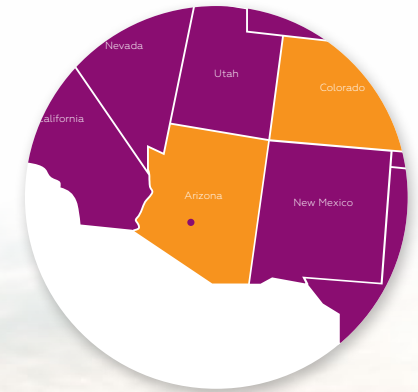




Infrastructure Planning Report

# North America - Phoenix



# Contents

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Iron Mountain Data Centers (IMDC) has compiled this Infrastructure Planner to give you a balanced overview of key colocation markets - their strengths and weaknesses, and the latest issues and opportunities.

- 03 North American Infrastructure
- 04 Developments in Key North American Markets
- 05 The Phoenix Market
- 06 Issues & Opportunities
- 07 Power & Interconnection
- 08 Iron Mountain Data Centers In Phoenix
- 09 About Iron Mountain Data Centers

2020  
to 2030

North America  
colocation  
forecast  
**CAGR 10.9%**

NA MARKET  
VALUE by 2030  
**= \$50BN**

**40%** of total  
colo spend in 2022  
**= \$20 BN**

# North American Infrastructure

North America is the highest revenue contributor to the \$50 BN+ global data center colocation market, accounting for around 40% of demand. The North American market is forecast to exceed the current global value of \$50 BN by 2030, with a CAGR of 10.9%.

## Key Drivers

Digital transformation, the growing adoption of multi-cloud, and network upgrades to support 5G are critical drivers of this growth, as well as the rapid expansion of hyper-scalers. User requirements are growing in both size and number and prices are rising as a result (2022: +5.9%).

On the wholesale/hyperscale side, major deals of 60 MW and above are becoming common. This is affecting the retail colocation market. As demand accelerates, space availability is becoming tighter and pre-leasing is becoming more widespread in primary markets to avoid potential capacity bottlenecks down the line. As a result, vacancy rates in the primary markets dropped to a record low of 3.8% in 2022.





# Developments in Key North American Markets

| Market             | Inventory (MW) | Y-o-Y Change (MW) | Available MW/Vacancy Rate | Y-o-Y Change* (bps) | 2022 Net Absorption (MW) | Y-o-Y Change (MW) | Rental Rates (kW/mo)** |
|--------------------|----------------|-------------------|---------------------------|---------------------|--------------------------|-------------------|------------------------|
| Northern Virginia  | ▲ 2,060.1      | 371.5             | 20.1 / 0.98%              | ▲ -408              | 436.9                    | ▲ 133.6           | \$100-\$140            |
| Dallas/ Ft. Worth  | ▲ 392.3        | 23.0              | 23.8 / 6.1%               | ▲ -613              | 44.3                     | ▲ 15.7            | \$120-\$160            |
| Silicon Valley     | ▲ 379.6        | 66.0              | 8.6 / 2.3%                | ▼ 71                | 62.4                     | ▲ 39.1            | \$155-\$250            |
| Chicago            | ▲ 342.2        | 32.7              | 21.1 / 6.2%               | ▲ -553              | 48.0                     | ▲ 20.6            | \$115-\$125            |
| Phoenix            | ▲ 324.5        | 37.5              | 27.5 / 8.5%               | ▲ -346              | 44.3                     | ▲ 14.5            | \$120-\$140            |
| New York Tri-State | ▲ 177.5        | 16.9              | 13.9 / 7.8%               | ▲ -156              | 18.1                     | ▲ 7.5             | \$125-\$135            |
| Atlanta            | ▲ 252.5        | 23.0              | 9.1 / 3.6%                | ▲ -472              | 33.0                     | ▼ -37.4           | \$115-\$130            |

\*Vacancy Y-o-Y changes are calculated by comparing the difference between H2 2022 and H2 2021.

\*\*Rental rates are quoted asking rates for 250+ kW at N+1/Tier III requirements.

Source: CBRE Research, CBRE Data Center Solutions, H2 2022.

# The Phoenix Market

As well as being the fifth-largest city in the USA, Phoenix is North America's fifth-largest data center market. This is largely due to low disaster risk, extensive fiber infrastructure, a good grid with mature renewables and competitive costs.

## Strategic Location

The Phoenix area is particularly desirable for data center operators looking for a hub serving the West Coast. A lot of users regard space in Phoenix as an alternative to California colocation where cost is higher and there is a greater disaster risk. Historically, firms migrating from Southern California have looked to Phoenix and Las Vegas as options, while customers from the Bay Area were more likely to consider the Pacific Northwest.

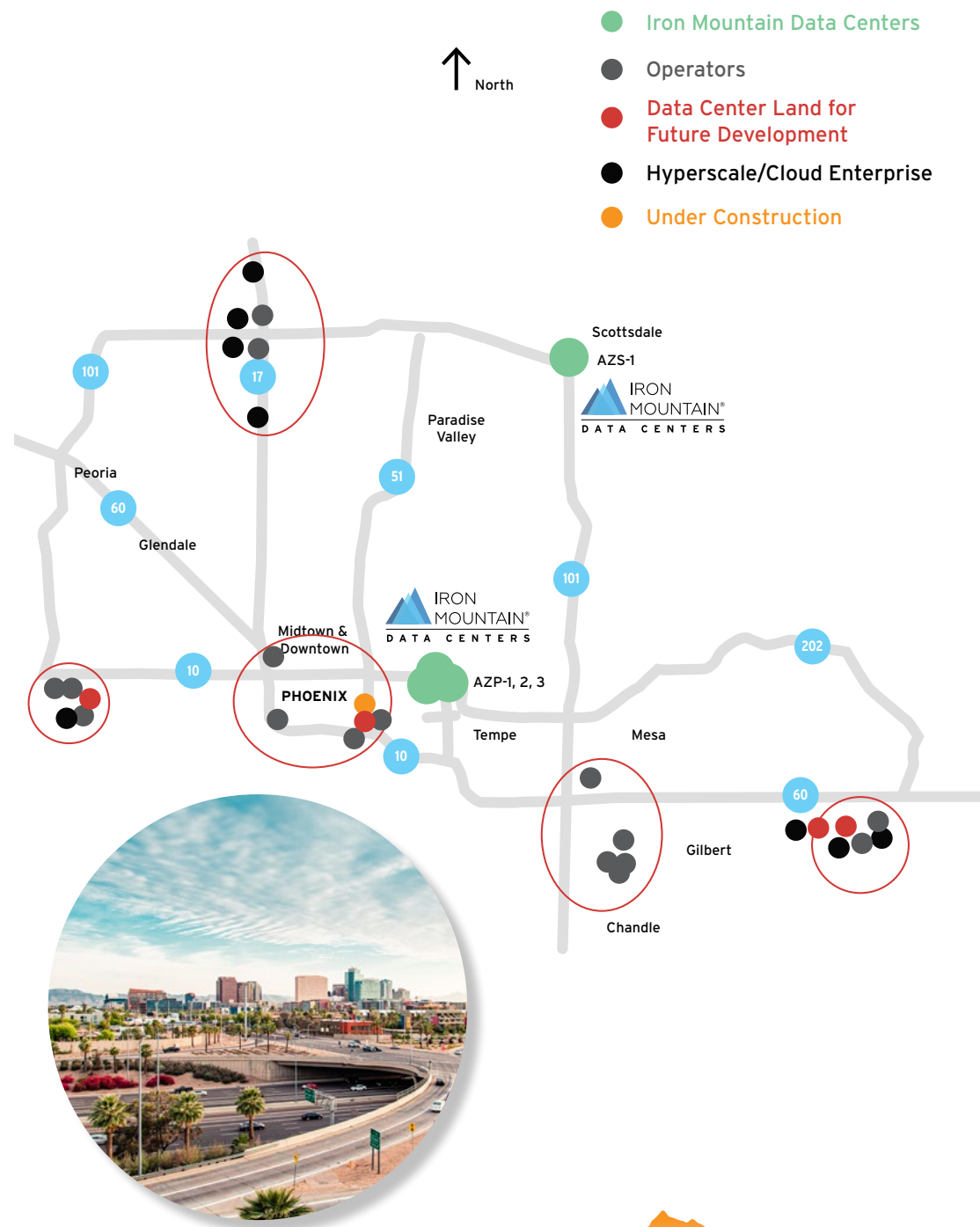
Phoenix is poised for even more growth as customers continue to seek alternatives to California due to recent changes in its risk profile, benefiting from recent power availability and real estate challenges in California as large data center users look east for resilience and DR.

## Site Distribution

There are more than 50 wholesale and retail colocation data centers distributed across the city and in a number of sub-markets in the suburbs. Most colocation providers are located in Phoenix and environs but there are also major developments further afield. There are major clusters in five areas (see map): Downtown/Central Phoenix; North Phoenix/I-17, Mesa (Elliot Road Tech Corridor), Goodyear and Chandler (Price Road Corridor).

## Growing Attraction

Compared to other major U.S. data center markets, Phoenix is very competitive on colocation rates and power costs. Staff costs are low and the region is proving very attractive for startups.



# Issues & Opportunities

Some of the key issues and opportunities to consider are:

## Water Pressure

Water needs careful management, and the growth in data center developments along with a declared shortage of supply from the Colorado River in 2021, has increased concern around water use. That said, only 36% of the Arizona water supply is from the Colorado River, far less than Nevada (100%) and California (60%). There is also a very high level of water recycling (93%), and Arizona has extensive reservoirs and good drought resilience, with 7.1 million acre-feet (around half of total state reserves) stored in Greater Phoenix alone. In addition, a number of initiatives have been launched to restore water, replenish aquifers and preserve current water levels.

## Development Issues

These and related concerns about data center development have made zoning approval more of an issue for future builds. Projects in Chandler, for example, have experienced some community resistance, and the City Council is set to review development limits.

## Incentives

Thanks to the Arizona Computer Data Center Program (CDCP) administered by the Arizona Commerce Authority (ACA) and the Arizona Department of Revenue (ADOR), data center users can benefit from a ten-year waiver on state, county, and local sales taxes on both equipment purchases and labor services for data centers. If the data center qualifies as a Sustainable Redevelopment Project, this waiver is increased to 20 years.

## Sustainability

Phoenix's desert environment provides opportunities for free cooling at night, directly impacting power usage effectiveness (PUE) and operational cost. But high daytime temperatures drive up cooling requirements.

Renewable power is widely accessible in Phoenix, helping to decarbonize customer data center operations. However, there is always more that can be done, such as sharing carbon credits with customers to encourage a greener grid, reducing embodied impact through Asset Lifecycle Management, and achieving 24/7 Carbon Free Energy.



# Power & Interconnection

Phoenix offers cost-effective power from a reliable grid. However, with hundreds of Megawatts of commissioned power and a great deal more in the pipeline, colocation facilities in the area need to make the most of the region's natural advantages (wind, solar) and optimize energy efficiency and water usage to minimize environmental impact.

## Climate

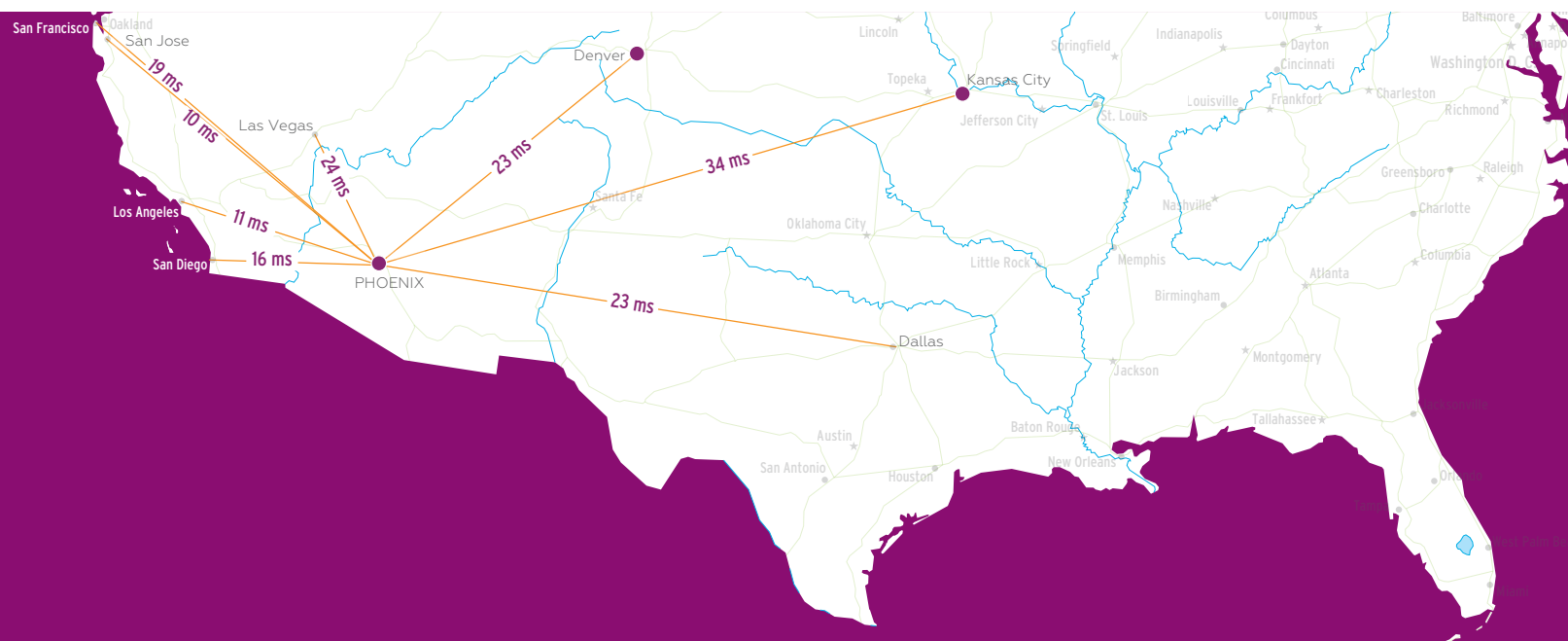
Phoenix's plentiful sunshine cuts both ways for data center users. On the one hand it offers an almost year-round source of renewable energy; this has helped focus investment on advanced solar power infrastructure construction. On the other hand, facilities require significantly more electricity for cooling during the many days of 100-degree-plus heat.

## Connectivity

Phoenix is a major east-west gateway for North America, a fiber crossroads for almost every national network backbone. Data center customers can choose from a huge array of services on offer from some 60 long-haul and metro fiber, broadband and wireless carriers, as well as SDNs like Megaport and internet exchanges such as Arizona Internet Exchange (AZIX) and, more recently, DE-CIX.

## Latency

Phoenix offers attractive east-west traffic latencies to key metros including 11ms to Los Angeles; 10ms to San Jose; 16ms to San Diego; and 23ms to Dallas.



# Iron Mountain Data Centers In Phoenix

IMDC operates three large facilities in Phoenix with another in the pipeline, making it one of the largest and fastest-growing locations on our global footprint. All are Certified Data Centers pursuant to the AZ CDC bill offering exemption from Transaction Privilege Tax and Use Tax.



## AZP-1 & AZP-2

Just 10 minutes east of downtown Phoenix, a 39-acre campus contains our AZP-1 (41MW) and AZP-2 (48MW) data centers which between them offer customers more than a million square feet of partner-rich colocation space and a 260-strong customer ecosystem. This campus is one of the leading network hubs in the Phoenix region, with 40+ network providers and key peering exchanges including the Arizona Internet Exchange (AZIX), DE-CIX Phoenix and Ninja-IX.

AZP-2 is North America's first-ever BREEAM-design-certified data center, providing sustainable data center design which complements IMDC's 100% renewable power offer.



## AZS-1

Our AZS-1 data center in Scottsdale - just outside downtown Phoenix - offers 121,000 square feet of space and 5.8 MW of power. As well as an 80-strong customer ecosystem and in-house access to a wide variety of SDNs, carriers and clouds, AZS-1 sits on a 100 Gbps fiber ring interconnecting it with the AZP-1/AZP-2 campus and ecosystems.



## AZP-3

IMDC has also acquired a neighboring property with 100 MVA potential on which we are constructing a 36 MW data center with around 230,000 square feet of space. This new facility - AZP3 - will be built out in phases and will also be constructed to BREEAM sustainability standards making it an ideal long-term site for customers with ambitious environmental goals.





## About Iron Mountain Data Centers

Iron Mountain Data Centers operates a global colocation platform that enables customers to build tailored, sustainable, carrier and cloud-neutral data solutions. As a proud part of Iron Mountain Inc., a world leader in the secure management of data and assets trusted by 95% of the Fortune 1000, we are uniquely positioned to protect, connect and activate high-value customer data. We lead the data center industry in highly regulated compliance, environmental sustainability, physical security and business continuity. We collaborate with our 1,300+ customers in order to build and support their long-term digital transformations across our global footprint, which spans three continents.

[IRONMOUNTAIN.COM/DATA-CENTERS](https://ironmountain.com/data-centers)

To discuss your plans and requirements please contact us on:

US: +1 833 476 2656

NL: +31 800 272 4433

UK: +44 844 417 8379

DE: +49 800 408 0000

Email: [datacenters@ironmountain.com](mailto:datacenters@ironmountain.com)