REPORT REPRINT

Five ways to look at the top five datacenter markets in the US

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451 Research's Datacenter KnowledgeBase (DCKB) provides quarterly updated figures on various datacenter markets globally. This report delves into the database's most recent installment to consider the top five US markets based on five different criteria: net operational square feet, net available square feet, CAGR 2013-2017 out of the top 20 US markets, and CAGR 2013-2017 and CAGR 2017-2021 among all US markets. Each of the ranked markets in this report is significant in its own way, but more importantly, comparing these market lists to each other and highlighting incongruencies reveals insight about a market's status and the direction it's headed. Providers, investors and customers can use the top markets as a guide for where (and where not to) focus attention. Lastly, we highlight the country's most populous cities and examine why all of these cities may not be home to the most datacenters.

THE 451 TAKE

In general, when we refer to top multi-tenant datacenter (MTDC) markets, we're referring to the overall size of the market. That said, we fully acknowledge that there are other ways to gauge a market, and to that end we thought it would be interesting to cut the data in multiple ways. As expected, this illuminated some interesting things. First, Northern Virginia shows up as a top-five market in four of the five criteria we've presented, demonstrating that it's still a hot market and not abating anytime soon. Second is Las Vegas, which appears in three of our growth categories and is overwhelmingly fueled by the growth Switch, which is also behind the projected growth numbers of two other markets found in our lists: Detroit (technically, Kentwood) and Reno, Nevada. In both markets the provider has announced substantial buildouts, and the only question now is how successful those ventures will be. Las Vegas and Northern Virginia are the only regions that have posted high growth rates and are foreseen to sustain that trend. Many cities that have experienced rapid growth have only done so because they were a small market to begin with, and may not maintain that progression. Markets forecast to have the greatest growth will be impacted by when planned builds actually reach completion, regional and national demand, and other unpredictable factors.

FIGURE 1

Top US Markets by cut

Operational Sq Ft	Available Sq Ft	Fastest Growth Overall, '13 – '17	Fastest Growth – Top 20 US, '13 – '17	Fastest Projected Growth Overall, '17 – '21
1. Northern Virginia	1. Northern Virginia	1. Providence, RI (57%)	1. Las Vegas, NV (32%)	1. Detroit, MI (24%)
2. New York, NY	2. Dallas, TX	2. San Antonio, TX (50%)	2. Portland, OR (20%)	2. Reno, NV (21%)
3. Dallas, TX	3. New York, NY	3. Fargo, ND (50%)	3. Kansas City, KS & MO (17%)	3. Indianapolis, IN (10%)
4. Silicon Valley	4. Los Angeles, CA	4. Cheyenne, WY (43%)	4. Northern Virginia (16%)	4. Northern Virginia (9%)
5. Chicago, IL	5. Chicago, IL	5. Las Vegas, NV (32%)	5. Phoenix (12%)	5. Chicago, IL and Las Vegas, NV (tied at 8%)

Note: 1) CAGR is calculated on net operational square feet. 2) In the context of this report, we're considering Kentwood as part of Detroit

Source: 451 Research, LLC

NORTHERN VIRGINIA: THE BEHEMOTH

Northern Virginia unsurprisingly has the lead in leased datacenter space and amount of available capacity, but it has one of the highest growth rates among the top 20 markets from 2013-2017, and out of all markets from 2017-2021. No other market ranks in all four of these categories, reflecting the scale and nature of the market. The region's history as one of the main internet exchange points on the East Coast – along with available land, reasonably low power rates, and tax breaks available for some large datacenter operators and their tenants – has propelled builds. While there does exist a lot of capacity, to date there has been demand to match, which includes some of the largest wholesale datacenter builds in the world, as well as the numerous facilities expected to come online in the short and long term. The market attracts datacenter tenants interested in connectivity from around the world, but providers there also serve government agencies and local businesses.

NET OPERATIONAL AND NET AVAILABLE SQUARE FEET

New York, Dallas and Chicago all place as top markets in terms of current and available-to-lease datacenter space, beside Northern Virginia. The primary divergence between these two categories is that Silicon Valley shows up in terms of net operational square feet, and Los Angeles ranks under available capacity.

Current and available space doesn't necessarily correlate to fastest growth and demand meeting that growth, and LA is a good example of this. The market's past growth rate has held at 5%, but slips to 2% looking forward through to 2021. It's an important and necessary market for the large population and connectivity needs it serves, but has been struggling to fill space due to its pricey real estate and power, which translates to competition from surrounding states. There's plenty of space to lease, yet it isn't among the fastest-growing markets. This suggests that providers are watching, or should watch, demand and utilization with caution before deciding on new developments. Interestingly, this is a market where a single provider, CoreSite, has seen consistent growth, while the rest of the market stutters, and this is solely because it controls the bulk of the space in the One Wilshire building.

In Silicon Valley, the slow growth (3% projected) can be attributed to a constrained market. Land in Silicon Valley is extremely hard to come by – and equally expensive when it is available – and power can also be tough to get. The market does, however, maintain a low availability percentage, suggesting there could be opportunity for growth if space were available at the right price (again, not an easy task).

Chicago is the only other market here aside from Northern Virginia that also possesses a top-five historical or future growth rate. Demand has come from enterprises looking for capacity around the center of the country instead of the crowded, and potentially risky, coasts. Datacenter operators in this increasingly competitive market anticipate that 2019 will be a strong year of growth. Traditionally, the western suburbs of Chicago have been where the bulk of the growth has been sustained; however, the city's constrained downtown area has seen some growth in recent years.

FASTEST GROWTH RATES

Minus a few exceptions, many of the smallest datacenter markets in the US are also those that have grown (and will grow) most rapidly, from an overall percentage perspective. Any added capacity will cause the growth rate to jump enormously. At the same time, we find that, in this case, those that have exhibited impressive growth rates until now are not expected to continue such rapid growth, although that can change. For this reason, we chose to highlight the fastest-growing markets in the US overall, but also the fastest growing among the top 20 markets, since the latter may be more relevant to a broader audience.

Las Vegas is one of these exceptions – the city makes it onto the list of fastest growth over the past four years out of both the 20 largest markets and all US markets, plus markets with the fastest forecast growth rate. The market's size and success are essentially owing to Switch, which singlehandedly occupies 90% of the market. Switch has steadily added supply to its campus over the years. Las Vegas is somewhat of a rarity because the majority of the dominant provider's business comes from out-of-state and global corporations. The region has outstandingly low costs of land and power, which is a reason why it's been able to poach business from LA. In terms of connectivity, the city serves as a transit path to and from Salt Lake City from Los Angeles and Phoenix. Las Vegas is forecast to carry on its rapid growth, too – it lies just outside of the top five markets with quickest projected growth at the number six spot.

FASTEST-GROWING MARKETS TO DATE

Providence, Rhode Island, holds the top position for fastest-growing market in the US (and has since 2013). Provdotnet, as Providence's market leader, very much drives the market's direction. With a particular focus on edge projects and carrier and network services, the datacenter operator owns three facilities in Providence. It has steadily expanded over the years in what's been a relatively flat New England market, and will continue to evaluate new opportunities in Providence, a real estate market with which it's very familiar.

San Antonio, Texas, has historically been a slow-moving market, although it has potential to be much more active considering its size and economy. Providers that have recently put up facilities have been able to easily absorb capacity, almost always preleasing most or all of an entire facility and quickly filling any remaining capacity. CyrusOne carries the weight of this market with a 70% market share, and plans to continue buildouts, although it hasn't announced concrete expansion dates.

As we alluded to at the beginning of this section, some markets are so small that any amount of growth pushes the growth-percentage number really high. Fargo, North Dakota, and Cheyenne, Wyoming, fall into this category, and in both cases, a single provider is responsible for the growth. In Fargo, network and TV provider Midco recently launched its newest datacenter. With this facility, the company now has four datacenters throughout the Dakotas. For Cheyenne, the growth can be attributed to Green House Data; it has seen steady demand for its cloud and managed services, which the company layers on top of a traditional colocation product set to service local businesses.

THE TOP 20 FASTEST-GROWING MARKETS TO DATE

It's a similar story when we look at growth of only the 20 biggest US markets. Portland, Oregon, and Kansas City – the second- and third-fastest growing, respectively – are the two smallest markets within the top 20. Portland is currently seeing lots of growth due to the undersea cables that land in nearby Hillsboro. The market is also advantageous, given that it has no sales tax, making it cheaper than Seattle and Northern California, while it is 'close enough' to both. Kansas City, on the other hand, is seeing good growth from local business demand on both the Missouri and Kansas sides of the city. Kansas City sits on the North/South communication route between Chicago and Dallas, making it a good location for disaster recovery for both.

In addition to Las Vegas and Northern Virginia, there's Phoenix, the eighth largest US market. Phoenix's success thus far has been facilitated by factors that Las Vegas also shares: relatively low risk for natural disasters, a healthy wholesale market, and fairly cheap power and land. It also benefits from Arizona's solid incentives program and fast connectivity to neighboring large markets.

PROJECTED GROWTH: TIME WILL TELL

Switch, again, plays a big role in market growth, in this case with its Detroit and Reno investments. The provider aims to reach a footprint of 6.487 million square feet in Reno, and it plans to pour $5bn toward building a two-million-square-foot datacenter in Western Michigan. Whether these two cities' forecast numbers will actually materialize therefore hinges primarily on how Switch's plans develop. Indianapolis has been steadily growing, with new entrants and expansions from existing players. One noteworthy addition in the city will be contributed by LightBound, which is planning to double its gross footprint. As mentioned, Northern Virginia, Chicago and Las Vegas are expected to continually expand over the next few years.

THE OUTLIERS BY POPULATION

In general, the nation's most populous cities largely align with the biggest datacenter markets – and even the fastest growing. Topping the list for population are New York, Los Angeles, Chicago, Phoenix and San Antonio. There are a couple of exclusions, however. Houston is the fourth-most populous city, and Philadelphia is the sixth, according to the US Census Bureau's 2017 estimates, while they currently rank 15th and 14th in terms of operational square feet, respectively.

There are understandable reasons as to why Houston has a smaller MTDC market than cities of similar size. Its Gulf Coast location makes it prone to hurricanes and flooding, which has prevented it from developing into a substantial market. It is overshadowed by neighboring markets in the state, namely Dallas, which has grown steadily thanks to its cost-effectiveness and relative ease in obtaining land and building. Houston does see demand from oil & gas firms requiring deployments close to downtown area offices, and has avoided storm outages due to underground facilities.

Philadelphia, on the other hand, is more of an enigma. Unfortunately, from a datacenter perspective anyway, Philadelphia is situated very close to two behemoths – New York and Northern Virginia – and because of this, there isn't much need for large amounts of datacenter space to be added on a regular basis. That said, the market does see demand for in-city colocation space, and providers there are finding ways to be successful. Much like Baltimore, which also thrives in Ashburn's shadow, area businesses appreciate being a little closer to the datacenters than the larger markets would offer, and to some extent, add-on managed services can also help the business stay local.