Principal Real Estate

Principal Asset Management℠

Data center development opportunities in secondary markets

With primary markets increasingly constrained, more new development opportunities are in secondary markets—but not all are equal.

AUTHORS:

CASEY MILLER
Managing Director,
Portfolio Management

SEBASTIAN DOOLEY, CFA
Managing Director,
Portfolio Management

PAUL LEWIS
Director - European
Data Centres

MATT HACKMAN
Portfolio Manager

AT-A-GLANCE

- In many primary markets, suitable data center sites with a clear path to permitting and access to utility power are increasingly scarce.
- To meet the demand for data center capacity in the next 3-5 years, we now have to also seek development opportunities outside of primary markets.
- In this paper we share what we look for in a market and which secondary markets we see having the potential for strong investment opportunities.

Demand for data centers is booming. In primary markets, available capacity is minimal, driving vacancy rates to historic lows, less than 2% in most markets. At the same time, new development has been increasingly constrained. Lead times for critical equipment such as transformers, switches and generators and long delays for permitting and power interconnection have doubled timelines in many cases.[1]

Now, with exponentially more demand from the AI revolution, power and land itself is in short supply in many primary markets. Suitable sites with a clear path to permitting and access to utility power are increasingly scarce (as Exhibit 1 demonstrates). In some, Dublin and Amsterdam for example, regulators have imposed moratoriums on new data center builds due to a lack of power infrastructure.

[1] Learn more in our recent paper How data center developers are powering AI.

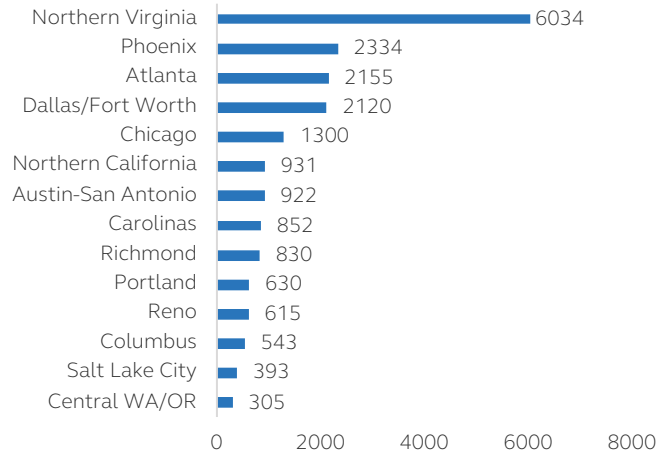
EXHIBIT 1: Availability of suitable sites with a clear path to permitting and access to utility power

Source: Principal Real Estate, as of June 30, 2025.

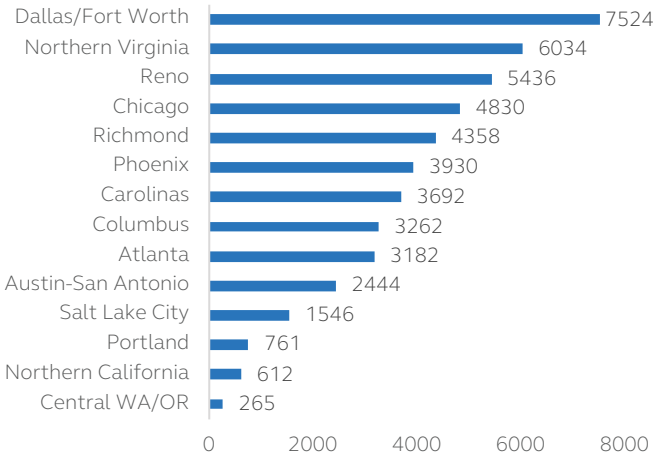
As we noted last year, the majority of data center capacity remains concentrated in primary markets.[2] This is true in both the U.S. and Europe, though in Europe the share of capacity concentrated in primary markets has been declining since Q1 2021. We continue to invest in primary markets when appropriate sites are available for development or existing facilities become available. However, to meet the growing demand for capacity expected over the next 3-5 years, we must also explore development opportunities beyond the primary markets.

EXHIBIT 2: Current and future data center capacity in primary and secondary markets

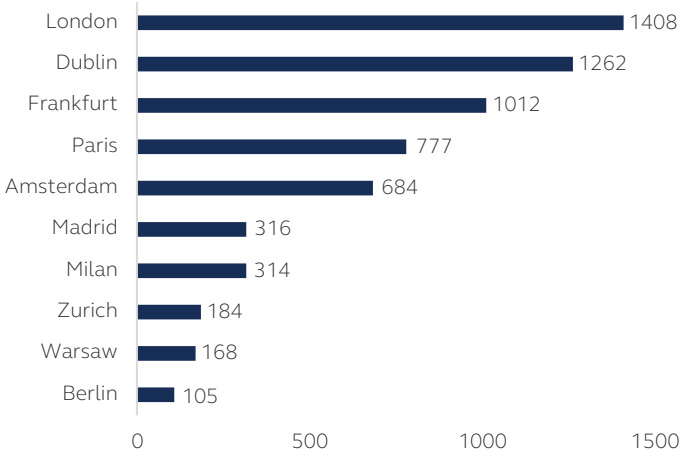
Current and under-construction capacity (MW)



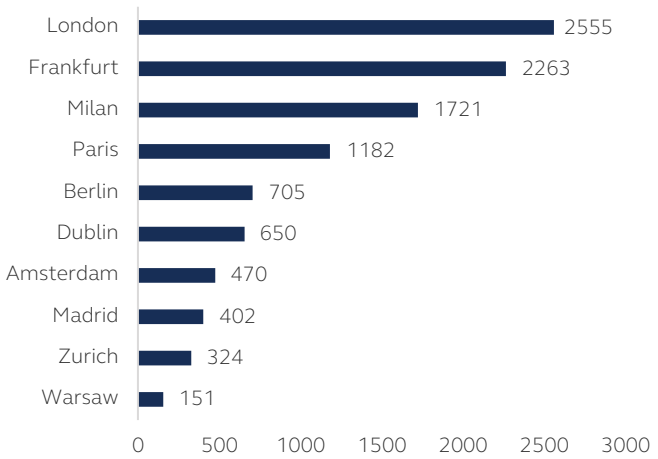
Planned capacity (MW)



Current and under-construction capacity (MW)



Planned capacity (MW)



Source: Principal Real Estate, as of December 31, 2024.

The factors we look for in a market

The fundamental factors determining data center market attractiveness have remained largely consistent throughout time. However, a market's performance against these fundamentals may evolve over time, along with the comparative significance of individual factors. (For example, as data centers expand in scale, land and power availability become more important.)

[2] Learn more in Most new data center capacity is still in primary markets.

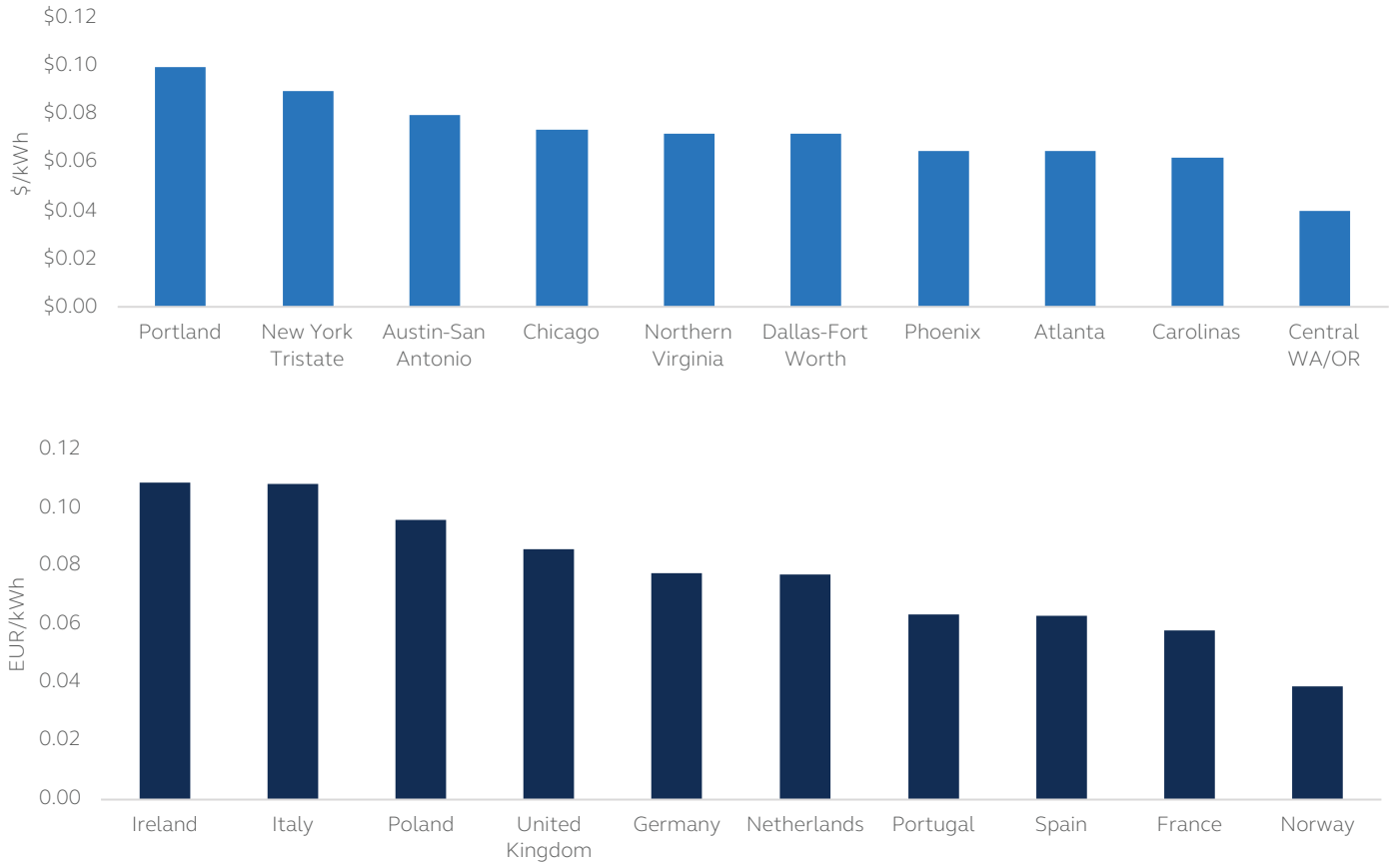
Availability of power and land

The availability of suitable sites with a clear path to power is fundamentally critical. Permitting and access to utility power is indispensable, particularly as data center campuses expand and become more power intensive. This factor has constrained development in some markets before; New York/New Jersey and Silicon Valley are examples where power and land constraints have been an inhibiting factor for many years. Until recently, most primary markets had many suitable sites with a clear path to permitting and access to utility power. Now, power and land are constrained in many primary markets, as Exhibit 1 makes clear, and thus is the first (though not only) consideration factor for data center developers.

Cost of reliable power

Power reliability is table stakes; data center developers will not build where power is not reliable. (Although in highly power-constrained markets, we are seeing some developers willing to rely on other sources of power generation for the short term while waiting for reliable utility power interconnection.) Beyond reliability, cost is an important factor because power is the single largest operating expense in a data center—about 20% of the total operating cost. Even a relatively small difference in cost per kilowatt hour can make a significant difference in the total operating cost of a data center.

EXHIBIT 3: Power cost by market



Source: Upper: CBRE, as of December 31, 2024. Lower: Ember, as of December 31, 2024.

Fiber connectivity

Since the earliest days of the internet, fiber connectivity has been one of the most significant drivers of data center development. In fact, Northern California (Silicon Valley) and Northern Virginia were early data center hubs due to being the home of the first internet exchange points (MAE-East and MAE-West, established in the early 1990s). The same is true for Amsterdam in Europe (AMS-IX was also established in the early 1990s).

EXHIBIT 4: Primary and secondary markets are on fiber lines

Fiber connectivity remains very robust in the primary data center markets. As developers explore secondary markets for reasons such as power and land availability, the fiber connectivity in those secondary markets is a critical factor. Proximity to a long-haul fiber line enables faster data transfer, lower latency, redundancy, and cost efficiency (connecting directly to a long-haul fiber line is more cost effective than building a local network).

Source: Principal Real Estate, as of June 30, 2025.

Tax incentives

In Europe, tax incentives to entice data center development are not prevalent. In the U.S., in the early days of the data center boom, many states offered sales tax exemptions or other tax incentives to entice data center development. Many primary markets still do, though some have pulled back, or attempted to. (In Georgia, for example, the legislature suspended the state's data center sales tax exemption, though the governor vetoed the bill.)

Following the pattern set by primary U.S. markets 10-15 years ago, many secondary U.S. markets are now offering tax incentives to entice data center development. Tax incentives can be a substantial benefit for developers, in many cases reducing data center deployment cost significantly.

In the U.S., even if a market may otherwise be a good candidate for data center development, a lack of tax incentives is a significant deterrent. This is one of the principal reasons Denver is not on our list of secondary markets, though that may change, as the Colorado legislature recently began discussions of implementing a tax incentive.

Low risk of natural disasters

Over time, cloud providers have developed data center availability zones and designed their applications to failover automatically to another data center in the event of downtime. Nevertheless, in leased facilities most tenants still expect high uptime, therefore selecting a location with minimal natural disaster risk continues to remain a key consideration.

Data center climate risk factors include but are not limited to flood zones, hurricane paths, wildfire threats, drought patterns, sea-level rise, and extreme temperature trends. Data centers are especially vulnerable to climate risks due to the disruption of operations through power outages, flooding, or cooling system failures. Additionally, rising temperatures increase cooling costs and energy consumption, directly impacting operational expenses and reliability.

Proximity to population centers

Given the speed of the long-haul fiber networks in the U.S. and Western Europe and the edge presence that hyperscalers have in most markets (enabling content caching), latency doesn't require very close proximity to end users for most use cases. (Exceptions include applications such as financial trading and AI inference, |where milliseconds make all the difference and proximity is critical to minimize latency.)

In most cases, the reason to locate data centers in proximity to population centers is to have access to skilled labor. Constructing the large, hi-tech campuses required by the users of todays modern data center demands many construction workers, many of whom must be skilled. Although populated markets face more intense competition for these workers, they also benefit from a broader talent pool and educational institutions generating new skilled graduates.

Proximity to primary markets

Data centers tend to locate in clusters, in part due to the high cost of setting up a new cloud region or availability zone. As a result, even as development is increasingly occurring outside of primary markets, the top secondary markets are more likely to be in close proximity to primary markets. For example, Reno as a secondary market in proximity to Silicon Valley, the Carolinas in proximity to Atlanta and Northern Virginia, Berlin in proximity to Frankfurt.

The secondary markets that make the cut

EXHIBIT 6: Upcoming U.S. and European data center markets

	Capacity			
	Current and under construction	Planned	Major users	Market strengths
U.S. markets				
Austin-San Antonio	922 MW	2,444 MW	• Google • Microsoft • Enterprise users • Federal government	• Relatively low cost of reliable power • Robust fiber connectivity • Substantial tax incentives • Proximity to population centers and primary markets • Growing tech hub (Austin) • Large military/federal government presence (San Antonio)
Carolinas	852 MW, including hyperscale owned	3,692 MW, including hyperscale owned	• Google • Microsoft • Meta	• Availability of power and land • Robust fiber connectivity • Substantial tax incentives • Low risk of natural disasters • Halfway point between Northern Virginia and Atlanta primary markets
Central WA/OR	305 MW	265 MW	• Microsoft • AWS • Meta	• Availability of power and land • Relatively low cost of reliable power • Robust fiber connectivity including to Pacific sub-sea cables • Tax incentives • Low risk of natural disasters
Columbus	543 MW	3,262 MW	• AWS • Google • Meta	• Availability of power and land • Relatively low cost of reliable power • Robust fiber connectivity • Substantial tax incentives
Reno	615 MW	5,436 MW	• Google • Microsoft • Apple	• Availability of power and land • Relatively low cost of reliable power • Robust fiber connectivity • Substantial tax incentives • Low risk of natural disasters
Richmond	830 MW	4,358 MW	• Meta • Microsoft	• Availability of power and land • Robust fiber connectivity • Tax incentives • Proximity to Northern Virginia
Salt Lake City	393 MW	1,546 MW	• Oracle • Meta	• Availability of power and land • Relatively low cost of reliable power • Robust fiber connectivity • Tax incentives • Low risk of natural disasters

	Capacity			
	Current and under construction	Planned	Major users	Market strengths
European markets				
Berlin	105 MW	705 MW	• Google • Microsoft	• Gaining market share as an alternative to long development timelines in Frankfurt • Improving connectivity • Strong demand from AI inference facilities • Growing tech/start-up environment
Madrid	316 MW	402 MW	• Google • IBM • Microsoft • Oracle	• High proportion of renewable energy in grid mix • Low power costs • Substantial self-build capacity • Strategic position between South America and Europe • Robust connectivity
Milan	314 MW	1721 MW	• AWS • Google • Microsoft • Oracle	• High digital demand from corporate tenants in Northern Italy • Digital gateway between Northern Europe, Southern Europe, and the Middle East • Increasing proportion of renewable energy in grid mix
Warsaw	168 MW	151 MW	• Google • Microsoft • OVH	• Strategic location covering Central Europe • Enhanced regional connectivity with Warsaw Internet Exchange • Favorable business environment with strong support for digital transformation
Zurich	184 MW	324 MW	• AWS • Google • Microsoft • Oracle	• Financial hub status driving strong enterprise demand • Gateway to the DACH region with proximity to major economic centers • Robust power and connectivity infrastructure with low latency routes across Europe • Stable regulatory and political environment supporting long-term investments

A note on development in far-flung locations

There have recently been a number of high-profile announcements of data center developments in markets such as Mississippi and Montana in the U.S. and Greece in Europe. There are markets that have significant power and land available but meet few of the other criteria we've described here (e.g., they're not close to population centers or primary markets and not on long-haul fiber lines). Development of AI training facilities in such far-flung locations is compelling from a power and land perspective. But these markets' lack of alignment on other factors calls into question the liquidity of a data center there if it couldn't easily be repurposed for other applications.

Investment considerations

The data center development strategies that worked in the past no longer work. Meeting the demand for capacity that will come online in the next 3-5 years requires seeking development opportunities outside of primary markets. But which secondary markets are the best candidates? Identifying which new markets represent the best investment opportunities requires experience and expertise to know what factors end users care most about and which markets best meet those criteria.

Principal Real Estate: A partner to navigate the evolving data center sector

Given the massive size and technical complexity of data center developments, missteps are incredibly costly. Not all investors are equally well-equipped to avoid such missteps.

We believe experience and access are critical to successful execution. As an active commercial real estate investor for more than 60 years—including more than 17 years in the data center sector—we have witnessed the asset class evolve and adapt to the changing needs of data center tenants.[3] We have relationships with many of the top data center developers already successfully developing in secondary markets.

[3] Principal Real Estate Investors become registered with the SEC in November 1999. Activities noted prior to this date were conducted beginning with the real estate investment management areas of Principal Life Insurance Company and, later, Principal Capital Real Estate Investors, LLC, the predecessor of Principal Global Investors Real Estate beginning with the real estate investment management areas of Principal Life Insurance Company and, later, Principal Capital Real Estate Investors, LLC, the predecessor of Principal Global Investors Real Estate.

Risk Considerations

Investing involves risk, including possible loss of principal. Past Performance does not guarantee future return. All financial investments involve an element of risk. Therefore, the value of the investment and the income from it will vary and the initial investment amount cannot be guaranteed. Potential investors should be aware of the risks inherent to owning and investing in real estate, including value fluctuations, capital market pricing volatility, liquidity risks, leverage, credit risk, occupancy risk and legal risk. All these risks can lead to a decline in the value of the real estate, a decline in the income produced by the real estate and declines in the value or total loss in value of securities derived from investments in real estate.

Data center properties and will only be attractive to a unique type of tenant. A limited tenant base increases the risk of vacancy. Additionally, a property designed to be a data center property, may be difficult to relet to another type of tenant or convert to another use and will be more likely to become functionally obsolete when compared to other properties. For example, if converted to industrial use, the expected rents would be lower than that projected for data centers. Thus, if operating a data center were to become unprofitable, the liquidation value of properties may be substantially less than would be the case if the properties were readily adaptable to other uses.

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MM14678 | 09/2025 | 4794646-092026