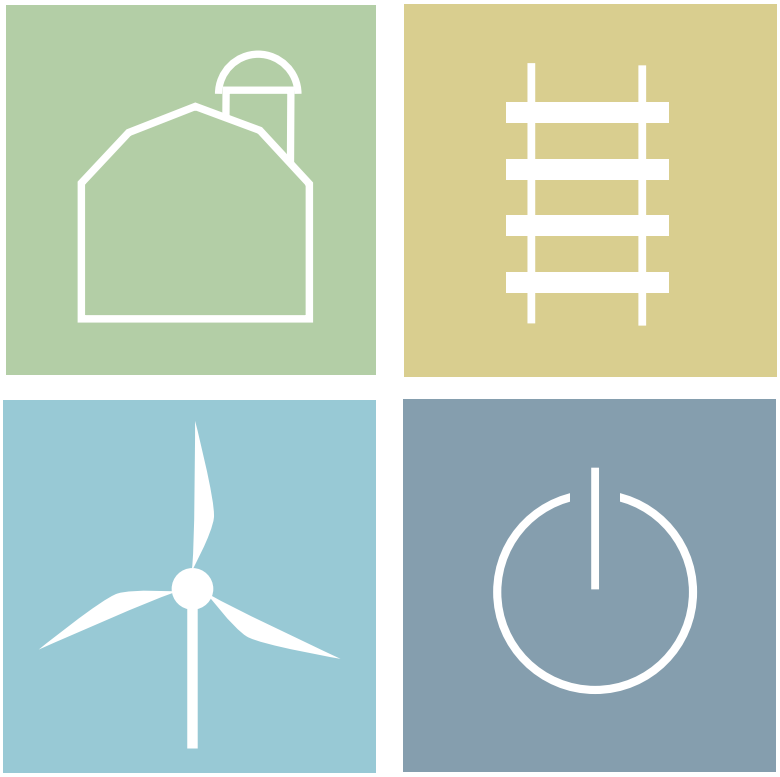
TRANSMISSION ALLEY



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The rapid rise in data center demand, driven by tech giants like Google, and Microsoft, along with major real estate developers such as Equinix Inc. and PGIM Real Estate has already led to billions in investments.[1] With data centers requiring massive amounts of power and large parts of the country benefiting from existing railroad rights-of-way, middle America is emerging as a prime location for hyperscale developments.

This shift presents an opportunity to repurpose land traditionally used for agriculture into energy and data infrastructure. If investments in power generation, distribution, and transmission continue, and if utility companies and data center operators collaborate effectively, these secondary and tertiary—often rural—markets will remain attractive to developers due to lower land costs and access to renewable energy.

The rapid expansion of digital demand is transforming middle America into a strategic hub where commercial real estate and energy sectors collaborate to leverage renewable power, existing rail infrastructure, and rural land for the future of digital infrastructure.

DATA CENTERS ARE HOT

Fueled by artificial intelligence, cloud computing, data storage, and cryptocurrency mining, the data center sector is expected to experience unprecedented growth.

The industry, projected to reach $150 billion annually and to triple by 2030, is expected to drive over $1 trillion in investments.[2] Major commitments are already underway. Related Companies has launched Related Digital, committing at least $500 million towards the buildout of its development pipeline.[3] And PGIM, intending to "deploy capital in the hot data center space" recently raised $2 billion for its Global Data Center Fund, with $450 million already allocated.[4]

POWER UP!

Requiring vast amounts of electricity to maintain continuous operations and optimal operating conditions, data centers are among the most energy-intensive facilities, with power demands expected to grow by 160% by 2030.[5] While AI advancements drive demand, the challenge remains securing "abundant, low-cost, and reliable power."[6] Despite the current Administration's commitment to "drill, baby, drill," traditional power sources are insufficient to meet this demand, necessitating consideration of alternative sources. But sourcing power from traditional versus renewable methods need not be mutually exclusive; a balanced approach incorporating multiple energy sources is essential.

The demand for faster, more efficient data processing, coupled with sustainability goals, has accelerated investments in solar farms, wind turbines, and other renewable energy projects, making the integration of renewables a "critical strategy" for data center developers.[7] As of February 2025, renewable energy investments neared $1.966 trillion, outpacing traditional sources like coal and natural gas.

SURGING REAL ESTATE MARKETS

Data center and renewable energy developments are transformational, representing a "seismic shift" in what defines valuable real estate today. The US is shifting from what once dominated traditional real estate investments—residential, commercial, and industrial—toward energy, data centers, and infrastructure. This transition is particularly significant for middle America, often dismissed as "flyover" country.

As energy production shifts toward renewable sources, farmers and landowners along existing rail corridors in high-potential areas—such as Texas, Central Washington, Des Moines, and Umatilla, Oregon—are well positioned to benefit.[8] The real estate market for energy and data infrastructure, currently valued at $13.095 trillion, is projected to grow to $19 trillion by 2030 and $27 trillion by 2035, providing a unique opportunity to reconsider the best and most productive use of the land blanketing middle America.[9]

Tech giants, including Meta and Google, are already investing heavily in carbon neutrality and renewable energy solutions. Meta, for instance, sources power from more than 10 solar farms in Utah, generating 1.6 GW.[10] And Google, one of the largest corporate buyers of clean energy, aims for 24/7 carbon-free operations by 2030 and already secured over 7 GW of renewable energy.[11] Google also expanded its focus on renewable energy with a $5.5 billion investment in its Council Bluffs data center campus. Another leading American cloud services provider, the largest corporate buyer of renewable energy globally, has more than one hundred solar and wind projects for its data centers.[12] Dominion Energy, planning to double its generation capacity in 15 years, expects solar to account for 45% of this growth.[13]

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LOCATION, LOCATION, LOCATION: MIDDLE AMERICA AS THE HOLY GRAIL

With few signs that the expansion of AI, cloud computing, data storage, and crypto is slowing down, data center development is set to accelerate, requiring developers to consider the perennial real estate question—where to build. Traditionally located near urban hubs or major fiber optic network intersections, site selection now hinges on power, fiber, and climate conditions. Given high land costs in primary markets such as Northern Virginia, currently one of the top co-location destinations, developers are turning to secondary and tertiary markets with robust connectivity and access to renewable power.

Co-location, which requires a lot of land, another benefit of rural America, is another key factor for data center locations by reducing energy loss and improving sustainability. The United States Department of Agriculture estimates that 90% of renewable energy siting will occur in rural areas by 2050, potentially generating 1.5 million solar jobs by 2035 and 600,000 wind jobs by 2050.[14] And converting land to renewable generation not only makes sense, but it also makes dollars. With the most likely outcome for a farmer transitioning farmland to solar generation resulting in "a ~350% increase in gross revenue per acre," a recent study looking at the implications of large-scale solar developments in Maryland found that producers who convert to utility-scale solar are being "rational economic agents."[15]

Additionally, data centers require stable environments safe from natural disasters, extreme weather events, and climate change — conditions often more prevalent in rural parts of middle America than in coastal regions. The Midwest and Plains states—such as Iowa, Kansas, Oklahoma, and Texas—with some of the highest wind speeds are "prime locations" for wind-powered facilities, while Arizona, California, and New Mexico—receiving some of the highest solar irradiance in the country—are optimal for solar-powered developments.

CHOO-CHOO-CHOOSING SITES

Middle America is well situated to become the next hotbed for data center development considering its ability to leveragethe potential for leveraging existing railroad rights-of-way to simplify infrastructure development. America's extensive, privately owned 140,000-mile "steel interstate" is a valuable asset for modern data infrastructure. Six privately owned Class I railroads (a designation in terms of revenue per year)—BNSF, Union Pacific, Norfolk Southern, CSX, Canadian National, and CPKC—own the majority of this track, which already claimsown rights-of-way through middle America, obviatingreducing the need to negotiate with multiple private land owners for access rights.

This model has proven successful along the Transcontinental Railroad, which runsrailroad rights-of-way that run from Iowa to California along the 41st parallel; a key corridor for data center expansion and a "natural landing spot" for hyperscalers. Google has invested $5 billion in its Council Bluffs, Iowa data center facility, with another $500 million center planned in Cedar Rapids; and Meta has committed $6 billion along this route to facilities in Iowa, Nebraska, Wyoming, and Utah.

Chicago has also experienced success with telecommunications companies building fiber infrastructure along the Transcontinental Railroad. Centrally located between the coasts, Chicago ranks as one of the top five cities in the country for connectivity, with more than 120 data centers.[16] In 2021 Direct Connect recently announced a proposed $2.5 billion project called the "SOO Green HVDC Link,"." The proposal is for a proposed 349-mile, 2.1 gigawatt, 525-kilovolt transmission line running along existing railroad from Iowa to Chicago; and. In addition, Related Digital's $45 billion development pipeline includes a state-of-the-art campus in Chicago containing more than 500 acres and more than 1,000 MW capacity (as well as 600+ acres/1,200 MW capacity in Missouri and 115 acres/250 MW capacity in Wyoming).[17]

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IF YOU BUILD IT, THEY WILL COME

Maintaining America's leadership in AI and meeting surging data center demand requires substantial investment in infrastructure. Unlike oil and gas, where costs primarily involve fuel, electricity costs stem from generation, transmission, storage, and distribution infrastructure, requiring a "mammoth" investment in equipment. America's total investment in data centers and AI infrastructure has surpassed $2.5 trillion and is expected to exceed $6 trillion by 2030, with the market projected to reach $27 trillion by 2035.[18] While infrastructure investment is expensive, necessitating high upfront costs for infrastructure and grid interconnection, long term savings and government subsidies (e.g., favorable tax treatment and sales tax exemptions) can offset these expenses over time.

Leveraging America's massive railroad infrastructure can promote clean energy, revitalize rural economies, and reshape real estate values. In addition to creating jobs and attracting new businesses, the surrounding areas often see a rise in property demand and prices, improving living standards for those currently left behind. And it's not just the localities that benefit; developers are signaling confidence by deploying capital (i.e., putting their money where their mouth is), highlighting strong profit potential for both developers and investors.

As Jeff T. Blau, CEO of Related Companies, states, digital infrastructure is "one of the most remarkable growth categories and asset classes."[19] Related Companies is not alone in this bullish outlook. Investment firms such as KKR and Energy Capital Partners are backing this trend, recently announcing a $50 billion partnership to accelerate data center and energy infrastructure development.[20,21]

Co-locating data centers along railroad corridors would also create additional revenue streams for rail owners. And we already have an ideal location to begin co-locating. The Northern Transcon, traversing the most northerly route of any railroad in the Western United States, and the Southern Transcon, running from Los Angeles/Long Beach through Kansas City to Chicago and passing over the top of Texas, present ideal starting points for data center expansion.

THE DIGITAL FRONTIER: HOW THE HEARTLAND BECOMES AI'S NEW POWERHOUSE

Middle America, with its vast rural land, low disaster risk, renewable energy potential, and railroad infrastructure, is ideal for data center development, offering economic benefits to farmers and landowners. With AI transforming infrastructure needs and data centers forming the "backbone" of the digital economy, future real estate strategies must prioritize connectivity, infrastructure reliability, and sustainability. As history has shown—whether with transcontinental railroad rights-of-way or the modernization of energy infrastructure—bold, transformative investments in infrastructure are a matter of national greatness and drive progress. Regardless of whether artificial general intelligence arrives in the next year or next decade, to continue our competitive edge in AI, we need to be prepared, requiring a "visionary" modernization of our energy infrastructure.

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ABOUT THE AUTHORS

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