

ISSUE NO. 02 | WHAT'S INSIDE

03

The evolution of alternative real estate

05

Following the sun

07

5 key drivers igniting the industrial sector

11

Real assets require a hands-on approach



Trends **igniting growth**
in the industrial sector

Our world, transformed

The first shock waves of the global pandemic began reverberating around the world one year ago. Our country and the world have suffered through the hardship and tragedy of COVID-19, but we are seeing signs of hope and new shoots of growth emerge.

The pandemic has transformed our world, and while we have yet to realize the extent of the changes that will be wrought by the pandemic, several promising trends are profoundly impacting our built environment.

In this issue, we will explore some of these trends. From the forces driving industrial sector performance to the personal stories creating a wave of migration to Sun Belt cities, these changes are shaping the cities and buildings where we live.

As a real estate investor, I believe that megatrends of demographics, technology and sustainability will continue to drive global demand for real estate. But I also expect softer factors, such as well-being, culture and leisure to play a greater role going forward. The pandemic has given us an opportunity to reshape our lives. And I look forward to seeing the new ways we will live, work and play.

Sincerely,

Carly Tripp,
Global CIO, Nuveen Real Estate





Real estate's rising stars

Economic and cultural shifts will likely push alternative real estate into the mainstream. We are changing how we receive health care, pay for housing and interact with technology, all creating opportunities.

See “The evolution of alternative real estate”

03

Following the sun

As people around the country reassess their living situations, many are heading to the Sun Belt. Investors have a unique opportunity to capture the growth potential of these Sun Belt cities.

See “Sunny side of the country”

05

Five trends powering industrial growth

The pandemic fueled dramatic growth in e-commerce and the industrial sector. But is this progress sustainable in a normal economy? What other drivers will support the momentum?

See “Trends igniting growth in the industrial sector”

07

Beyond the buying and selling

Real estate poses tangible challenges for investment managers. Our teams maintain the physical asset, making improvements to enhance returns and ensure high-quality, long-term tenant relationships.

See “Real assets require a hands-on approach”

11

Evolving megatrends turn *alternative* real estate sectors into rising stars

Megatrends have long influenced the commercial real estate market. Changes such as rising urbanization and shifting global economic power have created opportunities in traditional sectors like retail, housing and office space.

With slower economic growth expected in the post-coronavirus world, the focus shifts to real estate property types that can generate superior growth despite a weaker economic environment. These emerging sectors include alternative housing, health care and technology that are less tied to the state of the economy and more so to changing demographics.

MEGATREND 1:

Changing U.S. demographics benefit alternative housing

The aging of millennials and baby boomers will fuel demand for single-family rentals and senior housing.

Taking single-family rentals as an example, the aging millennial generation is starting to have children and desires the amenities that homes offer (3-plus bedrooms, a yard, privacy). This demographic (ages 35-44) is projected to grow at more than twice the rate of the general U.S. population over the next decade.

We also expect to see a large increase in demand for senior housing over the next few years, as the baby boomer generation ages. Over 65% of senior housing stock is 17 years or older, creating an opportunity for development.

MEGATREND 2:

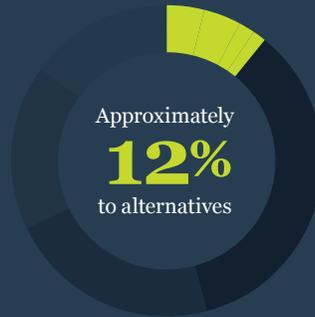
Transforming U.S. health care system boosts health care real estate

Health care is the fastest-growing sector in the U.S. economy and accounts for nearly one-fifth of GDP, according to *OECD Health Statistics 2019*. Health care-centric real estate will continue to grow in importance during the coming decades, particularly in light of COVID-19. This includes subsectors such as medical office and life sciences centers.

Drug development is a key driver of life sciences demand. From a medical office perspective, we believe more care will be delivered outside of hospitals in more cost-effective settings, such as medical offices. In particular, we see opportunity in medical offices that offer higher acuity services that cannot be delivered via telemedicine.

The evolution of alternative real estate

2020: Representative real estate portfolio



ALTERNATIVES

- Health care
- Alternative housing
- Technology
- Other

TRADITIONAL

- Office 35%
- Apartments 22%
- Industrial 17%
- Retail 15%

2030: Representative real estate portfolio



ALTERNATIVES

- Health care 15%
- Alternative housing 15%
- Technology 15%

TRADITIONAL

- Apartments 15%
- Industrial 20%
- Office 10%
- Retail 5%

Data source: NCREIF, 30 Sep 2020. Current exposure is based on NFI-ODCE Index market values by property type.

MEGATREND 3:

A rise in the digital economy enhances technology real estate

Technology is another emerging alternative sector. Increasing data consumption is driving the need for more data centers, cell towers and their associated real estate components. The growth of global internet traffic, mobile-to-mobile connections and next-generation innovation – from artificial intelligence to the internet-of-things – should continue to propel the sector’s demand.

Data center markets have strong fundamentals, as companies of all sizes are taking advantage of colocation for connectivity and cloud services for inexpensive storage and processing power. Outsourcing data centers allows IT departments to buy the power and space needed today and add more as required, which becomes an operating expenditure rather than a capital expenditure.

In a decade, alternatives will make up nearly 50% of a real estate portfolio.

Sunny side of the ~~street~~ country

For a number of years, America's fastest growing cities have been found in the Sun Belt. But the pandemic accelerated the trend, and those people on the move will have implications for the commercial real estate market.



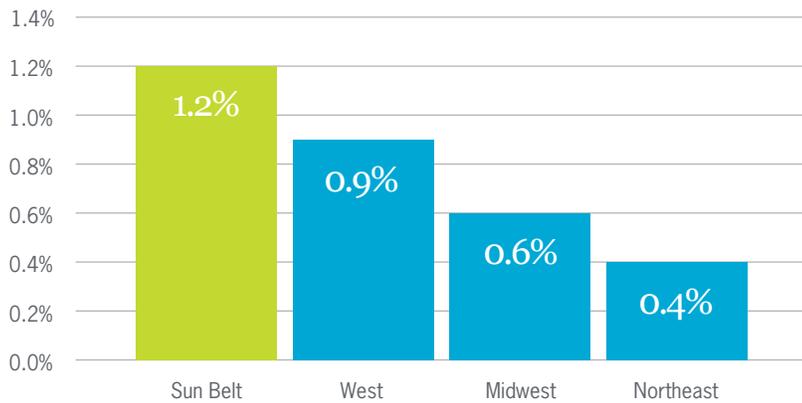
Many people are seeking to escape from densely populated cities in pursuit of more space, according to U.S. migration data, with top destinations including Arizona, Texas and Florida. This shift favors suburbia and the Sun Belt cities, and fuels demand for alternative housing, such as single-family rental homes and manufactured housing.

Similarly, major employers like Oracle, Hewlett Packard and Coldwell Banker Richard Ellis are relocating their offices from higher-priced cities to more affordable options in the Sun Belt.

This migration increases demand beyond housing to touch nearly every real estate sector: industrial fulfillment centers, health care offices, construction warehouses, grocery-anchored retail, etc. We believe this presents investors with a significant opportunity to capture the power of Sun Belt growth.

Mass migration is following the sun

Population growth by region, 2020 - 2025, percent per annum

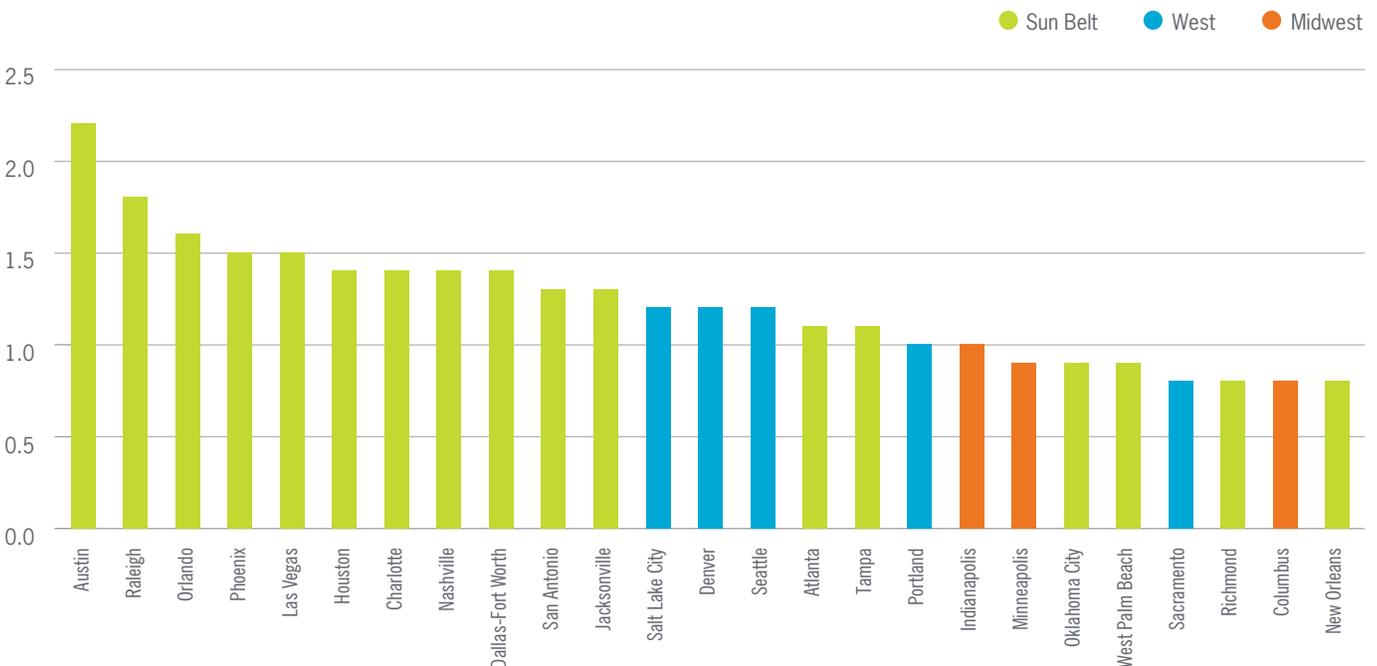


Data source: StratoDem Analytics, January 2020.

The megatrends of demographics, technology and sustainability will continue to drive global demand for real estate. Additionally, we expect softer factors, such as well-being, culture and leisure to play a greater role going forward. Identifying resilient cities that can thrive amid these structural changes remains at the heart of our global cities approach.

America's fastest growing cities are in the Sun Belt

Population growth in 25 largest metro areas, 2020 - 2025, percent per annum



Data source: StratoDem Analytics, January 2020.

Trends **igniting** **growth** *in the industrial sector*



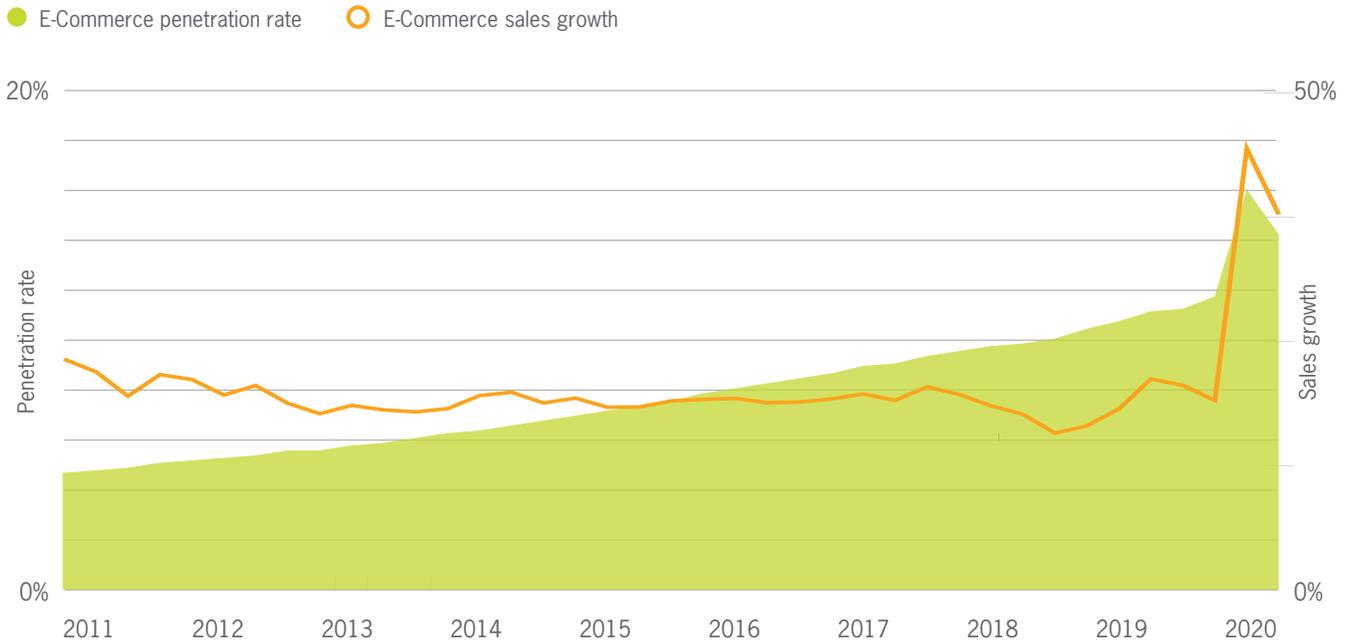
Warehouse facilities in the industrial sector serve multiple purposes in our modern, digital economy, spurring growing demand over the last decade. Since the onset of the global pandemic in March 2020, warehouse values have risen 6.8%, while overall property values have fallen by 2.9%.

Nuveen Real Estate believes the strength in the industrial sector will continue, based on five drivers converging to sustain growth.

1. E-COMMERCE GROWTH EXPLODES

Consumers ordering goods and services online during coronavirus lockdowns boosted e-commerce sales growth significantly, rising from 16.6% to 36.7% year-over-year from the fourth quarter of 2019 to the same period in 2020. The penetration rate increased from 11.2% in Q3 2019 to 14.3% in Q3 2020. We expect that rate to increase another 5% to 10% by 2025, which could lead to even higher demand for warehouse space from a larger variety of tenants.

Online sales escalate during coronavirus lockdowns



Data source: Moody's Analytics; CoStar, 31 Mar 2011 – 30 Sep 2020.

2. SUPPLY MANAGEMENT SHIFTS TO 'JUST-IN-CASE'

At the outset of the pandemic, retailers using 'just-in-time' management – such as suppliers of groceries, aluminum cans and medical supplies – encountered unforeseen increases in supply chain costs. Their inability to meet spikes in customer demand ultimately led to supply chain failures. 'Just-in-case' supply chain management, which requires larger inventories and more warehouse space, allows retailers to hold additional 'buffer stock' inventories to address unexpected changes in demand. This practice is expected to elevate demand for industrial real estate, while minimizing future supply chain disruptions for retailers by increasing on-hand inventories.

3. RE-ROUTING SUPPLY CHAINS CREATES NEW DEMAND

Major corporations have been diversifying their supply chains to manage risk and respond to changing global economics. Supply chains are shifting away from China, toward India, Malaysia, Pakistan and Vietnam, given their attractive labor costs and large labor pools. This transition will likely lead to a surge in East Coast market demand relative to West Coast ports. Moreover, companies are also beginning to migrate mission-critical supply chain activities to geographic regions closer to the end consumer. This will lead certain corporations to relocate activities back to the U.S., Mexico and Canada. The 'on-shoring' or 're-shoring' of supply chain activities is expected to benefit the industrial sector.

4. POPULATION RELOCATION FAVORS THE SUN BELT

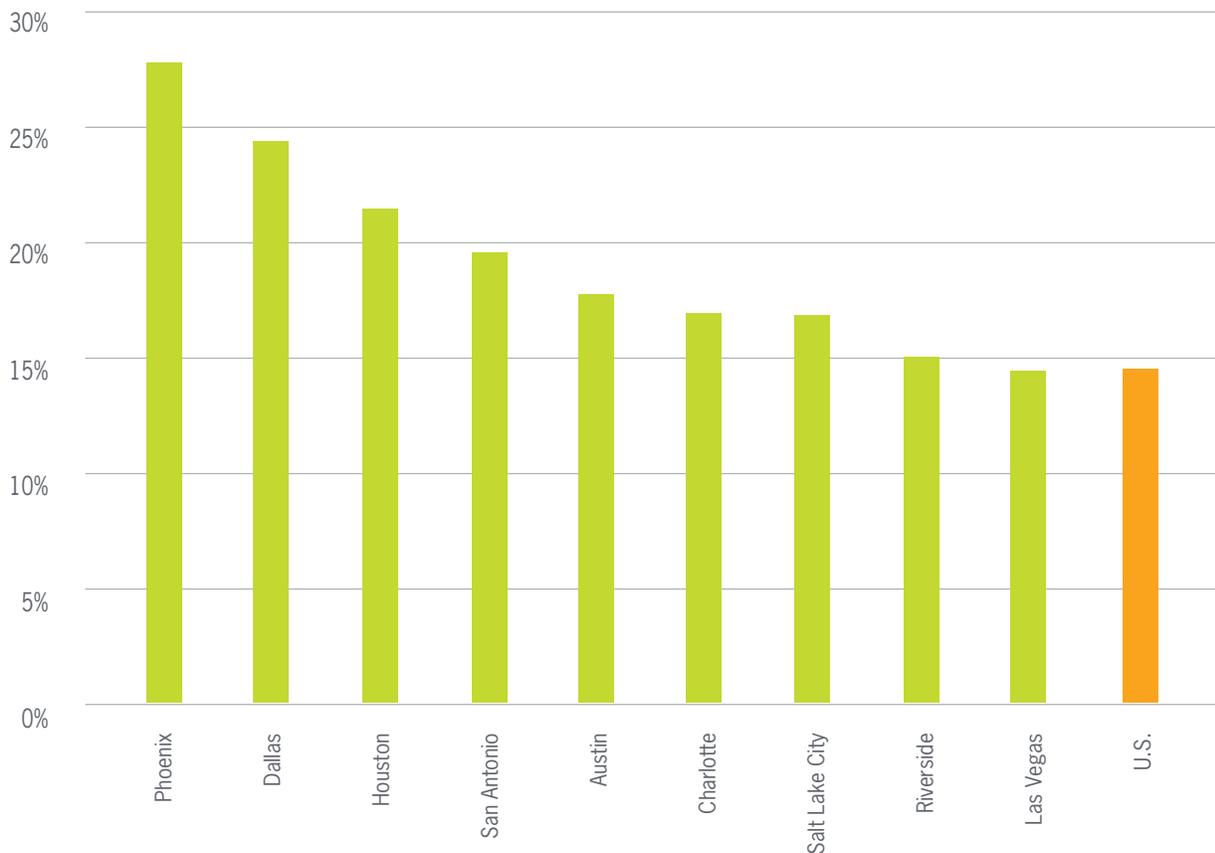
Warehouses in markets such as Raleigh, Austin and Nashville are expected to experience the greatest relative surge. High population growth, especially among higher-income earners, is fueling e-commerce sales disproportionately in those cities. In addition, other activities that lead to increased demand for industrial real estate, like home building, are expected to flourish in these markets. Corporations are also more likely to focus on the re-shoring of supply chain operations to Sun Belt markets, due to higher trade volumes from and enhanced proximity to operations in Mexico and Central America.

5. SINGLE-FAMILY HOME DEMAND INCREASES

Single-family home demand has traditionally been a primary driver of light industrial and warehouse demand, as construction companies and vendors use the space to store building materials and equipment. Single-family home permit growth strengthened in 2020, growing from -0.6% year-over-year in at the end 2019 to 14.4% year-over-year at the close of 2020. Most importantly, Nuveen expects demand from home construction activity and related companies to further support warehouse rent growth as an unrelated but complementary demand-driver to e-commerce.

Single-family home permit growth accelerated following the pandemic

Year-over-year growth



Data source: U.S. Census Bureau, Green Street Advisors, 31 Dec 2020.

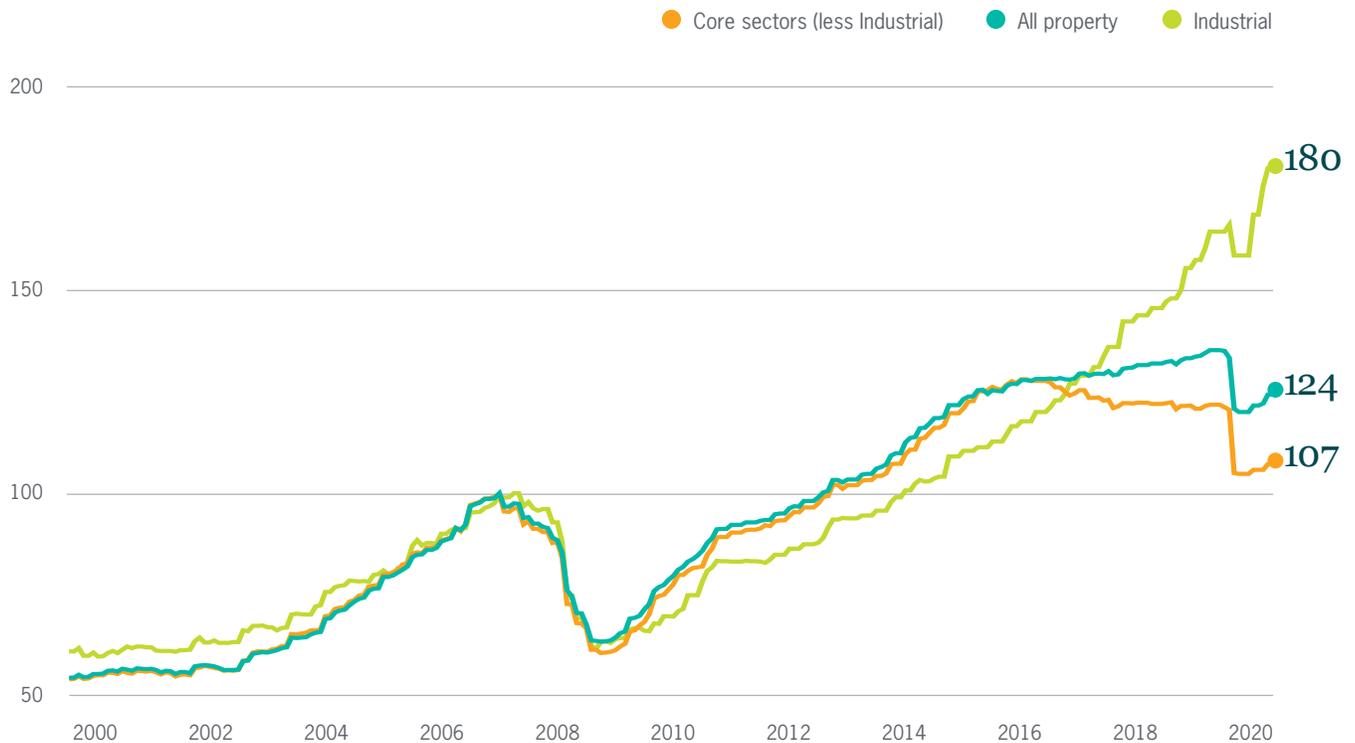
Sector insight:

Industrial real estate is comprised of a variety of property subtypes:

- **Light industrial**
- **Bulk logistics**
- **Cold storage**
- **Manufacturing**
- **Research and development space**
Primarily driven by medical, technology and engineering uses.

Industrial sector growth outpaces traditional sectors

Commercial Property Price Index



Data source: Green Street Advisors, 31 Dec 2020. **Past performance is no guarantee of future results.**



Real estate demands hands-on management

When portfolio managers deal in stocks or bonds, their primary responsibility is buying and selling the security. But as real estate investors, our responsibility reaches far beyond those two book ends.



Nuveen's real estate team is composed of more than 600 professionals, allowing us to capture opportunity throughout the investment life cycle.

Investing in tangible assets entails, not only the buy and sell, but also maintaining the physical asset, making improvements to enhance returns and ensuring high-quality, long-term tenant relationships.

This hands-on management requires large teams on the ground around the world. Nuveen's real estate team is composed of more than 600 professionals, allowing us to capture opportunity throughout the investment life cycle.

ACQUISITION AND FINANCING

We start with city selection, evaluating the most promising locations by assessing factors such as scale, supply, liquidity, workforce dynamics, demographics, livability and climate risks.

Boots on the ground acquisitions teams put this research into action, as they source properties using long-term relationships with sellers, agents, lenders and tenants. These teams work in a sector-specialist model, providing best-in-class sourcing, underwriting, analysis and due diligence. They also leverage the firm's extensive scale to identify the most efficient financing sources and structure.

Portfolio management teams make the ultimate acquisition and management decisions, based on fund objectives. Every potential acquisition is separately reviewed by Nuveen's real estate investment committee.

ASSET MANAGEMENT

Nuveen's asset management professionals lead the property management, leasing and development teams to ensure that each property is best positioned to generate the target returns.

Development and construction management:

In some cases, we may execute ground-up development and redevelopment projects. We can seamlessly manage every step of the development and construction process, including cost budgeting, value engineering, contract negotiations, general and subcontractor supervision and overall project management.

Property management:

Nuveen strives to maintain and enhance property values, using local property managers to address tenant concerns, manage ongoing building projects and monitor building conditions. Thoughtful decision-making, swift responses to tenant issues and strong working relationships with tenants, vendors and local authorities are essential to retaining asset value.

Leasing:

Our asset management team maintains successful broker and tenant relationships, both globally and locally, and carefully monitors the leasing market to ensure that we maximize tenant retention, rents and exposure to prospective tenants.

DISPOSITION

Each real estate investment has a thoughtful exit strategy from the time of acquisition. The holding period depends on the investment profile, but may range from 5 to 20 years and is evaluated annually through a hold-versus-sell analysis. When an asset is sold, our portfolio managers work to achieve top market pricing and optimized returns.

Asia's alpha city

Our research team has scored more than 4,000 global cities, according to the qualities that make them attractive today and in the future. Tokyo fits smartly into our strategy:

Mega metropolis

Tokyo's economy is twice the size of London's. Its population of nearly 38 million makes Tokyo the world's most populous city.

Gateway to Asia Pacific

Tokyo is home to the world's second highest number of Fortune 500 companies, behind Beijing.

Tourist attraction

Boasting 13 Michelin 3-star restaurants, Tokyo has the most Michelin-starred restaurants in the world (230).

Investment intensive

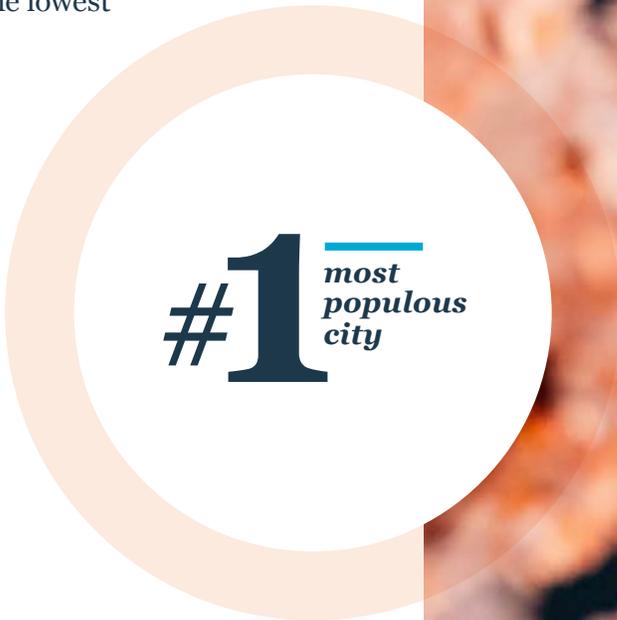
Tokyo ranks among the world's biggest and most liquid commercial real estate markets.

Connected

Tokyo's clean and efficient public transportation system has more than 130 lines, more than 2,000 km of operational rail and over 1,000 stations.

Lifestyle

Tokyo is a clean and safe city, with a homicide rate of 0.3 per 100,000 persons, the lowest in the world.



#1 most populous city



OXYGEN

For more information, please visit nuveen.com.

Endnotes

This material is not intended to be a recommendation or investment advice, does not constitute a solicitation to buy, sell or hold a security or an investment strategy, and is not provided in a fiduciary capacity. The information provided does not take into account the specific objectives or circumstances of any particular investor, or suggest any specific course of action. Investment decisions should be made based on an investor's objectives and circumstances and in consultation with his or her financial professionals.

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All information has been obtained from sources believed to be reliable, but its accuracy is not guaranteed. There is no representation or warranty as to the current accuracy, reliability or completeness of, nor liability for, decisions based on such information and it should not be relied on as such. For term definitions and index descriptions, please access the glossary on nuveen.com. **Please note, it is not possible to invest directly in an index.**

A word on risk

Real estate investments are subject to various risks, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability. Please consider all risks carefully prior to investing in any particular strategy. A portfolio's concentration in the real estate sector makes it subject to greater risk and volatility than other portfolios that are more diversified and its value may be substantially affected by economic events in the real estate industry. International investing involves risks, including risks related to foreign currency, limited liquidity particularly where the underlying asset comprises real estate, less government regulation in some jurisdictions, and the possibility of substantial volatility due to adverse political, economic or other developments.

Nuveen provides investment advisory services through its investment specialists.

This information does not constitute investment research as defined under MiFID.