfathered, which is the pattern that recurs in every county in this chapter. Reform reaches the next project, never the one that prompted it.

The correction set up the only hyperscaler defeat in the entire record. In May 2025 Amazon filed the first application ever tested against the corrected ordinance, a third campus of up to 7.2 million square feet on 1,353 acres north of the Northeast

Creek Reservoir[14], the county's drinking water supply and the source already committed to the two existing campuses. For the first time since the overlay was adopted there was an application, a hearing, and a fight to have. The opposition assembled in about six weeks. The board chair broke first at a June town hall, saying he did not support the project. A Louisa native who works in the data center industry launched a Facebook group that reached roughly 500 members within weeks, the Town of Mineral committed to formal opposition, and about a hundred people met at a church event co-hosted with a regional conservation group. One resident's formulation traveled furthest: "Please don't Loudoun Louisa. Please don't Prince William Louisa,"[15] eight words spoken by someone who had watched the previous rings of the wave from inside the industry. On July 23, 2025, before the application reached a vote, the company's counsel wrote the county withdrawing it[16] and asking that all application materials be returned to the law firm. A company that wants its papers back is not planning to refile them.

Precision about what was withdrawn matters, because the record has other developer retreats and this is the only hyperscaler among them. Amazon withdrew one application for one proposed third campus. It did not withdraw from Louisa. The $11 billion commitment stood, both campuses kept building, and the withdrawal took the form of a letter from counsel with no press release. The institutional behavior reading should resist romanticizing it. A company with an eleven-figure local commitment declined to spend political capital on a marginal expansion in the first county where it would have faced a public vote, and the subsequent record says the retreat was provisional. In January 2026 the company quietly bought the withdrawn site anyway, three deeds totaling $72.45 million for roughly 1,925 acres assessed near $3.7 million[17], telling the local press the purchase "supports water infrastructure needs." It has filed no application. The board responded by directing the planning commission to consider pulling the tract out of the district entirely, and the commission has now pulled that public hearing twice, each time after a closed session[18], with no public explanation. As of the evidence snapshot the rollback is stalled, the tracts remain in the district, and the largest landowner positioned to benefit from that fact is the company that retreated.

Shannon Hill is the other half of the natural experiment inside Louisa, and it tests the instrument from the supply side. The county spent six years and more than $30 million in public and grant money speculatively building a 697-acre business park[19], water tank and booster station, water and sewer mains, on the bet that an industry not yet asking for it would come. In June 2025 the bet paid: the development authority sold the park fee simple for $42 million, and the buyer announced a $17 billion campus supporting more than 1.1 gigawatts[20], served by

an electric cooperative rather than Dominion and cooled by a closed-loop system. A year later the buyer has built nothing, disclosed no water demand, named no tenant, and filed no construction start, and the county's building-permit revenue records nothing from it. The county redirected roughly $33 million of the sale proceeds to cash-fund two water projects rather than issue new debt. Selling a built asset to a data center developer in order to cash-fund the water infrastructure the data center economy requires is a circular flow worth pricing: the county is recycling its land patrimony into the utility base of the industry that bought it.

The fiscal posture is the utility finance framework's risk exhibit. Louisa's $1.25 equipment rate sits in the middle of the regional table, above Henrico's old recruitment rate and below the statewide norm, and the depreciation schedule makes the county's data center revenue structurally dependent on refresh cadence, the same dependency the Henrico and Mecklenburg records document. The board has started spending the projection before the receipts arrive. The adopted FY2027 budget cut the individual personal property rate fifteen percent, credited explicitly to data center growth[21], with the chairman advocating elimination of the car tax within four years. A rural county is converting projected hyperscale revenue into broad-based tax cuts years before the revenue fully materializes and while the largest announced investment has yet to break ground. To its credit the county avoided new debt for the water buildout by recycling the Shannon Hill proceeds. It has not avoided baking unrealized projections into rate policy, and its fiscal plan now has as its denominator two companies' private capital cadence.

Louisa is the test of whether the overlay does what its imitators assume, and the test result is instructive. The instrument's theory is that pre-entitlement plus performance standards yields fast, predictable, low-conflict development. The record is one ordinance and four trajectories: two campuses approved without a hearing and built without organized opposition, one application withdrawn under resistance strong enough to flip the board chair, a $17 billion commitment that has built nothing in a year, and a stalled attempt by the county itself to shrink the district a second time. The variables that sorted those outcomes are visible. Process decided the third campus, which died precisely because the August 2024 correction had restored a veto point. Constituency decided the rest: the application that failed pointed at a drinking water reservoir and a town, and the campuses that proceeded pointed at transmission lines and a nuclear buffer. What the instrument did do is real but narrower than the marketing. It compressed time, moving the political decision from project scale to map scale, which is why $11 billion arrived 149 days after adoption[22]. It standardized the corridor, putting the same noise

standard and buffer geometry into three counties' codes within three years. And it relocated conflict rather than removing it, from rezoning hearings to ordinance adoption, to discharge permits, to land transactions. The wave did not stop in Louisa; it changed instruments.

Culpeper: the box, and where conflict goes when the front door is closed

Culpeper holds one of the largest accumulations of data center entitlements in the diffusion ring, roughly twelve to thirteen million square feet built or approved across eight campuses and 2,435 megawatts of delivery-point requests by Dominion's own May 2026 count[23], and it assembled that inventory with the least visible politics in the state. There was no marquee lawsuit anyone outside the county can name. The quiet was neither bought nor accidental. It was manufactured by institutional design, and the design is the cleanest demonstration in the record that the visibility of data center politics is an institutional variable rather than a measure of sentiment. The county had no less opposition than Hanover, only fewer occasions for it to attach to.

The instrument was a box. Virginia law lets localities create technology zones offering tax rebates, and Culpeper at one point had five scattered across the county. In 2021 the economic development office consolidated them into a single 690-acre zone, just over one square mile, along McDevitt Drive[24], wrapped around infrastructure that was already industrial in fact: a hardened Federal Reserve facility that has held the nation's interbank communications switch since 1969, the international payments cooperative SWIFT, a colocation campus running since 2008, a wastewater plant, and a rail line. Inside the box the county made data centers a by-right use. Nothing required a hearing and nothing came to a vote. The design was understood immediately by the trade press, which ran a profile under a headline saying the zone "heads off NIMBY," and the county's economic development director advised peer counties to "tell them where you want them to go." The precondition most counties lack was that the corridor was already industrial, so nobody's viewshed changed when a developer bought a hundred acres next to the sewage plant. Five campuses accumulated inside the box with one narrow vote and no organized opposition campaign.

Where the industry needed a discretionary vote, Culpeper fought like everywhere else, and the contrast is the whole finding. The contemporary buildout opened in 2022 with the county's most contested vote, an Amazon rezoning of a 243-acre equestrian center at Stevensburg[25], eight miles from the box, beside an eighteenth-century manor and the largest concentration of untouched Civil War encampment features in the country. The planning commission recommended denial, the board approved it 4-3 after two hours of mostly opposed comment, and six adjoining

landowners sued over spot zoning. Everything about the fight predicted a Prince William-style county. What followed instead was the zone. Three miles north of the box the same board killed two projects on battlefield-adjacent farmland: in January 2023 it eliminated the Brandy Station Technology Zone outright[26], stripping the incentives from a landowner's parcel after the commission unanimously recommended denial of his data center proposal, and in June 2024 it recommended denial of his return application, a 4.6-million-square-foot project that was withdrawn before a board vote. Inside the McDevitt box, by-right accumulation. Outside it, on battlefield ground, unanimous denials and a technology zone repealed. The county was never permissive or restrictive. It was geographic.

The second structural feature is that Culpeper is two governments, and the line between them ran through the corridor. The county and the incorporated Town of Culpeper, the county seat, each have their own council, planning commission, and zoning, and the town owns its own water, sewer, and electric utilities. The town-county utility war that Orange is fighting in 2026 happened in Culpeper a generation ago and ended in a 2012 court-approved settlement[27]: the town serves a designated service area at in-town rates, capped at 1.5 million gallons a day over thirty years. That agreement is why the data center wave produced no annexation fight and no water-extension standoff, and the 1.5-million-gallon cap is now the single most important unexamined number in the county, because no public document tallies committed data center flows against it.

The town's most candid move was to own the wire and decline the load. Two of the largest campuses sit inside town limits and would by default have been the municipal electric utility's customers, a load that would have dwarfed the system serving roughly 5,900 meters. At a special meeting in October 2025 the council unanimously released that obligation to Dominion[28], the town manager explaining that serving the campuses "would make it such that we almost had only one customer. It could have significant impacts if something went awry." The same meeting produced the instrument the rest of the record should be measured against, a minimum revenue agreement guaranteeing the town at least $1.5 million per building per year for fifteen years[29], the developer paying any shortfall against tangible personal property collections. Thirteen planned buildings make the floor $19.5 million a year. The structure answers a specific failure mode documented elsewhere, where tax-exempt tenants hollowed out a municipality's projected equipment revenue. Then the town closed its own door. A unified development ordinance adopted in October 2025 includes an overlay that effectively prohibits new data centers in town[30], and a week later the council secured the revenue floor. The town's posture inverted from recruitment to fortification: the campuses already approved would be monetized hard, and there would be no more. The

town’s voters ratified the settlement, defeating an anti-data-center mayoral challenger 54 to 45 percent.

The county tightened on the same logic, after the inventory was banked. In September 2025 the board voted unanimously to require a conditional use permit for data centers on all industrial land in the county[31], roughly 2,200 light-industrial and 867 heavy-industrial acres, and it exempted the technology zone, where the five approved projects were deemed vested. The reform restates the original design: the box stays by-right, everything else becomes discretionary, and the reform formally exempts the accumulation it follows. Two months later the county’s voters replaced three of seven supervisors, and the worst-beaten incumbent represented the district that hosts the most visible campus. Culpeper ended by-right countywide after roughly twelve million square feet were vested, and wrote the exemption into the reform itself, which makes it the cleanest specimen of reform-after-accumulation in the portfolio.

The conflict the approvals deferred surfaced in 2026 as transmission, and the symmetry is the energy geography reading. By concentrating the load in one square mile the county minimized its land-use footprint and maximized its grid footprint: eight new or rebuilt substations in four years, a 230-kilovolt loop, and now a regional 765-kilovolt line that, under a pending scope change, would terminate at an 88-acre substation hub at Richardsville. The board adopted a resolution opposing the line 6-1 in April 2026 and voted to ask the regional grid operator to reject the relocation[32]. A Richardsville resident asked the board not to be “the sacrificial lamb so we can have more data centers ruining our landscape,” the chairman put constituent opposition at “at least 200 to 1,” and a supervisor answered the diffusion logic directly: “If Northern Virginia needs all this power, tell them to put a power source up there.” A county that spent four years absorbing Northern Virginia’s overflow load now demands the load stay north. Electricity does not diffuse the way entitlements do. The load came south, and the wires must follow.

The fiscal posture inverts Louisa’s. Culpeper taxes data center equipment at $3.50 per $100, the same as general business equipment[33], and never created a discounted class; inside town limits the combined levy reaches roughly $4.50. The zone’s incentive is a 40-percent rebate for five years, shallower than it looks against the rate. The kickoff premise that Culpeper might hold the record’s second actual revenue case does not survive contact with the budget, which carries projections and rate increases in place of receipts. The county raised its real estate rate over the equalized rate three years running to service school construction debt, with future data center revenue cast as the eventual offset, while the

supervisors themselves said the revenue had not yet arrived. An industry counterfactual circulating in 2026 claimed data centers were already worth about $14 million a year to the county, a figure that cannot be reconciled with the supervisors' own statements and the report presents unresolved. In year four of the buildout the county cannot say, or has not said, what data centers actually pay it. The strong extraction terms in Culpeper, the revenue floor and a developer-funded reclaimed-water system that grew from an $11 million estimate to $30.1 million[34], all arrived in 2025, after the politics had turned, and they were the town's. Terms did not buy the quiet. The quiet's end priced the terms.

The null case turns out not to be null. Culpeper had the same conflict endowment as every county in the record: battlefields, a national cemetery, rural corridors, a watchdog organization headquartered one county north and engaged throughout. Its institutions routed the buildout around the conflict surface for four years by removing the procedural occasions on which data center politics happens everywhere else. The quiet was real while it lasted, manufactured rather than organic, and it ended on schedule. The box filled, the bills for the power infrastructure came due, and the first government to extract enough decided to stop. A county that closed the front door is now fighting at the substations.

Goochland: pre-entitlement at full scale, tested in court on process

Goochland took the instrument to its limit. On November 6, 2025, after a hearing at the county high school that ran past midnight, the board voted 4-1 to adopt a Technology Overlay District and a companion Technology Zone[35]: roughly 4,400 acres pre-zoned for data centers along the Route 288 corridor, with by-right approval across most of the district, financial incentives layered on top, and a use table that includes small modular nuclear reactors by conditional use permit. No speaker during the comment period supported it. A resident's earlier public-records request had already established that the county received more than a thousand emails on the proposal, the vast majority opposed. Twenty-eight days later four residents sued, and the county has budgeted $250,000 to defend the ordinance[36]. The case adds a distinct position to the record. Henrico reformed after entitling, Hanover refused case by case, Chesterfield contracted its leverage away, Prince William's governance was captured and then corrected. Goochland pre-entitled by ordinance, wholesale, and is being tested in court on process rather than substance.

The county adopted the third iteration of a template Louisa invented, and adopted the first stage of Louisa's cycle while Louisa was in the third. What spread was ordinance text. Louisa's design established the architecture, and Goochland copied the by-right core, added a financial instrument Louisa never paired with its

overlay, and added a use category no Virginia locality had zoned for. The fiscal motive was stated plainly in the county's own materials, a board target of a 70/30 residential-to-business revenue split, and the predicate was a data center equipment rate of $0.44 per $100[37] against $3.75 for ordinary business equipment, set quietly in 2019 and re-adopted unchanged in April 2026. The rate is the region's second-cheapest, and the county re-adopted it five months after pre-zoning 4,400 acres while every comparable jurisdiction repriced upward. The standards the county attached are middling in the regional table, tighter than some on noise and looser than others on setbacks. Read across the approval column, Goochland is alone. Every other jurisdiction attaches its standards to a discretionary act it can still refuse. Goochland attached its standards to an entitlement it had already granted. The standards are the price of admission; what the county gave up is the power to refuse the admission.

The adoption is the part the lawsuit turns on, and the facts are not in dispute even where their legal meaning is. The county posted revised ordinances in late October incorporating the planning commission's conditions, and those postings defined the version the public was noticed to hear. Two sets of changes then entered the text on the night of the vote. Staff presented a substantive clarification applying the district standards where a by-right data center adjoins residential land, and a supervisor moved floor amendments converting the generator sound-mitigation menu from a set of options into an all-of-the-above mandate[38]. Each change tightened the ordinance in residents' favor, which is the county's point. Each change entered the text after the last published notice, which is the plaintiffs'. The supervisor who cast the lone no vote reacted in real time: "This is a lot, and please don't take this as criticism, but I would have liked to have seen this before tonight." His motion to defer died without a second, his motion to strip the most contested sub-area died without a second, and both ordinances passed 4-1. The tightening and the alleged defect are the same act.

The plaintiffs do not argue that data centers are bad. They argue the county broke the rules adopting the district, and the suit poses whether pre-entitlement by ordinance moves faster than the checks built to answer it. Their complaint pleads defective advertisement, internal inconsistency and excessive delegation in the ordinance itself, and a material difference between the advertised and adopted versions. In spring 2026 they voluntarily dropped the count alleging the adoption was arbitrary and capricious[39], which abandons the deferential-review battlefield, where Virginia courts presume legislative validity, and concentrates the case on procedure, where no deference applies. The controlling authority holds that a citizen must be able to determine from the notice whether he is affected, and that a notice that fails invalidates the proceedings that follow. The county's posture is

confident, its responsive pleading calling the adoption “a model of good government in action,” and its capacity admission is a datum in its own right: the county attorney told the board it lacked the staff to handle the litigation in-house. On May 26, 2026, the judge rejected the county’s attempt to file all 8,500 pages of its adoption record and ordered a pared-down set, with the demurrer set for argument on October 20[40]. The ruling is about the record, not the merits. What it establishes is tempo. The ordinance will have operated unreviewed for at least eleven and a half months from adoption to the first merits-adjacent hearing.

The tempo is the finding, because the corridor moved while the case waited. On June 10, 2026, the developer whose Mountain Road campus Hanover had rejected on May 27 filed the district’s first application, a twelve-building campus on roughly 900 acres in the district’s conditional sub-area, fourteen days after the Hanover vote[41]. The Hanover chapter closed by asking where a rejected developer goes; this is the answer, observed in under three weeks, the diffusion hypothesis compressed to a single firm’s quarter. Pressure does not dissipate when refused; it relocates to the nearest jurisdiction whose framework is already open. The application landed on an administrative clock while the ordinance it depends on awaits a hearing on a docket clock, and the first campus application is therefore in the pipeline while the instrument that authorizes it is in front of a judge. If the plaintiffs prevail, the county faces the question Prince William faced after its rezoning was voided: what happens to approvals issued under an ordinance later held void. If the county prevails, the template is validated at its most aggressive setting. Either outcome instructs the next county more than anything in the ordinance text, and the next county is already drafting. New Kent began copying the form while Goochland’s was three months old and in litigation, deleting every feature that made Goochland’s version combustible: no nuclear category, lower noise, slower process, and hearing-free approval renamed an administrative conditional use permit rather than removed. Each county metabolized its predecessor’s controversy as design input. That is diffusion with learning, and litigation is the selection pressure.

The opposition tells the structural story the rest of the record only gestures at. The decisive resistance was partly extraterritorial. Two sitting supervisors from the neighboring county crossed the line to speak against an ordinance they had no vote on, in a county whose water their county supplies, and one of them framed the leverage Goochland was about to spend: “This is a gift that every elected official would want to have. I implore you to not squander that gift.”[42] The franchise stops at the county line and the watershed does not. The people most practiced at opposing this land use are persistently the people with no vote over the next decision about it. The overlay’s benefits are jurisdictionally captured and its

externalities are not, and the mismatch widens with every cross-boundary instrument the template's diffusion produces.

Orange: reform that arrived after the decision it was meant to govern

Orange shows the cost of acting late in its purest form, because the county built a careful pre-entitlement regime that cannot reach the entitlement that prompted it. In March 2021 a developer applied to rezone roughly 2,602 acres at the county's eastern edge, beside the Wilderness Battlefield, into a planned mixed-use district[43]. The master plan allocates 732 acres to data centers and contemplates five million square feet of data center footprint at a projected 1,500 megawatts. At that load this single project in this single rural county would represent roughly five percent of the data-center-driven peak load growth the regional grid operator projects across its entire thirteen-state footprint through 2030. The early review ran under non-disclosure agreements. Records litigation later confirmed that ten county officials, including members of the board, had signed NDAs "for the benefit of Amazon.com, Inc. and its affiliates" as early as April 2022, under the internal name "Project Tricycle."[44] The public did not know during the review period whose project it was weighing. On April 25, 2023, the board approved the rezoning 4-1, with thirty-seven speakers in opposition[45], after a proffer revision that the plaintiffs say expanded the industrial program and the cash contribution between the commission's recommendation and the board's vote.

The entitlement stands and has produced nothing visible. As of mid-2026 no site plan, grading permit, or land disturbance permit has issued and no ground has been disturbed, and the dormancy's cause is undocumented, with the litigation the obvious candidate. The site overlies Virginia's historical gold mining belt, where mercury was used to extract gold across the property for more than a century, and a conservation group's analysis identifies at least fifteen surface and shaft mines and metals leaching toward two rivers. The agency with jurisdiction over the contamination has indicated it will not engage until the developer enrolls voluntarily or construction permitting begins, after the land-use decision is settled. The county did not condition the rezoning on remediation. The sequencing is the distributional finding: the decision that determines what gets built on top of the contamination was made before the agency responsible for the contamination was engaged.

The challenge to the rezoning is the structural point of the case. A coalition of battlefield trusts and homeowners sued in May 2023, and in September 2025 the circuit court allowed four of seven counts to proceed[46]: that the approved plan differed fundamentally from the version the commission reviewed, that the NDA-shielded timeline and post-hearing proffer revisions made the hearing process

inadequate, that the county failed to study historic-resource impacts, and an equal-taxation challenge to the county's deferral of rollback taxes. The 2026 fight has been about which court decides, not whether, and three years after filing the case has no trial date and no settled venue while the entitlement clock runs quietly underneath. The point survives every procedural turn: the county's 2026 zoning reforms cannot reach the Wilderness Crossing entitlement. Only this litigation can. If the plaintiffs lose, the largest data center entitlement in the county's history proceeds under the rules that existed before the county decided those rules were inadequate.

Those reforms are careful, which sharpens the lesson. Between December 2025 and April 2026 the county built a regulated path and then closed the unregulated one. It first created a Technology District as a floating zone in which every project requires a special use permit and the use of potable water, river water, or groundwater for data center cooling is prohibited outright[47], forcing any future campus to bring its own cooling solution against a river the state had already refused to let the local authority draw more heavily from. It then removed data centers as a by-right use from every district and rewrote the definition so that any facility over 10,000 square feet in aggregate is a data center "regardless of how it is characterized,"[48] a clause drafted against the server-room-inside-a-warehouse disguise that other jurisdictions met only after the fact. The new definitional ceiling for anything outside the Technology District is one five-hundredth of what the grandfathered master plan contemplates. The adopted ordinance and every staff report in the case file contain no mention of Wilderness Crossing, vested rights, or grandfathering. The entitlement predates the rules, and the documentary record of the rules declines to say so.

The town of Orange built a parallel framework on its own track, and its timing is the variation worth recording. The town began drafting with no application pending, moved first, and finished slowest, adopting special-use-permit requirements and a data center definition with no size floor[49] while deferring the policy that would give the permit regime its review criteria. The town that moved first now has a permit gate with no published criteria behind it. The town reached its reform before any application existed, which is regulation ahead of the industry's arrival, drafted by the smallest planning office in the portfolio and supplemented by borrowed comments from the staffs of three other jurisdictions, which is what the institutional capacity gap looks like when it is being managed rather than ignored. The regional context for both tracks is the conclusion Henrico and Loudoun reached after long experience, that by-right approval was inadequate governance for this industry. Henrico reached it after thirty-seven data centers and Loudoun after more than a decade. Orange reached it with zero operating data

centers and one enormous entitlement already granted, which makes it the Henrico sequence at rural scale: the rules arrived after the largest decision they would have governed.

What the four cases establish

Pre-entitlement is the posture that outperformed the others on the balance of captured benefit to contained cost, and the four counties together explain why it is so rarely executed well. The posture asks a county to do three hard things at once: write demanding rules before it has a project to react to, adopt them with procedural care a court will respect, and decline to grandfather the entitlements that would hollow the rules out. Louisa did the first and then unwound it after one deal cycle, keeping the map and the standards while restoring the hearing it had been designed to eliminate. Culpeper did all three inside a one-square-mile box and got four years of manufactured quiet, at the price of a grid footprint it is now fighting and a fiscal case it cannot yet audit. Goochland did the first at full scale and stumbled on the second, adopting 4,400 acres of entitlement in a way that put the instrument in front of a judge before the first campus broke ground. Orange did the work carefully and too late, and now holds rules that cannot reach the 2,602 acres that prompted them. The cases show all three done well together only rarely, and never without cost.

The common thread is grandfathering, and it is the seam where the posture leaks. Every county in this chapter exempted what it had already entitled. Louisa grandfathered two campuses when it restored the hearing, Culpeper wrote the vested-projects exemption into the reform itself, Goochland carved its most contested land into the only sub-area that keeps a discretionary path, and Orange’s careful new definition is silent on the entitlement it cannot touch. Reform in this domain reaches the next project and not the one that created the problem, which means the value of acting early is paid in specific entitlements that later reform can no longer reach. The four counties also show the diffusion the rest of the book tracks operating at the level of ordinances rather than projects. The instrument moved from Louisa to Goochland to New Kent, each iteration faster to draft and more defensive in design, and the process challenge that tests it moved county to county along the same paths. The frontier is no longer territory where the framework is permissive by default and the opposition is not yet organized; it is territory whose organization arrives with the instrument, both of them imported, both of them improving with each iteration. What no iteration has yet faced is the test Goochland’s lawsuit poses to the whole genus: whether wholesale pre-entitlement can survive the procedural scrutiny that project-by-project decisions

rarely attract at this intensity. The answer is due in a courtroom on a docket clock, while the entitlements it would govern accrue on an administrative one.

CHAPTER 12 — The Fall Line: A Natural Experiment in Five Governments

The previous chapters compare counties that met the industry years and miles apart, which leaves every comparison vulnerable to the same objection: the counties differed in so many ways that isolating the effect of any one choice is guesswork. The Fredericksburg region removes that objection. Fifty miles south of the Northern Virginia data center core, where Interstate 95 crosses the Rappahannock, five governments share a planning district, a labor market, a commuter rail line, a river, and a single decade of exposure to the same wave of demand. They received the industry at the same time, from the same developers, under the same state subsidy, in the same press of post-Loudoun saturation pushing south. What they did not share was the instrument each chose to govern it. The corridor is therefore the book's natural experiment: hold the industry, the years, and the demand constant, and vary the institutional response. Five governments produced five regimes, and the variation is the evidence.

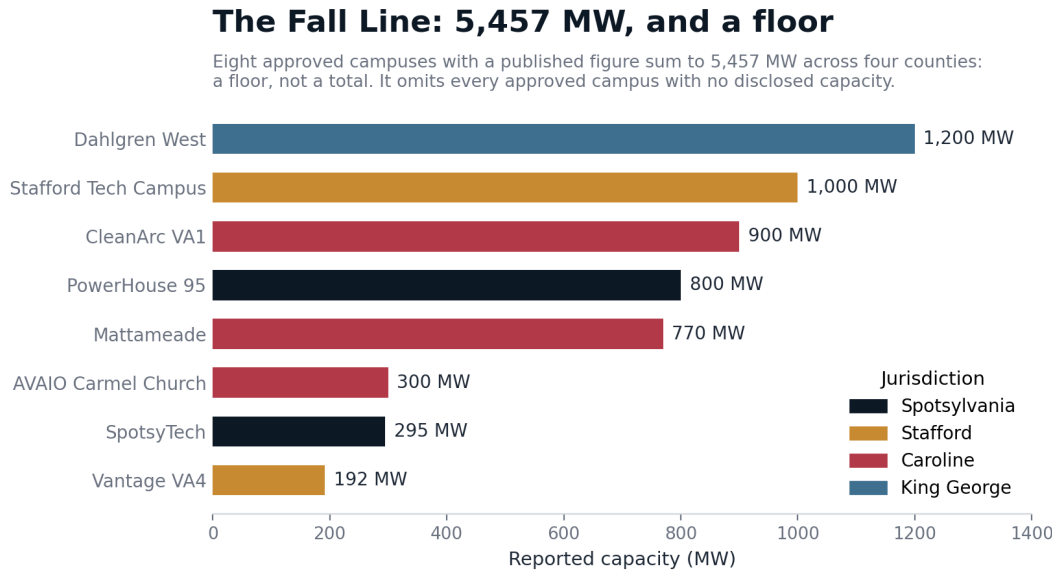


Figure 9. The Fall Line: 5,457 MW, and a floor. The eight approved campuses with a published capacity figure, summing to 5,457 MW across four counties — a floor that omits every approved campus with no disclosed capacity. Source: developer announcements and county approvals.

They began from one shared decision, and it is the only one they coordinated. In 2018, four years before the wave reached them, the five jurisdictions agreed through their regional alliance to a uniform tax rate on data center equipment of $1.25 per $100[1] of assessed value, with a matching depreciation schedule, a deliberate regional floor designed to attract the industry while preventing its members from being played against one another. The compact is the single most

consequential piece of regional coordination in the corridor, because it is the only one. The jurisdictions agreed on the price and then competed on everything else. Two utilities split the territory, and the split shaped the exposure. The investor-owned utility serves the city and the urbanized spine; a member-owned electric cooperative serves the rural remainder, and the cooperative's exposure is existential in a way the larger utility's is not. The cooperative's filings disclosed data center requests on the order of 20,000 megawatts and revised its 2040 forecast from 3.3 gigawatts to nearly 17[2], against a system whose entire existing peak is a fraction of a single large campus. Its chief executive told county officials that one data center can require as much energy as the cooperative's entire current customer base at peak winter demand[3]. The state commission did not create a rate class assigning the cost of that load to the load until November 2025, effective 2027[4], which means every approval in this chapter predates the answer to who pays for it.

What follows takes the five governments one at a time, in order of the depth of their records, and then reads them against each other. The shared frame to hold throughout is the one the experiment was built to expose. The industry was the same in all five. The differences are institutional, and they are the whole of what the corridor has to teach.

Spotsylvania: the volume jurisdiction

Spotsylvania approved more data center square footage than any other government in the ring, and then, with most of it entitled, changed the rules. The arc is the Henrico sequence compressed. Henrico's reversal took five years from its largest entitlement; Spotsylvania's took twenty-eight months, and the reversal was itself reversed and re-reversed across three board actions in a single winter, until the county's own planning commissioners and the developers in front of them were comparing the process to Groundhog Day.

The entitlement came first and came fast. A 314-acre campus at the county's southern interchange won its rezoning in early 2023, and that summer the board amended its comprehensive plan to steer data centers inside the development boundary[5] and tie them to public water and sewer. The hyperscaler had already filed four concurrent rezoning applications, and in October 2023 the board approved all four, more than nine million square feet across four campuses[6] on the Massaponax corridor and at Woodford. A performance agreement followed, approved over two dissents: the company commits at least $6 billion of investment, and the county grants back up to $93 million[7], ten percent of the company's infrastructure spending, funded from the data center tax revenue itself. The largest single block of capacity in the county never came to a vote at all. A

developer closed on 145 acres of already-industrial land in early 2024 and announced up to 3.5 million square feet and 800 megawatts[8], and because the land carried industrial zoning the project proceeded by right with no rezoning hearing before the board. The asymmetry is worth holding: the county's most heavily debated approvals were not its largest, and its largest required no debate.

The cross-border arrangement with the county to its south is the corridor's clearest single proof that the jurisdictions function as one market. The hyperscaler's Woodford site straddles the county line, with roughly 920 acres and 4.5 million square feet of buildings on the neighboring county's side and water and sewer service from the Spotsylvania side. The two boards approved a growth-sharing agreement splitting all local tax revenue from the campus 57.5 percent to the host county and 42.5 percent to Spotsylvania[9], with Spotsylvania's share alone projected at $371.1 million over forty years, and Spotsylvania separately committed $116.7 million in water and wastewater infrastructure with the company reimbursing the full cost. A campus in one county, cooled by another county's wastewater, on a negotiated revenue split, is the corridor in miniature.

Then the rules began to move, and the sequence is the chapter's first illustration of reform chasing entitlement it can no longer reach. In March 2025 a motion to require a special use permit failed on a deadlocked vote[10]. In August the board adopted interim design standards with a 1,000-foot setback from homes, schools, and hospitals, and in December it adopted final standards that weakened the interim ones, cutting the residential setback to 400 feet[11], and grandfathered every rezoning approved since the start of 2022, which is to say nearly everything. The December ordinance lasted eleven weeks, because the voters had already acted. The November 2025 election turned on data centers in two districts[12], the oversight challenger taking one seat by a wide margin and the board's most consistent dissenter holding another, and the new majority moved within weeks to require a special use permit for new data centers in every district[13], industrial included. Water closed the gate before zoning finished doing so. The county's own planning director told the commission in July 2025 that the recycled-water supply for cooling was at capacity[14], fully committed to the approved pipeline, so that developers without applications on file could not count on cooling commitments at all. The binding constraint in the county is now wastewater arithmetic, and the county enters the second half of 2026 with roughly sixteen million square feet entitled, a permit regime its own electorate installed, and a reuse-water ceiling already reached.

Stafford: by-right, backlash, and the 750-foot line

Stafford ran the same arc with different instruments and a sharper pivot. It wrote data centers into its code early, defended by-right approval against its own planning commission in the spring of 2025, then adopted the most stringent setback standard in Virginia that fall and grandfathered everything it had already approved. The framework came first, in October 2023, defining a data center in the county code[15] and making it a by-right use in the heavy industrial district with modest setbacks. Five campuses then moved through the door the ordinance opened. The largest rezoned roughly 504 acres for up to 23 buildings and more than five million square feet[16], over a gigawatt of planned capacity served by six substations, approved over a single dissent with $58 million in proffered water and sewer improvements and a cap of one million gallons a day of potable cooling water until a reuse system comes online. The hyperscaler's own entry came through a performance agreement rather than a rezoning fight, approved unanimously in January 2024[17], and it carries the county's most consequential water commitment: the company funds an industrial water-reuse facility at a wastewater plant, designed to become the primary cooling source for the corridor's campuses when it opens.

The regulatory fight ran on a separate track, and for most of 2025 the developers won it. In February the planning commission recommended that data centers require a conditional use permit. The board rejected the amendment in March, the majority reasoning that the restriction would chill investment[18], and the competitive logic was explicit. Public comment kept building through the spring on noise, water, and industrial character, until a May meeting drew enough opposition that the board ordered a full review of its regulations. The review produced, in October 2025, a 750-foot setback from data center buildings to homes, schools, and the two rivers[19], enhanced buffers, and operational noise controls, the most stringent standard in the state at adoption, claimed as a win by a citizen group that had gathered more than 2,500 signatures. Six weeks later the board completed the pivot's second half, after a joint hearing that ran past 2:30 in the morning, formally grandfathering all five approved campuses[20] under the standards in force when they were approved. As of June 2026 the post-ordinance pipeline was testing the 750-foot line, with new applications seeking setback reductions, a staff denial recommendation on one campus for incompatibility with neighboring homes, a deferral in April and a 5-0 planning commission recommendation of denial in late May on another, over a cemetery that the county's staff report described as holding the unmarked graves of eighteen or more enslaved people, and the county's largest proposal yet, roughly eleven million square feet near Kings Highway[21], drawing residents who came to the microphone

with their own arithmetic on the diesel generators' annual particulate emissions and the schools a mile and a half away.

Stafford's tax posture is the corridor compact under its clearest stress, and it is the utility finance framework's cleanest case of fiscal lock-in preceding fiscal receipt. The county adopted the $1.25 equipment rate in 2019. In March 2026 a supervisor moved to double it, and the motion drew only one other vote[22]. Eight weeks later the board raised the general real estate rate by more than four cents on homeowners while the data center equipment rate stayed untouched, and a local outlet's headline captured the politics: the county shielded data centers from the tax hike and targeted homeowners. The county's own budget materials had already conceded the dependence, advising that if the anticipated data center projects did not materialize the county's bond rating would likely be in jeopardy. A county that has not yet collected the bulk of the revenue has already priced it into its credit posture.

Caroline: the purpose-built district

Caroline is the smallest county in the ring by budget and the most instructive on instruments, because it built one. In October 2023 the board adopted a new zoning category written for campus-scale technology development, the planned innovation research and technology district, and applied it two weeks later to the land the hyperscaler wanted[23]. A county of roughly 33,000 people created a bespoke district, received the largest private investment in its history through it, and then spent two years narrowing every other door, in public, with votes. The cross-line campus came first through the new district, eleven buildings and roughly 4.5 million square feet on the Caroline side of the site that straddles the Spotsylvania line, the growth-sharing agreement giving Caroline 57.5 percent of the local tax revenue, a share on the order of half a billion dollars over forty years.

The corridor's purest by-right story is also Caroline's. A developer acquired a former flea-market site of roughly 650 acres of industrial land at an interstate exit and proceeded on site plans alone, because when it filed, data centers were a by-right use in that district[24], and no rezoning hearing was ever held. Two months later the board amended the ordinance to require a special exception in that district, grandfathering the developer on its prior filings, and the following August it approved a performance agreement rebating a quarter of the project's new tax revenue back to the company for fifteen years[25] against an estimated $13 million a year in new revenue, roughly seventeen percent of the county's general fund. Caroline also produced the ring's cleanest denial. A developer sought to rezone 250 acres on the far side of the interstate and to stretch the growth area westward to reach it; the commission rejected it twice and the board denied the plan

amendment, the stated logic spatial[26]: the county had already zoned land for this east of the interstate and saw no reason to expand the map westward. The denial defines the county's policy more precisely than any ordinance text. Data centers yes, inside the lines drawn in 2023; expansion of the lines, no.

Water is where Caroline's record becomes the whole corridor's. The county applied to withdraw up to 13.9 million gallons a day from the Rappahannock[27], an intake on the river piped roughly 35 miles across a watershed divide so that water drawn from the Rappahannock basin would, after use, discharge toward the Mattaponi, with 2.63 million gallons a day identified for data center cooling. Opposition assembled across county lines, downstream localities, two conservation groups, and the Rappahannock Tribe, and a state hearing drew more than 200 people, all sixty speakers opposed. Under the pressure the board voted unanimously to strip all industrial-cooling language and reduce the request to municipal use only[28], and the state issued a fifteen-year permit for 9 million gallons a day, stepping down under drought. The Tribe appealed, arguing among other grounds that the permit violates rights reserved under a 1677 treaty, and in June 2026 the circuit court denied the motions to dismiss[29] the treaty and reserved-rights claims and ordered briefing. The permit now authorizes municipal water only. Whether municipal water serves data centers indirectly, by freeing other capacity or by future amendment, is the question the opposition believes it has already answered and the county has not addressed on the record.

King George: the coal plant, the reversal, and the courtroom

King George holds two distinctions: a coal-plant-to-data-center conversion, and the only attempt anywhere in the book to approve a multi-billion-dollar campus and then take the approval back. For more than two years the second consumed the first: the conversion stalled while the un-approval went to court. The site is a retired 258-megawatt coal-fired plant that ran until 2021[30], whose demolition removed the stacks but left the assets that made the land valuable: a transmission substation, a rail spur, and a permit to withdraw 6.6 million gallons a day from the Rappahannock, valid through 2034. The hyperscaler filed through the site's owner for up to nineteen buildings and 7.25 million square feet, up to $6 billion invested by 2040, and in September 2023, after a five-hour meeting, the board approved the rezoning and a special exception[31]. In December the company bought the parcels for $168.8 million, and the outgoing board approved a performance agreement[32] carrying the $1.25 equipment rate against the county's standard $3.25, a ten-percent infrastructure rebate, and a term to 2051.

A month earlier the county's voters had replaced the board. Data center skeptics swept the November 2023 election, and the new board voted to reconsider the

performance agreement[33] and in April 2024 voted unanimously to ask the planning commission to reconsider the rezoning of six of the parcels, more than 500 acres, back to agricultural, leaving out the 317-acre power plant site, which the interim county attorney said vested rights likely protected; what became of that request is not established. The new chair's posture was not subtle; at a March 2024 meeting he said the county was getting ready to go to war[34]. The company requested a vested-rights determination, the zoning administrator declined to issue one, the appeals board upheld the non-determination, and in April 2025 the company filed an 878-page petition in circuit court asserting vested rights in the 2023 approvals[35]. The suit never reached trial. Before it opened, the board and Amazon Web Services reached what the county's release of September 29, 2026 calls "a mutual agreement," under which the county "recognizes AWS has vested rights to repurpose the former property of Birchwood Power Facility, a coal power plant, and to develop other nearby industrial-zoned properties owned by the company," while AWS "made a binding commitment to not construct data center buildings on land adjacent to the Rappahannock River" and pledged $10 million to the county's new career and technical education school. The corridor's only attempt to reverse an entitlement after the land changed hands at nine figures turned on the vested-rights doctrine, the same doctrine that protects the grandfathered pipelines in every other county in this chapter, and it ended without a ruling: the county conceded the vested rights by agreement.

The paradox is that the board that went to war approved the next two campuses. The county designated a technology district along another corridor, and in August 2025 the same board unanimously approved roughly 6.8 million square feet and 1.2 gigawatts[36] of planned capacity, to be cooled with reclaimed groundwater rather than the public system. In February 2026 it approved a third campus over its own commission's negative recommendation, thirteen buildings and 7.2 million square feet[37], with no water cooling planned, drawing a lawsuit from an adjacent working farm whose greenhouse crops need uninterrupted darkness beside a campus that will never be dark. The county's arc is the election-feedback loop at its tightest. A 27,000-person county approved $6 billion, voted out the board that approved it, watched the new board move to undo it and get sued, and then watched the same new board approve 1.2 gigawatts unanimously and a third campus over objection. The variable that moved was not the industry, the acreage, or the water. It was which families lived next door, and who held the gavel when they showed up.

Fredericksburg: a regime without a building

The independent city adopted the corridor's most permissive instrument with its most unanimous government, and as of mid-2026 has the least built to show for it. The combination is the analytical point: a small, fiscally cornered municipality builds the regime first and negotiates the consequences afterward. The fiscal logic is unforgiving. The city holds about ten square miles, cannot annex, and carries one of the lowest real estate rates among Virginia's independent cities, which it raised four cents anyway in its FY2027 budget. Against a general fund in the range of $120 to $130 million, the projections attached to its data center program, up to $60 million a year at full buildout, approach half the city's current revenue, and council unanimity becomes less surprising in that light. The instrument is a 250-acre technology overlay on an underperforming planned development along the river, overlaid with by-right entitlement[38]. The planning commission recommended denial after a meeting of more than five hours, asking the council to slow down on infrastructure analysis, and the council overrode it 7-0. The ordinance carries the corridor's most explicit water condition: potable water is prohibited for permanent cooling, and any cooling supply requires a separately negotiated agreement approved by council after a public hearing.

The announcement came the same week as the vote, a potential $10 billion campus of eight to twelve buildings on the overlay acreage[39], with the city projecting up to $60 million a year at full buildout. As of June 2026 the project remained in entitlement, the water agreement and the transmission delivery outstanding, and no groundbreaking reported. The city's second proposal shows the same government enforcing a boundary. A developer sought to rezone 84 acres of a planned medical-center district for 2.1 million square feet, and the commission recommended denial twice, objecting that the proposed transmission lines would cross a school's car-rider line and play area, and then on comprehensive-plan inconsistency. Inside one small city government the overlay and the denials are consistent: by-right where the city drew the box, resistance where the developer drew it. The infrastructure ledger is moving faster than the entitlement. The city broke ground on a $180 million wastewater expansion with treated effluent intended for cooling, is doubling the capacity of a treatment plant it shares with Spotsylvania, and adopted a two-tier water rate under which the high-volume users designed into the class carry premium rates. A full campus buildout would consume on the order of ten times the city's entire current electric load, against a council resolution committing municipal operations to renewables by 2035.

Five answers, one compact

Set side by side, the five regimes cover nearly the whole institutional spectrum at once. Caroline built a purpose-built recruitment district. The city adopted a by-right overlay. Stafford ran performance-standard by-right. Spotsylvania converted to a discretionary permit after the fact. King George attempted entitlement in reverse and ended the attempt by agreement before trial. Two regularities cut across all five, and they are the experiment's primary findings. The first is that every tightening came after the major entitlements, never before. Spotsylvania's permit regime, Stafford's 750 feet, Caroline's special-exception door, and the city's overlay conditions all postdate the approvals that matter, and every one of them carries a grandfather clause, with King George's litigation the price of attempting one without. The second is that no government in the ring has yet collected the revenue it has committed around. Stafford briefed its bond rating on projects not yet built, Caroline rebated a quarter of revenue not yet received, and King George moved to undo an agreement before a dollar arrived. The instruments varied across the whole available range. The sequence did not vary at all.

The compact rate is the corridor's stable equilibrium, and it held when it was tested. The rate-shopping it was built to prevent is the corridor study's unique contribution to the book, because the officials described it themselves. A Spotsylvania planning commissioner, during the regulatory debate: if the county did not accept a project, the neighboring county would, and the county would lose the funding. A colleague called proposed regulations a sign telling the industry not to come. Stafford's majority rejected its permit amendment on the same competitive reasoning. The developers' filing patterns complete the picture from the other side. One hyperscaler holds entitlements or land in four of the five jurisdictions. One operator bought into Stafford's largest campus, filed in Caroline, and attached itself to the city's overlay the week it passed. Another placed at least two projects in Caroline alone, and a fourth, whose chief executive says publicly that the company targets jurisdictions with strong by-right industrial zoning, landed on a by-right industrial parcel of roughly 650 acres in Caroline weeks before the county closed that door. Capital flows to the weakest instrument on the corridor at the moment of filing, and each government's tightening redirects the flow rather than reducing it. Five governments compete, and one market clears.

No regional body sums what the five have approved. The regional commission has produced no data center study, the metropolitan planning organization has stayed inside its transportation mandate, and the statewide audit counted campuses without aggregating regional load. The totaling falls to the record itself, and the figures are entitlement maxima and reported capacities for approved projects only,

no pending applications and no withdrawn proposals. Adding the reported capacities of the eight approved campuses that carry a published megawatt figure yields 5,457 megawatts[40], and that number is a floor rather than an estimate, because it omits every approved campus without a published figure, including one hyperscaler's five corridor campuses and the city's entire overlay. Five and a half gigawatts exceeds the combined output of five North Anna-sized reactors, sited across four counties whose combined population is under 400,000, and it is consistent with the cooperative's forecast revision toward 17 gigawatts and the four transmission orders the state issued in 2025. Entitled building area tells the same story, roughly 44 to 45 million square feet approved before the city's overlay contributes a foot, which means the round "50 million square feet" a regional official has used as a projection is not promotional rounding so much as a rough count of what the boards have already signed. Every megawatt in that total is a load rather than a generator, served by a grid whose costs the state did not begin assigning to the load class until November 2025. The years in which five local governments entitled five and a half gigawatts while the cost-allocation question sat unanswered are the corridor's quiet subsidy, paid by every cooperative member and ratepayer in the interim.

The river is the one piece of infrastructure all five governments share, and they hold five separate keys to it with no common lock. The dependencies run in a chain. The city and Spotsylvania share a treatment plant; Spotsylvania's treated wastewater becomes the reuse supply that cools the cross-line hyperscaler campuses, so the host county's largest project depends on its neighbor's sewage; Stafford bridges its campuses on capped potable water until a reuse plant opens; King George's Birchwood site holds the river's single largest entitlement; and Caroline's pipeline would add a new intake roughly 35 miles of pipe from its point of use, across a watershed divide, so that water drawn from the Rappahannock discharges toward the Mattaponi and never returns. Each link was negotiated bilaterally, and no body with jurisdiction over the river as a system has reviewed the chain whole. The state permits withdrawal by withdrawal, the localities contract pair by pair, and the regional commission has not engaged. The two actors who have treated the river as a system are outside government: a conservation group that has commented in every jurisdiction, and the Rappahannock Tribe, whose appeal of the Caroline permit asserts the oldest claim in the record against the newest infrastructure on the river. The entity with the least formal power in the permitting process is the only one litigating the question every permitting body declined to ask.

Within each jurisdiction the siting map repeats the pattern the book first documented in Henrico. The campuses land where land is cheap, zoning is

industrial or agricultural, and the neighbors have the least practiced access to the hearing room. The ring holds affluent commuter geography in quantity, gated communities and townhome belts and a historic core, and none of it has a data center. The approvals cluster at the working crossroads and the farm country and the failed tourism development the floodplain has been chewing for twenty years, and the human particulars recur: a cemetery of enslaved people, a farm that needs darkness, residents told accurately that the time to object had passed. Participation arrives on schedule, after the entitlements. What distinguishes the ring from a single-county story is the interjurisdictional layer. When one county tightens, the wave crosses the nearest line, and the communities downstream, downwind, or across the line from another jurisdiction’s approval have no vote anywhere. Each government answers to its own electorate and only its own. The corridor study exists because the people the corridor binds together have no government that represents them as a corridor.

The open question the experiment poses, and cannot yet close, is whether the ring is a destination or a relay. The evidence for relay is already visible. Caroline’s southern campuses sit closer to the North Anna substation than to Fredericksburg, the regional 500-kilovolt loop now under construction stitches the corridor to Louisa, and the developer rejected in Hanover filed in Goochland a fortnight later. The wave that the post-Loudoun saturation pushed south did not come to rest at the fall line; it came to rest where each government’s instrument was weakest at the moment of filing, and it is still moving, county to county, along the same corridor, toward the next government whose answer to the same question has not yet been written.

CHAPTER 13 — The Frontier: When the Operator Builds the Plant

Every case to this point in the book turns on a local government deciding whether and how to admit an industry that buys its power from a regulated utility. This chapter describes a deal that removes the utility from the decision. On June 30, 2025, a hyperscale technology company signed a power purchase agreement for 200 megawatts[1] from a fusion plant planned for a 94-acre parcel in Chesterfield County, the largest corporate fusion contract ever executed and half the plant's projected output. The significance is the mechanism rather than the megawatts. The buyer purchases nothing from Dominion, its regulated utility, and instead contracts directly with an independent developer that will build the plant on land leased from Dominion and connect to the Dominion grid through a switchyard on Dominion-managed property[2]. The traditional pathway for new generation in Virginia runs through the utility, the State Corporation Commission, and the ratepayer cost-recovery framework. This deal bypasses all three, and that bypass is why the chapter sits at the front of the book's frontier rather than in its catalog of counties. The earlier chapters show local governments negotiating the terms of the industry's arrival. This one shows the industry arranging its own electricity, on its own land, outside the system every other chapter is fighting inside.

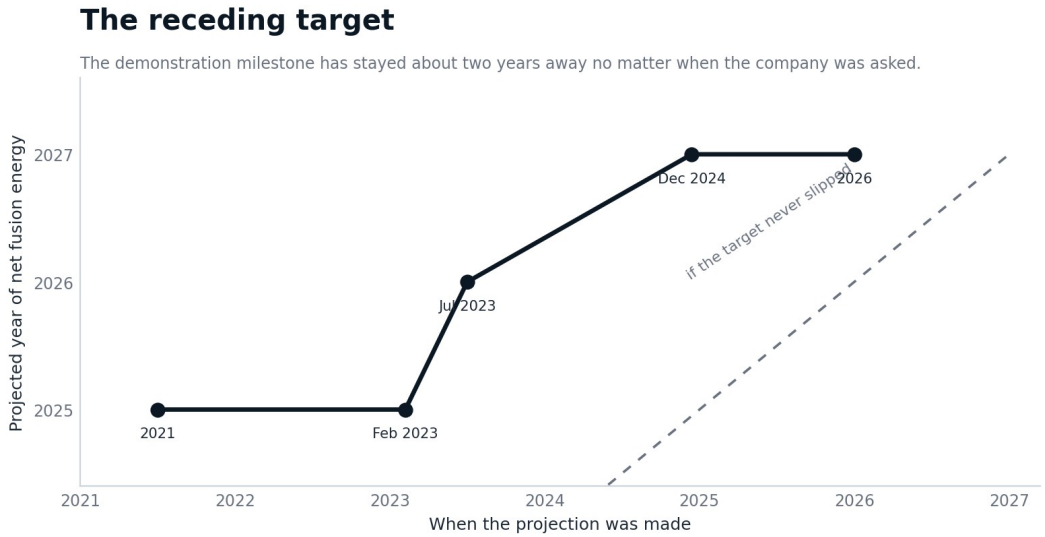


Figure 10. The receding target. The demonstration milestone on which the contracts depend has stayed about two years away regardless of when the company was asked. Source: company schedule statements over time.

The contract gave the developer something no fusion company had ever held: a bankable revenue commitment from a creditworthy buyer. Project finance for a first-of-its-kind energy facility requires a contracted offtaker whose credit quality makes the revenue stream financeable, and the buyer's balance sheet and long-

term commitment supply exactly that. The buyer's role needs precision, because it is doubled. The same company has been an equity investor in the developer since 2021[3] and increased its stake in a strategic partnership in 2025, then participated in an $863 million round that closed that August[4] alongside a chipmaker's venture arm, an Italian energy major, and a consortium of Japanese investors. The buyer is both an owner of the developer and a contracted purchaser of its output, an arrangement common in venture-backed energy and unusual in regulated utility markets, where buyer and generator are expected to keep an arm's length. A second offtaker confirmed the market the first one opened. In September 2025 the Italian energy major and the developer announced an offtake agreement the companies jointly valued at more than $1 billion[5], covering power from the same first plant, with the volume and term undisclosed[6]. The two buyers are not the same kind of institution, and the difference is the strongest market signal fusion has yet produced. One is a technology-strategic buyer procuring firm carbon-free power for its own load six miles away under a round-the-clock clean-energy commitment that no available technology currently satisfies at scale. The other is an energy major that has said it would resell the power as it does its other generation[7]. That two such different buyers priced the same unbuilt plant within three months of each other is real evidence about the market. It is not evidence the plant will run, because both contracts are anchored on a demonstration machine in Massachusetts achieving net fusion energy first.

The plant has a name and a parcel and almost nothing else. In April 2026 the developer named the site the Fall Line Fusion Power Station[8], after the geological boundary where the Piedmont drops to the coastal plain and makes the rapids on the James, and the name does quiet geographic work, tying the world's first commercial fusion plant to the same river-industrial corridor that hosted a coal-fired power station for eight decades and that will host a new gas peaker. Generation bets, fossil and post-fossil alike, keep landing on the same few square miles of already-industrialized riverfront, because that is where the switchyards, the transmission, the water, and the zoning already are. The facility is planned for land Dominion owns, with the developer holding an option to lease, at an estimated project cost of $2.5 billion[9], designed to produce 400 megawatts of firm baseload power[10] that can run around the clock without dependence on weather or storage. If it works as designed it would deliver what no existing renewable source delivers at this scale without substantial supplementary infrastructure. The single approval the project has secured is local. The county granted the conditional use permit unanimously in September 2025, the first such permit for a commercial fusion plant anywhere[11], against no significant documented opposition, which is a different profile to residents than a 200-acre data center campus next to an elementary school. Every other clock has barely started. There is no public record

of a site-plan filing, no announced application for the state radioactive-materials license the plant will require, no SCC docket for the merchant-generator authority a plant like this needs, no air or stormwater filings found, and a federal rule that was still not final when its comment period closed in May 2026[12]. A license application that has not been filed cannot be approved on any schedule.

The supply crisis that produced the deal

The contract emerged from a supply crisis rather than a sustainability brochure, and every element of that crisis has moved in the same direction. Dominion's 2024 resource plan projects data center load in its Virginia territory reaching 13,353 megawatts by 2038[13], roughly three and a half times current levels, and its 2025 update, using the load forecast the commission directed it to adopt, projects energy use roughly doubling by 2045 and calls for about 33 gigawatts of new generation[14] over twenty years. Dominion's own filing concludes that the portfolio retiring all gas by 2045, as the Virginia Clean Economy Act requires, is not viable on reliability and cost grounds. The capacity market has been signaling the shortfall in prices. The July 2024 regional auction for the 2025-26 delivery year cleared the Dominion zone at $444.26 per megawatt-day, a 1,436 percent increase over the prior year[15], and the grid operator's market monitor attributed 63 percent of the total cost increase to data center load[16]. The two auctions since have both cleared at an administrative price cap, which means the market stopped functioning as price discovery some time ago, with demand outrunning supply and the cap absorbing the difference. Those costs flow to ratepayers, and the November 2025 review produced an $11.24 monthly bill increase[17] for a typical residential customer in 2026 with more to follow.

The fossil bridge runs through the same county on the same ledger. In November 2025 the commission approved a 944-megawatt gas-fired peaker on the retired coal-station site[18] a few miles downriver from the fusion parcel, resting on a finding that the grid faces reliability shortfalls as early as 2029, and that approval is now before the Supreme Court of Virginia on an environmental-justice challenge[19]. The juxtaposition is the chapter's, and it is exact. On the same county ledger the fossil bridge is being litigated while the fusion bet is being permitted. The gas plant exists because the clean alternatives are not yet available, and the fusion plant's commercial relevance exists for the same reason. The gas plant targets an in-service date of mid-2029 and the fusion plant targets the early 2030s, and the gap between those dates is the period in which the county hosts new fossil combustion justified, in part, by load from the same buyer that is purchasing the fusion plant's output. The carbon constraint is what makes the bet legible. The buyer has committed to operating on round-the-clock carbon-free energy by 2030[20], and the

qualifier is what separates the commitment from a standard renewable-credit strategy, because solar generates in daylight and wind depends on conditions and both require massive storage to approximate firm delivery. The statewide audit found that meeting Virginia's data center demand with solar alone would require doubling the record 2024 installation pace[21], and small modular reactors face timelines that may push deployment well into the 2030s. Fusion, if it works, is the only technology that is at once firm, carbon-free, and scalable to the load these campuses require. The contracts are commercial bets on that conditional.

Four regulators, each meeting fusion for the first time

Four regulatory frameworks now intersect at the site, and the institutional fact worth holding is that each is processing a fusion plant for the first time, which means the approval pathways are being invented around the applicant. The federal framework is the most developed and the most favorable. The Nuclear Regulatory Commission decided in 2023 to regulate commercial fusion under the byproduct-materials framework[22] that governs particle accelerators and medical-isotope facilities rather than the reactor framework that governs fission, on the physics that fusion reactions are not self-sustaining, with no chain reaction to run away and no long-lived spent fuel, and Congress codified the decision in 2024[23]. The implementing rule was published in February 2026 and its comment period closed that May[24], still not final. A licensing framework lighter than a nuclear power plant's is a substantial regulatory subsidy in time and cost, and the plant will be the first full-scale commercial test of whether the streamlining holds at 400 megawatts. The state framework is the least-noticed clock in the entire project. Virginia exercises primary authority over radioactive materials through its agreement with the federal commission, the plant will require a state radioactive-materials license, the Massachusetts precedent for the demonstration machine took the form of such a license granted in 2024[25], and no Virginia application has been publicly announced. The agency that would process it has never licensed a fusion power plant, and the proceeding has not started in public view.

The grid frameworks carry the chapter's sharpest institutional observation. A merchant generator in Virginia requires commission authority, and no docket appears in the public record, which leaves unanswered a planning question that determines who benefits from the private investment: does the 200 megawatts the buyer contracts for reduce the data center load Dominion must plan for in its resource plan, or is it supplemental capacity that offsets nothing? If the contract reduces planned load it may reduce the infrastructure costs that flow to residential bills; if the commission treats it as irrelevant to planning, ratepayers see no benefit. The commission has issued no ruling. The interconnection framework is

the newest and the most revealing. In late April 2026 the developer submitted a generation-interconnection request to the regional grid operator[26], the first from a grid-scale fusion developer to any major transmission organization, entering the first open intake since the operator closed its queue in 2022, a window that drew 811 projects seeking 220 gigawatts[27]. Fusion does not yet have a resource category of its own, so the application sits in the “other” bucket alongside biomass and coal, and a year earlier fusion was not even an option in the application portal’s menu. Two details complete the picture of overlapping roles. Dominion advised the developer through the interconnection process under their joint agreement, which places the incumbent utility in the position of coaching an independent generator through the queue that the utility’s own load growth has congested. And the grid operator is using an artificial-intelligence review tool built by a unit of the same technology company[28] that has contracted to buy the plant’s output, to speed the review of the backlog that includes that plant. No party has alleged impropriety, and the tool reviews hundreds of applications. The observation belongs in the record regardless. At every layer of this project, the entities inventing the process and the entities subject to it overlap.

The collateral is a machine in Massachusetts

Every contract in this chapter is anchored on a single demonstration machine, the tokamak in Devens, Massachusetts, that must produce more energy from fusion than it consumes[29], the threshold the field calls Q greater than one, before the commercial plant’s financing and offtake commitments convert from bets into a schedule. Both contracts say so explicitly, which makes the demonstration machine the collateral in the precise sense: the asset whose performance secures everyone else’s position. The hardware is real and moving. The developer reported the machine about three-quarters complete in the spring of 2026[30], a program-tracking estimate rather than a physical construction percentage, and the verifiable record shows the cryostat base installed, the first production magnet validated by an independent federal panel and earning a milestone payment, and two of eighteen magnets in place by mid-May 2026. The technology bet is being de-risked with the tools and the balance sheets of the companies that are also its customers and investors, through a digital-twin collaboration with a chipmaker and an industrial-software firm and a plasma-simulation partnership with the buyer’s own research lab.

The schedule is where caution belongs, and the record of the dates is the reason. The developer’s current public position is that the demonstration machine begins operations in 2027 and reaches the net-energy threshold the same year. That target is not the original one. Assembled in sequence, the company’s schedule

statements show the net-energy date moving roughly two years since 2021, from "by 2025" to 2027[31], without a single announcement of delay, the slippage absorbed quietly in changed language across documents. The turn-on date moved from "later in 2026," affirmed by the chief executive the same day the second offtake deal was announced, to 2027 a few months later. And the phrase "early 2030s" has described the commercial plant continuously since December 2021 while its meaning drifted from "completed" to "delivering power" to "commercial operation." A phrase that absorbs five years of upstream slippage without changing is doing a different job than a date. None of this is evidence the machine will fail, because tokamaks are hard and a two-year slip on a first-of-kind device is unremarkable by the standards of large physics projects. It is evidence about how the company communicates schedule, and it instructs the reader on how much weight "2027" and "early 2030s" should carry. Confidence statements, of which the developer issued several in 2026 alongside five peer-reviewed papers[32], are not schedule statements.

Who bears which risk

The contracts create a risk structure fundamentally different from the regulated utility model, and the central fact is that the delivery date now runs on three independent clocks. The physics clock runs through Devens, where the net-energy threshold is targeted for 2027 with the slip history above. The permit clock runs through Richmond and Rockville, where a state license has not been applied for in public view, a commission authorization has no docket, environmental permits have no filings found, and the federal rule is not final. The queue clock runs through the regional grid operator, where a study process of one to two years began in April 2026 inside a four-to-six-year runway[33] from study start to energization by the developer's own description. Any one of the three can move the delivery date by itself and none can advance it, so the early-2030s target turns on whichever clock runs longest. The queue clock now sets the floor, because even a perfect physics result in 2027 cannot put fusion electrons on the grid before the interconnection process completes, which on the developer's own numbers lands between 2030 and 2032. The physics determines whether the date holds. The queue determines the earliest possible date. The permits are the clock nobody is watching, which is usually the one that bites.

The financing position is strong, and the chapter says so plainly. The developer has raised more than $3 billion against an estimated $2.5 billion project cost[34], the offtake book now carries two creditworthy counterparties, and first-of-a-kind cost-overrun risk sits on the developer's equity rather than on the buyers, the ratepayers, or the county. The plant is not rate-based, which keeps the

construction-cost firewall between the project and residential bills intact, and the disclosed public money is two matching $1 million siting investments[35]. The exposure that matters is temporal, and it is unchanged by the strong balance sheet. The contracts were signed in 2025, the plant delivers in the early 2030s at the earliest, and in between the buyer's Chesterfield campuses ramp on grid power priced by capacity auctions that have cleared at their cap twice in a row. Ratepayers fund the bridge years through the bill increase already ordered and whatever the next auctions add. The contract is a claim on future capacity, not present capacity, and even at full delivery the plant covers a fraction of the load it is associated with, since the buyer's campuses alone are projected to draw more than a gigawatt at full buildout and the remainder comes from the grid. A new risk arrived from an unexpected direction in May 2026, when NextEra Energy announced a roughly $66.8 billion all-stock agreement to acquire Dominion[36], expected to close in 2027 pending regulatory approval. Dominion is party to neither contract, but it is the project's landlord, its joint-development partner, its interconnection host, and its adviser in the queue, and every one of those relationships will be inherited by a new owner whose integration priorities are unknown, with the merger review running concurrently with the years in which the developer needs its lease executed and its approvals granted. Nothing suggests the merger is hostile to the project. The exposure is quieter: the project's most important non-contractual relationships now run through an institution in the middle of changing hands.

The distributional question is the one the book has carried throughout, and the fusion plant does not dissolve it. The plant produces zero operational carbon if it works as designed, and the gas peaker downriver was approved partly because clean alternatives, fusion included, are not yet available. Dominion's own environmental-justice screening for the gas plant's air permit found the host census block group 84 percent people of color and 73 percent low-income[37], with 22 of 24 surrounding block groups containing potential environmental-justice communities under state law. The communities adjacent to the gas site bear the health and environmental cost of the bridge years, and the communities that capture the benefits of the data center campuses and eventually of the fusion plant's tax base are different communities. The costs and the benefits land in different places, on different populations, on different timelines, and the fusion plant's eventual cleanliness does not retroactively compensate the people who breathed the interim. Two gaps round out the risk ledger and both are findings rather than oversights. No public document discloses a decommissioning plan, cost estimate, or financial-assurance mechanism for the plant, and the byproduct-materials framework does not impose the decommissioning-fund requirements that apply to fission reactors. And the regulatory pathway rests on a rule that is not

final, which leaves the framework itself a live policy variable across the years the project needs to build.

The precedent question

If the model works, it becomes the template, and the structure was already propagating across the industry before the plant produced a single electron. A competitor's deal restarts a shuttered reactor at Three Mile Island for one hyperscaler; another puts data center load behind the meter at a nuclear plant in Pennsylvania for a second; the buyer in this chapter holds, beyond the fusion contract, a 25-year deal on a restarted Iowa reactor[38], a master agreement for small modular reactors, the acquisition of a power developer, and a 20-year Michigan contract obliging it to fund new clean generation for a gigawatt-scale campus. The fleet logic is explicit, since the fusion contract itself carries options on future plants. Each deal shares a common structural logic. The operator contracts for power outside the regulated utility framework, absorbs some development risk through its purchase commitment, and shifts the generation decision from the utility and its regulator to the operator and its chosen developer. The traditional Virginia model works the other way: the utility builds or contracts, the commission approves, the investment is rate-based, and costs are recovered from all ratepayers. If operators self-supply at scale the traditional model is not eliminated so much as hollowed out, the utility becoming a transmission and distribution company for the self-supplied load while residential and small-commercial customers remain fully dependent on the regulated system.

The fiscal mechanics are where the precedent meets the rest of the book, and they are unforgiving. A campus that self-supplies 200 megawatts of a 1,000-megawatt load still requires grid infrastructure sized for the full load. The large-load rate class the commission created covers 85 percent of contracted transmission and distribution capacity[39] for the contract term, and a conservation group's analysis estimates that roughly 61 percent of the remaining infrastructure costs shift back to residential ratepayers[40] after the term expires. Self-supply changes where some of the megawatts come from. It does not change who underwrites the wires. The fusion field around this plant keeps drawing capital and offtake without any machine yet producing net energy: the holder of the only other major fusion offtake raised money at a $15.5 billion valuation in 2026[41], a federal power agency in Tennessee filed that state's first fusion license application for a pilot plant, and the federal energy department stood up a dedicated fusion office. The plant's interconnection application is best read in that context, as a first-mover claim on the one queue position that matters in the data center capital of the world.

The chapter closes Part Three on the question the whole part has been circling, now posed at the technological frontier. If the Fall Line plant delivers, it provides the template operators elsewhere will replicate, and the generation decision migrates further from the regulator with each replication. If it is delayed or fails, the grid will have been built anyway, the bridge generation will have run anyway, and the question of who pays will have been answered in the interim by default, ratepayers first, with the accounting argument to follow. Either way the structural move is the same one every chapter in this part has documented from a different angle. The leverage that a regulated, publicly reviewable process gives the public over the cost of new power is being routed around, here by private contract rather than by rate lock or by ordinance, and the routing is happening faster than the institutions built to check it can respond. The frontier is not a different story from the counties. It is the same story with the utility removed from the room.

PART FOUR — THE PATTERN AND THE FRAME

The cases in Part Three were told one posture at a time, which is the right way to test a framework and the wrong way to end a book, because the individual case understates how much the jurisdictions had in common. Part Four steps back to draw out what the cases share. It begins with the geography of the industry's spread and the way the developers exploited it, turns to the patterns that recur regardless of posture, sets the whole thing inside the state policy frame that tilted the field, and closes with the implications that follow. The argument does not change. It widens, from a claim about thirteen counties to a claim about the structure they were all operating inside.

CHAPTER 14 — The Diffusion Geography and the Single-Market Developer

The variation that Part Three documented has a geography, and the geography explains a good deal of it. The industry did not arrive everywhere at once. It spread across Virginia in a discernible wave, outward from a single origin, and where a county sat in that wave determined how much warning it had, which in turn shaped the posture it was able to adopt. A county that met the industry first, with no precedent to learn from, was far more likely to run the by-right model into the ground and reform too late. A county that met it last, having watched a decade of others, had at least the chance to write its rules in advance, whether or not it took the chance.

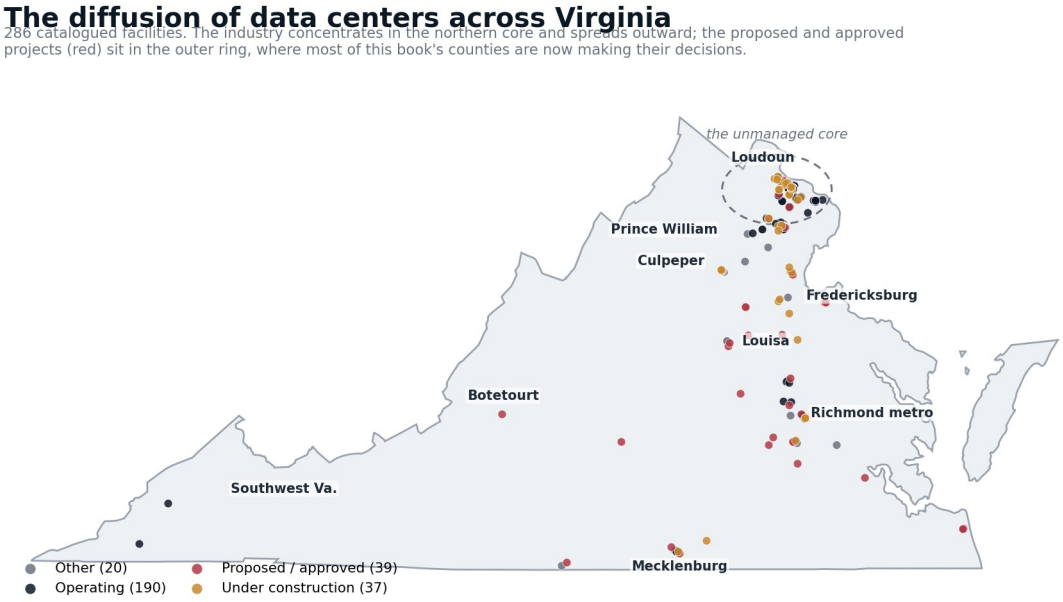


Figure 11. The diffusion of data centers across Virginia. *The 286 catalogued facilities concentrate in the northern core and spread outward; the proposed and approved projects sit in the outer ring, where most of this book's counties are now deciding. Source: statewide facility inventory (Appendix C).*

The wave

The origin is the Northern Virginia core, the cluster of Loudoun, Prince William, and Fairfax that holds the oldest and densest data center market on earth. This is where the by-right model ran longest and where the reform-after pattern is most fully developed, for the simple reason that the core had no one to learn from. Its defining condition by the mid-2020s was saturation, of land, of power, and of transmission capacity, and saturation is what pushed the industry outward in the first place. The first ring out is the Interstate 95 corridor and the Richmond

crescent: Stafford, Spotsylvania, and Caroline along the highway, Henrico, Chesterfield, Hanover, and Goochland around the capital. These counties absorbed the overflow, and they are where the policy learning is most active, because they had time to watch the core before their own applications arrived. The second ring is the Piedmont frontier of Louisa, Orange, Culpeper, and Fauquier, where the pre-entitlement posture predominates precisely because these counties wrote their rules with the Northern Virginia experience already in view and the first applications still pending. The transmission conflict concentrates here too, because the Piedmont is the corridor through which the core's power has to travel. And the far edge is Southside and the Valley, Mecklenburg and Pittsylvania and Botetourt, where very large individual projects arrive one at a time into communities with little prior exposure and high fiscal stakes, and where the outcomes are the most variable in the portfolio, ranging from outright refusal to contract-lock, because each community is meeting the industry for the first time and improvising in real time.

The single most important fact about the wave is that it is not finished. The disclosed pipeline sits in the rings and the frontier, not in the saturated core. The counties that had no operating facility in 2024 are where most of the next decade's decisions will be made, which means the leverage that this book has been tracking is, across much of Virginia, still intact and still spendable. The book is therefore not only a history. It is a description of a choice that most of the commonwealth has not yet made.

The single-market developer

The wave has a second feature that cuts against any reading of the cases as isolated local dramas, and it is the one that most disadvantaged the counties. The jurisdictions experienced the industry as a sequence of separate decisions, one hearing at a time, each county weighing its own project on its own merits. The developers experienced the same jurisdictions as a single market, and they allocated projects across it accordingly. The clearest instance is the developer that, rejected at Hanover's Mountain Road on a Wednesday in late May, filed the first application in Goochland's new district fourteen days later[1], the same firm moving the same product to the next county the moment one door closed, having previously walked away from a denial in Chesterfield. Google moved through Chesterfield, Botetourt, and the Chesterfield fusion arrangement behind a rotating set of shell and code-named entities[2], its identity confirmed only after the entitlements were secured. Amazon appears across the Piedmont and the I-95 ring, often through subsidiaries, and in Orange its involvement was knowable to the public only because a records suit forced the disclosure of officials' non-disclosure

agreements. The overlay-district template that Louisa invented was copied down the line by Goochland and others. One market, worked methodically; many counties, each believing it was having a local conversation.

The asymmetry matters because it shaped the bargaining. A county negotiating a single project, against a developer that is simultaneously negotiating a dozen, has far less information about the market than its counterpart, and it is correspondingly more vulnerable to the oldest line in the industry, that the investment will simply go to the county next door if the terms are not met. Sometimes the threat was real and sometimes it was a bluff, and the county usually could not tell which, because it could not see the rest of the board. The pre-entitlement counties partly neutralized this disadvantage, and it is worth seeing how. By setting standing terms before any specific developer arrived, they took the individualized negotiation off the table, so that a developer shopping the corridor met a fixed set of conditions rather than a county that could be worked. The fall-line compact did the same thing with price, collectively. The reform-after and contract-lock counties, by contrast, negotiated project by project against a repeat player who knew the whole market, and they negotiated from the weak side of the information gap every time. The lesson the developers taught, without meaning to, is that the only reliable answer to a single-market counterparty is a standing rule, because a standing rule is the one thing that cannot be worked one project at a time.

CHAPTER 15 — The Recurring Patterns

Five patterns recur across the portfolio regardless of where a county sits on the spectrum, and naming them is the work of consolidating what the cases showed one at a time. Each appears in multiple jurisdictions, and together they describe the structural features of the model rather than the idiosyncrasies of any single county. A reader who has followed the cases will recognize all five; the value of gathering them here is to show that they are not coincidences of particular places but properties of the system every place was operating inside.

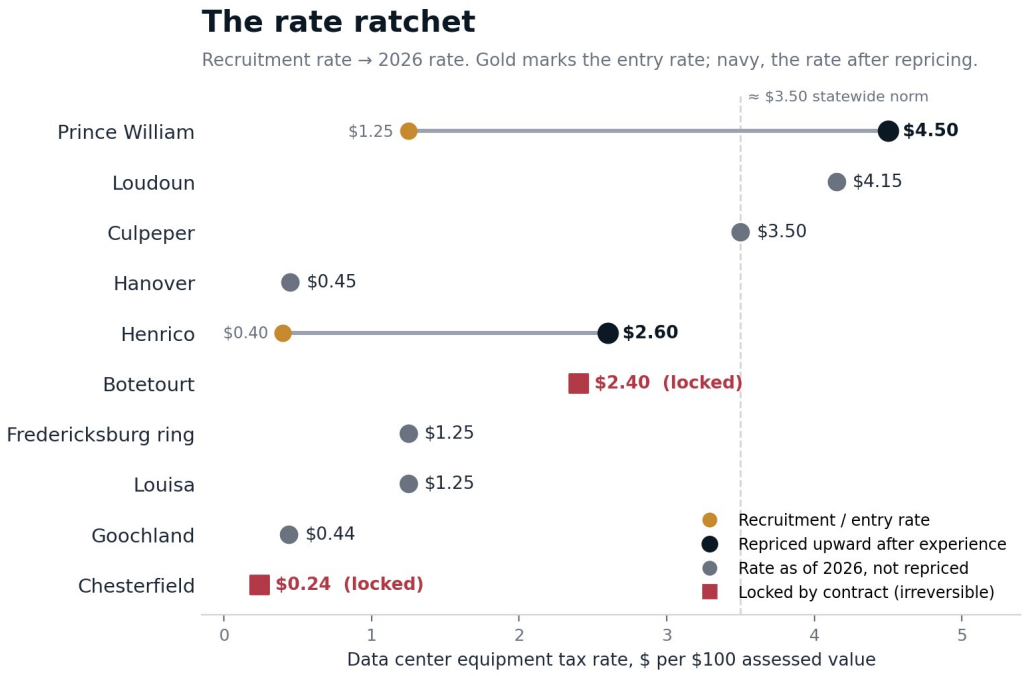


Figure 12. The rate ratchet. Recruitment rate to 2026 rate: counties that priced low before the industry arrived either repriced upward after experience, signed the rate away by contract, or, like Hanover in 2026, held the entry rate. Source: county rate schedules and budget records.

The rate ratchet, and the irreversibility of trading it away

The equipment-tax rate is the competitive instrument, and across the portfolio it climbed steeply as counties gained experience and leverage. The disclosed range runs from twenty-four cents in Chesterfield, fixed by contract, through the forty- and forty-five-cent rates of counties admitting the industry early, the dollar-and-a-quarter fall-line compact, the two-dollar-forty and two-dollar-sixty rates of Botetourt and Henrico, up to the three-fifty and four-fifty rates of Culpeper and Prince William. The trajectory is a learning curve priced in dollars. The counties that read the curve correctly repriced at each assessment and captured the rising

value, Henrico climbing from forty cents to two-sixty in eight years, Prince William from a frozen dollar-and-a-quarter to four-fifty. The counties that fixed the rate by private contract removed themselves from the ratchet permanently, and that is the single irreversible move in the entire repertoire, the one thing a successor board cannot reverse. The fall line shows the same logic from the other direction: a rate held constant by compact could not rise with the market even as entitled capacity multiplied past five gigawatts. Where the rate moved with the county's learning, the county captured the climb. Where it was locked, by private contract or public compact, the county was frozen at the price it set before it understood the market.

Water, the binding constraint and the controlled secret

Across the cases, water displaced electricity as the externality most likely to actually stop a project, and it was also the most tightly withheld. Hanover's refusal turned on water. Botetourt's first hundred-million-dollar water commitment stayed sealed until a contempt proceeding forced it into the open and produced the first Virginia ruling that a data center's water use is not a trade secret[1]. Chesterfield's largest campus was approved with no disclosure of its water demand at all. Louisa's overlay sat above a reservoir whose safe yield a single operator's draw approached. Orange ran into a state denial of the very withdrawal increase it would need, and Caroline's withdrawal drew a tribal treaty challenge a court refused to dismiss[2]. The pattern is diagnostic: the data point most capable of changing a local decision is the one operators most consistently refuse to disclose. Water has a property electricity lacks, which is that it is locally finite in a way that forces the question back onto the host community rather than dispersing it across a regional grid, and that is why water, more than noise or even ratepayer cost, became the externality on which the refusing counties refused and the pre-entitlement counties wrote their hardest conditions.

Promised revenue and delivered revenue

The prospective cases rest on projected revenue, and the one retrospective case shows what the projections are worth. Mecklenburg's rebate ledger, returning eighty-two and a half percent of the operator's personal property tax for years against a public claim of ninety, demonstrates that headline revenue figures can overstate what a general fund actually receives by a wide margin and for a long time. The deeper finding is that announced investment is a promotional genre rather than an accounting category. The figure a company announces at a ribbon-cutting is produced for that purpose, is rarely audited by anyone, and routinely bundles speculative future phases with committed present ones. Every projection the prospective cases cite, the multi-year tax estimates that persuaded boards to approve, should be read with that genre's conventions in mind, which is precisely

what the host counties, eager for the development, generally did not do. No particular projection need be dishonest for the error to occur. A county treating a promotional number as an accounting estimate is making a category error, and the one county old enough to discover the error did so only after fifteen years and a national reporter. The revenue side of these deals warrants the same skepticism a board routinely applies to the cost side of an ordinary capital project, and almost no board applied it.

The grid externality, summoned and ungoverned

A county approval adds load to a regional grid the county does not run, and the cases show the consequences migrating beyond local authority and, at the frontier, beyond the regulator as well. Louisa's approvals helped summon a small modular reactor program whose feasibility costs already sit on ratepayer bills across the state. The transmission fights of the Piedmont counties are the physical externality of approvals granted a hundred miles away in the rings. And the fusion arrangement of the last chapter is the externality escaping the public system entirely, a private generation contract that bypasses the utility, the commission, and the ratepayer-recovery framework[3] at once. The throughline is that local approval summons a grid consequence the county cannot govern, and that the public institution which is supposed to govern it in the county's place is itself, at the frontier, being routed around. The county that approves the campus sets the consequence in motion and controls none of it, and increasingly neither does the commission.

Capture and disclosure failure, the recurring failure mode

Where the model broke down, it broke down in a consistent way: a procedural shortcut or a conflict of interest, paired with a failure of the disclosure systems meant to catch it, corrected after the fact by a court or not at all. Prince William's voided rezoning, its self-dealing supervisor, and its post-correction campaign contribution are the textbook sequence. Botetourt's contractual agreement to help the operator resist disclosure and to manage the county's press is the same failure written into the deal itself. Goochland's defective notice and night-of-vote amendments are the procedural version, and Orange's forced disclosure of officials' non-disclosure agreements is the version that surfaced only through litigation. The disclosure systems failed in the same direction every time, toward the developer and away from the public, and the reason is structural rather than accidental. The developer is a repeat player with strong incentives and professional representation; the disclosure obligations fall on part-time boards and thin planning staffs handling their first or second project of this scale. Non-disclosure agreements, code names, and shell entities are standard practice on one

side, while the public's instruments, public-notice rules and conflict-of-interest provisions, are enforced after the fact and often only by a resident willing to sue. That asymmetry is why the cleanest corrections in the portfolio came from courts applying procedural rules rather than from a political process catching the conflict in time. The pattern is not that local government is uniquely corrupt. It is that local government, as currently equipped, is outmatched, and the next chapter takes up the question of who equipped it that way.

CHAPTER 16 — The State Frame: How Policy Tilted the Field

The previous chapter ended on the observation that local government, as currently equipped, was outmatched, and the question of who equipped it that way. The answer is the commonwealth. The local variation this book documents did not occur on neutral ground. State policy shaped the field every county played on, and it shaped it in one direction, toward maximum development, by a mechanism that ran through every case without ever appearing in any single hearing. Understanding the state frame is what turns a collection of county stories into an account of a system, because the counties were not free agents arriving at different answers to the same question. They were operating inside a structure built to make one answer easy and the other expensive.

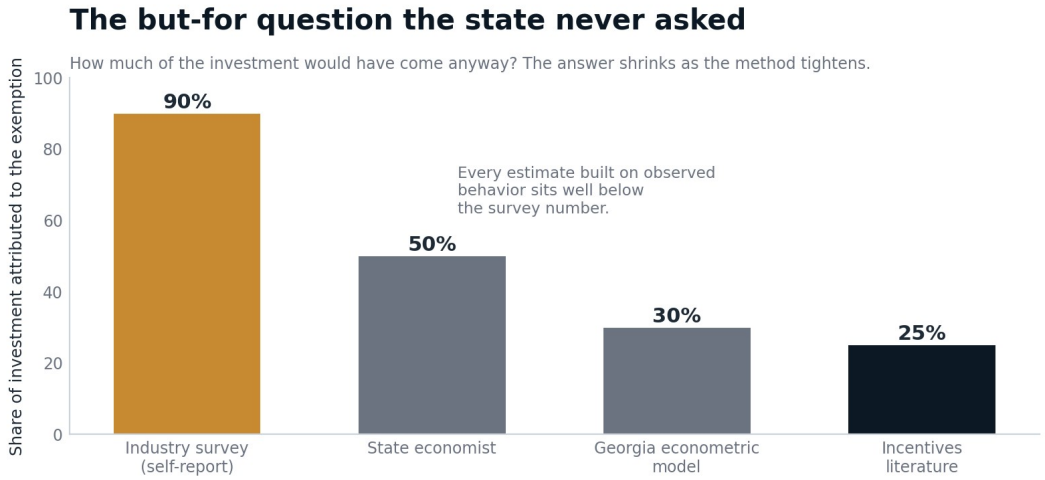


Figure 13. The but-for question the state never asked. The estimated share of investment attributable to the exemption shrinks as the method moves from self-report to econometrics. Source: industry surveys; state and academic studies.

The tilt

The structure has two parts, and the combination is what does the work. The first is the sales-tax exemption, which makes Virginia attractive to the industry and costs the state treasury close to two billion dollars a year[1]. The second is what the state withheld: the tools a locality would need to manage the industry's consequences. The power to require sound modeling and enforce a low-frequency noise limit, to compel disclosure of water demand, to mandate historic and viewshed review, to allocate grid costs to the users who drive them, these were either absent from a county's toolkit or had to be invented locally, ordinance by ordinance, against resistance. The exemption is a gift the state hands the operator.

The management tools are a burden the state left the county to manufacture for itself.

Set those two facts beside each other and the tilt is obvious. A county handed the local revenue and shielded from the exemption's cost, and lacking any state-provided instrument to do otherwise, faced a structure in which approving was the path of least resistance and managing was the path of most. A board inclined to maximize development needed only to accept the state's pre-loaded incentive and vote yes; the revenue landed in its budget and the costs dispersed across the commonwealth and the grid. A board inclined to manage the industry on terms had to build its own instruments, hold its own line against a counterparty that could credibly threaten to leave, and do it with no template and no requirement and no help. The state did more than permit the Loudoun outcome. It subsidized the easy road and left the hard one to be paved by hand, which is the reason the posture that performed best in the entire portfolio was also the rarest. Pre-entitlement was expensive to choose because the state made it expensive, and most counties, offered the easy road, took it.

The question the state never asked

At the center of the frame sits the question the commonwealth has worked hardest to avoid, and its policy weight is worth stating plainly. Virginia has never commissioned the study that would measure how much of the industry's investment is actually attributable to the exemption it has been paying for. The estimates that exist, laid out in Part One, run from the ninety percent the beneficiaries report on surveys[2] down through the fifty percent of a state economist's declining figure, the thirty percent of Georgia's commissioned econometric model[3], and the twenty-five percent of the broad incentives literature. Every estimate built on observed behavior rather than self-report sits well below the survey number, and they agree on a direction: as a market matures, the marginal pull of any single incentive shrinks. Virginia's market is the most mature on earth. The commonwealth has been paying close to two billion dollars a year for fifteen years[4], in the one market where the incentive should matter least, without ever measuring what it bought. The exemption may not be worthless. The point is that nobody in a position to know has ever checked, and the structure has run on the unexamined assumption that the gift is buying the investment.

The frame in motion

The state frame is not fixed, and the 2026 legislative session is the clearest sign that it has begun to move. The General Assembly enacted, in a single session, a set of measures that map almost exactly onto the failures the cases documented. It

required tighter emission standards for new backup generators[5]. It mandated disclosure of water use[6], the controlled secret that Botetourt had to be sued to reveal. It required siting and noise assessments[7], addressing the late surprise. And it passed a cost-allocation measure aimed at shifting certain grid costs[8] onto the large users who create them, the ratepayer problem that runs through the whole book, though the Governor's later amendments narrowed it. A carbon-conditions bill died, and roughly fifteen data center bills survived in all, alongside the new large-user rate class the commission had created[9] the previous autumn. Read together, these measures are the state beginning to hand counties the instruments that the best-managed among them had to invent for themselves, which would make the pre-entitlement posture less a local act of heroism and more a statewide default. The measures tighten the industry's externalities at the edges. They leave the central subsidy in place.

The exemption itself was handed to the budget negotiators, where as of this writing it remains the unresolved core of an impasse that has run since March. The statute carries a sunset in 2035[10], and the session produced competing futures for it: a Senate plan to end it as early as 2027[11], a House plan to preserve it with conditions and a data center accountability commission, and a Governor signaling she would not break signed contracts, which points toward grandfathering existing certificate holders on the model Georgia used when it repealed its own exemption. The analysis in this book does not depend on which way the budget breaks, and that independence is worth stating, because the findings hold whether or not the exemption survives. What the cases establish about timing and leverage and the distribution of cost is true regardless of the rate the state charges going forward. But the accountability-commission proposal deserves a note, because it is the institutional form the unanswered question may finally take. If the commission is created and charged with the Virginia-specific econometric study the state has never done, the central evidentiary gap in the entire debate would begin to close, and the commonwealth would have, for the first time, its own measure of what the exemption buys.

Virginia, first and not alone

The frame has a national dimension that calibrates the stakes. Virginia is the largest and most mature instance of a problem that legislatures across the country are now confronting. More than three hundred data-center-related bills were filed across more than thirty states[12] in the 2026 sessions, and at least eight states moved to shift the industry's costs away from residential ratepayers or to condition its tax treatment. A neighboring state's governor courted the industry openly while Virginia debated reform, a reminder that the interstate competition the exemption

was built to win is real and ongoing and not obviously winnable by paying the most. The national trend, on the evidence, runs toward reform. Virginia's local-variation record is therefore not only a Virginia story. It is a preview of the experiment the rest of the country is entering, run first and at the largest scale, with results already in. What the commonwealth learned, and what it failed to learn in time, is available to every state now standing where Virginia stood a decade ago, and the implications of that record are the subject of the chapter that closes Part Four.

CHAPTER 17 — Implications

What follows from the evidence is a set of inferences about how this kind of development is governed, and the book offers them as findings rather than as a program. The aim has been to make the mechanism legible, and a mechanism understood yields its own implications without needing to be turned into a list of recommendations. Six follow from the cases, and each is a claim about how the world works rather than an instruction about what to do, though a reader who wanted instructions would find the materials to build them here.

The first and most general is that timing is the decisive governance variable, and leverage is an asset that depreciates. The communities that managed the industry well did not possess unusual virtue or unusual legal authority. They acted while their leverage was intact, before they had approved anything, and they converted it into enforceable terms. Every case in which a county acted late shows the same residue: real reform that governs only the next project, because the projects that created the problem were already entitled. Henrico's eight million grandfathered square feet, Stafford's grandfathered campuses, Orange's Wilderness Crossing, and Loudoun's decade of by-right approvals are the same fact in four counties. For any jurisdiction still ahead of its first serious application, the window in which terms can be set opens before the development is wanted most and closes the moment the first approvals vest. The cost of waiting is paid in specific entitlements that reform can no longer reach, and it is never paid in the abstract.

The second concerns irreversibility. Most mistakes in this domain are recoverable. A permissive board can be voted out, as it was in Spotsylvania and King George[1]. A careless ordinance can be rewritten, as Louisa rewrote its overlay. A lost lawsuit can change a county's posture going forward, as the void-ab-initio rulings changed Prince William's. The exception is the rate fixed by private contract. Chesterfield's thirty-year lock and Botetourt's twenty-year cap are the two moves in the entire portfolio that a later board cannot undo, because the leverage there was signed away rather than merely spent. A county tempted to embed a fiscal term in a performance agreement is trading a recoverable decision for an unrecoverable one, and the cases suggest the trade is rarely worth what the county receives for it, because the operator that demands the lock would, on the evidence of the rate ratchet, have come anyway.

The third is evidentiary. The single auditable case shows that announced investment figures and projected revenue figures systematically overstate what a community actually receives, and that the overstatement persists for years before anyone checks. The implication is that the revenue side of these deals warrants the same skepticism boards routinely apply to the cost side of an ordinary capital

project. A multi-year tax projection offered in support of an approval belongs to the genre that produced it, promotional rather than accounting, and should be discounted accordingly. Mecklenburg is the retrospective check the prospective cases cannot provide for themselves, and its lesson is that the gap between the brochure and the ledger is real, large, and durable.

The fourth is structural. The central tendency of the whole portfolio, the tilt toward maximum development, is better explained by the state policy frame than by any failure of local will. The commonwealth offered the incentive, withheld the management tools, and left each county to negotiate alone. The counties that resisted the tilt did so by inventing instruments the state had not provided. Local-variation outcomes are therefore downstream of state design choices, and the distribution of governance tools, not merely the distribution of the subsidy, is what determined how much room each county had to maneuver. A state that wanted the managed middle to be the default rather than the exception would distribute the tools the best-managed counties built, which is precisely what the 2026 session began, hesitantly, to do[2].

The fifth follows from the disclosure vacuum. Because Virginia requires no facility-level disclosure of power, water, or investment, every public figure on the scale of the industry is a floor, and the cost side of the ledger is more obscured than the benefit side. A benefit announces itself at a ribbon-cutting. A cost, a water draw, a transmission route, a ratepayer increase, surfaces later and partially. The public record therefore systematically understates what the industry consumes and what it costs, and any analysis built on that record, this book included, describes a lower bound rather than a measured total. The first court ruling that a data center’s water use is not a trade secret[3] matters beyond its facts precisely because it begins to convert a controlled secret into a public number, and the value of the 2026 disclosure mandate lies in the same conversion.

The sixth is the one the spectrum itself yields. The pre-entitlement posture outperformed the others on the balance of captured benefit to contained cost, and it did so consistently. It is also the hardest to sustain, because it asks a county to regulate a problem before experiencing it, and the easiest to undermine, through the procedural carelessness that exposed Goochland and the grandfathering that limited Orange and Henrico. The implication is not a formula any county can simply adopt. The posture that worked is also the most demanding to execute and the most fragile in practice, which helps explain why so few jurisdictions reached it, and why the state frame, by leaving each county to build the instruments alone, made it rarer than the evidence on its performance would otherwise predict. A county that wants to occupy that posture has to do three hard things at once: write demanding rules before it has a project to react to, execute the adoption with

procedural care a court will respect, and decline to grandfather the entitlements that would hollow the rules out. The cases show all three done well together only rarely, and never without cost.

These six are the analytical residue of the thirteen cases, and they share a single center. The distribution of cost that this book has traced, who paid and who did not, who was heard and who was not, was determined less by how much any community cared than by when it acted and against what stock of leverage, and that stock was set, in turn, by a state frame that made the protective posture the costly one. The conclusion returns to the practical weight of that finding, which is that the determining decisions, for most of Virginia, have not yet been made.

CONCLUSION — The Wave Is Not Finished

This book opened with two counties forty miles apart that met the same industry in the same years and decided opposite things. Hanover turned away a nine-hundred-megawatt project while it still held every card, then kept the price for everyone behind it at forty-five cents while it studied the question. Chesterfield took its largest campus by right, in its poorest corridor, at a rate it had signed away for thirty years, with a gas plant on a fence line no one in that neighborhood was asked about. Neither county had more power than the other on paper. The difference between them was not authority and not wealth and not the size of the project. It was when each one acted, and against what stock of leverage, and that is the whole of what this book has tried to show.

Virginia ran an experiment that no one designed. It exposed more than two dozen local governments to one industry, one state subsidy, and one regulated utility, inside a single eight-year window, and the governments responded in measurably different ways. The variation was not random and it was not principally geographic. It tracked a single variable, the timing of institutional reform relative to the industry’s arrival, and behind that variable a deeper one, the quantity of bargaining leverage a community still held when it chose how to act. A county’s power to dictate terms is highest before it has approved anything and decays with every commitment, so the communities that managed the industry well were the ones that acted early, while caring could still be converted into enforceable conditions. The ones that acted late found that reform reaches only what has not yet been entitled, and that the terms that mattered had already been set for them.

The spectrum that resulted is a map of leverage spent and leverage held. At one pole stands Loudoun, the unmanaged model run to its conclusion: maximum development, maximum revenue, maximum dependence, and reform that arrived only after the leverage was gone. At the other stand the refusals of Hanover, Fauquier, and Pittsylvania, communities that declined the largest projects offered them and accepted the forgone revenue as the price of keeping control. Between the poles lies the contested middle where most of Virginia now sits, the space of the overlay district and the conditional-use regime and the rate set before entry, where counties try to capture the benefit without the dependence. The middle is where the policy learning is concentrated, and it is where the state’s slow redistribution of management tools will land hardest, because the middle is where the next decade’s decisions will be made.

One case grounds everything the rest can only forecast. Mecklenburg admitted the industry in 2010 and is the one place old enough to check the promise against the

result, and the result is a county whose general fund now rises and falls with one company’s equipment cycle, a rebate sold as ninety percent that was eighty-two and a half and ran past two hundred seventy-five million dollars before anyone retired it, a host town that lost a third of its people, and thirty-seven graves of a Black farming family moved to make room for cloud capacity. The prospective cases describe risks. Mecklenburg describes what the risks become, and its presence in this book is the reason the warnings in the other chapters cannot be waved away as speculation.

None of this happened on neutral ground. The commonwealth built the field the counties played on, and it built it to tilt. By pairing a subsidy approaching two billion dollars a year[1] with a refusal to provide the tools a locality would need to manage the consequences, the state made approving the easy road and managing the hard one, and then left every county to pave the hard road alone. The counties were operating inside a structure designed to make one answer cheap and the other expensive, rather than arriving independently as free agents at different answers to the same question. The distribution of outcomes this book has traced is, in the end, the shape of that structure read off the ground.

The practical weight of the finding is in its tense. The wave is not finished. The disclosed pipeline sits in the counties that had no operating facility in 2024, which means the decisions that will determine the next decade’s distribution of cost are still ahead, in hearing rooms where the leverage is, for now, still intact and still unspent. Most of Virginia has not yet made the choice that Loudoun and Henrico and Chesterfield already made. And the experiment Virginia ran first is the one the rest of the country is now entering, with more than three hundred bills filed across more than thirty states in a single year[2], every one of those legislatures standing roughly where Virginia stood a decade ago, with the commonwealth’s results already in.

This book offers those hearing rooms no instruction. It has tried instead to make one mechanism legible, on the conviction that a mechanism understood is worth more than a recommendation prescribed, because the recommendation answers one question once and the mechanism answers the next one too. What the record shows is plain enough to carry without embellishment. The leverage is real, it is perishable, and it is highest at the start. It was worth, to the communities that kept it, the difference between admitting an industry on terms and absorbing it on the industry’s. It cost, to the communities that let it go, a generation of forgone revenue, a grid bill they did not vote for, a water table they could not see, and in the oldest case a town’s own dead. The counties still holding it are deciding now what it is worth to them, mostly in the dark, against a counterparty that treats the whole commonwealth as a single market and has every reason to keep them there.

The argument of this book, reduced to the single sentence it has been making all along, is that they should decide before they have approved anything, because that is the only moment the decision is fully theirs to make.

APPENDICES

APPENDIX A — Method and Sources

This book synthesizes thirteen jurisdiction-level case studies and one statewide facility inventory, each built from primary records: local zoning and planning files, board minutes and ordinances, utility filings, State Corporation Commission dockets, U.S. Army Corps of Engineers permits, Virginia DEQ registries, state and federal court opinions, tax schedules, and sustained local reporting. The chapters cite those primary records directly. Where a finding rests on the deeper documentary work compiled for a particular county, the companion case study for that county carries the full apparatus, and the source register that accompanies this project maps every claim to the document behind it.

Case selection. The jurisdictions treated here are not a random sample, and the book does not present them as one. They are the Virginia localities where a data center decision of consequence was made, refused, or contested between roughly 2018 and 2026, together with the multi-jurisdiction fall-line region and the grid-bypass arrangement that extend the analysis past the conventional case. The selection is therefore closer to the universe of significant decisions than to a sample of them, which is the appropriate frame for a comparative study whose aim is to map the range of institutional responses rather than to estimate a population parameter. Where a posture is illustrated by a county without a standalone study of its own, most importantly Loudoun, the treatment draws on the statewide record and is marked as such.

The role-label convention. The book refers to local officials by role rather than by personal name. The choice is deliberate and follows the companion case studies. The argument concerns institutional behavior, the conduct of boards and the structure of the incentives they faced, rather than the character of individuals, and naming officials would invite the reader to read a structural finding as a personal indictment. The companion volumes carry the named record, including the elected officials, developers, and attorneys named on the public record, for any reader who needs it. Courts and their published opinions are cited in the ordinary way, because a published decision is a public act of a named institution. Analytical lenses are identified by the kind of work they perform, for example the utility finance framework or the distributional justice framework, rather than by the names of the researchers who developed them.

The disclosure vacuum. Every statewide aggregate in this book is a floor of unknown height above the true number. Virginia requires no operator to publish facility-level data on power, water, or investment, and most do not. Of the 286 facilities in the statewide inventory, 191 report no power figure, 258 no water figure, and 254 no investment figure. The blanks are findings, not gaps in the

research, and they mean that capacity and investment totals understate, by an unknown margin, what the industry actually represents. The book flags this where it matters and treats the figures as lower bounds throughout.

The living edition. This book is published as a living edition. It carries a version, and it will be revised as the record moves. The identifier on the title page that resolves to the latest version is the concept DOI; the version DOI identifies the specific edition the reader is holding. A subject that changes weekly cannot be served by a fixed text, and the dating of each edition is a feature of the method rather than a limitation of it. Where a passage describes a record still in motion at the date of the edition, a budget not yet passed, a vote not yet taken, a case not yet decided, the text says so.

APPENDIX B — The Institutional Spectrum: Jurisdiction Classification

The table positions each jurisdiction treated in Part Three on the leverage-over-time spectrum of Part Two. The dominant posture is the one that best characterizes the jurisdiction's response; several exhibit secondary postures discussed in the chapters. The reversibility column records whether a later board could, in principle, undo the defining choice.

Jurisdiction	Region	Dominant posture	Defining evidence	Reversible by a later board?
Loudoun	Northern Virginia	Reform-after	Decade of by-right; 450+ known facilities; ~$800M/yr; overhaul after first denial	Partly; major commitments locked
Henrico	Richmond Metro	Reform-after	Rate $0.40 → $2.60; ~8M SF / ~17 buildings grandfathered	Future projects only
Hanover	Richmond Metro	Refusal-before	Mountain Road rejected 4-3; rate held at $0.45 for 2026 and referred to study	Yes; leverage held
Fauquier	Piedmont	Reform-after	234 acres rezoned at Remington 2018 for up to 1.8M SF; OVH operating at Vint Hill; data centers removed from Business Park district Oct 2026 except land zoned there by 20 Aug 2026	Future projects only
Pittsylvania	Southside	Refusal-before	Mega-campus (84 DC + 3,500 MW gas) defeated 6-1	Yes
Botetourt	Roanoke area	Contract-lock	$2.40 cap for 20 yrs in performance agreement; ordinance edited after option	No; signed away
Chesterfield	Richmond Metro	Contract-lock	$0.24 grant-back for 30 yrs; est. $91–164M/yr gap	No; signed away
Prince William	Northern Virginia	Governance-capture	Digital Gateway void ab initio; $293.7M collected	Court-corrected, late

Jurisdiction	Region	Dominant posture	Defining evidence	Reversible by a later board?
			2024; $4.50 rate	
Mecklenburg	Southern VA	Governance-capture (mature)	35–48% of general fund; 82.5% tax rebated, >$275M, until 2024 restructuring	Partly; rebate retired 2024
Louisa	Piedmont	Pre-entitlement	First overlay (2023); $11B AWS; converted to conditional-use 2024	Strong posture
Culpeper	Piedmont	Pre-entitlement (geographic)	~690-ac by-right box; frictionless inside, contested outside	Strong posture
Goochland	Central VA	Pre-entitlement	~4,400 ac pre-entitled 2025; sued on notice; defended 2026	Strong posture; procedural risk
Orange	Piedmont	Pre-entitlement / reform-after hybrid	Conditional technology district 2026; 2,602-ac Wilderness Crossing grandfathered	Future projects only
Fredericksburg ring (Stafford, Spotsylvania, Caroline, King George, Fredericksburg)	I-95 / fall line	Mixed land-use, shared rate	Identical $1.25 compact since ~2018; ≥5.4 GW / ~44M SF entitled	Rate fixed by compact

APPENDIX C — Statewide Facility Inventory

The statewide inventory catalogs 286 data center facilities across at least two dozen Virginia jurisdictions, assembled from public records. Consistent with the disclosure-vacuum treatment of Appendix A, blank power, water, and investment fields denote undisclosed data rather than absent facilities; the totals are therefore lower bounds. The county summary below precedes the facility-level master.

Summary by jurisdiction

County / City	Region	Operating	Under constr.	Proposed	Withdrawn / rejected	Total known
Loudoun	Northern Virgin…	350+	66+	Dozens	0	450+
Fairfax	Northern Virgin…	50+ (incl…	Several	Limited	0	65+
Prince William	Northern Virgin…	90+ (incl…	Several	Digital …	2	120+
Stafford	I-95 Corridor	0	3 (7M+ SF)	18 in pi…	0	18+
Spotsylvania	I-95 Corridor	0	1 (PH 95, 8…	Several …	0	Several
Caroline	I-95 Corridor	0	2 (CleanArc…	1 (AVAIO)	0	3+
Culpeper	Piedmont	2	0	1+ (Clou…	0	3+
Fauquier	Piedmont	0	0	1 (GI Pa…	3	4
Orange	Piedmont	0	0	1	0	1
Louisa	Piedmont	0	0	2 (EdgeC…	1 (AWS)	3
Goochland	Central VA	0	0	Zoning a…	0	TBD
Henrico	Richmond Metro	16+	2+ (QTS, Ir…	1 (DC BL…	2	20+
Chesterfield	Richmond Metro	0-1	2 (Google, …	3+	1 (Tract)	6+
Hanover	Richmond Metro	2	0	1 (Tract…	2	5
Mecklenburg	Southern VA	1 (MSFT, …	2+	1 (LYH03)	0	4+
Pittsylvania	Southside	0	0	1 (Ancho…	1 (Balico)	2
Appomattox	Southside	0	0	1 (AVAIO)	0	1
Virginia Beach	Hampton Roads	2 (Global…	1 (CLS expa…	3	0	6
Charles City	East of Richmond	0	0	0	1 (withdraw…	0
King George	Fredericksburg	0	0	Proposed	0	TBD
Surry	Southside	0	0	Proposed	0	TBD
Wise	Southwest	1 (Minera…	0	0	0	1

County / City	Region	Operating	Under constr.	Proposed	Withdrawn / rejected	Total known
	VA					
Scott	Southwest VA	1 (OnePar…	0	0	0	1
Botetourt	Roanoke area	0	0	1 (Googl…	0	1

Facility-level master

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
AVAIO Appomattox Campus	Appomattox	PROPOSED	AVAIO Capital	Hyperscale	—	—
Google Botetourt	Botetourt	PROPOSED	Google (GOOGL)	Hyperscale	—	—
AVAIO Ladysmith Campus	Caroline	PROPOSED	AVAIO Capital	Hyperscale	—	—
CleanArc VA1	Caroline	UNDER CONSTRUCT…	CleanArc Data Centers	Hyperscale	—	900
AWS Spotsylvania/Caroline/Sta…	Caroline/ Spotsy…	UNDER CONSTRUCT…	Amazon (AWS)	Hyperscale	—	—
Charles City County DC	Charles City	WITHDRAWN	Kansas-based (unnamed)	Data Center	—	—
Chirisa Digital Drive DC1	Chesterfield	APPROVED	Chirisa/AREP (CoreWeave)	Hyperscale	380,000	1,000 (c…
Chirisa Digital Drive DC2	Chesterfield	APPROVED	Chirisa/AREP (CoreWeave)	Hyperscale	380,000	—
Chirisa Richmond (operating)	Chesterfield	OPERATING	Chirisa	Wholesale Colocation	150,000	30
GFH Capital 1751 Meadowville	Chesterfield	OPERATING	GFH Capital	Private	—	<10
Google Chesterfield (Project …	Chesterfield	UNDER CONSTRUCT…	Google (GOOGL)	Hyperscale	—	—
Google Upper Magnolia Green	Chesterfield	LAND ACQUIRED	Google	Hyperscale	—	—
Google Watkins Centre South	Chesterfield	PROPOSED	Google	Hyperscale	—	—
Tract Chesterfield (744 acres)	Chesterfield	WITHDRAWN	Tract (Denver)	Hyperscale	—	—
CloudHQ Culpeper	Culpeper	PROPOSED	CloudHQ	Hyperscale	—	—
DataBank Culpeper Campus (IAD…	Culpeper	PROPOSED	DataBank	Colocation	613,152	192
DataBank IAD5	Culpeper	UNDER CONSTRUCT…	DataBank	Wholesale Colocation	700,000	72
DataBank IAD6	Culpeper	UNDER CONSTRUCT…	DataBank	Wholesale Colocation	700,000	120
Equinix	Culpeper	OPERATING	Equinix	Colocation	—	—

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
(former Terremark)						
Equinix CU1	Culpeper	OPERATING	Equinix	Retail Colocation	50,000 (est)	10
Equinix CU2	Culpeper	OPERATING	Equinix	Retail Colocation	50,000 (est)	10
Equinix CU3	Culpeper	OPERATING	Equinix	Retail Colocation	50,000 (est)	10
Equinix CU4	Culpeper	OPERATING	Equinix	Retail Colocation	50,000 (est)	10
Swift Data Center	Culpeper	OPERATING	Swift	Enterprise	—	—
11:11 Systems Reston	Fairfax	OPERATING	11:11 Systems	Colocation	—	—
AWS 13600 EDS Drive	Fairfax	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD1	Fairfax	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	5
AWS IAD134	Fairfax	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD135	Fairfax	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD136	Fairfax	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD22	Fairfax	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD63	Fairfax	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD9	Fairfax	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
Aerospace Data Facility - East	Fairfax	OPERATING	NRO/US Government	Government/ Classified	—	50-100
Centersquare (ex-Evoque/AT &T)…	Fairfax	OPERATING	Centersquare (Brookfiel…	Colocation	—	—
CoreSite VA1	Fairfax	OPERATING	CoreSite (AIC)	Retail Colocation	—	—
CoreSite VA1 (corrected)	Fairfax	OPERATING	CoreSite	Wholesale Colocation	—	—
CoreSite VA2	Fairfax	OPERATING	CoreSite	Retail Colocation	—	—
CoreSite VA2 (corrected)	Fairfax	OPERATING	CoreSite	Wholesale Colocation	—	—
CoreSite VA3	Fairfax	UNDER CONSTRUCT…	CoreSite	Retail Colocation	—	—
DataBank McLean IAD2	Fairfax	OPERATING	DataBank	Colocation	40,690	3
Digital Realty VA3	Fairfax	OPERATING	Digital Realty	Wholesale	256,000	—
Equinix (former MAE-East)	Fairfax	OPERATING	Equinix	Internet Exchange	—	—
Equinix DC7	Fairfax	OPERATING	Equinix (EQIX)	Retail Colocation	—	—
Equinix DC8	Fairfax	OPERATING	Equinix	Retail Colocation	—	—
Equinix DC9	Fairfax	OPERATING	Equinix	Retail Colocation	—	—

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
Penzance/AWS Chantilly	Fairfax	PROPOSED	Penzance (AWS tenant)	Hyperscale	240,000	45
Serverfarm Vienna DC2	Fairfax	OPERATING	Serverfarm	Colocation	—	—
Starwood Herndon (AWS tenant)	Fairfax	UNDER CONSTRUCT…	Starwood Capital	Hyperscale	—	—
AWS DCA-51	Fauquier	OPERATING	Amazon (AWS)	Hyperscale	—	50-100
Amazon Warrenton Campus	Fauquier	APPROVED	Amazon (AWS)	Hyperscale	220,000	—
GI Partners Vint Hill	Fauquier	UNVERIFIED	GI Partners	Data Center	—	—
Gigaland Campus	Fauquier	WITHDRAWN	Gigaland LLC	Hyperscale/ Colo	—	800
Headwaters Catlett Station	Fauquier	WITHDRAWN	Headwaters Site Develop…	Data Center	—	—
Vint Hill Data Center	Fauquier	OPERATING	AWS (Sublease from OVH)	Hyperscale	—	—
Fredericksburg Area Projects	Fredericksburg …	REJECTED	Various	Various	—	—
Goochland Tech Overlay Distri…	Goochland	APPROVED ZONING	Various potential	Various	—	—
DE-CIX Richmond (Hanover)	Hanover	OPERATING	DE-CIX	Internet Exchange	—	—
HHHunt Hanover Campus	Hanover	WITHDRAWN	HHHunt	Hyperscale	3,300,000	—
Pixel Factory Data Center	Hanover	OPERATING	Pixel Factory (Scott Br…	Colocation/ Enterprise	—	—
Tract Hanover Technology Park	Hanover	APPROVED	Tract	Hyperscale	—	2,400
WestDulles Tech Park	Hanover	REJECTED	WestDulles Properties	Tech Park/DC	—	—
Centra (Henrico)	Henrico	PROPOSED	Centra	Data Center	—	—
Centra Logistics Henrico	Henrico	WITHDRAWN	Centra	Data Center	—	—
DC BLOX Henrico (revised)	Henrico	PROPOSED	DC BLOX Inc.	Colocation	65,000	—
DE-CIX Richmond (Henrico x2)	Henrico	OPERATING	DE-CIX	Internet Exchange	—	—
EdgeConneX RIC01	Henrico	OPERATING	EdgeConneX	Edge/ Colocation	—	11
Iron Mountain RCH-1 (Henrico)	Henrico	UNDER CONSTRUCT…	Iron Mountain (IRM)	Wholesale	364,860	48
Iron Mountain RCH-1 (address)	Henrico	UNDER CONSTRUCT…	Iron Mountain (IRM)	Wholesale	364,860	48
Iron Mountain RCH-1 to	Henrico	UNDER	Iron Mountain	Wholesale	—	200 (cam…

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
RCH-4		CONSTRUCT…	(IRM)			
Meta Henrico Data Center	Henrico	OPERATING	Meta Platforms (META)	Hyperscale	2,500,000	—
QTS Richmond 1 (NAP)	Henrico	OPERATING	QTS (Blackstone)	Mega/ Hyperscale	1,400,000+	—
QTS Richmond 2 (DC6)	Henrico	OPERATING	QTS (Blackstone)	Wholesale	—	12.86
QTS Richmond Expansion	Henrico	UNDER CONSTRUCT…	QTS (Blackstone)	Hyperscale	—	—
AWS Birchwood	King George	PROPOSED	Amazon (AWS)	Hyperscale	—	2,175
AWS King George Campus	King George	PROPOSED	Amazon (AWS)	Hyperscale/ Cloud	7,250,000	—
King George Proposals	King George	PROPOSED	Various	—	—	—
1501 Moran Rd Data Center	Loudoun	OPERATING	Private	Private	—	50-100
1571 Beaumeade Circle DC	Loudoun	OPERATING	Private	Private	—	25-50
22810-22860 International Dr	Loudoun	OPERATING	Private	Private	—	10-25
22995 Wilder Court DC	Loudoun	OPERATING	Private	Private	—	<10
AWS 20935 Loudoun County Pkwy	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS 20945 Loudoun County Pkwy	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS 22420 Kipper	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS 25410 Sutton Bay	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS 45305 Sterling	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS Erin’s Run Campus	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS Fadeley II	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	180,000	32
AWS IAD10	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	126,869	—
AWS IAD114	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD115	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD12	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD13	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD144	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD145	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD15	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD150	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD169	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD179	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
AWS IAD215	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD23	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD50	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD58	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD6	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD60	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	109,997	—
AWS IAD71	Loudoun	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD76	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD78	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD90	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD91	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD92	Loudoun	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS Nokes Blvd Demolitions	Loudoun	DECOMMISSIONED	Amazon (AWS)	Redevelopment	—	—
AWS Sterling Office Demolitio…	Loudoun	DECOMMISSIONED	Amazon (AWS)	Redevelopment	900,000 (ne…	—
Active Infra Spring Valley Te…	Loudoun	PROPOSED	Active Infrastructure	Hyperscale	—	1,300
Aligned Ashburn	Loudoun	OPERATING	Aligned Data Centers	Hyperscale	—	—
Aligned IAD 02	Loudoun	OPERATING	Aligned Data Centers	Hyperscale	—	120
BlackChamber/ AWS Arcola	Loudoun	PROPOSED	BlackChamber Group (AWS…	Hyperscale	1,700,000	—
Centersquare DC2 (ex-Cyxtera)	Loudoun	OPERATING	Centersquare (Brookfiel…	Colocation	—	—
Centersquare DC3 (ex-Cyxtera)	Loudoun	OPERATING	Centersquare (Brookfiel…	Colocation	—	—
Centersquare DC4 (ex-Cyxtera)	Loudoun	OPERATING	Centersquare (Brookfiel…	Colocation	—	—
Centersquare DC7 (ex-Cyxtera)	Loudoun	OPERATING	Centersquare (Brookfiel…	Colocation	—	—
Centersquare IAD4-B	Loudoun	OPERATING	Centersquare (Brookfiel…	Retail Colocation	—	—
CloudHQ LC1-LC3 Campus	Loudoun	OPERATING	CloudHQ	Hyperscale	2,400,000+	320+
CloudHQ LC4	Loudoun	UNDER CONSTRUCT…	CloudHQ	Hyperscale	1,580,560	180
Cologix Ashburn	Loudoun	UNDER CONSTRUCT…	Cologix	Colocation	—	—
Compass Leesburg	Loudoun	UNDER CONSTRUCT…	Compass Datacenters	Hyperscale	—	—
Compass Leesburg (address)	Loudoun	UNDER CONSTRUCT…	Compass Datacenters	Hyperscale	—	—
CyrusOne	Loudoun	OPERATING	CyrusOne	Wholesale	265,000	—

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
ABX-1			(KKR/GIP)			
CyrusOne NVA1/NVA2/NVA3	Loudoun	OPERATING	CyrusOne	Enterprise Colocation	420,000	48
CyrusOne NVA9	Loudoun	OPERATING	CyrusOne	Wholesale	700,000	135
DataBank Ashburn	Loudoun	UNDER CONSTRUCT…	DataBank	Retail Colocation	—	20
DataBank IAD1	Loudoun	OPERATING	DataBank	Colocation	85,330	9.9
DataBank IAD3	Loudoun	OPERATING	DataBank	Colocation	200,000	40
DataBank IAD4	Loudoun	OPERATING	DataBank	Colocation	70,000	20
Digital Realty ACC4	Loudoun	OPERATING	Digital Realty (DLR)	Wholesale	1,057,000	10
Digital Realty ACC5	Loudoun	OPERATING	Digital Realty	Wholesale	348,000	36.4
Digital Realty ACC6	Loudoun	OPERATING	Digital Realty	Wholesale	222,300	26
Digital Realty ACC7	Loudoun	OPERATING	Digital Realty	Wholesale	446,000	41.6
Digital Realty ACC9	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty Digital Dulles	Loudoun	UNDER CONSTRUCT…	Digital Realty	Hyperscale	7,500,000	—
Digital Realty IAD12	Loudoun	OPERATING	Digital Realty	Wholesale	180,000	—
Digital Realty IAD13	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD14	Loudoun	OPERATING	Digital Realty	Wholesale	135,000	—
Digital Realty IAD18	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD24	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD35	Loudoun	OPERATING	Digital Realty	Wholesale	392,800	—
Digital Realty IAD36	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD37	Loudoun	OPERATING	Digital Realty	Wholesale	392,711	44
Digital Realty IAD38	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD39	Loudoun	OPERATING	Digital Realty	Wholesale	1,057,000	500 (cam…
Digital Realty IAD40	Loudoun	OPERATING	Digital Realty	Wholesale	223,200	—
Digital Realty IAD41	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD42	Loudoun	OPERATING	Digital Realty	Wholesale	—	—
Digital Realty IAD43	Loudoun	UNDER CONSTRUCT…	Digital Realty	Wholesale Colocation	—	—
Digital Realty IAD44	Loudoun	OPERATING	Digital Realty	Wholesale	794,000	96
Digital Realty IAD56	Loudoun	UNDER CONSTRUCT…	Digital Realty	Hyperscale	—	20
Digital Realty	Loudoun	UNDER	Digital Realty	Hyperscale	—	20

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
Sterling		CONSTRUCT…				
Equinix DC1	Loudoun	OPERATING	Equinix (EQIX)	Retail Colocation	43,346	—
Equinix DC10	Loudoun	OPERATING	Equinix	Enterprise Colocation	—	—
Equinix DC11	Loudoun	OPERATING	Equinix	Retail Colocation	—	—
Equinix DC12	Loudoun	OPERATING	Equinix	Retail Colocation	57,800	—
Equinix DC13 (DA13)	Loudoun	OPERATING	Equinix	Wholesale	—	—
Equinix DC15	Loudoun	OPERATING	Equinix	Wholesale	—	—
Equinix DC16	Loudoun	OPERATING	Equinix	Wholesale	—	—
Equinix DC17	Loudoun	OPERATING	Equinix	Retail Colocation	—	—
Equinix DC2	Loudoun	OPERATING	Equinix	Retail Colocation	—	—
Equinix DC21	Loudoun	OPERATING	Equinix	Hyperscale	—	—
Equinix DC22	Loudoun	OPERATING	Equinix	Hyperscale	—	—
Equinix DC3	Loudoun	OPERATING	Equinix	Retail Colocation	—	—
Equinix DC4	Loudoun	OPERATING	Equinix	Retail Colocation	99,969	6
Equinix DC5	Loudoun	OPERATING	Equinix	Retail Colocation	—	—
Equinix DC6	Loudoun	OPERATING	Equinix	Retail Colocation	—	—
Google ARA1	Loudoun	OPERATING	Google (GOOGL)	Hyperscale	200,000	40
Google Arcola Campus	Loudoun	OPERATING	Google (GOOGL)	Hyperscale	—	—
Google Leesburg	Loudoun	UNDER CONSTRUCT…	Google (GOOGL)	Hyperscale	—	—
Microsoft Leesburg (IAD01)	Loudoun	OPERATING	Microsoft (MSFT)	Hyperscale/ Cloud	245,000+	—
NTT VA10	Loudoun	UNDER CONSTRUCT…	NTT Global Data Centers	Wholesale Colocation	—	130
NTT/ RagingWire VA1	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	—	12.6
NTT/ RagingWire VA2	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	—	16
NTT/ RagingWire VA3	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	245,000	16
NTT/ RagingWire VA4	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	—	—
NTT/ RagingWire VA5	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	—	—
NTT/ RagingWire VA6	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	—	—
NTT/	Loudoun	OPERATING	NTT Global	Wholesale/	125,000	36

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
RagingWire VA7			Data Centers	Colocation		
NTT/ RagingWire VA8	Loudoun	OPERATING	NTT Global Data Centers	Wholesale/ Colocation	—	—
PowerHouse Beaumeade/AOL HQ	Loudoun	UNDER CONSTRUCT…	PowerHouse DC (AREP/Har…	Hyperscale	1,200,000	—
QTS Ashburn 3 DC1	Loudoun	OPERATING	QTS (Blackstone)	Wholesale Colocation	150,000	80
QTS Ashburn-Broderick	Loudoun	OPERATING	QTS (Blackstone)	Wholesale/ Colocation	—	—
STACK Ashburn Hyperscale	Loudoun	PROPOSED	STACK Infrastructure	Hyperscale	1,310,000	144
STACK Leesburg (NVA-06)	Loudoun	UNDER CONSTRUCT…	STACK Infrastructure	Hyperscale	—	72
STACK NVA01	Loudoun	OPERATING	STACK Infrastructure	Wholesale Colocation	140,000	17
Sabey ASH1	Loudoun	OPERATING	Sabey Data Centers	Wholesale Colocation	—	20
Sabey SDC Ashburn	Loudoun	OPERATING	Sabey Data Centers	Colocation	—	—
Vantage VA1 Ashburn I Campus	Loudoun	OPERATING	Vantage Data Centers	Hyperscale	720,000	146
Vantage VA2 Ashburn II Campus	Loudoun	OPERATING	Vantage Data Centers	Hyperscale	800,000 (pl…	—
Vantage VA3 Ashburn III Campus	Loudoun	UNDER CONSTRUCT…	Vantage Data Centers	Hyperscale	—	—
Yondr Arcola	Loudoun	UNDER CONSTRUCT…	Yondr Group	Hyperscale	—	48
Yondr Loudoun 2	Loudoun	UNDER CONSTRUCT…	Yondr Group	Hyperscale	—	48
AWS Louisa County	Louisa	WITHDRAWN	Amazon (AWS)	Hyperscale	1,700,000	—
AWS North Creek Tech Campus	Louisa	PROPOSED	Amazon (AWS)	Hyperscale	—	2,700
AWS/Dominion SMR (North Anna)	Louisa	PROPOSED	AWS/Dominion Energy	Nuclear-powered DC	—	—
Amazon Louisa (cancelled)	Louisa	CANCELLED	Amazon (AWS)	Hyperscale	—	—
EdgeCore Louisa Campus	Louisa	ANNOUNCED	EdgeCore Digital Infras…	Hyperscale	3,900,000	1,100
Microsoft AVC Campus	Mecklenburg	OPERATING	Microsoft	Hyperscale	—	45
Microsoft BN Campus (Boydton)	Mecklenburg	OPERATING	Microsoft (MSFT)	Hyperscale/ Cloud	1,100,000	250+
Microsoft Boydton Expansion (…	Mecklenburg	OPERATING	Microsoft	Hyperscale	316,300	—
Microsoft	Mecklenburg	OPERATING	Microsoft	Hyperscale	110,000	24

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
Boydton-1			(MSFT)			
Microsoft Boydton-11	Mecklenburg	OPERATING	Microsoft	Hyperscale	140,000	35
Microsoft Boydton-5	Mecklenburg	OPERATING	Microsoft	Hyperscale	120,000	28
Microsoft Hillcrest Campus	Mecklenburg	UNDER CONSTRUCT…	Microsoft	Hyperscale	—	336
Microsoft LYH03 (Bailey)	Mecklenburg	PROPOSED	Microsoft	Hyperscale	—	—
Microsoft Prison Road Campus	Mecklenburg	UNDER CONSTRUCT…	Microsoft	Hyperscale	—	—
Microsoft Ridge/Prison/Hillcr…	Mecklenburg	UNDER DEVELOPME…	Microsoft	Hyperscale	—	—
Microsoft Timber Campus	Mecklenburg	OPERATING	Microsoft	Hyperscale	—	45
TECfusions Boydton	Mecklenburg	OPERATING	TECfusions	Colocation	—	80
Amazon Wilderness Crossing	Orange	PROPOSED	Amazon (AWS)	Hyperscale	—	1,500
Wilderness Crossing DC	Orange	PROPOSED	TBD	Data Center	—	—
Anchorstone Advisors DC	Pittsylvania	APPROVED	Anchorstone Advisors LLC	Hyperscale	—	—
Balico MegaCampus	Pittsylvania	DEFEATED	Balico LLC (NoVA)	84 DCs + Gas Plant	—	3,500 (g…
Prince George/Petersburg	Prince George	PROPOSED	Various	Various	—	—
AWS 10281 Tanner Way	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS 11200 Thomasson Barn	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS Ashton Ave (3 bldgs, shel…	Prince William	DELAYED	Amazon (AWS)	Hyperscale	—	—
AWS Bethlehem Tech Park DC18	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD-104	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD-105	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	50
AWS IAD-106	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	50
AWS IAD100 Tanner Way	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD101	Prince William	OPERATING	Amazon (AWS)	Hyperscale	150,000	35
AWS IAD104 (Mason King)	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD105	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
(Mason King)						
AWS IAD106 (Mason King)	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD11	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD24	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD52	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS IAD55	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD59	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD7	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	—	—
AWS IAD73	Prince William	OPERATING	Amazon (AWS)	Hyperscale/ Cloud	146,962	—
AWS IAD74	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS MNZ01	Prince William	OPERATING	Amazon (AWS)	Hyperscale	—	—
AWS Vulcan Lane Campus	Prince William	UNDER CONSTRUCT…	Amazon (AWS)	Hyperscale/ Cloud	—	—
Amazon Bristow	Prince William	UNDER CONSTRUCT…	Amazon (AWS)	Hyperscale	—	—
Corscale Gainesville Crossing	Prince William	UNDER CONSTRUCT…	Corscale	Hyperscale	—	325 (cam…
Digital Realty Manassas	Prince William	PROPOSED	Digital Realty	Hyperscale	—	—
Equinix DC14	Prince William	OPERATING	Equinix	Wholesale	—	—
Gainesville 1,930-acre Propos…	Prince William	PROPOSED	Undisclosed	Industrial/DC	—	—
Google Prince William Campus	Prince William	OPERATING	Google (GOOGL)	Hyperscale	—	—
Google Prince William DC	Prince William	OPERATING	Google	Hyperscale	—	—
Hornbaker Road DC	Prince William	REJECTED	Private	Data Center	—	—
Iron Mountain Manassas	Prince William	OPERATING	Iron Mountain (IRM)	Wholesale	—	—
Iron Mountain VA-1	Prince William	OPERATING	Iron Mountain (IRM)	Wholesale	165,230	400+ (ca…
Iron Mountain VA-2	Prince William	OPERATING	Iron Mountain	Wholesale	211,000	36
Iron Mountain VA-3	Prince William	OPERATING	Iron Mountain	Wholesale	304,654	—
Iron Mountain VA-4	Prince William	OPERATING	Iron Mountain	Wholesale	182,032	—
Iron Mountain VA-5	Prince William	OPERATING	Iron Mountain	Wholesale	220,134	—
Iron Mountain VA-6	Prince William	OPERATING	Iron Mountain	Wholesale	213,000	—
Iron Mountain VA-7	Prince William	OPERATING	Iron Mountain	Wholesale	290,307	—
Microsoft Gainesville DC	Prince William	PROPOSED	Microsoft (MSFT)	Hyperscale	—	2,982
Microsoft	Prince William	OPERATING	Microsoft	Hyperscale	250,000	50

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
MNZ01 (Manassas)			(MSFT)			
Microsoft Manassas (MNZ01/02)	Prince William	UNDER CONSTRUCT…	Microsoft (MSFT)	Hyperscale/ Cloud	623,360	—
PW Digital Gateway	Prince William	LEGAL LIMBO	Compass/QTS	Hyperscale	22,000,000+	—
PWC 40-acre DC (denied)	Prince William	REJECTED	Undisclosed	Data Center	—	—
QTS Manassas DC1	Prince William	OPERATING	QTS (Blackstone)	Wholesale Colocation	123,200	24
QTS Manassas DC1-DC6	Prince William	OPERATING	QTS (Blackstone)	Wholesale/ Colocation	—	190
QTS Manassas DC2	Prince William	OPERATING	QTS (Blackstone)	Wholesale Colocation	150,000	30
STACK NVA13	Prince William	OPERATING	STACK Infrastructure	Wholesale Colocation	—	30
Stack NVA02 Campus	Prince William	OPERATING	STACK Infrastructure	Hyperscale	—	420
Commonwealth Technical Svc	Richmond City	OPERATING	Commonwealth Technical …	Colocation	—	—
DC BLOX Richmond	Richmond City	WITHDRAWN	DC BLOX	Colocation	—	—
OnePartner ATAC	Scott	OPERATING	OnePartner	Enterprise	—	—
Amazon Cosner Tech Campus	Spotsylvania	UNDER CONSTRUCT…	Amazon (AWS)	Hyperscale	—	250+
PowerHouse 95 (PH 95)	Spotsylvania	UNDER CONSTRUCT…	PowerHouse DC (AREP/Har…	Hyperscale	3,500,000	800
AWS Cosner Tech Campus	Stafford	UNDER CONSTRUCT…	Amazon (AWS)	Hyperscale/ Cloud	—	60
Amazon IAD-350 Stafford	Stafford	PROPOSED	Amazon (AWS)	Hyperscale	—	100-250
Garrett Dev GW Village DC	Stafford	PROPOSED	Garrett Development	Hyperscale	—	2,100
STACK Stafford Technology Cam…	Stafford	PROPOSED	STACK Infrastructure	Hyperscale	—	1,800
Stafford Pipeline (15+ addtl)	Stafford	PROPOSED	Various	Various	—	—
Vantage Stafford Campus	Stafford	UNDER CONSTRUCT…	Vantage Data Centers	Hyperscale	929,000	—
Surry County Proposals	Surry	PROPOSED	Various	—	—	—
Equinix Federal/Classified	Various	OPERATING	Equinix Federal	Government/ Classified	—	—
ACA International DC	Virginia Beach	PROPOSED	ACA International	Colocation/ Cable Land…	130,000	—
Globalinx Data Center & CLS	Virginia Beach	OPERATING	Globalinx Data Centers	Cable Landing/Carrie	10,750	—

APPENDIX C — Statewide Facility Inventory

Facility	County	Status	Owner / Operator	Type	Size (SF)	Power (MW)
				r…		
Telxius Cable Landing Station	Virginia Beach	OPERATING	Telxius (Telefonica)	Cable Landing Station	20,000	—
Mineral Gap DC	Wise	OPERATING	DP Facilities	Enterprise	—	3.4

APPENDIX D — Canceled, Rejected, and Withdrawn Projects

This register records the projects communities defeated, developers withdrew, or courts unwound. It is the negative of the inventory, and it marks where leverage was exercised and how.

Project	County	Developer	Size / capacity	Investment	Date	Outcome	Reason
PW Digital Gateway	Prince William	Compass/ QTS	22M+ SF, 37 DCs	$400-500M/yr …	Dec 2023/Aug …	LEGAL LIMBO	Court: failed notice (Va 15.2…
Gigaland Remington	Fauquier	Gigaland LLC	800 MW	$4M land	Withdrawn Sep…	WITHDRAWN	Planning commission denied. C…
Headwaters Catlett	Fauquier	Headwaters Site D…	—	$400M	July 2024	WITHDRAWN	Pulled before hearing.
Amazon Warrenton	Fauquier	Amazon (AWS)	220K SF	$39M land	SUP Feb 14-15, 2023; site plan Apr 18, 2024	APPROVED	~300-500 attended Feb 2023 hearing. Two suits and one administrative appeal.
AWS Louisa County	Louisa	Amazon (AWS)	1.7M SF	—	Filed Sept 20…	WITHDRAWN	Community resistance.
Tract Chesterfield	Chesterfield	Tract (Denver)	—	—	2025	WITHDRAWN	Planning Comm unanimously aga…
WestDulles Tech Park	Hanover	WestDulles Proper…	—	—	Dec 2024	REJECTED	Hanover denied.
HHHunt Hanover	Hanover	HHHunt	3.3M SF, 10 bldgs	$6.5-11.9M/yr…	Jan 2026	WITHDRAWN	Community concerns.
Charles City DC	Charles City	Kansas-based	—	—	Aug 2025	WITHDRAWN	Neighbor opposition.
Balico MegaCampus	Pittsylvania	Balico LLC	84 DCs + 3,500 MW…	—	Defeated 2025	DEFEATED	2nd largest gas plant in US. …
DC BLOX (original)	Henrico	DC BLOX	Larger plan	—	2024	REVISED	Opposition.

APPENDIX D — Canceled, Rejected, and Withdrawn Projects

Project	County	Developer	Size / capacity	Investment	Date	Outcome	Reason
Henrico Mountain Rd	Henrico	Undisclosed	—	—	2024-25	BLOCKED	Henrico ordinance.
PWC 40-acre DC	Prince William	Undisclosed	40 acres	—	Nov 2025	REJECTED	Zoning denied.
Fredericksburg Area	Fredericksburg	Various	—	—	2024-25	REJECTED	Zoning challenges.
Hornbaker Road DC	Prince William	Private	—	—	2024-25	REJECTED	Outside Opportunity Overlay D…
DC BLOX Richmond	Richmond City	DC BLOX	—	$500M	2024-25	WITHDRAWN	Community opposition.
Centra Logistics	Henrico	Centra	—	—	2025	WITHDRAWN	Retroactive zoning rules.

APPENDIX E — Key Operators

The principal operators active in Virginia, with ownership and the scale of their disclosed footprint. Facility and capacity figures are floors, limited by the same disclosure vacuum the inventory documents.

Operator	Ownership	HQ	Type	VA facilities	VA power (MW)
Equinix	NASDAQ: EQIX	Redwood City, CA	Retail/ Wholesale Colo	19+ (Ashburn + …	—
Digital Realty	NYSE: DLR	Austin, TX	Wholesale	32+ locations (…	—
QTS Data Centers	Blackstone (priva…	Overland Park, KS	Mega/ Wholesale/Colo	Multiple (Richm…	—
CyrusOne	KKR/GIP (private …	Dallas, TX	Wholesale/ Enterprise	15+ (Sterling, …	183+
CloudHQ	Private	Washington, DC	Hyperscale	Ashburn LC + Ma…	320+ built;…
Amazon (AWS)	NASDAQ: AMZN	Seattle, WA	Hyperscale/ Cloud	Dozens (US-East…	—
Microsoft	NASDAQ: MSFT	Redmond, WA	Hyperscale/ Cloud	Boydton (14 bld…	250+ (Boydt…
Google	NASDAQ: GOOGL	Mountain View, CA	Hyperscale/ Cloud	Loudoun + PWC +…	—
Meta Platforms	NASDAQ: META	Menlo Park, CA	Hyperscale	Henrico (2.5M S…	—
STACK Infrastructure	Private	Denver, CO	Hyperscale	Ashburn + Leesb…	—
Iron Mountain	NYSE: IRM	Boston, MA	Wholesale	Henrico (RCH-1 …	200 (Henric…
PowerHouse DC	AREP/Harrison Str…	Northern Virginia	Hyperscale	Loudoun + Spots…	800 (PH 95)
Vantage Data Centers	Private	Denver, CO	Hyperscale	Stafford (929K …	—
CleanArc	Private	Arlington, TX	Hyperscale	Caroline (VA1)	900
EdgeCore	Private	Denver, CO	Hyperscale	Louisa (announc…	1,100 (1.1 …
Corscale	Private	—	Hyperscale	Gainesville Cro…	325 campus
Compass Datacenters	Private	Dallas, TX	Hyperscale	Leesburg + PWC …	—
Chirisa Technology …	AREP	—	Hyperscale	Chesterfield (M…	1,000
CoreSite	American Industri…	Denver, CO	Retail Colocation	Reston (VA1-VA3)	—
Globalinx	Private	Virginia Beach, VA	Cable Landing/Colo	Virginia Beach …	—

APPENDIX F — Notes

The notes below carry the primary-source apparatus chapter by chapter. They cite the ordinances, minutes, agreements, dockets, permits, court opinions, and reporting on which each chapter's load-bearing claims rest. Where a finding is documented at greater length in a companion county case study, the note points to that study by jurisdiction and concept DOI. The notes are numbered separately within each chapter.

Introduction

1. Share figures: EPRI, Powering Intelligence: Analyzing Artificial Intelligence and Data Center Energy Consumption (May 2024), Table 2 at 13 (Virginia 25.59 percent of total state electricity consumed, 2023); Dominion Energy, Inc. and Virginia Electric and Power Company, Forms 10-K for fiscal years 2023 and 2025, Item 1 (data centers 24 percent of Virginia Power's electricity sales for 2023, 28 percent for 2025). Doubling within a decade: Virginia JLARC, Data Centers in Virginia (RD206), December 9, 2024, at 27. JLARC publishes no percentage share of state electricity.
2. National legislative trackers, 2026 sessions: more than 300 data-center-related bills across more than 30 states; at least eight states moved to shift industry costs away from residential ratepayers or to condition its tax treatment.
3. Carl Vinson Institute of Government, University of Georgia, econometric evaluation of Georgia's data center exemption (December 2025).

CHAPTER 1 — The Scale, the Subsidy, and the Split Incentive

1. EPRI, Powering Intelligence: Analyzing Artificial Intelligence and Data Center Energy Consumption (May 2024), Table 2 at 13 (Virginia 33,851,122 MWh/y, 25.59 percent of total state electricity consumed, 2023). Corroborated on a single-utility basis by Dominion Energy, Inc. and Virginia Electric and Power Company, Forms 10-K for fiscal years 2023 and 2025, Item 1 (24 percent of Virginia Power's electricity sales for 2023, 28 percent for 2025). JLARC's December 2024 report publishes no percentage share of state electricity.
2. EPRI, Powering Intelligence (May 2024), Table A1 at 29 (North Dakota 15.42 percent of total state electricity consumed, 2023, the next-highest state).
3. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (unconstrained demand would double within ten years, with data centers as effectively the only driver of the growth).
4. Virginia JLARC, Data Centers in Virginia (RD206), December 2024, Figure 3-3 at 28 (average monthly energy use, 2023 base year to 2040: approximately 15

percent growth without new data center load against approximately 183 percent with it). Both percentages are derived from the figure; JLARC does not state either in text.

5. PJM Interconnection, 2025 Long-Term Load Forecast (data centers account for 94 percent of projected peak-load growth, 2024-2030).
6. Va. Code Section 58.1-609.3(18) (retail sales and use tax exemption for qualifying data center projects investing at least $150 million and creating at least 50 jobs; statutory sunset June 30, 2035).
7. Virginia Department of Taxation, in collaboration with the Virginia Economic Development Partnership Authority, Biennial Data Center Retail Sales and Use Tax Exemption Report (RD40), January 2, 2026, p. 3 and Table 1: FY2025 reported tax benefit $1,941,390,000, "including the General Fund, non-General Fund, and local revenue impact"; "this data was self-reported by data center operators and was not independently validated by VEDP or the Department."
8. Virginia JLARC follow-up (2025): data centers avoided approximately $2.7 billion in state sales and use taxes from FY2015 through FY2024, more than half of all economic-development tax incentives granted over the period.
9. Virginia's sales and use tax of approximately 5.3 percent (4.3 percent state, 1 percent local); the local share of the FY2025 exempted purchases runs on the order of $360 million in revenue forgone by localities statewide.

CHAPTER 2 — The Thin Return: Jobs, Ratepayers, and the Grid

1. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (a typical 250,000-square-foot facility employs roughly 50 full-time workers once operational, about half of them contractors).
2. Carl Vinson Institute of Government (Georgia), University of Georgia data center sales-tax-exemption study (December 2025): 1,873 permanent data center employees statewide.
3. Ball State University, Center for Business and Economic Research, econometric study of Texas data center openings (net effect on county-level employment across related industries effectively zero; apparent gains reflect reclassification of existing workers rather than new hiring).
4. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (typical residential customer could face generation- and transmission-related increases of $14 to $37 per month in constant dollars by 2040, up to $444 per year).
5. Dominion Energy Virginia, 2025 Integrated Resource Plan Update (average monthly residential bill rising from $159 toward $255 by 2035 under utility methodology and toward $308 under the SCC's preferred methodology).

6. Dominion Energy: February 2025 five-year capital plan of $50.1 billion (a 16 percent increase) growing to $64.7 billion for 2026-2030 per the Q4 2025 investor presentation, attributed to data center demand.
7. Dominion Energy filings before the State Corporation Commission: 16,913 MW under firm contract plus 30,132 MW under study, 47,045 MW total; $28.3 billion transmission capital cost; connection wait times for large new loads of up to seven years.
8. PJM Interconnection capacity auction: clearing price of $444.26 per megawatt-day at the cap in the Dominion zone for the 2025/26 delivery year (an increase of more than 800 percent), with the independent market monitor attributing the majority of the rise to data center load.
9. State Corporation Commission: residential bill increase of $11.24 per month (November 2025) and creation of the GS-5 rate class for the largest electricity users (November 2025).
10. North American Electric Reliability Corporation incident report and task force on the July 10, 2024 event near Fairfax: roughly 60 data centers disconnected simultaneously on a 230-kilovolt fault, an instantaneous loss of about 1,500 megawatts; NERC stated the grid is not designed to withstand the instantaneous loss of load at that scale.

CHAPTER 3 — Water, Noise, and the Late Surprise

1. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (cataloguing local burdens, including low-frequency noise, water constraints, scenic and historic resources, and concentrated diesel backup, and the local review processes that handled them poorly).
2. State Corporation Commission certificate-of-public-convenience-and-necessity requirement for transmission lines above 115 kilovolts (Va. Code Section 56-46.1).
3. Proposed Valley Link 765-kilovolt transmission line and associated substation relocations; formal resolutions and appeals to the regional grid operator by Piedmont counties (Culpeper and Orange County case studies, Turner 2026).
4. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (hyperscale water demand on the order of hundreds of thousands of gallons per day on average and several million gallons at peak, against county systems sized for ordinary growth).
5. Louisa County case study (Turner 2026): reservoir safe yield near 3.2 million gallons a day against a single operator’s two campuses projecting a draw approaching that figure.

6. Botetourt County case study (Turner 2026): the first Virginia ruling that a data center's water use is not a trade secret, established through litigation and a contempt proceeding.
7. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (chronic low-frequency mechanical noise from cooling systems and diesel backup generators is poorly captured by the A-weighted sound standards most local ordinances employ).

CHAPTER 4 — The Disclosure Vacuum and the But-For Question

1. Statewide facility inventory assembled for this study (Appendix D): 286 data center facility records across at least two dozen Virginia jurisdictions.
2. Statewide facility inventory and disclosure-vacuum counts (Appendix A): of 286 records, 191 carry no power figure, 258 no water figure, and 254 no investment figure. Virginia requires no facility-level reporting of power, water, or investment.
3. Statewide facility inventory (Appendix A): among facilities reporting power, the operating fleet totals on the order of 3,100 megawatts and the disclosed pipeline on the order of 21,700 megawatts; both figures understate.
4. SB 553 (2026 Va. Acts ch. 896), data center water-use disclosure mandate, the first statutory facility-level reporting requirement, reaching water only.
5. Virginia JLARC, Data Centers in Virginia (RD206), December 2024 (survey-based finding that 90 percent of data center companies said they would not have built in Virginia without the exemption).
6. University of Virginia, Weldon Cooper Center regional economist (who has worked on the state's incentives series), publicly placing the share of Virginia investment attributable to the exemption nearer 50 percent and declining.
7. Carl Vinson Institute of Government (Georgia), data center sales-tax-exemption study (December 2025): a fixed-effects econometric model on departmental filing data for 34 facilities, calibrated against a national control dataset, found only 30 percent of Georgia's data center activity attributable to its exemption, with the remaining 70 percent occurring regardless.
8. W.E. Upjohn Institute incentives literature (Timothy J. Bartik): roughly three-quarters of all business tax incentives change no firm's location decision, implying an attributable share near 25 percent.

CHAPTER 5 — Leverage as a Depreciating Asset

1. See Chapter 8 (Hanover) for the proffer record in which the cash component rose from roughly $90,000 toward $21 million, including the water-infrastructure commitment, as the board's reluctance deepened.

CHAPTER 7 — Reform-After: Loudoun and Henrico

1. Statewide facility inventory and Loudoun County zoning record; Loudoun's facility count and general-fund data center revenue per the commonwealth-level record. See What Virginia Is Spending, What Virginia Is Getting, v4.0 (Turner 2026).
2. Loudoun County eliminated by-right data center development in March 2025, after a decade of permissive approvals and the 2023 transmission-line conflict that galvanized opposition. GovTech / Richmond Times-Dispatch, "Richmond, Va., Area Counties Split on Data Centers," December 2025.
3. InterGlobix Magazine, "The Growth Story of White Oak Technology Park," 2022, and Anthony Romanello, RVA757 Connects, September 2022; the $44-$45 million figure (and the ~2,270-acre White Oak footprint at I-64/I-295) appears in both. Primary-source verification priority: Henrico County EDA records and Board of Supervisors appropriation minutes, mid-1990s.
4. Rich Miller, "QTS Plans Huge Virginia Data Center," Data Center Knowledge, April 5, 2010; DPR Construction, QTS Richmond 1 Data Center Case Study (bankruptcy date, 1.3M sq ft on 212 acres). Peak Qimonda employment of roughly 1,500 per InterGlobix Magazine (2022).
5. Rich Miller, "QTS Plans Huge Virginia Data Center," Data Center Knowledge, April 5, 2010 ($12 million purchase price; retrofit opened at 1.3 million square feet). Primary-source verification priority: Henrico County Circuit Court deed records.
6. Jonathan Spiers, "Another 1.5 Million Square Feet of Data Center Space Eyed in White Oak," Richmond BizSense, November 19, 2019; and "1.5M-Square-Foot Expansion Underway at QTS Data Center Site in Henrico," Richmond BizSense, July 14, 2022 (200 acres purchased from Henrico EDA for $18 million).
7. Submarine Networks, "DUNANT," submarinenetworks.com; DUNANT (operational 2021) to Saint-Hilaire-de-Riez, France, built and funded primarily by Google, highest-capacity transatlantic cable (12 fiber pairs, 250 Tbps). MAREA to Spain (Telxius/Facebook/Microsoft) and BRUSA to Brazil per Submarine Networks, "MAREA" and "BRUSA."
8. QTS, "QTS Announces Mid-Atlantic Network Access Point (NAP) of Virginia," press release, January 16, 2019, qtsdatacenters.com.
9. Anthony Romanello, Henrico EDA Executive Director, as reported in Jonathan Spiers, Richmond BizSense, July 14, 2022 (18 percent figure; county-official claim, methodology not disclosed); White Oak's ~$2.25 billion assessed value per Rachel Kester, "Henrico Became a Data Center Hub Seemingly Overnight," The Richmonder, April 6, 2025.

10. Rachel Kester, The Richmonder, April 6, 2025; rate figures also cited in Henrico County Proposed Budget FY2025-26. Primary-source verification priority: Board of Supervisors ordinance adopting the rate change, 2017.
11. Yevgeniy Sverdlik, “Facebook to Build $1B Data Center in Virginia,” Data Center Knowledge, October 4, 2017; VACO, October 2017. Meta announced a $750 million, 970,000-square-foot data center on 300 acres in White Oak.
12. Liana Hardy, “Data Center Detour: Inside Henrico County’s Shifting Mindset,” Henrico Citizen, February 24, 2026.
13. Lyndon German, “Henrico to Dedicate Data Center Revenue to Affordable Housing Fund,” VPM News, May 16, 2024 (cumulative 2017-2024 revenue over $18 million). Count of 37 data centers as of 2024 compiled from Henrico Planning Department staff analysis, county GIS data, and industry directories. Meta’s 800-plus acres and $1.5 billion total investment per Data Center Knowledge (2017) and subsequent Richmond BizSense coverage.
14. Richmond BizSense, January 27, 2026; COVID-era delegation allowing the planning director to approve development plans without commission review, never revoked. Primary-source verification priority: Henrico County ordinance or administrative order, 2020.
15. Lyndon German, VPM News, May 16, 2024, covering the May 14, 2024 public hearing on rezoning case REZ-2023-100017 (Hourigan), 622 acres in 12 parcels; Henrico County Board of Supervisors, public hearing, May 14, 2024.
16. John Montgomery, testimony at the May 14, 2024 Hourigan hearing, as reported in Lyndon German, VPM News, May 16, 2024.
17. Lyndon German, VPM News, May 16, 2024; approximately 30 proffers on rezoning case REZ-2023-100017. Primary-source verification priority: Henrico County rezoning case REZ-2023-100017, accepted proffer statement, Planning Department.
18. Lyndon German, VPM News, May 16, 2024; the Hourigan proffer set included $5 million toward rooftop solar on 200 to 250 homes, plus a 65 percent site-coverage cap, air cooling, LEED Silver, decibel-specific noise limits, supervised generator testing, published DEQ air-quality monitoring, conservation areas, and battlefield archaeological funding.
19. Lyndon German, VPM News, May 16, 2024; County Manager John Vithoulkas and Board Chairman Tyrone Nelson announced the Henrico Housing Affordability Trust Fund seeded with $60 million in data center revenue, funds available July 1, 2024.
20. County Manager John Vithoulkas, quoted in Lyndon German, “Henrico to Dedicate Data Center Revenue to Affordable Housing Fund,” VPM News, May 16, 2024.

21. Census Reporter, “Varina District, Henrico County, VA,” ACS 2024 5-year estimates: Varina median household income $74,227 against the Henrico County median of $88,783. The Varina Station area nearest the proposed campuses is 59.3 percent African American per Point2Homes, 2019-2023 ACS.
22. SchoolDigger, “George F. Baker Elementary School”; National Center for Education Statistics data; U.S. News Education. The Title I school (6651 Willson Road) is 89 percent Black with 93 percent of students economically disadvantaged.
23. Richmond BizSense, “Henrico Denies Vested-Rights Appeal for Data Centers at Darbytown Site,” February 27, 2026; Darbytown Road LLC bought the 195-acre parcel from Fareva Richmond for $13.5 million on November 14, 2025. Centra Development obtained its zoning-confirmation letter from Planning Director Joe Emerson in June 2024 (Richmond BizSense, September 22, 2025). Primary-source verification priority: Henrico County Circuit Court deed records for 2248 Darbytown Road.
24. Amy Burrell, New Market Village resident, quoted in Liana Hardy, Henrico Citizen, February 24, 2026; the racial-equity question (“because it’s a Black community, that we don’t matter”) is from the same source.
25. Koya Johnson, New Market Village resident, on the developer’s $1 million schools proffer, quoted in Liana Hardy, Henrico Citizen, February 24, 2026.
26. Data USA, “Wyndham, VA,” 2023 ACS data: median household income $235,886; homeownership rate 90.2 percent. Wyndham CDP established 1992 by HHHunt across 1,271 acres with 1,727 units (The Wyndham Foundation).
27. Richmond BizSense, “HHHunt Withdraws Plan for 400-Acre Data Center Beside Wyndham,” January 30, 2026; the 400-acre, 10-building proposal, the 2019 Dominion Club Drive history, and the “constant buzzy note” description are documented in the same coverage and in Liana Hardy, Henrico Citizen, February 24, 2026.
28. Henrico County Planning Department, Staff Analysis: Potential Impacts of Data Centers, May 1, 2025, henrico.gov; the three-to-five-million-gallon-per-day evaporative-cooling figure originates in this analysis.
29. Henrico County Board of Supervisors, Resolution 142-25 and Ordinance 143-25, June 10, 2025, henrico.gov; unanimous 5-0 vote reported in Citizen Portal, June 10, 2025, and multiple outlets. Official minutes posted at henrico.gov.
30. Henrico County, Data Center Design Guidelines, June 10, 2025; recommended 500-foot setback from adjacent residentially zoned lot lines, up from the standard 200-foot industrial buffer, plus mandatory closed-loop/recycled cooling, weekday 10 AM-4 PM generator testing, pre- and post-construction noise studies, and facade articulation.

31. Henrico County, Proposed Budget FY2025-26: Tax Rate Changes and Data Center Revenue; equipment rate raised from $0.40 to $2.60 per $100, still below the state average.
32. WRIC ABC 8 News, February 26, 2026; Liana Hardy, Henrico Citizen, “Henrico’s Board of Zoning Appeals Denies Data Center Company’s Appeal for Varina Site,” February 26, 2026; unanimous BZA denial. Planning Director Joe Emerson, with Deputy County Attorney Ryan Murphy, had denied the vested-rights claim in December 2025 on the ground that a zoning-confirmation letter is not a significant affirmative governmental act (Richmond BizSense, December 17, 2025).
33. Varina District Planning Commissioner William Mackey Jr. captured on a hot mic telling Chairman Robert Witte Jr. during a break, at the first live-streamed Henrico planning commission meeting; Liana Hardy, Henrico Citizen, February 24, 2026.
34. Richmond BizSense, “After Withdrawing Data Center Plan, Developer Proposes Industrial Buildings at Same Varina Site,” December 17, 2025; Virginia Business, December 18, 2025. Wagner Urban Logistics filed for seven warehouses totaling 1.82 million square feet (Airport West Industrial Campus); the planning director approved it administratively, no hearing, in January 2026 (Richmond BizSense, January 27, 2026).
35. Jonathan Spiers, “Data Center Giant QTS Progressing on 1,100-Acre Expansion That Would Add 17 Buildings to Its Henrico Hub,” Richmond BizSense, May 18, 2026 (updated May 21, 2026); RIC4 and RIC5 totaling roughly 1,100 acres and 17 buildings, nearly 8 million square feet.
36. Jonathan Spiers, Richmond BizSense, May 18, 2026; QTS purchased the 478-acre RIC4 site from the Henrico EDA for $43.8 million in April 2024.
37. Jonathan Spiers, “Hourigan Paid $58M for Henrico Land, Then Sold It the Same Day for $119M,” Richmond BizSense, July 23, 2024. Primary-source verification priority: Henrico County Circuit Court deed records.
38. Jonathan Spiers, Richmond BizSense, May 18, 2026; QTS applied to Virginia DEQ for permits covering 370 diesel emergency generators, on top of 544 generators and 11 cooling towers already permitted.
39. Kelsey Jones, “Henrico Residents Push Back on Data Center Expansion Near White Oak Technology Park,” WTVR CBS 6, May 19, 2026; county reference to DEQ Tier 4 emissions standards taking effect July 2026, to which the 544 already-permitted units are not subject.
40. Resident question at the May 19, 2026 Varina community meeting, as reported in Kelsey Jones, WTVR CBS 6, May 19, 2026; the “drink water like nobody’s business” remark is from the same coverage.

41. Longtime Varina resident Brandy Covington at the May 19, 2026 community meeting, quoted in Kelsey Jones, WTVR CBS 6, May 19, 2026; Supervisor Nelson's acknowledgment that little could be done about pipeline projects is from the same source.
42. Zamone Perez, "Turning Data Center Revenue into Affordable Housing," Time, March 11, 2026; fund moving toward 383 affordable units, 30 buyers closed at $80,000 average assistance, ten-year affordability clause, administered by the Partnership for Housing Affordability for buyers at 60-120 percent of area median income.
43. Zamone Perez, Time, March 11, 2026; profile of Emma Swainston, a 26-year-old math teacher who purchased a home for $180,000, roughly $92,000 below market value. The $60 million seed is nearly equal to the Commonwealth's statewide housing trust fund.
44. Henrico County, Schedule 89; assessed value of installed equipment declines to 10 percent of original cost within four years. The board structured the $60 million fund as a one-time appropriation from unbudgeted surplus per Henrico County, Proposed Budget FY2025-26.

CHAPTER 8 — Refusal-Before: Hanover and Pittsylvania

1. Hanover County, Strategic Zoning Initiative, January 2015 (flat $1,100 rezoning fee, deferred studies, rollback-tax relief, Virginia Business Ready Sites Program eligibility); Route 33 corridor Economic Development Zone designation, 2013, and Envision Hanover Comprehensive Plan, adopted 2023.
2. Hanover County Board of Supervisors, CPA2025-00002, Route 33 Gateway Small Area Plan, adopted August 27, 2025; covers approximately 950 acres and identifies data centers as "preferred business types."
3. Hanover County Board of Supervisors, March 27, 2024 (Hickory Hill rezoning A-1 to M-1, 1,211 acres, 2.4 GW, approved unanimously after deferral from February 28); developer projection of 800+ employees and $1.78 billion over 20 years per VPM News, March 28, 2024; land purchase $32.7 million per Richmond BizSense, May 9, 2024.
4. Hanover Planning Commission, January 15, 2026 (HHHunt Hunting Hawk campus, 468.14 acres, 10 buildings/3.9 million sq ft, South Anna District).
5. Loch Levan Land v. Board of Supervisors of Henrico County (Va. 2019): no vested right to the Dominion Club Drive extension and no public-necessity finding.
6. Hanover Planning Commission, January 15, 2026 (unanimous denial recommendation on rural-character standards); HHHunt withdrawal January 28, 2026 (VPM News, January 20 and 28, 2026).

7. Census Tract 3202: median household income $38,064 (ACS 2023 5-Year, Table DP05); countywide median household income $112,805 (ACS 2020-2024 5-Year, Table S1901); John M. Gandy Elementary School 83% economically disadvantaged.
8. Hanover County approval of the 1.1-million-sq-ft Wegmans distribution center at Brown Grove, 2020, over community objection; Washington Post Magazine, August 4, 2021; VPM News, February 24, 2022; Bay Journal, May 2023 (subsequent state recognition 2022 and national historic designation).
9. Mountain Road Technology Park, 427 acres at 13074 Mountain Road and 12517 Winns Church Road; applicant VALCO Hanover County Four, LLC (Tract), Denver-based; cases REZ2025-00023, CUP2025-00016, and a building-height special exception (Voluntary Proffer Statement, March 5, 2026, Hanover County Planning Department).
10. Mountain Road application: 900 MW, six buildings at 150 MW each, 2.6 million sq ft; Tract projected 300-350 permanent jobs at full buildout (Voluntary Proffer Statement, March 5, 2026; Richmond BizSense, May 28, 2026).
11. Chesterfield Planning Commission recommended denial of Tract's 744-acre proposal (June 2025) over water and noise; Tract withdrew (Richmond BizSense).
12. Former Tyson Foods plant at 13264 Mountain Road closed May 12, 2023, 692 layoffs (Richmond BizSense); permitted water allocation approximately 800,000 gallons per day; site sold for $5 million August 2025 (Hanover County Clerk land records). Tract Applicant Response Letter, updated March 9, 2026, argued the freed allocation could meet the project's average demand.
13. Voluntary Proffer Statement, March 5, 2026, Hanover County Planning Department (200-300 ft perimeter buffers, double evergreen row behind the 300-ft Winns Church buffer, noise study tied to Noise Ordinance § 16-10's 57/52 dBA limits, Tier IV generators with weekday-daytime testing, single-pass cooling and private wells prohibited, public riverside trail); $90,000 cash component (Trail Maintenance Contribution Fund, $30,000 per building area), submitted after the Planning Commission's unanimous deferral.
14. Richmond BizSense, "Hanover Supervisors Reject Data Center Project on Mountain Road," May 28, 2026 (round-three additions: $15 million pump station and water storage tank, Hanover Sheriff's Office traffic-control funding, planning-director annual noise-study authority, and a floated $6 million land conservation and parks payment).
15. Documented in full in the Hanover County case study (Turner 2026), concept DOI 10.5281/zenodo.20672048 (proffer escalation from $90,000 in February to roughly $21 million by late May).

16. Mountain Road widening estimated at approximately $53 million (Richmond BizSense, March 20, 2026); Hanover CIP allocates $31.5 million through FY2031 and CVTA granted $4 million (March 20, 2026), leaving roughly $17.5 million unfunded; no Tract contribution identified in any public document.
17. Ernst & Young Tax Generation Analysis commissioned by Tract: $901 million over 15 years from 2030 ($445 million real property at $0.81; $456 million business personal property at $0.45); developer-sourced, not independently verified (county-hosted document dated March 4, 2026).
18. Hanover Planning Commission, February 19, 2026: 2.5+ hours of testimony, approximately 30 opposed and 6 in favor; Commissioner Larry Leadbetter moved deferral, unanimous (WWBT/NBC 12 and WRIC/8News, February 19, 2026).
19. Hanover Planning Commission, April 16, 2026: 6-1 recommendation of approval; Ashland commissioner Alan Abbott dissenting on traffic and unknown cumulative impacts (WTVR CBS 6 and WRIC, April 16-17, 2026).
20. Hanover County Board of Supervisors, May 27, 2026: meeting ran nearly six hours to just before midnight; during the two-hour public hearing 30+ opposed and 8 in support (Richmond BizSense, May 28, 2026; VPM News, June 1, 2026; WTVR CBS 6, May 28, 2026).
21. Resident testimony at the May 27, 2026 public hearing, as reported in WTVR CBS 6, May 28, 2026.
22. Erin Fosdick, Tract director of entitlements, addressing the Board of Supervisors before the May 27, 2026 vote, as reported in WTVR CBS 6, May 28, 2026.
23. Hanover County Board of Supervisors, May 27, 2026, 4-3 denial of the Mountain Road rezoning. Voting to deny: Chairman Sean Davis (Henry), Faye Prichard (Ashland), Danielle Floyd (Chickahominy), Jeff Stoneman (Beaverdam); to approve: Susan Dibble (South Anna), F. Michael Herzberg (Cold Harbor), Ryan Hudson (Mechanicsville) (Richmond BizSense, May 28, 2026; VPM News, June 1, 2026). The board's adopted minutes of May 27, 2026 summarize the four supervisors' rationales.
24. Supervisor Susan Dibble (South Anna), in whose district the project sat, voted to approve, calling it the "first step in the implementation of the vision for the Route 33 corridor" (Richmond BizSense, May 28, 2026); VPM News, June 1, 2026, described board chair Sean Davis as casting the deciding vote.
25. Board of Supervisors of Fairfax County v. Snell Construction Corp., 214 Va. 655 (1974); Virginia Code § 15.2-2223 and § 15.2-2232 (comprehensive plan as guidance, not binding on zoning decisions).

26. Hanover County Department of Public Utilities, FY2023 water-system data: total capacity 24.7 MGD (Doswell WTP 4.0 MGD; City of Richmond contract 20.0 MGD; Henrico contract 0.7 MGD); average production 9.0 MGD; peak 13.5 MGD.
27. Tract Applicant Response Letter, updated March 9, 2026: average demand 600,000 GPD, peak 2,000,000 GPD under a 20-year worst-case temperature and humidity scenario; Hickory Hill demand reported up to ~700,000 GPD (VPM News, March 28, 2024).
28. January 2025 partner-treatment-plant power failure caused 24-36 hours of outages in Hanover, prompting a proposed 6.5% rate increase to fund a $218 million long-term water-resilience program.
29. Hanover County Board of Supervisors, adopted minutes, June 24, 2026, item XIII: the $0.45-per-$100 data center equipment rate was adopted as part of the FY2024 budget, and the county "currently has an existing data center subject to the tax" (the county attorney). At least five data center zoning requests filed since 2023 (Richmond BizSense, April 27, 2026).
30. Hanover County Board of Supervisors, adopted minutes, June 24, 2026, item XIII, Public Hearing: 2026 Proposed Data Center Tax Rate: at its April 22, 2026 meeting the board "authorized a public hearing on increasing the tax rate," advertised at a maximum of $3.00 per $100; the county attorney "clarified that the Board had not yet adopted a data center tangible personal property tax rate for calendar year 2026, noting that the rate is established on a calendar-year basis rather than a fiscal-year basis"; motion to adopt $0.45 per $100 for calendar year 2026, carried 7-0; substitute motion referring the rate to the Finance Committee for further study, carried 7-0. The Finance Committee chair proposed a recommendation "during the FY2028 budget process" and called an increase before a comprehensive review premature.
31. Iron Horse (WestDulles Properties), 78 acres at 10171 E. Patrick Henry Road on the Hanover-Ashland line, refiled after a 2024 predecessor was voted down, scheduled for June 2026 planning commission review (Richmond BizSense, May 14, 2026); LS Power's roughly 200-acre Old Ridge Road proposal south of Kings Dominion pending (Richmond BizSense, April 27, 2026).
32. Fauquier County / Town of Warrenton Council record; statewide canceled-projects register (Warrenton Amazon campus approved four votes to three, 14–15 February 2023, and not undone by the county's later restrictions; 800 MW Remington proposal withdrawn 2025).
33. Pittsylvania County Board of Supervisors vote, 2025; statewide facility inventory (84-building data center campus paired with a large gas plant, defeated 6-1).

CHAPTER 9 — Contract-Lock: Chesterfield and Botetourt

1. Chesterfield County Board of Supervisors, Resolution 19-175, adopted April 10, 2019 as part of the FY2020 budget and tax-rate ordinance; the data center equipment classification was established by Ordinance Section 3(h) under the county's authority in Virginia Code § 58.1-3506. The board (Chair Leslie A. T. Haley, Vice Chair Stephen A. Elswick, Dorothy A. Jaeckle, Christopher M. Winslow, James M. Holland) voted unanimously following a public hearing on March 27, 2019; the rate took effect July 1, 2019. Chesterfield County FY2026 Adopted Budget; Commissioner of the Revenue tax schedules.
2. The classification reads "computer equipment and peripherals used in a data center" and is set at $0.24 per $100 of assessed value, exercising the county's authority under Virginia Code § 58.1-3506. County Administrator Dr. Joseph Casey and Economic Development Director Garrett Hart described it as a "target market strategy."
3. Before 2019 the county had no dedicated data center class; equipment was taxed as standard business personal property at a nominal $3.60 per $100 with a 50 percent first-year assessment ratio, an effective rate of $1.80. The reduction to $0.24 was 86.6 percent, the largest single tax cut for any industry classification in the county's modern history. A server rack in a corporate office is taxed at $3.35 per $100; the same rack in a data center is taxed at $0.24. Chesterfield County FY2026 Adopted Budget; Commissioner of the Revenue tax schedules.
4. Henrico County reduced its data center rate from $3.50 to $0.40 in 2017, helping secure Meta's $750 million campus at White Oak Technology Park; Chesterfield's $0.24 was a deliberate undercut creating roughly a 40 percent advantage over Henrico's $0.40 at adoption. Greater Richmond Partnership, July 10, 2019; Greater Richmond Partnership, "Reduced tax rates may lead to surge in data centers," July 10, 2019.
5. Google designs its own Tensor Processing Units and has cycled through six generations since 2020 (v4 2020, v5/Trillium 2023, v6/Ironwood 2024–2025), implying an operational refresh of roughly three years. In its 2023 10-K, Alphabet reported that extending server useful life to six years for accounting purposes reduced depreciation expense by $988 million in a single quarter. Alphabet Inc. 2023 10-K and product announcements. AI accelerator replacement cycles of 18–36 months: Gemini Research, "Strategic Analysis of Data Center Equipment Replacement Cycles," 2026; IDC Technology Rotation studies.
6. Author's calculations. No-refresh (decay) model: $1B tranche at the Chesterfield depreciation schedule and $0.24 rate yields ~$3.4 million

cumulative over 20 years; a four-year refresh model yields ~$14.4 million because the base resets to peak. Under Virginia law replacement equipment is a new asset entering at full original cost and restarting the depreciation clock. Virginia Code § 58.1-3506.

7. The ~$7.7 billion equipment base is derived from the documented 70/30 equipment-to-real-estate split in data center investment (VEDP figures; 68 percent equipment share reported by Virginia operators in FY2024–FY2025; JLARC 2024 study). The figure is an upper-bound estimate assuming the full $11 billion in announced investment lands in Chesterfield. Author's calculations.
8. Author's calculations on the $7.7 billion base at the 50 percent Year-1 assessment ratio. Formula: (equipment value × assessment ratio / 100) × tax rate. Annual revenue: $9.24M at Chesterfield's $0.24; $100.1M at Henrico's $2.60; $159.78M at Loudoun's $4.15; $173.25M at Prince William's $4.50. Gaps: ~$91M (Henrico), ~$151M (Loudoun), ~$164M (Prince William).
9. Henrico County Board of Supervisors raised the data center equipment rate from $0.40 to $2.60 per $100 with the FY2025–26 budget, adopted April 8, 2025 (unanimous), retaining its installed operator base. Henrico FY2026 budget; henrico.gov Revenue Division schedules. Documented in full in the Henrico County case study (Turner 2026).
10. Prince William County raised its computer-and-peripherals rate from $3.70 to $4.15 (FY2026 adoption, April 22, 2025) and from $4.15 to $4.50 (FY2027 adoption, April 21, 2026); pwcva.gov. Loudoun County applies its $4.15 general personal property rate with no separate data center classification, unchanged for tax years 2026 and 2027; loudoun.gov, Data Centers FAQ and 2026 Property Tax Rates.
11. Hanover County's $0.45 data center rate was adopted as part of the FY2024 budget and is set annually by calendar year; on April 22, 2026 the board authorized a public hearing on a rate of up to $3.00 per $100, and on June 24, 2026 it adopted $0.45 for calendar year 2026, 7-0, and referred the rate to its Finance Committee; the board rejected Tract's Mountain Road rezoning on May 27, 2026. Hanover County Board of Supervisors, adopted minutes, June 24, 2026, item XIII. Documented in full in the Hanover County case study (Turner 2026).
12. The rate lock is structured as an EDA Performance Agreement under Virginia Code § 15.2-4905: if a future board raises the rate above $0.24, the county collects the higher amount from Google and the EDA is contractually obligated to pay an annual grant equal to the difference. Richmond BizSense, Jack Jacobs, June 27, 2025, "Chesterfield supervisors approve incentive agreements for data center projects."

13. The architecture is three agreements covering all three Google sites: Bermuda Hundred (Peanut LLC), Upper Magnolia Green (Skyward Holdings LLC), and Watkins Centre South (Aeris Investments LLC). The Peanut LLC agreement was approved in 2020; the Skyward Holdings and Aeris agreements followed June 25, 2025. The 30-year term is one 10-year period with two automatic 10-year renewals reported to be tied to construction-progress benchmarks rather than fresh board votes, beginning at the first certificate of occupancy. EDA Performance Agreements; Richmond BizSense, June 27, 2025. Documented in full in the Chesterfield County case study (Turner 2026), concept DOI 10.5281/zenodo.20672436.
14. The subject-to-appropriation clause is a constitutional requirement: a board cannot legally bind its successors to specific expenditures, so each year's grant must be appropriated annually. JLARC, "Custom Incentive Grants," June 2024, on performance-agreement enforceability and the practical reliability of subject-to-appropriation provisions; Virginia Code § 15.2-4905.
15. Chirisa Technology Parks announced a $2 billion investment in Meadowville Technology Park (June 2022) and operates under the standard county code at the prevailing $0.24 rate with no 30-year fixed-rate agreement or grant-back. Chirisa Technology Parks announcement, June 2022; Chesterfield County real estate assessments. The asymmetry is the chapter's natural control.
16. Five building permits filed June 4, 2026 at 2700 Bermuda Hundred Road for "Peanut Data Center Hall #1": $115.4M electrical (Miller Electric Co.), $55.4M cold shell recorded as "first bldg on site" (Holder Construction Group), $23M temporary electrical (Miller Electric), $18.9M mechanical (The Poole and Kent Corporation), $2.1M plumbing (Poole and Kent), ~$214.7M declared value. Chesterfield County building permit records.
17. Data centers pay the standard $0.89 per $100 real estate rate on land and buildings. Between 2025 and 2026 the taxable value of Chesterfield commercial and industrial real estate rose by $1.3 billion, or 9.5 percent (office/warehouse 17.4%, industrial flex 15.8%, industrial manufacturing 14.8%). Chesterfield County land book, 2025–2026.
18. Chesterfield reduced the real estate tax rate from $0.95 (FY2022) to $0.89 (FY2026); the county states this forgoes ~$106 million in potential revenue, with each penny worth nearly $6.8 million. The 2023 and 2025 one-time 5 percent residential credits were funded in 2025 with ~$15 million (roughly half the prior year's operating surplus), worth just over $100 to the owner of a $450,000 home. Chesterfield County FY2022–FY2026 Adopted Budgets.
19. Google's AI for Education Accelerator, framed as part of a broader $1 billion national education commitment, gives Virginia college students (including at Brightpoint Community College, which has a Chester campus) free 12-month

access to Google AI Pro plus no-cost career certificates. The Virginia-specific dollar allocation has not been disclosed; for scale, Google's established data center communities receive direct annual grants of roughly $200,000 (Douglas County, Georgia) to over $1 million (Council Bluffs, Iowa). Google Data Center Community Benefits reports.

20. Henrico County established a $60 million affordable housing trust fund from unbudgeted data center revenue (primarily Meta and QTS) in 2024, administered by the Partnership for Housing Affordability; by early 2026, 30 home purchases had closed at an average $80,000 in assistance per buyer, with a 10-year affordability clause. Zamone Perez, "Turning Data Center Revenue into Affordable Housing," Time, March 11, 2026.
21. Virginia Department of Taxation, in collaboration with VEDP, Biennial Data Center Retail Sales and Use Tax Exemption Report (RD40), January 2, 2026, p. 3: FY2025 reported tax benefit $1,941,390,000, "including the General Fund, non-General Fund, and local revenue impact," self-reported by operators and not independently validated; the Virginia ACFR for FY2025 reports a lower ~$1.6 billion from state audit data. Chirisa faces a June 30, 2026 deadline to meet the $150 million investment and 50-job thresholds the state DCRSUT exemption requires, on pain of clawback.
22. Chesterfield County Board of Supervisors, March 25, 2020, Item 7.A.4: ordinance authorizing a "Fixed Tax Rate and Water and Wastewater Capacity and Service Agreement with Peanut LLC," two days before the land transaction closed.
23. On March 27, 2020, the Chesterfield EDA acquired roughly 353 acres from Riley and Helen Lowe for $21.1 million and, in a simultaneous same-day closing, sold the 307-acre site at 2700 Bermuda Hundred Road to Peanut LLC for $18.1 million, retaining ~46 acres; Peanut LLC also acquired a 5-acre Philip Morris parcel for ~$308,000 the same day. Google's identity behind Peanut LLC was not disclosed until August 27, 2025, when the company was unveiled as part of a $9 billion Virginia announcement. The Richmonder, Juliana Vandermark, August 27, 2025.
24. On December 18, 2020, the Chesterfield EDA purchased the 2,057-acre Upper Magnolia Green tract from New Jersey developer Salvatore Cangiano for $13 million (~$6,320/acre), funded from one-time FY2020 budget savings. The tract carried residential entitlements from a 1991 approval (1,336 units plus 311 Cold Creek lots). Chesterfield County press release, December 23, 2020; Board of Supervisors minutes, December 2020.
25. The county nullified the residential entitlements via rezoning cases 21SN0675 and 21SN0676 (2021–2022), rezoned the land to industrial ("Technology Village"), and in late June 2025 sold 979 acres to Google's Skyward Holdings

LLC for approximately $31 million. Case 25SN1038 (“Project Skye”) staff report, Chesterfield County Planning Department; Richmond BizSense, Jack Jacobs, July 2, 2025.

26. Chesterfield County, Zoning Ordinance Modernization Project (ZOMod), Ordinance No. 2025-18, adopted September 17, 2025, effective January 1, 2026, making data centers a conditional use requiring board approval; board vote 5-0 (Ingle, Schneider, Hylton, Carroll, Miller); Planning Commission unanimous recommendation July 15, 2025. The standards include a 60 dB property-line noise cap, 200-foot residential/agricultural setback, 110-foot height limit, closed-loop cooling, and a 2,000 gallons/day/acre water target. Richmond BizSense, September 18, 2025.
27. During the ZOMod work sessions (August–September 2025), the county attorney advised that vested rights under Virginia Code § 15.2-2307 protected existing approvals and that a retroactive conditional use requirement would likely trigger takings litigation; the reform was not made retroactive.
28. The appellant (Washington Single Family Fund3, LLC, via Legacy Engineering) bought 89.3 acres at 1931 Old Bermuda Hundred Road (Tax ID 804-647-4181) in late 2023, filed a 2024 site plan that was never approved, and saw the land convert to a district where data centers require a board permit. Planning Director Andrew G. Gillies denied the vested-rights determination February 12, 2026 on the single fact that no site plan had been approved before the ordinance took effect. Chesterfield County BZA Case 26AP2089 packet.
29. Chesterfield County Board of Zoning Appeals, June 3, 2026, Case 26AP2089: the board denied the appeal unanimously and upheld the planning director’s determination; a county staff member reported 97 emails in opposition and about a dozen residents spoke. The vote standard is set under Virginia Code § 15.2-2312. Chesterfield County BZA June 3, 2026 agenda and case packet.
30. The second pending appeal (WestDulles) challenged staff’s determination that a conditional use permit was required for a planned campus of more than 430 acres in the James River Industrial Center adjoining the CFS fusion site, claiming vested rights to develop data centers by-right; the case was deferred from May for lack of a quorum of cases and remained undecided as of June 3, 2026. Chesterfield County Planning records; appeal letter dated December 31, 2025.
31. The 350-acre Swift Creek Preserve was designated as a permanent conservation area via Case 25SN1039 (Upper Magnolia Green East Amendment), Proffer 7, protecting the headwaters feeding the Swift Creek Reservoir, the county’s primary drinking-water source. Western proffers include 200–750-foot buffers, 50–55 dBA noise caps, closed-loop cooling with a

2,000 gallons/day/acre cap and daily reporting. Cases 25SN1038 and 25SN1040 staff reports and proffer documents.

32. Resident testimony from the Moseley/Dogwood Creek areas, May 28 and June 25, 2025 Board of Supervisors meetings. Chesterfield County Board of Supervisors meeting minutes; Richmond Times-Dispatch, Thad Green, June 6, 2025.
33. Census Tract 1007.01, Chesterfield County, ACS 2020–2024 5-year estimates: population 5,509; median household income $34,609 (against the county's $101,931); 43% Hispanic/Latino, 35% Black, 18% White non-Hispanic; renter-occupied 51.8%. The neighboring affluent tract (1009.02): MHI $136,370; 84% White; 86.4% homeownership. Eastern tract: 57% of adults have a high school diploma or less and only 6% work in the professional/technical sector, against 24% in the western tract. data.census.gov, FIPS 51041.
34. The Town of Bermuda Hundred Historic District (Virginia DHR File 020-0064), one of the oldest English settlements in Virginia (1613), is documented by the county's museum as a center of the transatlantic slave trade; the historic district core is separated from the data center site by the 265-acre Brown and Williamson Conservation Area at 2800 Bermuda Hundred Road. Virginia DHR records; Chesterfield County historical documentation.
35. Virginia State Corporation Commission, Final Order, Case No. PUR-2025-00037, November 25, 2025: CPCN for the ~944 MW Chesterfield Energy Reliability Center (four GE Vernova 7F combustion turbines sited within the footprint of retired coal Unit 6) and approval of Rider CERC under Virginia Code § 56-585.1 A 6; projected cost $1.47 billion; projected commercial operation June 1, 2029; application filed March 3, 2025. Dominion acknowledged data center load triggered the VCEA Reliability Exception.
36. Dominion Energy's Environmental Justice Desktop Review for the CERC air permit (revised September 23, 2024, Appendix H) found the project site population to be 84 percent people of color, 73 percent low-income, and 41 percent Hispanic or Latino, with 26 percent of households linguistically isolated. EPA EJScreen Community Report, Census Tract 100403, places the tract above the 85th Virginia percentile for PM2.5 and above the 90th for hazardous-waste proximity.
37. Of the 24 census block groups within a three-mile buffer of the CERC site, 22 contain potential environmental justice communities; the tract is designated an Environmental Justice Community under Virginia Code § 2.2-234. Adult asthma prevalence in Census Tract 1004.03 is ~10.2 percent against a county average of 8.6 percent, and there is no active DEQ air monitor within three miles. Virginia DHR/EPA EJScreen; Virginia Department of Health, 2023 Chesterfield-Colonial Heights Community Health Assessment.

38. The Community Intervenors' Petition for Reconsideration in Case No. PUR-2025-00037 was filed December 15, 2025 by the Southern Environmental Law Center on behalf of Appalachian Voices, the NAACP (Chesterfield County branch), and Mothers Out Front; the SCC granted limited reconsideration December 16, 2025 and, on the Order on Reconsideration of February 12, 2026, denied the petition and reinstated the Final Order.
39. Notice of Appeal filed with the SCC clerk February 17, 2026; Petition for Appeal filed in the Supreme Court of Virginia May 27, 2026 in NAACP – Chesterfield County Branch, Appalachian Voices, and Mothers Out Front v. State Corporation Commission, raising eight assignments of error (SELC counsel). The CERC air permit issued December 19, 2025; the parallel challenge is a judicial appeal in the Circuit Court for the City of Richmond. SELC press release, May 27, 2026; Virginia Mercury, May 27, 2026.
40. Dominion Energy Virginia, Rider CERC tariff sheet, "This Filing Effective For Usage On and After 03-01-26": 0.0754 cents per kWh on residential Schedule 1, about $0.75 a month at 1,000 kWh (computed), in effect while the plant's certificate remained under petition. The Application had estimated $0.60 a month for a typical residential customer using 1,000 kWh (Virginia SCC, Final Order, Case No. PUR-2025-00037, November 25, 2025).
41. Botetourt County population 34,129; median household income $81,213; real estate tax rate $0.70 per $100 (cut from $0.79 in 2024). Census Bureau vintage-2024/ACS 5-year estimates; Botetourt County Local Tax Rates schedule, botetourtva.gov/383. Documented in full in the Botetourt County case study (Turner 2026), concept DOI 10.5281/zenodo.20673512.
42. Botetourt County has never adopted a data center equipment tax classification; Google's servers are taxed as ordinary business personal property at the standard $2.94 per $100, raised from $2.71 in the FY2025 budget that also cut real estate from $0.79 to $0.70. Botetourt County rate schedule; budget ordinances.
43. National Register of Historic Places Registration Form, "Greenfield" (DHR 011-0026, 2022-delisted nomination), Virginia Department of Historic Resources: Preston's August 28, 1759 purchase of "16 Africans from the ship True Blue"; the plantation grew past 1,200 acres; the Preston family enslaved 38 people there in 1860; descendants "still live in the Amsterdam area of Botetourt County."
44. In 2016 the county landed Eldor Corporation ($75M, 350 jobs, then described by the regional partnership as the largest new-location announcement in county history, with a $3.2M Commonwealth's Opportunity Fund grant); leveling the pad required moving a c.1845 kitchen and a c.1864 slave dwelling. Shirley Lewis, a descendant of people enslaved at Greenfield, sued all five

supervisors, the EDA, and the deputy administrator; the county surveyed, reported no graves found, and moved the buildings half a mile. The original Greenfield National Register listing was delisted in 2022 because of the relocation. Virginia DHR; Cardinal News, June 25, 2025.

45. Google's site selection reached Botetourt in early 2024 and ran ~seventeen months under the code name Project Raspberry behind NDAs; County Administrator Gary Larrowe called the NDA the project's "safety rail." Cardinal News, "Have questions about Google's data center project in Botetourt County?," April 3, 2026 (updated April 27).
46. On October 1, 2024, the county and its EDA signed a Real Estate Option Agreement giving Google's acquisition entity the right to buy the property; on October 13, 2024 the EDA acquired the adjacent 62.767-acre Harrington Tract and merged it into the parcel; the rezoning application for the addition was filed November 7, 2024. Botetourt County records; executed performance agreement and related documents posted by the county.
47. Botetourt County joint Planning Commission / Board of Supervisors meeting, November 26, 2024 (the Tuesday before Thanksgiving): the board went into closed session under FOIA economic-development exemptions, then held two advertised public hearings—Item 2.C rezoning the 62.767-acre Harrington addition to RAM, and Item 2.D, a board-requested text amendment adding "data center and its definition" (bundled with greenways and trails) to the RAM district. The rezoning staff report stated: "As this is a speculative request, no use or concept is identified at this time." Botetourt County meeting records.
48. On the data center text amendment, exactly one citizen (Danny Goad) spoke, asking only for time between the planning commission's recommendation and the board's vote; he did not get it. The planning commission recommended both items 5-0, the board approved both 5-0 the same evening, and the board then voted 5-0 to relocate the Greenfield open-space easement. The county later stated the use "was adopted after a public hearing at which no opposition was expressed." Botetourt County meeting records; county Google Data Center FAQ, botetourtva.gov/1021.
49. The EDA and Google executed the sales agreement Friday, June 20, 2025; title transferred Tuesday, June 24, 2025 after the Board of Supervisors approved the performance agreement in open session, naming the buyer as Helio Capital LLC, a Delaware entity whose notice address is a Troutman law office in Richmond. Google's formal corporate confirmation waited until March 26, 2026, after grading-permit applications were filed. Botetourt County June 24, 2025 announcement (CivicAlert 871); executed performance agreement.

50. Economic Development Performance Agreement among Botetourt County, the EDA, and Helio Capital LLC, effective June 24, 2025 (posted in full by the county): contemplates up to three data centers, each with capital investment "of not less than One Billion Dollars" and "not fewer than fifty (50) new full-time jobs at a median salary of at least $86,000 per year" (1.5× the county's $57,257 prevailing average wage); term runs twenty years per building from operational date. The circulated "$3 billion / 150 jobs" figures are these per-building floors multiplied by three.
51. Performance Agreement Section 4.3, "No Obligation to Develop": the company "may delay, or choose not to, develop a Data Center," and if the first building is not substantially complete within five years the agreement terminates, with "the County will not be required to return any Community Investments made by the Company prior to the date of the termination." The structure is a one-way option.
52. Performance Agreement Section 6.2: whenever the business personal property bill on Google's equipment exceeds an effective $2.40 per $100 of depreciated value, the county pays the excess to the EDA, which grants it back to the company, for twenty years per building. The cap is an 18.4 percent discount on day one against the standing $2.94 rate, invisible in the published tax code; Article VI opens by stating this is "Not a Tax Exemption." The $2.40 effective cap sits roughly ten times above Chesterfield's $0.24.
53. Performance Agreement Section 9.4.1 (confidentiality): binds the county not to disclose the company's information without written consent and, on a FOIA request, to notify Google and "cooperate with Company in asserting any applicable exemptions"; its final sentence reads, "Company will manage all media and press relation services regarding Company's involvement with the County and the Authority." Botetourt County performance agreement with Helio Capital LLC and the EDA, Section 9.4.1.
54. The agreement specifies $4 million in fixed community payments: $1.1M (within 60 days) for three ambulances; $600,000 (by March 1, 2026) to retire financing on three fire trucks; five annual $100,000 parks payments; two $150,000 Fire/EMS heart-monitor payments; and five annual $300,000 payments for Axon body cameras and less-than-lethal weapons for the sheriff's office, plus $1.00 per square foot of each data center built. Of the $4M, $1.5M (the largest stream) buys sheriff's equipment and $3.5M flows to public-safety hardware. Performance agreement, Article V.
55. The Western Virginia Water Authority is an independent regional authority created in 2004 (after the 2002 drought); Botetourt joined July 1, 2015. Its eight-member board seats three appointees from Roanoke City, three from Roanoke County, one from Franklin County, and one from Botetourt—so the

host county controls one-eighth of the board whose reservoirs will supply the campus. WVWA, “History of the Authority” and “Board of Directors,” westernvawater.org.

56. On September 10, 2025 the WVWA board voted unanimously to execute two agreements: a Utility Services Funding Agreement (WVWA–Helio Capital LLC) and a Water Supply and Infrastructure Planning and Development Services Agreement (WVWA–Botetourt County) under which the county requested 2 MGD “on or about January 1, 2028” and committed to fund a new regional source. The usage figures (a Day 1 ceiling of no more than 2 MGD, and 8 MGD, which appears in the funding agreement once, at § 1(d), as the parameter a required water supply study must be scoped against) were redacted from the versions first shown to the public. Both instruments were retrieved and read in September 2026. Joint county/WVWA release; WVTF and WDBJ7, September 11, 2025.
57. Carvins Cove, the designated initial source, currently supplies ~10 MGD of treated water against a reported safe yield of 14–18 MGD; the authority’s largest existing customer is a Coca-Cola bottling plant drawing 270,000 gallons/day (2025), so 8 MGD would be roughly thirty times that benchmark, while the Day 1 allocation is about seven times it. A 2010 long-range plan projected regional supply adequate through 2060 (WDBJ7, February 26, 2026). Botetourt County’s data center page (botetourtva.gov/1023), citing a Western Virginia Water Authority Q&A, says the need for a new source predates Google and that the region was anticipated to search for one by 2040 and have it in service around 2060. The authority told WDBJ7 that no specific year had been identified for a new source to come online; county attorney Michael Lockaby: “If Google happens, it’s going to happen much sooner, probably more like the 2030s” (WDBJ7, February 26, 2026). Cardinal News, May 8, 2026; The Roanoke Rambler, May 6, 2026.
58. WSLS, “Botetourt faces possible $300M water costs for proposed Google data center,” February 10, 2026, reading the released agreements: the county is responsible for the first $100 million of new-source costs, with a declining share thereafter and total commitments up to $300 million. The county’s framing instead assigns Google a pro-rata share by 2060 based on actual usage (botetourtva.gov/1023). The instruments were read in September 2026: § 4.E of the county agreement sets four tiers, the county at 100 percent of the first $100 million and 25 percent of the band from $225 million to $300 million, and the agreement contains neither 2060 nor a usage-based mechanic. Carvins Cove is the drinking supply for ~98,000 Roanoke-area residents.
59. Roanoke Mayor Joe Cobb in July 2025 requested 15 percent of the project’s annual Google tax revenue and replacement of the drawn water within 10–15

years; the county did not respond and no revenue-sharing arrangement had been reported as of September 2026. Cardinal News, July 17 and July 24, 2025; WDBJ7 Target 7, September 11, 2025.

60. Gendreau v. McEvoy, Roanoke Circuit Court: The Roanoke Rambler's founder Henri Gendreau sued WVWA executive director Mike McEvoy in his official capacity October 9, 2025; on November 5, 2025 Judge Leisa Ciaffone ruled that a data center's water usage is not a trade secret under the Virginia FOIA proprietary-information exclusion—the first such ruling in Virginia—writing "there are few resources more precious than water." The Roanoke Rambler; Virginia Business.
61. Google intervened alongside the authority; the Court of Appeals declined to stay the order January 28, 2026 and again on renewal. Facing a March 3, 2026 civil-contempt hearing at which the Rambler sought personal fines against McEvoy, the WVWA released the unredacted records February 23, 2026 (figures public February 25–26). The Roanoke Rambler; WDBJ7, February 25, 2026; WSLS, February 26, 2026.
62. McEvoy told WVTF that confidentiality agreements in economic-development recruitment are routine and the authority had signed them before, but in every prior case the NDA expired when the project was announced; this one did not —"the first time after an announcement that confidentiality continued." WVTF, "Data center water fight spotlights non-disclosure agreements," February 26, 2026.
63. Appalachian Power (AEP subsidiary) serves roughly 530,000 Virginia customers west of the Blue Ridge on a fleet anchored by the Amos and Mountaineer coal plants; Virginia residential rates have risen 158 percent since 2007, more than triple inflation. Clean Virginia, "The Path to Affordable Power," November 2025; APCo customer count per company filings.
64. In a case filed at the SCC in March 2025 (Case No. PUR-2025-00057), Appalachian Power petitioned to revise its Large Power Service schedule for new loads of 100 MW at a single site or 150 MW aggregated, with minimum 12-year contract terms following a ramp-up of up to four years, collateral requirements, and exit obligations, telling the commission the design tracked its West Virginia settlement. SCC docket; APCo filings.
65. In West Virginia PSC Case No. 24-0611-E-T-PW (APCo/Wheeling Power), Google intervened to object to contract duration and minimum-take terms; the January 2025 compromise among the company, Google, and industrial energy users landed at 12-year contracts with an 80% minimum power commitment, modeled on the Indiana Michigan Power settlement. AEP Ohio's tariff (PUCO order July 9, 2025) requires new data center customers to pay for ≥85% of

subscribed demand for up to 12 years. West Virginia Public Broadcasting; POWER Magazine; Data Center Dynamics.

66. Appalachian Power's Daleville-area transmission project would rebuild or reconductor ~17 miles of 138 kV line, upgrade four substations and construct a new one, with an SCC application expected in summer 2026 and construction beginning fall 2027; the company says the project "won't raise rates" for residential customers because Google is covering the upgrades. Roanoke Times, "APCo: Botetourt transmission project for Google data center won't raise rates"; open house June 3, 2026, Read Mountain Middle School.
67. Google agreed in December 2024 to purchase 100% of the output of Apex Clean Energy's 79.3 MW Rocky Forge Wind project on North Mountain in Botetourt, Virginia's first onshore wind farm (announced December 18, 2024); Google concedes it "will not fully cover" the campus. APCo's planning now includes recoverable site-development costs for a small modular reactor near Lynchburg (Joshua Falls), approved by the SCC in November 2025. Cardinal News; Apex/Google release; Cardinal News, November 14, 2025.
68. Appalachian Power filed a biennial review on May 29, 2026 with a $61.4 million base-rate request (~$9.10/month net) it called its smallest in three decades; a 2025 securitization and rate-relief statute (HB 2621) was passed to manage the region's rates. AEP reported 63 GW of incremental load expected by 2030, ~90% data centers, and raised its five-year capital plan to $78 billion. The Center Square; WFXR; SCC release; AEP Q1 2026 earnings.
69. U.S. Army Corps of Engineers public notice NAO-2025-01857, issued March 10, 2026 under the name "Project Raspberry, Botetourt, Virginia," covers a 343.6-acre disturbance area with permanent impacts to 3.24 acres of non-tidal wetlands and 6,715 linear feet of stream channel in tributaries of Tinker Creek and Rulman Branch, plus removal of ~120 acres of forested Indiana bat habitat; the public comment period ran through April 9, 2026. The January 2026 DEQ joint permit application (Timmons Group) describes three ~300,000-sq-ft buildings.
70. At least $3 billion in promised investment in a county of 34,129 is roughly $87,900 per resident, against Mecklenburg's ~$64,900 per resident from a Microsoft investment that accreted over fifteen years. The county advertises up to $30 million a year at full buildout ("more than twice the contribution of the County's current top three companies combined") against a ~$98 million annual budget, while the contractual floor Google signed is about $1 million a year. WDBJ7, March 26, 2026; Botetourt FY2026 adopted budget; WSLS, March 12, 2026.
71. The visible 2025–26 opposition (Southwest Virginia Data Center Transparency Alliance) organized from the county's most affluent corridor, meeting at the

Ashley Plantation Country Club and Lord Botetourt High School; the Amsterdam descendant community, present in the 2016 Greenfield fight, is absent from every account of the opposition the record contains. Cardinal News; WSLS; Roanoke Times. Flagged as a finding awaiting fieldwork.

72. Franklin County (in the same WVWA service area and named in Google's alternatives analysis) confirmed in May 2026 it had been contacted by data center companies and began rewriting its zoning preemptively (no private-well service, noise limits, 200-foot setbacks, designated districts). Montgomery County directed a planning study; Campbell County adopted regulations in January 2026; Appomattox County is weighing a 452-acre campus. WSLS, May 12, 2026; WDBJ7, May 6 and 26, 2026; Cardinal News; WDBJ7, March 24, 2026.

CHAPTER 10 — Governance-Capture and the Fifteen-Year Audit: Mecklenburg and Prince William

1. U.S. Census Bureau decennial counts: Boydton town, 431 (2010) and 302 (2020). Aggregator sites circulate stale or modeled figures; the decennial counts are used here.
2. Virginia Cooperative Extension, Mecklenburg County Situation Analysis (2023): median household income $36,069 in 2011, under sixty percent of the state average; poverty 15.7 percent overall, approaching 23 percent among youth.
3. 2008 bill by Del. Tommy Wright (R-Lunenburg), drafted as an incentive for an unnamed industry prospect in Mecklenburg County; amended to localities with unemployment at or above 4.9 percent; passed the House 97 to 2, the Senate 40 to 0; signed by Gov. Tim Kaine. Original fiscal-impact estimate $1.54 million. Cardinal News, January 22, 2026.
4. The data center sales-and-use tax exemption, expanded statewide and claimed overwhelmingly in Northern Virginia, reached $1.94 billion in fiscal 2025 as reported by operators, state and local revenue combined (Department of Taxation with VEDP, RD40, January 2, 2026); the budget fight over it held the commonwealth's government in deadlock into the summer of 2026. Va. Code § 58.1-609.3(18); JLARC, Data Centers in Virginia, Report 598 (December 9, 2024).
5. The July 2010 Board of Supervisors action offering Microsoft an economic stimulus grant equal to ninety percent of personal property tax for twenty years, and the early-August 2010 Industrial Development Authority agreement to sell the 175-acre Boydton Plank Road Industrial Park for $2 million, survive in the public record only through contemporaneous reporting; the minutes are not digitized. "Mecklenburg lands Microsoft data center," The Mecklenburg Sun (SoVaNow), August 27, 2010. Mecklenburg County Board of Supervisors

and IDA minutes from 2010 are not available in the county's digitized Agenda Center.

6. Virginia Economic Development Partnership press release, August 27, 2010, "Mecklenburg County: Microsoft to locate major data center" (up to $499 million, 50 jobs; $2.1 million Governor's Opportunity Fund, $4.8 million Tobacco Commission, Virginia Jobs Investment Program; Mid-Atlantic Broadband fiber "a key component"; "largest economic investment in Southern Virginia history").
7. Project manager Jens Housley to the Boydton Town Council, November 2010: two Microsoft employees on site, a data manager and an operations manager; the promised 50 jobs to be contractor positions staffed in shifts of about fifteen. "Microsoft gives update on Boydton construction," The Mecklenburg Sun (SoVaNow), November 17, 2010.
8. "Microsoft snaps up land at three industrial parks," The Mecklenburg Sun (SoVaNow), December 23, 2020: roughly 900 acres across the Hillcrest, Lakeside, and Roanoke River parks, five sellers; County Administrator Wayne Carter "not at liberty" to disclose terms. The county GIS parcel layer recovers only the Roanoke River consideration ($1,962,440, December 11, 2020).
9. In September 2020 South Hill's town council amended its zoning ordinance to allow data centers by right in its general industrial and industrial-park districts, described by officials as routine marketing housekeeping, before the buyer was named. "Microsoft snaps up land at three industrial parks," The Mecklenburg Sun (SoVaNow), December 23, 2020.
10. "South Hill clears away roadblock at Microsoft site," The Mecklenburg Sun (SoVaNow), January 13, 2021: an R1-15 remnant designated in the nineteenth century for a never-developed cemetery, rezoned industrial without objection after a survey found no graves; the same meeting raised the industrial-district height limit from 45 to 65 feet, the stated rationale the new fire pumper's reach. This title-cleanup parcel is distinct from the Moseley family cemetery discovered in 2014.
11. "Mecklenburg County, South Hill strike tax revenue deal," The Mecklenburg Sun (SoVaNow), March 10, 2021: board approval March 8, 2021; South Hill forgoes separate assessment on the Hillcrest property and the county remits half the revenue to the town each January; framed explicitly as a tax incentive for Microsoft.
12. "Data Center Debates: Environmental groups target spread of Mecklenburg sites," The Mecklenburg Sun (SoVaNow), September 11, 2024: twelve data center sites, eleven Microsoft-owned, on roughly 3,762 acres, about one

percent of the county's land area. The county GIS parcel layer, queried June 12, 2026, puts Microsoft's holdings at 31 parcels totaling 4,254 acres.

13. Mecklenburg County GIS parcel layer (queried June 12, 2026): later acquisitions on the open market without incentives, including the Mullin tract ($6,000,210 / 600 acres, 2023), the Bailey farm ($6,142,900 / 614 acres, 2024), and Wright Forestry land ($2,869,900 / 284 acres, 2024), roughly ten thousand dollars an acre.
14. Announced cumulative investment: $499M (2010) + $150M (2011) + $348M (January 30, 2013) + $346.7M (June 2014) + $402.4M (November 2015) + $251.6M (November 2016) = $1,997.7 million; the January 2019 expansion and all subsequent buildout carried no public dollar figure. Documented in full in the Mecklenburg County case study (Turner 2026), concept DOI 10.5281/zenodo.20673484.
15. VEDP incentive post-performance reports: the 2010 Governor's Opportunity Fund grant (project 35-16225, agreement October 8, 2010) carried a contract target of 50 jobs and $299.0 million in capital expenditure, against which the state verified 61 jobs and $702.3 million by December 31, 2014, "Metrics Achieved." No clawback was ever triggered on any Mecklenburg grant.
16. VEDP COF Post-Performance Period Report, June 30, 2025 ("Microsoft BN 9-13," project 2018-140262): contract target 108 jobs / $1,066,755,918 capex; state-verified 387 jobs / $1,817,305,847 capex at an average wage of $90,092 against a $47,000 target, performance date September 1, 2024, "Metrics Achieved."
17. Virginia Auditor of Public Accounts, Comparative Report of Local Government Revenues and Expenditures, FY2011-2024, Mecklenburg County row, "Personal Property – General": $7,076,308 (FY2011) to $84,063,674 (FY2024). Figures are gross levies collected from all payers; through FY2024 the Microsoft rebate was booked as an expenditure rather than netted from revenue.
18. Mecklenburg County adopted budget documents, "Industrial Stimulus Grant" general-ledger line (092003-0001): FY2019 actual $30,388,980, FY2020 $34,389,416, FY2021 $40,321,890, FY2022 $50,373,364, FY2023 $57,736,887, FY2024 adopted $62,725,750, then phased out in FY2025. Routed to Microsoft through the county Industrial Development Authority.
19. County of Mecklenburg, Virginia, Annual Financial Report, fiscal year 2023 (audited), GASB Statement 77 tax-abatement disclosure: agreements with two entities; 82.5 percent of the relevant taxes abated; $57,719,970 abated in FY2023, paid through the Industrial Development Authority as economic-incentive payments.

20. Sum of the five FY2019-FY2023 actuals plus the FY2024 adopted figure on the Industrial Stimulus Grant line yields approximately $275.9 million; FY2011-FY2018 actuals exist only in scanned, non-searchable budget books, so the lifetime rebate exceeds $300 million on any reasonable extrapolation. Mecklenburg County adopted budget documents.
21. Computed from the FY2023 figures: gross personal property revenue $83,520,587 (Auditor of Public Accounts comparative report) less the $57,736,887 Industrial Stimulus Grant rebate (county budget) leaves an actual general-fund keep, vehicles included, of about $25.8 million.
22. Both figures were real in their moments: ninety percent as reported at the 2010 recruitment (The Mecklenburg Sun, August 27, 2010), 82.5 percent as operative by the audited FY2023 financial report's abatement disclosure. County Administrator Wayne Carter quoted the 82.5 figure to The New York Times as early as August 2016; the amending document is in undigitized board minutes.
23. The FY2025 tax levy ordinance, enacted by the Board of Supervisors in May 2024 within the adopted FY2024-25 budget, established computer equipment used in a data center as a separate classification of personal property at $0.66 per $100 of assessed value (Va. Code § 58.1-3506(A)(43), created by 2017 Acts cc. 116 and 447) and simultaneously retired the rebate remittance. The restructuring was roughly revenue-neutral by design.
24. Mecklenburg County FY2027 budget (recommended April 1, 2026; adopted spring 2026): Business Personal Property $63,512,750, 47.5 percent of general-fund revenue, up 71.9 percent over FY2026's $36,950,086; general-fund resources $133.8 million; the county's entire real estate levy is $32.4 million.
25. Cardinal News, April 10, 2025: Microsoft-era revenue helped fund the $154 million combined high school and middle school complex at Baskerville, opened August 2022; three new elementary schools budgeted at roughly $100 million through 2030 on a pay-as-you-go basis; comparator equipment rates Loudoun $4.15, Prince William $3.70.
26. Mecklenburg County news release, April 1, 2026: the real estate rate cut to 31 cents, announced as Virginia's lowest county or city rate, tying the county's 1998 modern-era low; the vehicle personal property rate cut to $2.46, the lowest this century. The 42-cent early-decade rate is carried from budget coverage and flagged for primary verification.
27. Virginia's Local Composite Index, which measures local ability to pay for schools, rebenchmarked in December 2025; Mecklenburg recorded the largest percentage LCI increase in Virginia, costing the school division roughly $4

million a year in state aid that county funds now backfill. Mecklenburg County FY2027 budget.

28. “South Hill forms industrial facilities authority,” The Mecklenburg Sun (SoVaNow), March 12, 2025: the Route 58 Activation Corridor regional industrial facilities authority, formed with South Hill in 2025, with Town Manager Keli Reekes stating the intent of county and town “is to diversify the industrial park space.”
29. Joint Legislative Audit and Review Commission, Data Centers in Virginia, Report 598 (briefed December 9, 2024): industry representatives indicated a typical 250,000-square-foot data center has approximately 50 full-time workers, about half of them contract workers, roughly one worker per 5,000 square feet versus one per 650 at a distribution center.
30. Quentin Hardy, “Data centers bring sprawling facilities, but few jobs, to small towns,” The New York Times, August 2016 (as syndicated August 27, 2016): IBEW business manager E.W. Gregory described construction-era work from entry ditch-digging at $10.88 an hour to wiring at $28.59, jobs lasting about six months with heavy attrition and hundreds of applicants. The same feature is the source for the Carter 82.5 percent figure and the cemetery and “lunch tables” accounts.
31. “500 prospects take part in Microsoft job fair at Advanced Knowledge Center,” The Mecklenburg Sun (SoVaNow), April 23, 2025 (event April 8, 2025): senior director Jeff Bertocci stated Microsoft and its vendors employ around 700 workers in Mecklenburg County, with about 95 openings across eight sites.
32. U.S. Census Bureau decennial counts: Boydton town 431 (2010), 302 (2020), a roughly thirty-percent decline across Microsoft’s first decade.
33. Quentin Hardy, The New York Times, August 2016 (syndicated): Boydton librarian Leigh Lambert’s remark and Mayor Thomas C. Coleman III’s “lunch tables” observation that the campus’s chief contribution to the town’s street life was a couple of lunch tables at a gas station.
34. Seth Freed Wessler, “Developers Found Graves in the Virginia Woods. Authorities Then Helped Erase the Historic Black Cemetery,” ProPublica, December 16, 2022 (authorized reprint, SoVaNow): graves found March 2014 during the third expansion; most legible stone that of Stephen Moseley, died 1930; National Register eligibility finding weakened after involvement by the county, a Microsoft-funded consultant, and state authorities; 37 graves excavated and relocated.
35. Seth Freed Wessler, ProPublica, December 16, 2022: thirty-seven graves located, excavated, and relocated; a county official’s contemporaneous

reassurance, “This is not as bad as it sounds. We should be able to relocate these graves.”

36. U.S. Census data for the Gainesville District, Prince William County: median household income $137,048; district population 70,566; about half of adults hold a bachelor’s degree or higher. Documented in full in the Prince William County case study (Turner 2026), concept DOI 10.5281/zenodo.20673498.
37. The Prince William Digital Gateway: a comprehensive-plan-amendment study corridor of approximately 2,139 acres (CPA2021-00004, Resolution 21-445, initiated July 20, 2021) along Pageland Lane between Conway-Robinson State Forest and Manassas National Battlefield Park, in the headwaters of Catharpin Creek feeding the Occoquan Reservoir. The three rezonings that followed covered approximately 1,760 acres.
38. Board of County Supervisors, November 1, 2022: the Digital Gateway comprehensive plan amendment passed 5-2 along party lines (Wheeler, Angry, Bailey, Franklin, Boddye in favor; Lawson and Weir opposed; Candland recused) after a public hearing of more than fourteen hours with nearly 240 speakers. Court of Appeals of Virginia opinion of July 22, 2025, memorializing the hearing; contemporaneous reporting in DCist/WAMU, Prince William Times, and InsideNoVa.
39. The three Digital Gateway rezonings, covering approximately 1,760 acres and more than 20 million square feet (REZ2022-00036 / Compass, REZ2022-00032 / DG North, REZ2022-00033 / DG South), were approved 4-3-1 in the early hours of December 13, 2023 (yes: Wheeler, Franklin, Bailey, Angry; no: Lawson, Vega, Weir; abstain: Boddye). Prince William County Board of County Supervisors, meeting of December 12-13, 2023.
40. Board of County Supervisors, December 12-13, 2023: the hearing ran twenty-seven continuous hours, with approximately fourteen hours of public testimony from over 200 citizens. Duration confirmed by DCist/WAMU (Margaret Barthel, December 13, 2023), InsideNoVa, and Prince William Times.
41. Gainesville District Supervisor Pete Candland and his wife signed a contract to sell their Pageland Lane property to Compass Datacenters on October 25, 2021; ten days later, on November 4, 2021, Candland joined eighteen other Catharpin Farm Estates homeowners in filing the comprehensive plan amendment application. Commonwealth’s Attorney Amy Ashworth’s opinion letter of May 23, 2022 required his recusal; he resigned effective December 16, 2022 and was working for a data center lobbying firm (LSI Communications) by March 2023.
42. Board Chair Ann Wheeler’s 2023 Statement of Economic Interests (dated January 22, 2023, covering CY2022), Schedule C, discloses a Microsoft

position of $50,001-$250,000; Microsoft is a Digital Gateway data center operator. Prince William County Clerk of the Board disclosure-forms filings, pwcva.gov.

43. VPAP, YES PAC (Supervisor Yesli Vega): $100,000 from Alejandra Duarte Mulhausen (McLean), received March 28, 2025, nine months after Vega's June 4, 2024 vote approving the Mid-County Industrial Park applied for by Jeff Mulhausen / Minnieville Capital Acquisitions; a second $100,000 from Dumfries data center backer Cooley received July 3, 2025. The Prince William Times (May 5, 2025) described the first as likely the largest single contribution to any county supervisor from an individual in county history.
44. Prince William held the data center equipment rate at $1.25 per $100 from roughly 2001 through 2019, then raised it incrementally (TY2020 $1.35 through TY2023 $2.15) and, under the post-2023 board, to $3.70 (adopted April 18, 2024, 7-1), $4.15 (April 22, 2025, 7-1), and $4.50 (April 21, 2026, 5-3), the highest in Northern Virginia against Loudoun's $4.15. PFM Data Center Fiscal Impact Analysis (June 2022); county budget adoption releases, pwcva.gov.
45. Prince William County 2024 Data Center Revenue Report (published June 2025): total data center tax revenue of $293.7 million for Tax Year 2024, a 77 percent increase ($144.2M real property, $147.1M business tangible personal property, of which $123.9M computer equipment). The proposed FY2027 budget presentation (February 17, 2026) forecasts roughly $549.7 million in data center revenue.
46. Prince William County Circuit Court, Judge Kimberly A. Irving, order of August 7, 2025 (Oak Valley plaintiffs, Case CL24-375): the three Digital Gateway rezonings declared void ab initio on two grounds, defective public-hearing advertisements in the Washington Post and application materials not publicly available at first publication.
47. Court of Appeals of Virginia, opinion by Judge Stuart A. Raphael, March 31, 2026 (published; panel Beales, Raphael, Bernhard; unanimous): affirming that the rezonings (Ordinances 23-57, 23-58, 23-59) are void ab initio for failure to comply with Va. Code § 15.2-2204(A) and Zoning Ordinance § 32-700.60; subsection (B)'s actual-notice provision does not excuse the advertising defects, because "The Board's interpretation would invite sandbagging."
48. On April 14, 2026 the Board of County Supervisors voted unanimously not to petition the Supreme Court of Virginia, ending the county's defense at a documented cost of roughly $1.7 million in outside legal fees. Compass Datacenters withdrew April 28, 2026; QTS filed a petition with the Supreme Court of Virginia on April 30, 2026, the only thing keeping the project alive. Prince William Times, April 14, 2026; Virginia Lawyers Weekly, April 22, 2026.

49. Supervisor Bob Weir, closing remarks at the December 12-13, 2023 hearing (transcribed from the archived board meeting video, pwcva.gov): “First law of digging holes is when you find yourself in one, stop digging,” warning that approval would “most assuredly result in lengthy, expensive litigation… paid for with Prince William County tax dollars.” Weir, who voted no, died July 20, 2025, before the rezonings were voided.
50. Board Chair Ann Wheeler, closing remarks at the December 12, 2023 session: she defended the project as “$40 billion dollars of investment in this county which would be transformational,” adding that “most places would kill for that kind of investment.” In a post-vote interview (Sabrina Moreno, “Data mining,” Virginia Business, December 31, 2023) she said, “We’re a county that tries to keep up with the Joneses.”

CHAPTER 11 — Pre-Entitlement by Ordinance: Louisa, Culpeper, Goochland, and Orange

1. Louisa County Board of Supervisors, direction to staff to make the county competitive for technology-sector investment, February 6, 2023, working with Jackson District Supervisor Toni Williams. Documented in full in the Louisa County case study (Turner 2026), concept DOI 10.5281/zenodo.20673455.
2. Louisa County Planning Commission, public hearing of March 9, 2023, reducing staff’s proposed noise limits from 70/65 dBA to 65/60 dBA. The Technology Overlay District is codified at Louisa County Code sections 86-330 through 86-334 (86-335 reserved), with the noise standard at section 86-332(e); the earlier series citation to section 86-455 (corner lots, Industrial district) was erroneous.
3. Louisa County Board of Supervisors, Ordinance 2023-6, April 3, 2023, adopting the Technology Overlay District 6-1, Cuckoo District Supervisor Willie Gentry dissenting. The companion amendment writing the 65/60 dBA limits into Chapter 51 of the county noise ordinance passed 6-1 the same night, Gentry voting no on both because he wanted the limits stricter.
4. Engage Louisa, April 10, 2023, reporting nine speakers (most opposed or concerned) and the Lake Anna Civic Association’s objection to the adoption speed.
5. Louisa County Code section 86-331 (siting rule: 125 contiguous acres, proximity to 115 kV-or-greater transmission, district capped at one percent of county land, 3,266 acres).
6. Louisa County Code section 86-332, performance standards: 65/60 dBA noise, 200-foot residential and 300-foot agricultural buffers, 150-foot road buffer, 80-foot height cap, dark-sky lighting (0.50 foot-candle maximum), and 20 percent open space per contiguous parcel group.

7. Compare Louisa County Board of Supervisors April 3, 2023 agenda packet, attachment 9.6.c (drafted February 7, revised March 10, showing 70/65 dBA and a uniform 200-foot buffer), with the county DocumentCenter "as approved" text (View/9955), file edit date April 6, 2023, showing 65/60 dBA and a 300-foot agricultural buffer. The minutes record no floor amendment to either figure.
8. Louisa County, "Technology Overlay District (TOD)" explainer and Engage Louisa, April 10, 2023: roughly 6,400 acres across approximately 100 parcels in six contiguous groups, with the Green Springs National Historic Landmark District, the Trevilian Station battlefield, agricultural and forestal districts, and the towns deliberately excluded.
9. Louisa County press release, "Amazon Web Services announces plan to invest $11 billion in Louisa County by 2040," August 30, 2023, announcing the Lake Anna Technology Campus and the North Creek Technology Campus; the site contractor filed water-quality permits September 1, 2023.
10. Louisa County Board of Supervisors, performance agreement with Amazon Data Services approved 7-0, September 5, 2023, "subject to future amendment." Per Engage Louisa (October 20, 2025), the executed Economic Development Local Performance Agreement of November 28, 2023 (never publicly posted) returns infrastructure grants rising from 15 percent of incremental revenue up to $11 billion to 30 percent above $30 billion.
11. Louisa County Board of Supervisors, minutes, September 18, 2023, adopting 7-0 an alternative personal property rate for data center equipment under Virginia Code section 58.1-3506(A)(43) of $1.25 per $100, with a depreciation schedule assessing equipment at 50 percent of original cost in year one, declining to 5 percent from year five.
12. Louisa County Board of Supervisors, water and sewer service agreements approved 7-0, December 18, 2023, bearing the watermark "Amazon Confidential": Lake Anna at 1,370 gpm peak cooling, North Creek at 3,522 gpm. The board added $87.9 million to the FY2025 budget in November 2024 for the pump station, water lines, and sewer infrastructure.
13. Louisa County Board of Supervisors, Ordinance 2024-11, August 5, 2024, adopted unanimously: removed the Shannon Hill and Gum Spring assemblages (roughly 2,000 acres) and converted every Technology Overlay District use from by-right to conditional use permit (section 86-333 retitled "Permitted uses with the issuance of a conditional use permit").
14. Amazon Data Services, conditional use permit CUP2025-05 (with companion subdivision and six special exceptions) filed May 2025 for a third campus of up

to 7.2 million square feet and seven substations on nine Fisher Chewning parcels totaling 1,353.19 acres north of the Northeast Creek Reservoir.

15. Resident comment quoted in Engage Louisa, July 14, 2025, during the third-campus opposition campaign; the Louisa County Technology Discussions Facebook group reached roughly 500 members within weeks, the Town of Mineral committed to formal opposition July 14, and about a hundred people gathered at Mineral Baptist Church on July 24, 2025.
16. Charles W. Payne Jr. (Hirschler) to Louisa County deputy planning director, withdrawal letter, July 23, 2025, withdrawing CUP2025-05 and asking that all application materials be returned to the law firm; the $11 billion commitment and both campuses under construction were unaffected.
17. Louisa County GIS parcel records and Engage Louisa (January 2026): three deeds recorded in Deed Book 2058 totaling $72,452,434 for roughly 1,925 acres (Fisher Chewning assemblage $54,013,753; Mine and Hemmer tract $17,529,321; six small Route 22 parcels $909,360), grantee Amazon Data Services Inc., combined assessed value near $3.7 million; the company told the local press the purchase “supports water infrastructure needs.”
18. Louisa County Planning Commission minutes: February 12, 2026 (7-0) and April 9, 2026 (5-2, Goodwin and Kersey dissenting), each pulling the public hearing on the board’s January 20, 2026 direction to consider removing Fisher Chewning and the Cooke Rail Park from the district, after a closed session under the legal-counsel exemption of Virginia FOIA.
19. Louisa County’s Shannon Hill buildout: 697 acres bought for $2.6 million (2018-2019), rezoned 2019 with proffers allowing data centers by right, then roughly $29.5 million in utilities (a $5.6 million water tank and booster station, a $27.58 million water-and-sewer main contract), funded by $13.6 million in state site-readiness grants and a $17 million debt issuance; as late as December 2024 no business had located there.
20. Louisa County Industrial Development Authority sale of the 697-acre Shannon Hill Regional Business Park to EDI Louisa 1, LLC (EdgeCore) for $42 million, closing June 24, 2025; EdgeCore’s June 25, 2025 release announced a $17 billion-plus campus supporting more than 1.1 gigawatts, served by Rappahannock Electric Cooperative and closed-loop cooled. As of the June 2026 snapshot the buyer had built nothing.
21. Louisa County Board of Supervisors, FY2027 budget adopted 7-0, April 27, 2026 ($201 million), cutting the individual personal property rate from $2.43 to $2.07 (a 15 percent reduction) credited to data center growth, with the chairman advocating elimination of the car tax within four years.

22. Documented in full in the Louisa County case study (Turner 2026), concept DOI 10.5281/zenodo.20673455.
23. Dominion Energy presentation to the Culpeper County Board of Supervisors, May 19, 2026, reporting 2,435 MW of county delivery-point requests; the 12-13 million-square-foot range reconciles Virginia Mercury (eight approved campuses, April 2026), PEC (over 10 million sq ft), and an August 2024 Culpeper Times survey (over 13 million sq ft).
24. Culpeper County consolidation of five legacy technology zones into the single 690-acre Culpeper Technology Zone along McDevitt Drive (begun 2021), wrapped around the Mount Pony Federal Reserve facility (the "Culpeper Switch," 1969), SWIFT, the Equinix/Terremark colocation campus (2007-08), a wastewater plant, and a rail line; data centers were made a by-right use inside the zone with a 40 percent five-year rebate and a 75-foot height allowance.
25. Culpeper County Board of Supervisors, rezoning of the Magnolia Equestrian Center (roughly 243 acres on Route 3 at Stevensburg) for an AWS subsidiary, Marvell Developments LLC, approved 4-3 on April 5, 2022, after the Planning Commission recommended denial 5-4 on March 9, 2022; six adjoining landowners sued in May 2022 alleging illegal spot zoning.
26. Culpeper County Board of Supervisors, January 3, 2023, eliminating the Brandy Station Technology Zone (stripping incentives from David Martin's 351.77-acre parcel) after the Planning Commission unanimously recommended denial of his AttoTek data center proposal; the Planning Commission again recommended denial unanimously on June 12, 2024 of his return XX Tech Park application (425.96 acres, 4.6 million square feet), withdrawn before a board vote.
27. Three-judge panel final order, March 28, 2012, approving the Voluntary Settlement Agreement between the Town and County of Culpeper: the town serves a designated service area at in-town rates, capped at 1.5 million gallons per day over thirty years, with the town foregoing city status for thirty years.
28. Town of Culpeper Council, special meeting October 28, 2025, unanimously approving an electric service premise agreement releasing the municipal utility's obligation (roughly 5,900 meters) and letting Dominion serve the Culpeper Technology Campus and Copper Ridge; the town manager explained serving the campuses "would make it such that we almost had only one customer."
29. Town of Culpeper Council, October 28, 2025, minimum revenue agreement with STACK guaranteeing at least $1.5 million per building per year for fifteen years from first occupancy, the developer paying any shortfall against tangible

personal property collections; thirteen planned buildings make the floor $19.5 million a year.

30. Town of Culpeper, Unified Development Ordinance adopted October 14, 2025, with a data center overlay effectively prohibiting new data centers in town; in the November 4, 2025 election voters defeated anti-data-center mayoral challenger Jon Russell 54 to 45 percent.
31. Culpeper County Board of Supervisors, September 2, 2025, voting unanimously to require a conditional use permit for data centers on all light- and heavy-industrial land (roughly 2,200 light-industrial and 867 heavy-industrial acres), exempting the technology zone where five approved projects were deemed vested; two months later voters replaced three of seven supervisors.
32. Culpeper County Board of Supervisors, resolution opposing the Valley Link 765-kV line and Yeat substation relocation adopted 6-1 on April 7, 2026, followed by a June 2, 2026 letter asking PJM to reject the relocation of the substation hub to an 88-acre Richardsville site; a supervisor answered the diffusion logic: “If Northern Virginia needs all this power, tell them to put a power source up there.”
33. Culpeper County data center equipment rate of $3.50 per $100 (no discounted class; combined town levy roughly $4.50), against a zone incentive of a 40 percent five-year rebate. Documented in full in the Culpeper County case study (Turner 2026), concept DOI 10.5281/zenodo.20673529.
34. STACK-funded reclaimed-water system (two-million-gallon tank beside the town wastewater plant supplying cooling effluent to the Culpeper Technology Campus), estimated at $10-11 million in 2024 and reported at $30.1 million by April 2026, fully developer-funded.
35. Goochland County Board of Supervisors, Technology Overlay District (CP-2025-00002, ZOA-2025-00001) and Technology Zone (Ordinance No. 6453), adopted 4-1, November 6, 2025, after a hearing at Goochland High School running past midnight: roughly 4,400 acres along the Route 288 corridor, by-right data centers across most of the district (CUP in TOD West), with small modular reactors by CUP; no speaker supported it, and the county had received more than 1,000 emails, the vast majority opposed.
36. Cynthia Haas, Peggy Knisley, Virginia H. Reed, and Gail A. Minnick v. Goochland County, filed Goochland County Circuit Court December 4, 2025 (28 days after adoption, within the Virginia Code section 15.2-2204(E) window), alleging defective advertisement, internal inconsistency and excessive delegation, and a material difference between advertised and

adopted versions; the county allocated $250,000 for outside counsel (Gentry Locke) on February 3, 2026.

37. Goochland County board priority of a 70/30 residential-to-business revenue split (set January 2024); data center equipment classification created April 2019 at $0.40 per $100 (against $3.75 for ordinary business equipment), now $0.44, re-adopted unchanged in the CY2026 rate resolution of April 14, 2026.
38. Goochland County, November 6, 2025: staff presented a clarification applying TOD standards where a by-right data center adjoins residential land (Section 15-448.B(3)), and Supervisor Charlie Vaughters moved floor amendments converting the generator sound-mitigation menu from options into an all-of-the-above mandate; Supervisor Jonathan Lyle (the lone no vote) objected, “I would have liked to have seen this before tonight,” and his motions to defer and to strip TOD West each died without a second.
39. Goochland TOD litigation: in spring 2026 the plaintiffs voluntarily withdrew Count VIII (arbitrary and capricious), abandoning the deferential-review battlefield and concentrating the case on procedure under Glazebrook v. Board of Supervisors of Spotsylvania County (2003).
40. Goochland County Circuit Court (Judge Timothy K. Sanner), ruling of May 26, 2026, denying the county’s motion to admit its full roughly 8,500-page legislative record and ordering a pared-down set germane to the case; the demurrer is set for argument October 20, 2026. The ruling concerns the record, not the merits.
41. Tract, conditional use permit application for “Tuckahoe Technology Park,” filed June 10, 2026: roughly 900 acres across thirteen Haddock, Stern, and Arenstein parcels in TOD West, twelve data center buildings; filed fourteen days after Hanover’s May 27, 2026 rejection of Tract’s Mountain Road campus.
42. Henrico County Supervisor Misty Roundtree (Three Chopt), speaking against the ordinance at the November 6, 2025 Goochland hearing alongside Supervisor Jody Rogish (Tuckahoe), whose districts abut the corridor and whose county supplies Goochland’s water. Documented in full in the Goochland County case study (Turner 2026), concept DOI 10.5281/zenodo.20673467.
43. KEG Associates III, application (March 2021) to rezone roughly 2,602 acres near Routes 3 and 20 beside the Wilderness Battlefield to Planned Development-Mixed Use (Wilderness Crossing); the master plan allocates 732 acres to data centers and contemplates 5,000,000 square feet at a projected 1,500 megawatts.

44. Piedmont Environmental Council VFOIA action (petition for writ of mandamus filed November 9, 2023; county production December 2023; suit concluded January 2024), confirming that ten Orange County officials, including board members, signed NDAs "for the benefit of Amazon.com, Inc. and its affiliates" as early as April 2022, internally styled "Project Tricycle."
45. Orange County Board of Supervisors, rezoning approval (Wilderness Crossing), April 25, 2023, 4-1, with thirty-seven speakers in opposition; the Planning Commission had recommended approval 3-1 on March 23, 2023 (29 of 30 speakers opposed), and the plaintiffs allege the proffer statement was revised between the two hearings.
46. American Battlefield Trust et al. v. Board of Supervisors of Orange County, Case No. CL23000178-00 (filed May 24, 2023); Judge David B. Franzen, 17-page opinion of September 16, 2025, allowing four of seven counts to proceed: plan differing fundamentally from the version reviewed, inadequate hearing process, failure to study historic-resource impacts, and an equal-taxation challenge to deferred rollback taxes. Venue remained unresolved as of the June 2026 snapshot.
47. Orange County Board of Supervisors, ZTA 25-02 (Ordinance No. 251216-PH2), adopted 5-0, December 16, 2025, creating a Technology (T) District as a floating zone requiring a special use permit per project and prohibiting potable, Rapidan River, and groundwater for data center cooling; as of June 2026 no parcel had been rezoned into it.
48. Orange County Board of Supervisors, ZTA 26-01 (Ordinance No. 260428-5A), adopted 5-0, April 28, 2026 (initiated January 13, tabled April 14 for Supervisor Capelle's definition amendment), removing data centers as a by-right use from all districts and defining any facility exceeding 10,000 square feet in aggregate as a data center permitted only by special use permit in the Technology District, "regardless of how it is characterized"; the adopted ordinance and staff reports make no mention of Wilderness Crossing, vested rights, or grandfathering.
49. Town of Orange Council, Ordinances 2026-02 and 2026-03 (February 17, 2026) removing data centers as a by-right use in the Traditional Town Center and requiring a special use permit elsewhere, and Ordinance 2026-05 (April 20, 2026, adopted 2-1 with two members absent) adopting a single-paragraph data center definition with no size floor and no megawatt threshold; the Data Center Policy supplying SUP review criteria was deferred. Documented in full in the Orange County case study (Turner 2026), concept DOI 10.5281/zenodo.20672496.

CHAPTER 12 — The Fall Line: A Natural Experiment in Five Governments

1. Fredericksburg Regional Alliance member jurisdictions, uniform business tangible personal property tax rate on data center computer equipment of $1.25 per $100 of assessed value with matching depreciation schedule, 2018; Stafford codified its rate in 2019 explicitly matching Prince William. The originating instrument (compact, parallel ordinances, or memorandum) is unverified and a research target. Documented in full in the Fredericksburg-region case study (Turner 2026), concept DOI 10.5281/zenodo.20673542.
2. Rappahannock Electric Cooperative, 2024 data center forecast, PJM Load Analysis Subcommittee materials, October 25, 2024 (approximately 20,000 MW of ramp-load requests; 2040 forecast revised from 3.3 GW to nearly 17 GW).
3. Rappahannock Electric Cooperative chief executive, remarks to Spotsylvania County officials, September 2025; reported in Fredericksburg Free Press, “REC’s CEO: One data center requires as much power as entire current customer base,” September 26, 2025.
4. Virginia State Corporation Commission, order in Dominion Energy Virginia rate case, November 25, 2025, creating the GS-5 class for loads of 25 MW and above (minimum-demand payments and exit fees), effective January 1, 2027; reported in Virginia Mercury, November 25, 2025.
5. Spotsylvania County Board of Supervisors, comprehensive plan amendment, July 11, 2023 (adopted 5-0), steering data centers inside the Primary Development Boundary and tying siting to public water and sewer.
6. Spotsylvania County Board of Supervisors, rezoning approvals of four Amazon Data Services campuses, October 2023: Summit Crossing (231 acres, 2.1M sq ft), Carter’s Store (313 acres, 2.6M sq ft), Cosner (329 acres, 1.9M sq ft), and the Spotsylvania portion of the Orrock/Woodford campus (~158 acres). Per-campus roll calls are unpublished and a research target.
7. Spotsylvania County Board of Supervisors, Amazon performance agreement, December 12, 2023 (approved 5-2, Yakabouski and Hayes dissenting): Amazon commits at least $6 billion of investment; county grants back up to $93 million (ten percent of infrastructure spending) funded from data center tax revenue; county projection ~$13.8 million per year over fifteen years beginning 2025.
8. PowerHouse Data Centers (American Real Estate Partners), PowerHouse 95: land closing January 23, 2024 (145 acres, I-2 zoning), up to 3.5 million sq ft in eight buildings, 800 MW across three planned substations; first 300 MW substation under development. Proceeded by right with no rezoning hearing before the Spotsylvania County Board of Supervisors.

9. Spotsylvania County and Caroline County Boards of Supervisors, Economic Growth Sharing Agreement for the Mattameade/Orrock campus, joint resolution November 2024 (Spotsylvania November 12); Commission on Local Government final report, December 2, 2024. Split 57.5% Caroline / 42.5% Spotsylvania; Spotsylvania share projected $371.1 million over forty years; Spotsylvania separately committed $116.7 million in water and wastewater infrastructure (Amazon-reimbursed).
10. Spotsylvania County Board of Supervisors, motion to require a special use permit for data centers, failed on a deadlocked vote, March 2025 (after the planning commission's 6-1 recommendation to keep data centers by right in industrial districts). Reported in Fredericksburg Free Press, March 26, 2025; meeting date inferred from publication.
11. Spotsylvania County Board of Supervisors: interim design standards adopted unanimously August 12, 2025 (1,000-foot setback, 75-foot height cap); final standards adopted 4-3 on December 9, 2025 (Childress, Frazier, Mullins, Marshall for; Hayes, Lane, Yakabouski against; Fredericksburg Free Press, December 10, 2025), cutting the residential setback to 400 feet with a 300-foot vegetated buffer and grandfathering all rezonings approved since January 1, 2022.
12. Spotsylvania County election, November 4, 2025: Berkeley District, David Goosman (oversight challenger) 4,130 votes to incumbent Kevin Marshall's 2,420 (third candidate 2,072); Lee Hill, incumbent dissenter Lori Hayes re-elected 4,306 to 2,972. Reported in Fredericksburg Free Press, November 4, 2025.
13. Spotsylvania County Board of Supervisors, ordinance requiring a special use permit for all new data centers in every zoning district (industrial included), adopted 4-3 at the board's February 24, 2026 meeting (date inferred from the Fredericksburg Free Press report of February 25, 2026), Hayes, Goosman, Yakabouski, and Lane in the majority, Childress against, the other two votes against not named. Companion development guidelines dated February 24, 2026. Six applications were pending when the board moved toward the permit requirement on January 13, 2026 (Free Press, January 14, 2026). The ordinance's grandfathering terms are an open item.
14. Spotsylvania County planning and zoning director, statement to the planning commission, July 2025, that the county's recycled-water supply for data center cooling was at capacity and fully committed to the approved pipeline; developers without applications on file could not count on cooling commitments. Reported in Fredericksburg Free Press, July 17, 2025. The Amazon-funded reuse system on the Massaponax WWTP targets first service in 2028.

15. Stafford County Board of Supervisors, Resolution R23-214 (comprehensive plan amendment) and Ordinance O23-24, October 17, 2023, defining “data center” in the county code and making it a by-right use in the M-2 heavy industrial district with performance standards (100-foot setbacks inside the Urban Services Area, 200 feet outside, 50-foot vegetated buffer).
16. Stafford County Board of Supervisors, Stafford Technology Campus rezoning (Eskimo Hill Road), approved 6-1 on September 17, 2024 (supervisor Crystal Vanuch dissenting): roughly 504 acres rezoned to M-2, up to 23 buildings and 5.5-5.8 million sq ft, over a gigawatt of planned capacity served by six 300 MW Dominion substations; $58 million in proffered water and sewer improvements and a cap of one million gallons per day of potable cooling water until a reuse system opens. STACK Infrastructure acquired the project (announced January 2025).
17. Stafford County Board of Supervisors, Amazon Data Services performance agreement (Old Potomac Church Road campus, ~510,000 sq ft), approved unanimously January 2, 2024 (term to 2051); Amazon funds an industrial water-reuse facility at the Aquia wastewater treatment plant, designed to become the primary cooling source for the corridor’s campuses (targeted 2027). Reported capital figures ($150M-$300M) conflict and are a research target.
18. Stafford County Board of Supervisors, rejection of conditional use permit requirement for data centers in M-2, 4-3 on March 18, 2025 (planning commission had recommended it 4-2 in February 2025), the majority reasoning the restriction would chill investment.
19. Stafford County Board of Supervisors, Ordinance O25-29, adopted October 21, 2025: a 750-foot setback from data center buildings to residences, schools, and the Rappahannock and Potomac rivers, enhanced buffers, and operational noise controls; the most stringent standard in Virginia at adoption. Ordered after a May 20, 2025 meeting drew enough opposition that the board unanimously called a full regulatory review; citizen group Protect Stafford gathered more than 2,500 signatures.
20. Stafford County Board of Supervisors, reordination of the setback ordinance as O25-29(R), adopted unanimously December 2, 2025 after a joint hearing with the planning commission that ran past 2:30 a.m., formally grandfathering all five approved campuses under the standards in force when approved.
21. Stafford County’s largest data center proposal (the county’s sixteenth), roughly 845 acres near Kings Highway in the George Washington District, approximately 11 million sq ft; at the Stafford County Board of Supervisors’ June 2, 2026 meeting residents pressed health objections, one calculating annual particulate emissions from the project’s permitted diesel generators. A

separate Potomac Creek Campus deferral turned partly on a cemetery the county's staff report described as holding "18 or more" unmarked graves of people enslaved by the Seddon family (FXBG Advance, April 21, 2026). In late May the planning commission voted 5-0 to recommend that the board deny key approvals for the Potomac Creek Campus (Potomac Local, June 1, 2026).

22. Stafford County Board of Supervisors: supervisor Vanuch's March 2026 motion to double the data center equipment rate to $2.50 failed with only one other vote (Fredericksburg Free Press, March 4, 2026); eight weeks later the board raised the general real estate rate from $0.9236 to $0.9675 per $100 (a homeowner increase of more than four cents), adopted 4-3, leaving the equipment rate untouched. Potomac Local News headline: "Stafford Shields Data Centers from Tax Hike, Targets Homeowners." The county's September 2025 budget materials had already advised that if the anticipated data center projects did not materialize the bond rating would likely be in jeopardy.
23. Caroline County Board of Supervisors, adoption of the Planned Innovation Research and Technology Park (PIRT) district for parcels of 75 acres or more, October 10, 2023; PIRT rezoning of the Mattameade/Amazon campus area October 24, 2023 (enabled by a June 2023 comprehensive plan amendment). The eleven-building, ~4.5 million sq ft Caroline-side campus straddles the Spotsylvania line; the growth-sharing agreement gives Caroline 57.5 percent of local tax revenue.
24. CleanArc Data Centers, former Virginia Bazaar flea-market site at Carmel Church (roughly 650 acres of M-1 industrial land at I-95 exit 104), proceeded on site plans alone as a by-right M-1 use, no rezoning hearing held. Caroline County Board of Supervisors amended the ordinance to require a special exception for data centers in M-1 on December 10, 2024, grandfathering CleanArc's prior filings.
25. Caroline County Board of Supervisors, CleanArc performance agreement, August 12, 2025 (approved over one dissent, supervisor Sili): rebating 25 percent of the project's new real estate and personal property tax revenue for fifteen years against an estimated $13 million per year in new revenue (~17 percent of the county general fund); planned capacity 900 MW. Governor Youngkin attended the groundbreaking at Ruther Glen November 20, 2025.
26. Caroline County Board of Supervisors, denial of the VALCO Mt. Airy proposal (roughly 250 acres west of I-95) and the related westward growth-area expansion, 5-1 in June 2024 (Madison District supervisor in favor); the planning commission had rejected it twice. Stated logic spatial: the county had already zoned land east of the interstate and saw no reason to expand the map westward.

27. Virginia DEQ, Virginia Water Protection permit application, Caroline County Rappahannock River intake: original request up to 13.9 million gallons per day, ~35 miles of pipeline crossing a watershed divide so withdrawn water discharges toward the Mattaponi, with 2.63 MGD identified for data center cooling. A September 25, 2024 DEQ hearing drew more than 200 people, all sixty speakers opposed.
28. Caroline County Board of Supervisors, unanimous vote November 2024 to strip all industrial-cooling language and reduce the withdrawal request to 9 million gallons per day, municipal use only; Virginia DEQ issued the fifteen-year VWP permit in late 2025 (9 MGD, stepping down to 7 under drought warning and 6 under drought emergency; reported December 10, 2025).
29. Rappahannock Tribe appeal of the Caroline County VWP permit, filed January 21, 2026, asserting (among other grounds) violation of rights reserved under the Treaty of Middle Plantation of 1677. Richmond County Circuit Court, ruling of June 8, 2026, denying the motions of DEQ and Caroline County to dismiss the treaty and reserved-rights claims and ordering briefing within thirty days; a separate Virginia Marine Resources Commission hearing was set for June 23, 2026.
30. Birchwood Power Facility, a roughly 258 MW coal-fired cogeneration plant near Sealston in King George County, operated 1996 to retirement on March 1, 2021; demolition left a Dominion transmission substation, a rail spur, a water retention pond, and a DEQ permit to withdraw 6.6 million gallons per day from the Rappahannock River, valid through 2034.
31. King George County Board of Supervisors, September 5, 2023 (after a five-hour meeting): approval of the comprehensive plan amendment, rezoning from agricultural to industrial, proffer amendment (more than $2 million in cash proffers), and special exception for the Amazon/Birchwood application (869 acres across nine parcels, up to nineteen buildings and 7.25 million sq ft, up to $6 billion invested by 2040). Certified roll calls are a research target.
32. Amazon Data Services purchase of the Birchwood parcels for $168.8 million, December 2023; the outgoing King George County Board of Supervisors approved a performance agreement carrying the $1.25 per $100 equipment rate against the county’s standard $3.25, a ten-percent infrastructure rebate, and a term to 2051 (county-commissioned projection: $18.6 million annual revenue, more than $560 million over thirty years).
33. King George County election, November 2023, returning a data-center-skeptic board majority (seated January 2024 under chair T.C. Collins); the new board voted to reconsider the Amazon performance agreement (Data Center Dynamics, January 5, 2024) and in April 2024 voted unanimously to send a letter asking the planning commission to reconsider the rezoning of more than

500 acres in six parcels from industrial back to agricultural, excluding the 317 acres on the Birchwood power plant site (Fredericksburg Free Press, April 3, 2024); the outcome is an open item.

34. King George County Board of Supervisors chair T.C. Collins, March 2024 meeting: “Amazon, are you listening? Because I know we’re getting ready to go to war here.”
35. Amazon Data Services, 878-page vested-rights petition filed in King George County Circuit Court, April 24, 2025, after the zoning administrator declined to issue a vested-rights determination and the Board of Zoning Appeals unanimously upheld the non-determination (March 2025). Trial, continued once at the county’s request, was set for September 28-29, 2026. King George County, “Agreement Reached on Data Center Campus,” news release, September 29, 2026: “mutual agreement”; vested rights and the riverfront commitment as quoted; $10 million to the county’s Career and Technical Education School. The agreement’s text, any board vote on it, and any court order have not been reviewed.
36. King George County Board of Supervisors, unanimous approval of Dahlgren West (Oasis Digital Properties), August 2025: roughly 485 acres, up to ten buildings and approximately 6.8 million sq ft, 1.2 gigawatts of planned IT capacity, to be cooled with reclaimed groundwater; rode on 2025 height/access exception ordinances O-11-25 and O-12-25. County projected $100-120 million in annual tax revenue.
37. King George County Board of Supervisors, February 17, 2026, approval 3-2 (over the planning commission’s 6-2 negative recommendation) of Green Energy Ventures’ King George Technology Center (Route 3 and Bloomsbury Road, ~300-356 acres, thirteen buildings, 7.2 million sq ft, no water cooling planned); adjacent grower Horti-Group USA sued in circuit court alleging a Chesapeake Bay Preservation Act violation and comprehensive-plan inconsistency.
38. City of Fredericksburg, Technology Overlay District (Ordinance 25-02): roughly 250 acres of Celebrate Virginia South overlaid with by-right data center entitlement; the planning commission recommended denial 4-3 (February 12, 2025) after a meeting of more than five hours, and the Fredericksburg City Council advanced the ordinance 7-0 on February 25, 2025 (second reading March 11, 2025). Potable water prohibited for permanent cooling; any cooling supply requires a separately negotiated water service agreement approved after a public hearing.
39. Silver Companies and STACK Infrastructure, announcement (the week of the overlay vote, February 2025) of a potential $10 billion campus of eight to twelve buildings on the Celebrate Virginia South overlay acreage; city

projection up to $60 million per year at full buildout. As of June 12, 2026 the project remained in entitlement with the water agreement and Dominion transmission delivery outstanding and no groundbreaking reported.

40. Author's sum of reported capacities for the approved campuses carrying a published megawatt figure: PowerHouse 95 (800 MW), SpotsyTech (295 MW), Stafford Technology Campus/STACK (1,000+ MW), Vantage VA4 (192 MW), Mattameade/Amazon (770 MW), CleanArc VA1 (900 MW), AVAIO Carmel Church (300 MW), Dahlgren West (1,200 MW) = 5,457 MW. A floor, not an estimate: it omits every approved campus without a published figure.

CHAPTER 13 — The Frontier: When the Operator Builds the Plant

1. Commonwealth Fusion Systems, "Google and Commonwealth Fusion Systems Sign Strategic Partnership Agreement to Commercialize Fusion Energy," press release, June 30, 2025; Google, The Keyword (blog), June 30, 2025. The 200 MW figure represents half of the ARC plant's projected 400 MW output. CFS characterizes it as the largest corporate fusion power purchase agreement ever executed. Some trade coverage dates the deal "July 2025" from later coverage cycles; the announcement date is June 30, 2025. Documented in full in the Google–CFS power purchase agreement case study (Turner 2026), concept DOI 10.5281/zenodo.20679935.
2. CFS site materials and Chesterfield County zoning record: the ARC plant sits at 1201 Battery Brooke Parkway on land owned by Dominion Energy Virginia, with grid connection through an overhead line and switchyard interconnecting to Dominion facilities. Dominion provides technical and development support under a joint development agreement, but the plant is not a Dominion asset; CFS is developer, owner, and operator.
3. Commonwealth Fusion Systems press release, June 30, 2025: "An investor in CFS since 2021, Google also is deepening its relationship with CFS by increasing its stake in the company. Financial terms weren't disclosed." Google's investment dates to the 2021 Series B round, with the increased stake landing formally in the August 2025 Series B2 round.
4. Commonwealth Fusion Systems, "Commonwealth Fusion Systems Raises $863 Million Series B2 Round," press release, August 28, 2025. Participants included Google, NVentures (Nvidia's venture arm), Eni, Gates Frontier, Counterpoint Global, and a consortium of Japanese investors led by Mitsui & Co. and Mitsubishi Corp.
5. Eni and Commonwealth Fusion Systems, "Eni and Commonwealth Fusion Systems Sign $1 Billion+ Power Purchase Agreement, Expanding Strategic Partnership to Commercialize Fusion Energy," joint press release, September 22, 2025. The ">$1 billion" figure is company-stated; financial terms,

megawatt quantity, and contract term were not disclosed. Eni's investment in CFS dates to 2018 and its technological Collaboration Framework Agreement to 2023.

6. The only public volume signal is CFS's own same-day statement that Google's 200 MW plus Eni's undisclosed share together commit "more than half" of the plant's 400 MW. Rick Needham (CFS Chief Commercial Officer), "Fusion forward: CFS signs second power plant customer in 3 months," The Tokamak Times (CFS blog), September 22, 2025.
7. MIT Technology Review, September 22, 2025: on the announcement press call, Eni's director of technology, research & development and digital stated Eni would resell the power as it does its other U.S. generation.
8. Commonwealth Fusion Systems, "Commonwealth Fusion Systems Becomes First Fusion Company to Apply to PJM Interconnection," press release, April 28, 2026; Ben Byboth, "Going to the grid: CFS applies to plug our first ARC fusion power plant into PJM," The Tokamak Times (CFS blog), April 28, 2026. The name references the geological boundary where the Piedmont drops to the Tidewater coastal plain and produces the rapids on the James River.
9. CFS Chesterfield CUP application and county zoning record: the facility is planned for a 94-acre site at 1201 Battery Brooke Parkway in the James River Industrial Center, on land owned by Dominion Energy Virginia, with CFS holding an option-to-lease. Early announcement materials (December 2024) described a 100-acre parcel; the 2025 county zoning record says 94 acres, the figure used here. Total project cost of $2.5 billion is CFS's estimate, implying roughly $6,250/kW before financing, operations, and decommissioning.
10. CFS technical specifications. Developer claim; output unconfirmed until operation. "Firm" denotes a plant that can run continuously and dispatch power around the clock without dependence on weather, battery storage, or grid-balancing mechanisms.
11. Chesterfield County Board of Supervisors, unanimous CUP approval, September 17, 2025, following an equally unanimous Planning Commission endorsement the week of August 18, 2025. "World's first Conditional Use Permit for a commercial fusion power plant" is CFS's characterization (April 28, 2026 release). No significant local opposition documented. The full land-use record is in the companion county study (Turner, Chesterfield County, v3.0, June 2026).
12. U.S. NRC, "Regulatory Framework for Fusion Machines," proposed rule, 91 Fed. Reg. (Feb. 26, 2026); comment period closed May 27, 2026; rule not final as of the evidence date. Comment-period dates per American Nuclear Society reporting of the Federal Register notice.

13. Dominion Energy Virginia, 2024 Integrated Resource Plan, filed October 15, 2024 (Case No. PUR-2024-00184): data center metered load reaching 13,353 MW by 2038, with 5.5 percent annual peak demand growth through 2039.
14. Dominion Energy Virginia, 2025 Integrated Resource Plan Update, filed October 15, 2025 (Case No. PUR-2025-00184), using the 2025 PJM Derived Load Forecast at the SCC's directive: demand roughly doubling by 2045; about 33 GW of new generation over 20 years (53% solar, 25% gas, 10% wind, 6% storage, 6% SMR). Dominion's own filing concludes the mandatory full-VCEA-retirement portfolio is not viable on reliability and cost grounds. No SCC order on the update as of the evidence date.
15. PJM Interconnection, 2025/2026 Base Residual Auction Report, July 30, 2024: DOM zone cleared at $444.26/MW-day against a prior-year DOM clearing of $28.92/MW-day (Monitoring Analytics, 2025 State of the Market Report for PJM, Table 5-21), an increase of 1,436 percent. Dominion Energy Virginia was under the Fixed Resource Requirement alternative for the 2022/2023 through 2024/2025 Delivery Years and returned to RPM for 2025/2026, so its own load did not pay the 2024/2025 RPM price. The Rest-of-RTO increase over the same years was $28.92 to $269.92, or 833 percent. PJM's Independent Market Monitor (Monitoring Analytics) attributed $9.3 billion, or 63 percent, of the total cost increase to data center load.
16. Monitoring Analytics (PJM Independent Market Monitor), attributing $9.3 billion (63 percent) of the total capacity-cost increase to data center load. The two subsequent auctions both cleared at the FERC-approved price cap: $329.17/MW-day RTO-wide for 2026/27 (July 22, 2025) and $333.44/MW-day for 2027/28 (December 17, 2025, procuring 134,479 MW at roughly $16.4 billion). FERC extended the price collar to the next two auctions on April 28, 2026.
17. Virginia SCC, Final Order and news release, Case No. PUR-2025-00058 (Dominion biennial review), November 25, 2025: approved revenue increases of $565.7M (2026) and $209.9M (2027) against $822M/$345M requested; typical residential bill increase of $11.24/month in 2026 and a further $2.36/month in 2027; ROE 9.8 percent.
18. Virginia SCC, Final Order, Case No. PUR-2025-00037, November 25, 2025: CPCN granted for the Chesterfield Energy Reliability Center, approximately 944 MW nominal, with Rider CERC, resting on a finding that the grid faces reliability shortfalls during extreme weather as early as 2029. Capital cost roughly $1.47 billion and in-service target June 1, 2029, per Virginia Mercury and WTVR reporting of the order.
19. Virginia SCC, Order on Reconsideration, Case No. PUR-2025-00037, February 12, 2026 (petition denied). Southern Environmental Law Center, press release,

May 27, 2026: petition for appeal filed with the Supreme Court of Virginia on behalf of the Chesterfield County NAACP, Appalachian Voices, and Mothers Out Front, arguing among other things that the approval failed the Virginia Environmental Justice Act; a parallel challenge to the DEQ air permit is pending in Richmond Circuit Court. Full docket history in the companion county study.

20. Google 24/7 carbon-free energy commitment, corporate sustainability materials; a senior Google executive reaffirmed in May 2026 that the 2030 goal stands (Bloomberg, May 19, 2026).
21. Joint Legislative Audit and Review Commission, Report 598, "Data Centers in Virginia," December 9, 2024: meeting unconstrained data center demand would require solar additions at roughly double the record 2024 pace; unconstrained growth could raise Virginia electricity use approximately 183 percent by 2040 (derived from Figure 3-3; JLARC does not state the percentage in text). Small modular reactors at North Anna face regulatory timelines and cost uncertainties that may push deployment well into the 2030s (Dominion 2024 IRP).
22. U.S. NRC, Commission vote of April 14, 2023 adopting the byproduct-materials framework (10 CFR Part 30) for commercial fusion devices, rather than the utilization-facility framework governing fission reactors, on the physics that fusion reactions are not self-sustaining, with no chain reaction to run away and no long-lived spent fuel. NUREG-1556 Vol. 22 draft guidance accompanies the rulemaking.
23. ADVANCE Act, July 2024, codifying the NRC's byproduct-materials decision for fusion (per CFS press release of October 24, 2024 and Fusion Industry Association materials). The codification narrows but does not close federal policy risk: statutes fix frameworks, not license conditions.
24. U.S. NRC, "Regulatory Framework for Fusion Machines," proposed rule, 91 Fed. Reg. (Feb. 26, 2026); comment period closed May 27, 2026; rule not final. The byproduct-materials framework does not impose the decommissioning-fund requirements that apply to fission reactors, and no public document discloses a decommissioning plan, cost estimate, or financial-assurance mechanism for the ARC plant.
25. Commonwealth Fusion Systems, "Commonwealth Fusion Systems Granted Radioactive Materials License for SPARC Fusion Machine," press release, October 24, 2024: Massachusetts granted CFS a broad-scope radioactive materials license for SPARC under its NRC Agreement State program, the first of its kind for a commercial fusion machine. Virginia exercises primary authority over radioactive materials through its agreement with the NRC, via the Department of Health's Office of Radiological Health; ARC will require a

Virginia radioactive materials license, and no application has been publicly announced (checked negative as of June 12, 2026).

26. CFS, “Commonwealth Fusion Systems Becomes First Fusion Company to Apply to PJM Interconnection,” press release, April 28, 2026; Ben Byboth, The Tokamak Times (CFS blog), April 28, 2026 (request submitted “last week,” i.e., on or before the April 27 window close). First interconnection request from a grid-scale fusion developer to any major regional transmission organization. A merchant generator in Virginia also requires SCC authority under Va. Code § 56-580 D; no CFS docket appears in the public record.
27. PJM Interconnection, “Over 800 New Generation Projects Seek to Connect Under PJM’s Reformed Process,” news release, April 29, 2026: 811 projects seeking 220 GW, window closed April 27, 2026; the first open intake (Cycle 1) since PJM closed its queue in 2022; project details confidential until acceptance; one-to-two-year study expectation; resource mix including, “for the first time, fusion energy.” CFS’s roughly 400 MW sits in PJM’s “other” resource category alongside biomass and coal, fusion having no category of its own (American Nuclear Society, Nuclear Newswire, May 1, 2026). Per the CFS blog of April 28, 2026, fusion was not in the application portal’s drop-down menu a year earlier.
28. PJM Interconnection, news release, April 29, 2026: PJM is using an AI-enabled review tool, HyperQ, developed by Google’s Tapestry unit, to speed Cycle 1 application review. Dominion Energy advised CFS through the PJM process under their joint development agreement (CFS release, April 28, 2026). No party has alleged impropriety, and the tool reviews hundreds of applications.
29. SPARC is the demonstration tokamak in Devens, Massachusetts, that must achieve net fusion energy—the threshold the field calls Q greater than one—before the ARC plant’s financing and offtake commitments convert from bets into a schedule. Both the Google and Eni PPAs are explicitly anchored on this milestone (CFS press releases, June 30, 2025 and September 22, 2025).
30. CFS blog, April 9, 2026 (“about three quarters” complete) and May 14, 2026 (“nearly 75%”); the figure is a program-tracking estimate blending engineering, procurement, manufacturing, and assembly, not a physical construction percentage. Verifiable hardware record: 75-ton cryostat base installed March 2025; first production toroidal field magnet validated by the DOE independent expert panel and earning an $8 million milestone payment (CFS release, September 30, 2025); two of eighteen toroidal field magnets in place as of May 14, 2026. The de-risking proceeds through a digital-twin collaboration with NVIDIA and Siemens (January 6, 2026) and a TORAX plasma-simulation partnership with Google DeepMind (October 16, 2025).

31. CFS public schedule statements assembled over time: net energy “by 2025” (CFS press releases, September–December 2021); “operational in 2025,” net energy “soon thereafter” (February 2023); first plasma late 2025, Q>1 “by early 2026 at the latest” (IEEE Spectrum paraphrase, July 2023); website begins stating Q>1 “in 2027” (December 2024); CEO affirms turn-on “later in 2026” the day the Eni deal was announced (September 22, 2025); turn-on moved to 2027 (CES, January 2026); “operations begin in 2027,” ARC “early 2030s schedule for commercial operation” (CFS blog, April–May 2026). The Q>1 date moved roughly two years without a single announcement of delay; “early 2030s” has described the ARC plant continuously since December 2021 while its meaning shifted from “completed” to “delivering power” to “commercial operation.”
32. CFS, press release, June 4, 2026: five peer-reviewed papers on ARC physics, with the CEO stating they “increase our confidence” in the early-2030s grid path. The report treats confidence statements as distinct from schedule statements.
33. PJM expects cycle studies to take one to two years (PJM release, April 29, 2026); CFS frames the full runway as four to six years from the start of the study process to electricity generation (CFS release, April 28, 2026), which lands commercial operation between roughly 2030 and 2032 if nothing slips. The queue clock thus sets the floor on the delivery date even given a perfect physics result in 2027.
34. CFS corporate boilerplate (“more than $3 billion,” June 2026); the Fusion Industry Association’s Global Fusion Industry Report puts CFS’s share at nearly one-third of all private investment in the global fusion sector. Most recent equity development: CFS announced on June 11, 2026 that Plynth Energy, an Abu Dhabi government-owned fusion-focused fund, had acquired a minority stake for an undisclosed amount.
35. Office of the Governor of Virginia, press release, December 19, 2024: $1 million Virginia Clean Energy Innovation Bank investment matched by $1 million from Chesterfield County for initial siting costs. (A separate $500,000 VCEIB grant supported VCU fusion supply-chain research.)
36. NextEra Energy and Dominion Energy, merger agreement dated May 15, 2026, announced May 18, 2026 (Dominion Energy SEC Form 8-K and joint release): all-stock exchange of 0.8138 NextEra shares per Dominion share plus a one-time aggregate cash payment of approximately $360 million; transaction value approximately $66.8 billion; closing expected mid-to-late 2027, subject to shareholder, FERC, NRC, and Virginia SCC approval. No merger document located addresses the CFS arrangements. Dominion is the ARC project’s

landlord, joint-development partner, interconnection host, and adviser in the PJM queue.

37. Dominion Energy Virginia, “Environmental Justice Desktop Review for the Chesterfield Energy Reliability Center Project,” revised September 23, 2024, Appendix H of the CERC air permit application (Virginia DEQ): Census Tract 1004.03, Block Group 3, is 84 percent population of color, 73 percent low-income, 41 percent Hispanic/Latino, and 26 percent limited-English households; 22 of 24 surrounding block groups within three miles contain potential environmental-justice communities under Va. Code § 2.2-234 (Virginia Environmental Justice Act).
38. Microsoft-Constellation, Three Mile Island Unit 1 restart PPA (2024); Amazon-Talen, Susquehanna behind-the-meter co-location (2024–2025); NextEra-Google, Duane Arnold (Iowa) restart with 25-year PPA, announced October 27, 2025; Google-Kairos Power 500 MW SMR master agreement (October 2024, first deployment via TVA); Google acquisition of developer Intersect Power (roughly $5 billion, reported January 2026); Google Michigan roughly 1 GW campus tied to a 20-year clean-generation contract (Bloomberg, March 18, 2026). The CFS agreement itself carries options on future ARC plants (Google, The Keyword blog, June 30, 2025).
39. Virginia SCC, news release and Final Order, Case No. PUR-2025-00058, November 25, 2025: the GS-5 rate class for customers demanding 25 MW or more, effective January 1, 2027, with minimum demand charges of 85 percent (contracted transmission and distribution) and 60 percent (generation). Press accounts add a 14-year contract term with ramp provisions and collateral requirements (Virginia Mercury, November 25, 2025), which should be verified against the final order before being relied on.
40. Piedmont Environmental Council, analysis of SCC Case No. PUR-2024-00121, January 7, 2026. Advocacy analysis, not a regulatory finding: roughly 61 percent of remaining grid infrastructure costs estimated to shift to residential ratepayers after the 14-year GS-5 contract term expires.
41. Helion Energy, holder of the only other major fusion offtake (Microsoft, roughly 50 MW, with reported delivery penalties), raised $465 million at a $15.5 billion valuation in June 2026 to finish its Orion plant, which broke ground in Washington State on July 30, 2025 against a 2028 delivery promise (TechCrunch, June 4, 2026; S&P Global, July 30, 2025). Type One Energy and TVA filed Tennessee’s first fusion license application in January 2026 for a 350 MWe stellarator pilot at Bull Run, and the U.S. Department of Energy stood up a dedicated Office of Fusion in its November 20, 2025 reorganization.

CHAPTER 14 — The Diffusion Geography and the Single-Market Developer

1. See Chapters 7 and 12 (Hanover and Goochland) for the developer's move from Hanover's Mountain Road to Goochland's new overlay district within two weeks, and its earlier withdrawal in Chesterfield.
2. See the Chesterfield, Botetourt, and Google–Commonwealth Fusion Systems case studies (Turner 2026); Google's identity was confirmed only after entitlements were secured.

CHAPTER 15 — The Recurring Patterns

1. See Chapter 11 (Botetourt), which carries the contempt proceeding and the trade-secret ruling on its primary record.
2. See the Caroline County case study (Turner 2026) for the surface-water withdrawal permit and the tribal treaty challenge.
3. See Chapter 13 and the Google–Commonwealth Fusion Systems power-purchase-agreement case study (Turner 2026); the arrangement is paired with the SCC's new GS-5 rate class (Va. SCC, November 2025).

CHAPTER 16 — The State Frame: How Policy Tilted the Field

1. Virginia Department of Taxation, biennial Retail Sales and Use Tax Data Center Exemption report (Jan. 2, 2026), reporting a FY2025 aggregate benefit of $1,941,390,000; sales-and-use tax exemption codified at Va. Code § 58.1-609.3(18).
2. Virginia JLARC, Data Centers in Virginia (RD206), December 9, 2024 (90 percent of surveyed companies reported they would not have built in Virginia without the exemption).
3. Carl Vinson Institute of Government, University of Georgia, econometric evaluation of Georgia's data center sales-tax exemption (December 2025), attributing roughly 30 percent of activity to the exemption; W.E. Upjohn Institute incentives literature (attributable share near 25 percent). UVA economist's ~50 percent declining estimate per JLARC annual incentives series.
4. Va. Dep't of Taxation FY2025 exemption cost ($1,941,390,000); exemption in effect since 2010, with the commonwealth's market the most mature globally per JLARC, Data Centers in Virginia (RD206), Dec. 2024.
5. Virginia Acts of Assembly, 2026 Session: HB 507 (Tier IV backup-generator emission standards).
6. Virginia Acts of Assembly, 2026 Session: SB 553 (data center water-use disclosure). See Chapter 11 (Botetourt) for the litigation that preceded it.

7. Virginia Acts of Assembly, 2026 Session: SB 94 and HB 153 (mandatory siting and noise assessments).
8. Virginia Acts of Assembly, 2026 Session: SB 253 and HB 1393 (large-load cost allocation), narrowed by the Governor's reconvened-session amendments; per MultiState legislative tracking (Mar. 30, 2026), roughly fifteen data center bills passed and a carbon-conditions bill failed.
9. Virginia SCC, large-load (GS-5) rate-class order, November 2025.
10. Va. Code § 58.1-609.3(18) (statutory sunset June 30, 2035).
11. Virginia budget coverage, Feb.–June 2026: Senate proposal to sunset the exemption as early as 2027; House proposal to preserve it with conditions and a data center accountability commission; the Governor's stated unwillingness to break signed contracts, pointing toward grandfathering existing certificate holders on Georgia's repeal-with-grandfather model.
12. National legislative trackers, 2026 sessions: more than 300 data-center-related bills across more than 30 states, with at least eight states acting to shift data center costs away from residential ratepayers or to condition the industry's tax treatment.

CHAPTER 17 — Implications

1. See the Spotsylvania and King George case studies (Turner 2026) for the electoral turnover of permissive boards.
2. Virginia Acts of Assembly, 2026 Session (water-use disclosure, siting and noise assessments, backup-generator emission standards, and large-load cost allocation); see Chapter 16.
3. See Chapter 11 (Botetourt) for the ruling; the 2026 statutory water-disclosure mandate is SB 553, Virginia Acts of Assembly, 2026 Session.

Conclusion

1. Virginia Department of Taxation, Retail Sales and Use Tax Data Center Exemption report (Jan. 2, 2026), reporting a FY2025 cost of $1,941,390,000; exemption at Va. Code § 58.1-609.3(18).
2. National legislative trackers, 2026 sessions: more than 300 data-center-related bills across more than 30 states.

APPENDIX G — Works Cited

This is a consolidated list of the principal sources the book relies on. The chapter notes in Appendix F cite individual records — ordinances, minutes, agreements, dockets, permits, and opinions — at the point of use. The list below gathers the companion case studies that carry the full primary-source apparatus for each jurisdiction, and the major government, regulatory, and data sources that recur across the book.

Companion case studies (Turner, 2026)

Each chapter in Part Three rests on a standalone jurisdiction study carrying that county's complete reference apparatus. The full set of these studies, with their concept DOIs, together with the statewide references and the industry directory, is listed in Appendix H — the complete open-access record.

Government and legislative sources

- Virginia Joint Legislative Audit and Review Commission (JLARC). *Data Centers in Virginia* (RD206). December 2024.
- Virginia General Assembly. *Acts of Assembly*, 2026 Session (data center legislation: backup-generator emissions, water-use disclosure, siting and noise assessment, and cost-allocation measures), and the 2025–2026 biennial budget proceedings.
- Virginia Department of Taxation. Sales-and-use tax exemption expenditure reports (data center exemption, Va. Code § 58.1-609.3(18)).
- Northern Virginia Technology Council. Data center economic-contribution studies (2022, 2024, 2026).
- Carl Vinson Institute of Government, University of Georgia. Econometric study of the Georgia data center sales-tax exemption.
- U.S. Nuclear Regulatory Commission. "Regulatory Framework for Fusion Machines," proposed rule (February 26, 2026); and the 2023 byproduct-materials determination, as codified by the ADVANCE Act of 2024.
- U.S. Army Corps of Engineers; U.S. Environmental Protection Agency (EJScreen). Permit and screening records cited in the county notes.

Regulatory and utility sources

- Virginia State Corporation Commission. Integrated-resource-plan orders; the large-load (GS-5) rate-class order (2025); and the generation and transmission certificate dockets (PUR cases) cited by chapter.

- Dominion Energy Virginia. 2024 Integrated Resource Plan and 2025 IRP Update.
- PJM Interconnection. 2025 Long-Term Load Forecast; Regional Transmission Expansion Plan; and interconnection-queue records.
- Virginia Department of Environmental Quality. Virginia Water Protection permits, air permits, and the data center water-use registry established for 2027.

Data

- Statewide facility inventory (Appendix C), assembled from public records: 286 data center facilities across Virginia, with the canceled-and-rejected register (Appendix D) and key-operators table (Appendix E). Facility-level power, water, and investment fields are disclosed only in part; the inventory is a documented lower bound, as Appendix A explains.
- Sustained local and trade reporting cited in the county notes, including the Richmond, Fredericksburg, Culpeper, Southside, and Northern Virginia press and the data center trade press.

APPENDIX H — The Open-Access Record: Virginia Data Center Deposits

The works below are the open-access record this book draws on and belongs to: the statewide references, the jurisdiction case studies, the frontier case, and the industry directory, all deposited on Zenodo and grouped in the public community *virginia-data-centers*. Each DOI is a concept DOI, which always resolves to the latest version. This book is deposited alongside them (concept DOI 10.5281/zenodo.20697583).

Statewide references

- *What Virginia Is Spending, What Virginia Is Getting: The Commonwealth Data Center Reference.* 10.5281/zenodo.20679292
- *Governing the Demand Shock: Local Institutional Variation in Virginia's Data Center Expansion* (the analytical paper this book expands). 10.5281/zenodo.20692386

Jurisdiction case studies

- *Henrico County: How Two Neighborhoods Forced Virginia's Second-Largest Data Center Jurisdiction to Change Course.* 10.5281/zenodo.20671031
- *Chesterfield County: The $0.24 Rate, the Thirty-Year Lock, and the Two-Corridor County.* 10.5281/zenodo.20672436
- *Hanover County: Mountain Road, Tract, and the Search for Leverage.* 10.5281/zenodo.20672048
- *Orange County and the Town of Orange: Convergence at Two Scales.* 10.5281/zenodo.20672496
- *Prince William County: Governance Capture, the Revolving Door, and the Democratic Correction.* 10.5281/zenodo.20673498
- *Louisa County: The First Overlay, the Amazon Retreat, and the $17 Billion Bet.* 10.5281/zenodo.20673455
- *Goochland County: The Overlay, the Lawsuit, and the Template.* 10.5281/zenodo.20673467
- *Mecklenburg County: Boydton, South Hill, and What Fifteen Years of Data Centers Actually Bought.* 10.5281/zenodo.20673484
- *Botetourt County: Project Raspberry, the Water Authority, and the Wave That Crossed the Blue Ridge.* 10.5281/zenodo.20673512
- *Culpeper County: The Quiet Successor.* 10.5281/zenodo.20673529
- *The Fredericksburg Ring: Five Jurisdictions, One Corridor, and the I-95 Path South.* 10.5281/zenodo.20673542

The frontier case

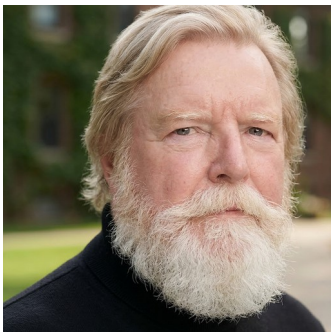
- *When the Operator Builds the Plant: The Google–CFS Power Purchase Agreement and What It Means for Virginia's Energy Market.* 10.5281/zenodo.20679935

Reference

- *Virginia Data Center Research & Industry Directory.* 10.5281/zenodo.20673582

Community: zenodo.org/communities/virginia-data-centers

ABOUT THE AUTHOR



Tommy N. Turner is an independent researcher and writer who documents the local-government and energy dimensions of the data center build-out in Virginia. *Governing the Demand Shock* synthesizes his series of jurisdiction-level case studies — covering the counties and the fall-line corridor where Virginia's data center decisions have been made, refused, or contested — each assembled from primary records: zoning files, board minutes and ordinances, utility and State Corporation Commission filings, permits, court opinions, and tax schedules. His work spans data center fiscal and environmental policy, local public finance, and the governance questions the two raise, and he writes opinion and analysis on Virginia public affairs for outlets including the *Richmond Times-Dispatch*, the *Virginia Mercury*, and *Cardinal News*. The case studies and this book are published as open, citable living editions, revised as the record moves. He works from Williamsburg and Christiansburg, Virginia.

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