



HOULIHAN LOKEY

The REVU

THE REAL ESTATE VALUATION UPDATE

Q1 2018 – DATA CENTERS: WILL BLOCKCHAIN BE THE NEXT CATALYST AFTER CLOUD?



Market Overview

TRANSACTION VOLUME

- **Total transaction volume** in U.S. real estate was \$463.9 billion in 2017. Year-over-year transaction volumes and prices were down 7.0% and 7.1%, respectively.¹
- The **top three buyers** in U.S. real estate by volume during 2017 were Blackstone Group, GIC, and Starwood Capital. Top sellers included Blackstone Group, Equity One (REIT), and Dupont Fabros Technology.¹
- **Multifamily** transactions also declined 7.0% year over year, with a total transaction volume of \$150.1 billion in 2017.¹
- **Retail** investments declined 18.0% year over year to \$63.4 billion in 2017. This is the second consecutive year of decline in retail.¹
- **Office** investment volume was off to a strong start in early 2017 but failed to keep up the pace throughout the rest of the year. Total transaction volume for 2017 stood at \$131.9 billion, which was down 8.0% year over year.¹
- **Hotel** investment volume of \$27.5 billion in 2017 was down 24% year over year. Entity-level transactions were the main source of the decline, with an 87% year-over-year fall.¹

TRENDS

- **Multifamily** and **Office** cap rates witnessed little movement in 2017. Despite continued growth in multifamily prices, the market is no longer experiencing cap rate compression. Office cap rates averaged 5.2% in Q4 in the six major metros;* however, interest rates and low prices have drastically reduced return opportunities.^{1,2} **Retail** cap rates moved up in the six major metros* to 5.8% in Q4, a 40 bps increase since Q2. However, non-major metros moved up by only 20 bps between Q2 and Q4 to 6.9%. **Hotel** cap rates for full service tightened from 8.0% in Q2 and 7.8% in Q4, whereas limited service cap rates jumped from 9.0% in Q2 to 9.2% in Q4.¹
- As per the PwC Q4 2017 Real Estate Investor Survey, a tremendous amount of capital, both domestic and foreign, is seeking investment opportunities in the **Warehouse** sector, **compressing cap rates** and elevating prices. The average overall cap rate for the asset class declined to 5.06% in the last quarter.²

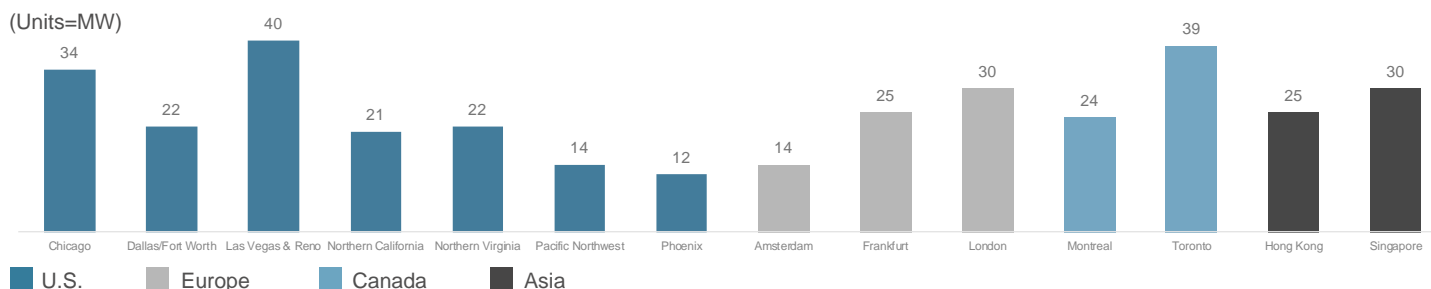
2017 Scorecard

Average U.S. Cap Rates and Y-o-Y Movement				2017 Y-o-Y Change in Institutional Vacancy Rates			
Multifamily	Retail	Office	Hospitality	Multifamily	Retail	Office	Hospitality
5.6% (↓10 bps)	6.5% (Unch.)	6.7% (↑10 bps)	8.8% (↑30 bps)	Unch.	↑40 bps	↓10 bps	Unch.

Note: As of Q4 2017, except for Hospitality, which is as of Q3 2017 (latest available for lodging).

Source: Real Capital Analytics and PwC RE Investor Survey Q3 2017

Current Under-Construction Data Center Inventory



Source: JLL U.S. Data Center Outlook 2018

Sources:

*Six major metros include New York, Boston, Chicago, Los Angeles, San Francisco, and Washington, D.C.

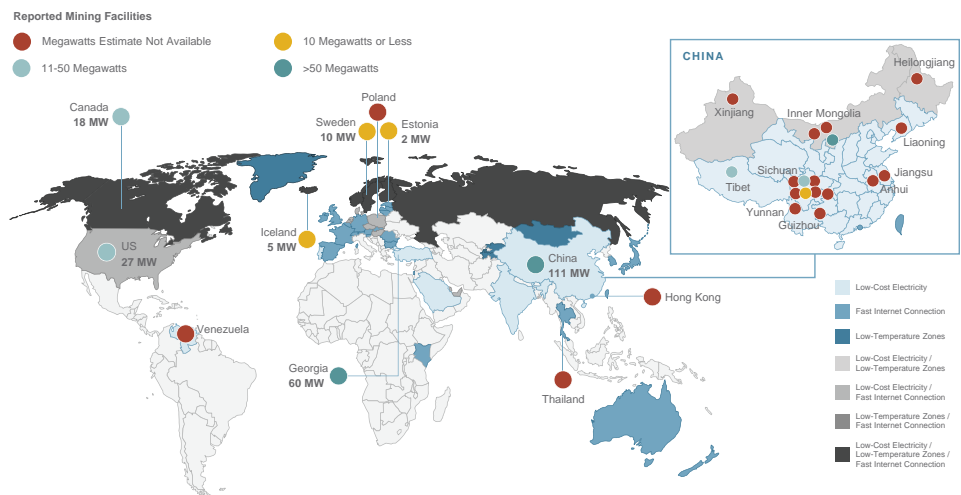
1. Real Capital Analytics, Capital Trends Report 2017

2. PwC Real Estate Investor Survey Q4 2017

SECTOR FOCUS – DATA CENTERS: WILL BLOCKCHAIN BE THE NEXT CATALYST AFTER CLOUD?

- In 2017, U.S. **data center transactions** exceeded \$20 billion—the highest volume ever on record, exceeding the total of 2015 and 2016 volumes combined.³ Though nearly 300 megawatts are scheduled for delivery in 2018, the risk of oversupply seems unlikely because key markets have vacancy rates near or below 5% and pre-leasing levels remain high, with nearly 50% of oncoming capacity already committed.⁴ Oracle Corp. plans to quadruple its data centers over the next two years with 12 new facilities. The company had already invested a total of \$2.04 billion as of November 2017.⁵
- Cloud leasing continued to reign supreme in the majority of markets—with many cities reporting upward of 25% leasing driven by cloud operators.²
- Despite ongoing volatility in the price of Bitcoin and other cryptocurrencies, demand and growth continue to be strong. This has translated into continued requirement for new data center capacity.⁶
- Blockchain “is growing so much that it will be one of the largest users of capacity [in 2018] at about 60 data centers that International Business Machines Corp. rents out to other companies around the globe.”⁷
- Cloud mining involves renting computational power from remote data centers.⁸
- The underlying technology for most cryptocurrencies (blockchain) is being used to create several platforms that may potentially make future real estate transactions more accessible, such as Brickblock, the first platform where users can seamlessly invest in real estate funds (REFs) and exchange-traded funds (ETFs),⁹ or BrickCoin, which is the first blockchain-based currency backed by real estate.¹⁰

Global Cryptocurrency Mining Sites



Source: University of Cambridge

CASE STUDY

The client is an alternative investment manager, with assets in a range of credit-related strategies, that entered into a sale-leaseback transaction with a major telecommunications corporation to acquire its corporate campus. The investment involved the purchase of a major office and data center campus on the East Coast in one of the largest data center markets in the country.

Houlihan Lokey's Solution

Houlihan Lokey was engaged to express its conclusions regarding the range of fair value of the company's investment and assist the client in determining the fair value of the investment for financial reporting purposes. Houlihan Lokey's analysis was informed by a deep understanding of the underlying fundamentals impacting data center properties in the then-current market environment as well as a comprehensive market review that included discussions with our real estate and technology industry bankers. Houlihan Lokey estimated the value of the data center and the office space separately using the income approach, applying appropriate risk-adjusted capitalization rates and market multiples based on consideration of observations in the various markets and the property mix (location and type) of the portfolio.

- JLL U.S. Data Center Outlook 2018
- CBRE U.S. Real Estate Market Outlook 2018
- Wall Street Journal, "Oracle Leaps Into the Costly Cloud Arms Race"
- Future-Tech, "Cryptocurrencies and the data centre: part one"
- Fortune, "Blockchain Is Pumping New Life Into Old-School Companies Like IBM and Visa"
- Racksolutions.com, "What does Bitcoin mean for Data Centers in 2018?"
- Brickblock Whitepaper, Jakob Drzazga, Martin Mischke, Holger Schlünzen, Philip Paetz
- BrickCoin website

Valuation Services Offered by Houlihan Lokey

Portfolio Valuation Services

- Fair Valuation for Financial Reporting
- Structured Product Valuation and Pricing Services
- Derivatives Valuation & Risk Management
- Valuation Governance & Best Practices
- Securitization & Regulatory Compliance
- Fund Manager Valuation
- Fund Recapitalization & Transaction Opinions
- Portfolio Acquisition & Divestiture Services

Real Estate Valuation Services

- Real Estate Valuation & Appraisal
- Real Estate Entity Valuation
- Real Estate Due Diligence & Modeling
- Real Estate Debt Valuation
- Fixed Asset Valuation
- Market Analysis
- Fairness & Solvency Opinions
- Purchase Price Allocations
- Portfolio Valuation
- Estate & Gift Tax Valuation
- Dispute Resolution & Financial Expert Opinions
- Property Tax Valuation



Houlihan Lokey holds an indirect minority stake in Leonardo & Co. S.p.A., an investment bank with an office in Milan.

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