Q3 2021

SPECIAL REPORT

U.S. INDUSTRIAL REAL ESTATE

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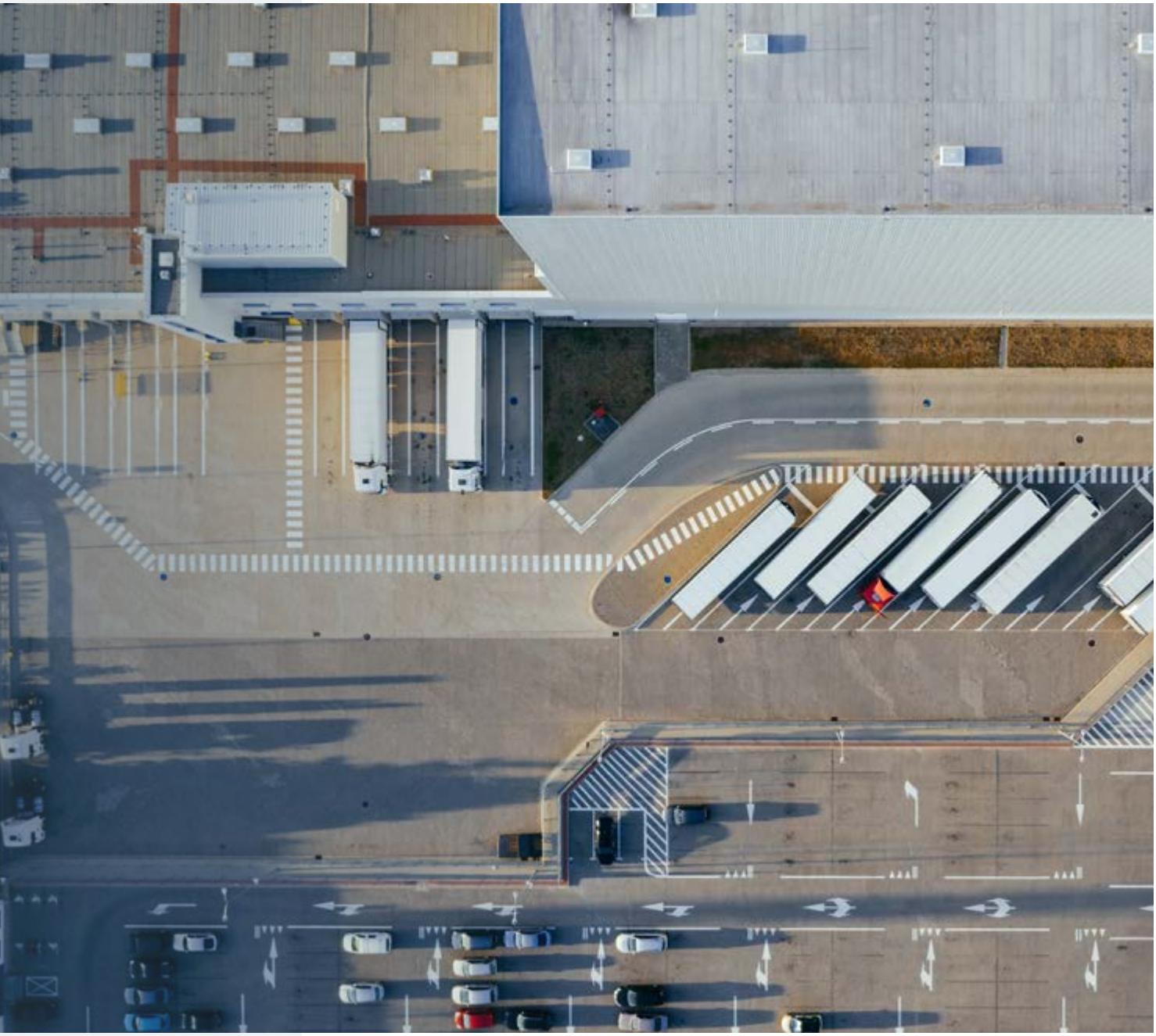
TABLE OF CONTENTS

EXECUTIVE SUMMARY

In 2020, industrial real estate outperformed all other major real estate classes and the sector's strong performance has continued in 2021. According to Real Capital Analytics, transaction volume increased from $46.9 million in 1H20 to $51.9 million in 1H21, the average cap rate declined from 6.1% in 1H20 to 5.8% in 1H21, and the average price per sf increased from $96.43 in 1H20 to $107.09 in 1H21. This report examines some of the reasons behind industrial real estate's strong performance, it describes the leading types of industrial properties, and it highlights the different factors that have positioned industrial real estate for continued growth.

INDUSTRY OVERVIEW

Industrial real estate is generally divided into manufacturing facilities, warehouse and distribution facilities, flex industrial facilities, and other specialty properties. Manufacturing facilities are used to produce and assemble goods, and require specific components based on the goods that are being manufactured. These can include extensive power supplies, specialized machinery, and pressurized water. Warehouses support storage and distribution functions and require large amounts of space, elevated ceilings, and loading docks. Flex industrial properties often support multiple tenants and have more office space than warehouses and manufacturing sites, while specialty industrial properties - such as life sciences and cold storage facilities - are used for highly specific purposes. According to Jones Lang LaSalle (JLL), at the beginning of 2021, there were nearly 14 billion sf of industrial properties in the United States. Warehouse and distribution properties accounted for 10.3 billion sf, manufacturing properties accounted for 3.4 billion sf, and flex industrial and special purpose properties accounted for 37 million sf.

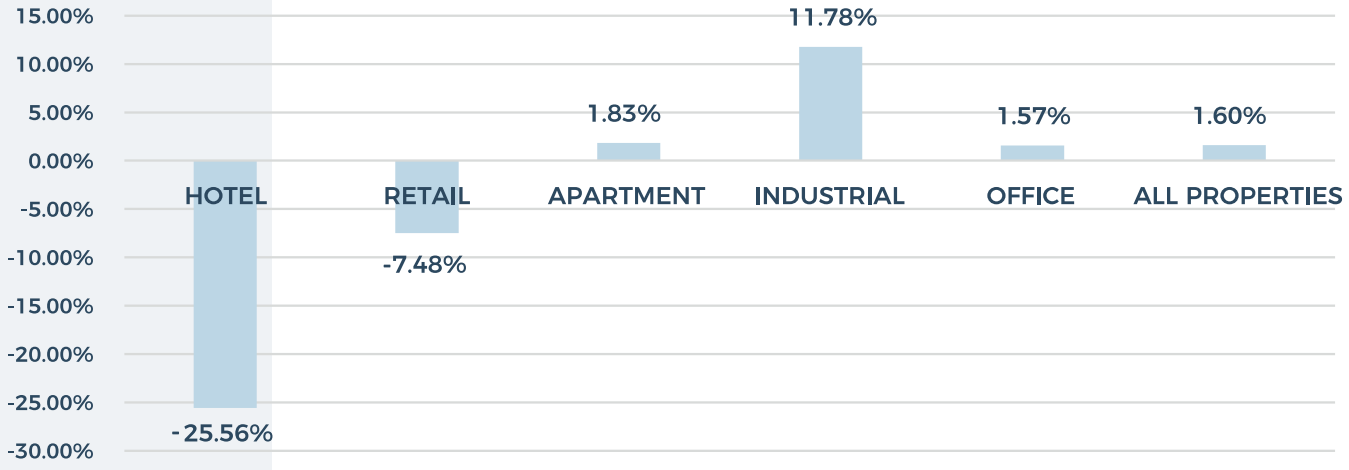


2020 PERFORMANCE

Despite the emergence of COVID-19 and a 3.5% decline in real GDP, U.S. industrial assets delivered a strong performance in 2020. According to NCREIF's property index, the industrial sector outperformed all other major real estate classes by generating an 11.78% return for the year.

2020 NCREIF PROPERTY INDEX RETURNS

Source: NCREIF



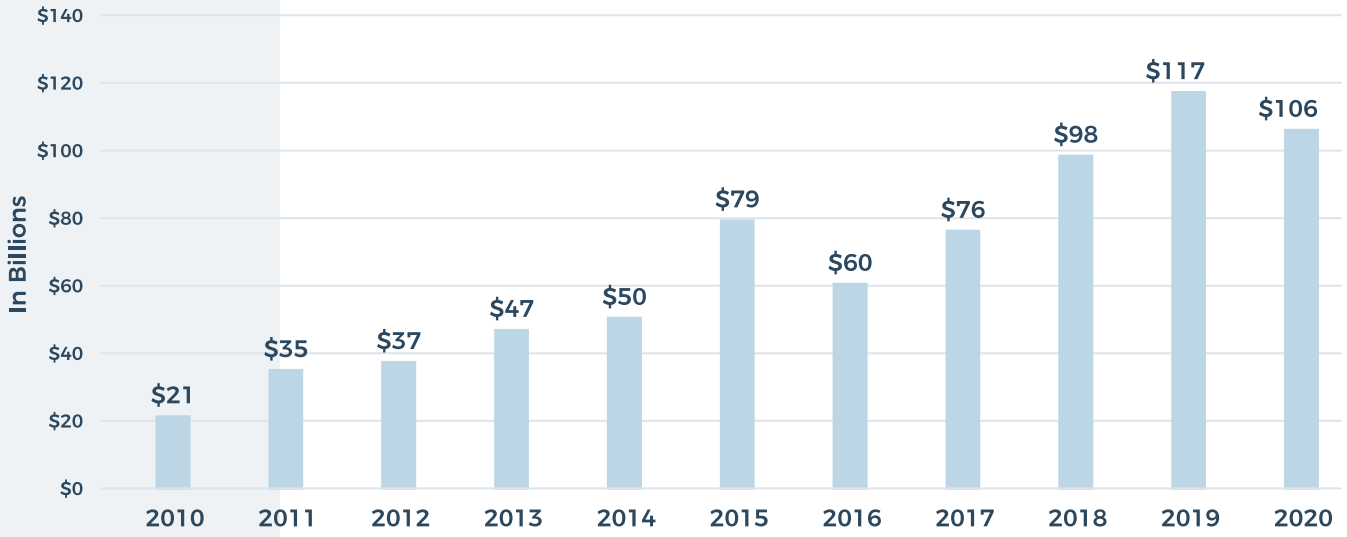
Further demonstrating strong demand for industrial real estate, from 2019 to 2020, leasing volumes increased from 412.9 million sf to 524.2 million sf, deliveries increased from 274.5 million sf to 327.2 million sf, and net absorption increased from 225.9 million sf to a record 273.5 million sf. Net absorption was led by the Inland Empire which recorded slightly more than 26 million sf, Chicago with nearly 26 million sf, Eastern and Central Pennsylvania with 23 million sf, and Atlanta and Dallas-Fort Worth with 22 million sf of net absorption. These markets also had the most square footage under construction at the end of 2020.[i]

Strong demand for industrial properties led to average rents increasing from $6.31 psf in 4Q19 to $6.39 psf in 4Q20, and to vacancies falling from 5.6% in 2019 to 5.4% in 2020. Transaction activity also got off to a strong start early in 2020. Propelled by multiple billion-dollar transactions involving Prologis, transaction volume increased by over 90% YOY in 1Q20, before being slowed by COVID-19 and falling by 40% YOY in 2Q20, and 60% YOY in 3Q20. Transaction activity rebounded to increase by 14% YOY in 4Q20, and finished the year at $106 billion. Furthermore, although the $106 billion transacted in 2020 is less than 2019's $117.2 billion figure, it is still greater than every year prior to 2019. The decline in transaction activity was more pronounced in major markets as they experienced a 21% decline during the year, while secondary markets experienced a 16% decline, and tertiary markets bucked the downward trend with a 1% increase. Lastly, cap rates for industrial assets fell slightly from 6.2% in 2019 to 6% in 2020, while prices increased by approximately 9%, with warehouses showing the strongest growth at 10%.[ii]

2020 PERFORMANCE

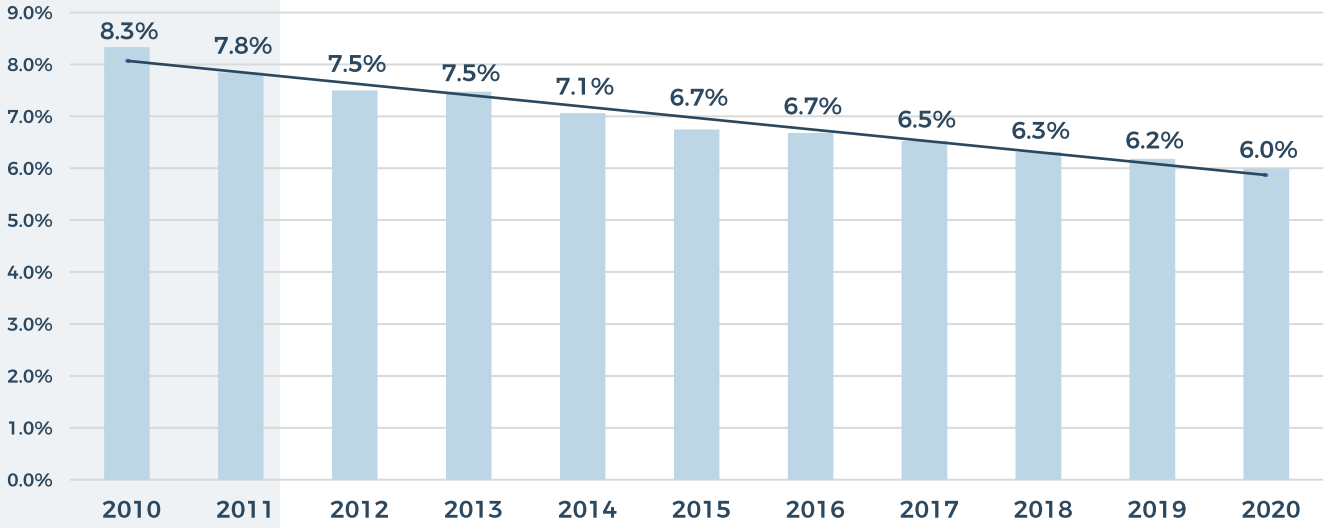
INDUSTRIAL REAL ESTATE ANNUAL TRANSACTION VOLUME - 2010-2020

Source: Real Capital Analytics



INDUSTRIAL REAL ESTATE CAP RATES - 2010-2020

Source: Real Capital Analytics

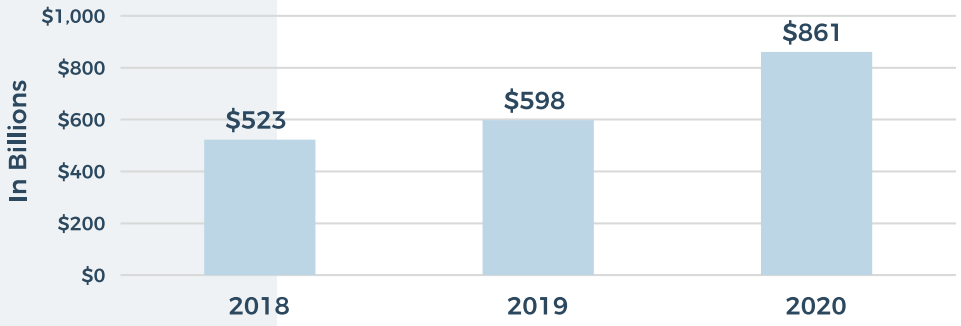


ECOMMERCE'S IMPACT ON INDUSTRIAL REAL ESTATE

Ecommerce helped fuel industrial real estate's strong performance in 2020, as stay-at-home orders and other COVID-19 related restrictions contributed to rapid growth in online shopping and accelerated demand for warehouses, distribution and fulfillment centers, transportation related industrial properties, and other industrial properties that play a role in the production and movement of goods through the supply chain. CBRE has reported that 1.25 million sf of demand for warehouse space is generated by every $1 billion in additional ecommerce sales, and according to the ecommerce research firm Digital Commerce, ecommerce sales grew by $263 billion in 2020; resulting in significant additional demand for warehouse space. Overall, consumers spent $861 billion on ecommerce with U.S. merchants in 2020, a 44% increase from 2019, and nearly triple the 15.1% increase that occurred from 2018 to 2019. Ecommerce sales also made up 21% of all retail sales in 2020, a significant increase from 2019 when ecommerce represented 16% of all retail sales.

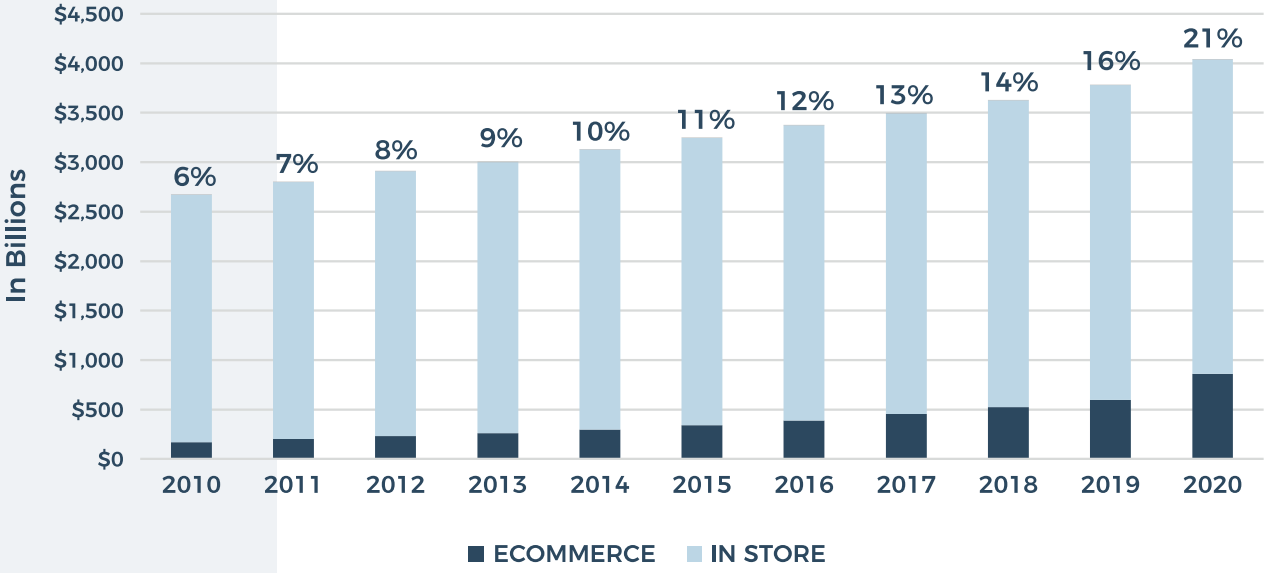
ANNUAL ECOMMERCE SALES

Source: Digital Commerce 360



U.S. RETAIL SALES ECOMMERCE PENETRATION

Source: Digital Commerce 360



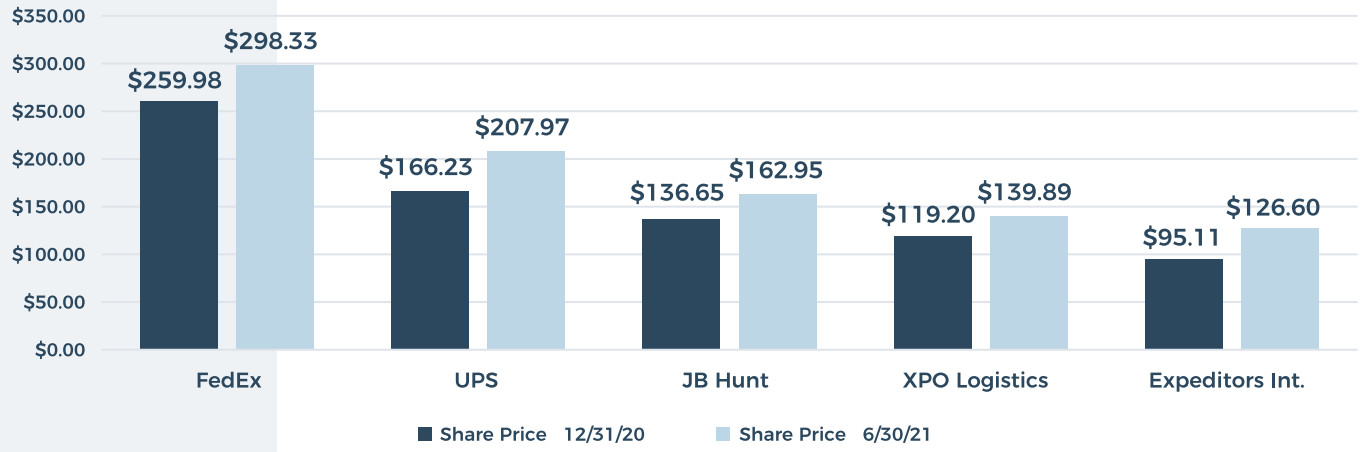
ECOMMERCE'S IMPACT ON INDUSTRIAL REAL ESTATE

While ecommerce's growth rates are expected to decline from 2020's 44% figure, they are still projected to remain strong at 10% to 15%, as a greater number of consumers are now accustomed to shopping online and companies have proven adept at delivering online orders in a timely manner. Reflecting continued growth, Adobe Inc. projects that ecommerce sales will exceed $900 billion in 2021 and $1 trillion in 2022, and the National Association for Industrial and Office Parks (NAIOP) projects that ecommerce sales will reach $1.6 trillion by 2025.

Third-party logistics companies (3PLs) have also benefited from ecommerce growth and COVID-19 related supply disruptions. 3PLs provide logistics services that include inventory forecasting, storage, fulfillment, packaging, transportation, distribution, and others. Using 3PLs to outsource their supply chains gives companies flexibility and allows them to focus on their core business. Additional benefits can include lower costs over the long-term, increased flexibility to scale up or down as needed, the ability to test new markets, and the opportunity to learn supply chain management techniques from an established provider. Potential drawbacks can include less control over the delivery process and large upfront costs. Major public 3PL companies include FedEx, UPS, J.B. Hunt Transport Services, XPO Logistics, and Expeditors International. These companies have all performed well in 2021 and this is reflected by the growth in their share prices during 1H21.

LEADING 3PL SHARE PRICES

Source: Yahoo Finance



MANUFACTURING, WAREHOUSES AND DISTRIBUTION PROPERTIES

Industrial real estate is generally divided into manufacturing properties, warehouse and distribution properties, and flex industrial properties. There is also a class of special purpose properties that includes life sciences, cold storage, and other properties with very specific uses. Overall, there are many different types of industrial properties and great variation exists among them based on their size, purpose, functionality, location, and features. The following list describes traditional manufacturing, warehouse and distribution, and flex industrial properties. A subsequent listing describes many of the properties that are considered special purpose. While extensive, these lists are by no means all-inclusive.

The development and location of industrial properties is heavily influenced by zoning laws, the availability and cost of land and labor, and proximity to key transportation infrastructure such as major highways, airports, seaports, and railroads. Large urban centers and infill locations are also coveted sites for industrial properties. Infill locations are areas that are proximate to dense populations and major thoroughfares. They have significant entry barriers due to a lack of available land, restrictive zoning, and other challenges. These locations have taken on greater importance in recent years because of ecommerce's strong growth and customer expectations for faster delivery times.

MANUFACTURING FACILITIES

Manufacturing facilities are where goods are produced and assembled. They tend to have only a small amount of office space and are often built-to-suit to meet tenant needs. Custom built features may include heavy electrical power, special drainage and ventilation systems, ductwork, large loading docks, powerful equipment, multiple power sources, chemical lines, and other items that are necessary to successfully manufacture the desired product. These facilities need large amounts of space for buildout and can also require significant amounts of energy to power the equipment they use. Common tenants include companies that produce special machinery, electronics, chemicals, materials, and consumer goods.

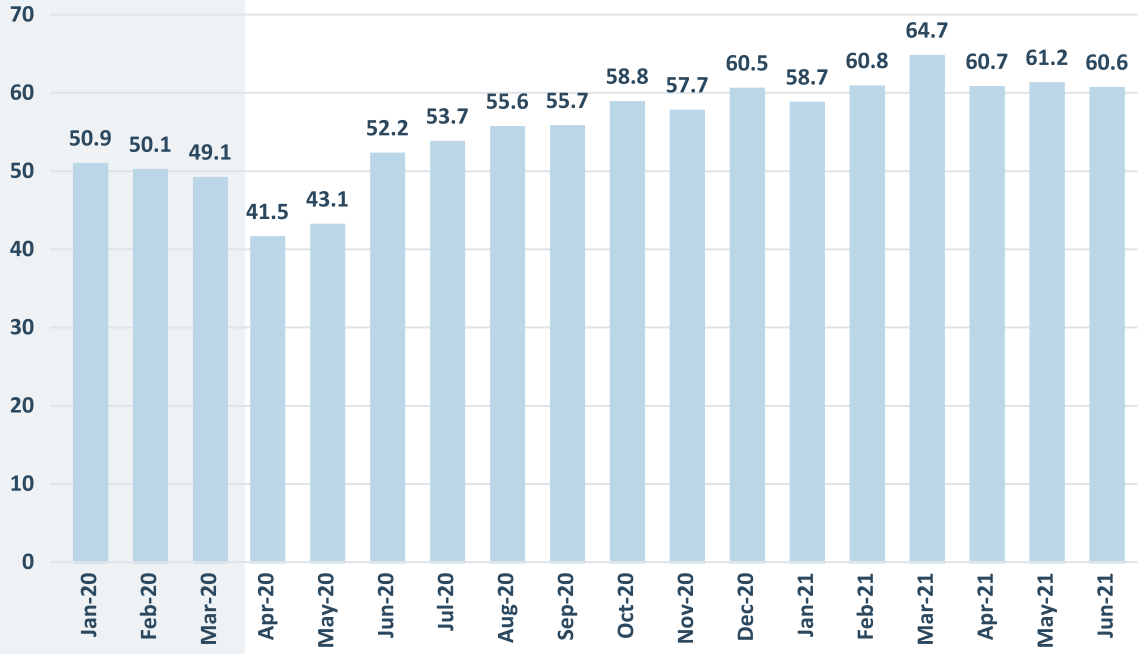
Heavy manufacturing facilities can be hundreds of thousands of square feet and contain heavy-duty, customized equipment, and permanent fixtures. Light and heavy manufacturing facilities often require different floor loads, which is the amount of weight a building's floors can bear. As a percentage, the minimum amount of space manufacturing facilities use for production, assembly, and repairs is approximately 50%, the average amount is 70%, and heavy manufacturing facilities use 90% or more. In contrast to the extensive manufacturing that occurs in heavy manufacturing sites, **light assembly facilities** are primarily used to assemble goods from smaller parts, and contain equipment that is generally lighter and more portable than the kind that is used in heavy manufacturing facilities.

The U.S. Manufacturing Purchasing Managers' Index (PMI) is an indicator of activity in the manufacturing sector and a rating above 50 represents growth. In April 2020, the PMI fell to an 11-year low of 41.5. It rebounded to 60.5 in December 2020 and averaged 61.1 in 1H21. 2021's PMI demonstrates continued manufacturing growth despite ongoing logistics challenges that are being caused by COVID-19, which bodes well for manufacturing properties.

MANUFACTURING, WAREHOUSES AND DISTRIBUTION PROPERTIES

U.S. MANUFACTURING PURCHASING MANAGERS' INDEX

Source: ISM



WAREHOUSES AND DISTRIBUTION CENTERS

Warehouses are used to store materials and goods. They also serve as distribution and fulfillment centers where inventory is stored and sorted, and orders are filled and shipped. While some multi-level warehouses are being developed, warehouses are predominantly single-story structures that require significant amounts of land for truck courts and truck-trailer parking. Depending on the size and type of warehouse, clearing heights can range from 18 to 40 feet and sometimes much more depending on the warehouse's purpose. Warehouses also have multiple dock high (4 feet) loading doors to facilitate the loading and unloading of trucks, the ratio of space per loading dock can be 3,000 to 15,000 sf, and the amount of office space is generally less than 10% in order to maximize the space available for storage and distribution. Warehouses require easy accessibility, so they tend to be located near highways, major roads, and airports. Because they produce lots of truck traffic, which is undesirable and discouraged in many areas, developers have found larger warehouses are easier to permit and build outside of city centers. Common types of warehouses include bulk warehouses, big box and large bay warehouses, and mid-bay, shallow bay, and small bay warehouses.

Bulk warehouses are generally used as regional distribution centers and are extremely large (they can approach 1 million sf). Because of their size they are frequently located close to highways and outside of dense metro areas. They also have limited office space, often less than 10% of the property's total square footage.

Big box or **large bay warehouses** are also extremely large. They are generally larger than 200,000 sf and can approach 1 million sf. They have clear heights exceeding 40 feet and are commonly used for distribution or storage. Strong ecommerce growth and new customers across a broader geographical spectrum has led to industrial warehouse development becoming skewed towards big box facilities in recent years. Reflecting the demand for these properties, from 2019 to 2020, net

MANUFACTURING, WAREHOUSES AND DISTRIBUTION PROPERTIES

absorption for big box warehouses in 22 North American markets tracked by CBRE increased from 147.3 million to 189.1 million, vacancy rates fell from 5.2% to 4.6%, and first year triple-net lease taking rents increased from $5.10 psf to $5.45 psf. [iii]

The terms **mid-bay** and **shallow bay** are sometimes used interchangeably and refer to industrial properties that generally range in size from 50,000 to 200,000 sf and have clear heights approaching 36 feet. They are designed for multiple tenants with light to moderate industrial needs and can include a small office component, loading in the rear, and multiple entrances so that tenant spaces can be divided easily. These facilities support critical parts of the supply chain including light manufacturing, storage, distribution, and regional and last-mile logistics. A typical infill, multi-tenanted, mid-bay industrial property can be around 100,000 sf with three or four tenant spaces and 30 to 36 feet clear heights. Each tenant will have their own plumbing, bathrooms, kitchen, HVAC system, etc. Mid-bay industrial facilities in infill locations can charge premium rents, which their tenants are willing to pay in order to be closer to their customers.

Small bay warehouses tend to have multiple tenants, with common tenants operating in construction, light industrial, and local distribution fields, and features that include ground level doors and lower clear heights than larger distribution facilities - for example, clear heights of 16 to 20 feet. Local economic activity and population growth are primary demand drivers for small bay properties and their leases are typically shorter than large bay leases, which allows their owners to adjust rents to market more quickly. Similar to other industrial properties, small bay facilities are susceptible to national economic trends, but their rents tend to be less volatile over economic cycles. Small bay properties in infill locations benefit from the high barriers to entry, limited construction, and significant replacement costs that are common in infill areas.

While single-story warehouses remain the norm, **multi-level warehouses** are also being developed in urban environments where land for single-story warehouses is limited. Prime locations for these properties include areas outside of a city core that are near a highway or main artery, and a public transit line. Depending on its purpose, a multi-level warehouse might be three levels, with storage and full access to truck docks on the ground level, additional storage and R&D space on the second level, and offices on the third level. Multi-level warehouses have lower clear heights than traditional warehouses, and typically have stairs and elevators, loading bays, truck ramps, and floors with load-bearing capacity. The numerous features that must be accounted for when developing multi-level warehouses make them complicated to design and expensive to build. However, despite this, multi-level warehouses have been built in places with high land values such as San Francisco and New York.

FLEX INDUSTRIAL PROPERTIES

Flex (short for flexible) **industrial properties** are loosely defined as industrial facilities that have more office space than traditional industrial properties. Flex buildings often have 25% to 50% office buildout, but can range from having virtually no buildout to having such extensive buildout that the property is almost a proxy for office. Flex industrial properties were originally designed for manufacturers who needed manufacturing and office space in one building, but they are extremely versatile and now attract a variety of tenants who need space for offices, research and development (R&D), manufacturing, showrooms, storage, and other purposes. For example, flex properties can include tenants as wide ranging as plumbers, electricians, machinists, R&D companies, medical research companies, pharmaceutical firms, distributors, storage companies, auto shops, appliance manufacturers, information technology (IT) companies, artists, breweries, and others. Because of their variable uses flex properties exist in all shapes and sizes, and tenant spaces can vary considerably. Depending on tenants' needs, tenant spaces can be less than 5,000 sf, or they can be tens of thousands of sf. The number of tenants a property has also varies depending on the property's size and its tenants' needs. For example, a 150,000 sf flex property might have 100 tenants while a 30,000 sf property might have just 10 tenants.

Traditionally, flex properties have been built as single-story facilities with street style landscaping. The rear of the property can have loading docks, additional entrances, or windows with views of office space. Internally, flex properties usually lack shared common areas. Each tenant's space exists in isolation and each tenant is responsible for the costs associated with its space. This includes maintenance, security, utilities, repairs, and cleaning expenses. Tenants may also use services provided by other tenants in the same building. For example, a manufacturing company might use computer services from an IT company with which it shares a facility.

Flex assets are commonly found in industrial and commercial parks where they are easily accessible to customers and have ample parking. In some markets, they can also be found in infill locations. However, being located proximate to highways, airports and other methods of transportation is less important for flex properties because their tenants tend to be less dependent on transportation infrastructure than manufacturing or warehouse tenants.

Supply Growth

Supply growth for flex industrial properties has been limited because of stringent zoning laws, high construction costs relative to other industrial properties, and high land costs in primary markets. Flex developers compete for land with warehouses and other industrial real estate, boosting land costs even further. In markets with high land costs, such as parts of California and New York, new flex properties haven't been built in over a decade. In some parts of California, they have not been built in over 20 years. The Sunbelt region has also experienced little supply growth for many years. Further limiting new construction, development costs have increased in some markets because of zoning laws that require more design elements and lower floor to area ratios than they once did. New supply has also been limited because flex properties can cost more to develop than other similarly sized industrial properties. For example, a large industrial warehouse might only require a small number of bathrooms, while a similarly sized flex property might require five to ten times as many bathrooms. These and other differences lead to more design work, buildout, construction, piping, water, materials, and expenses for the flex property. Flex properties can also take longer to build than warehouses, which generates additional timing and market risk. A 300,000 sf flex building might take four to five years to build, while a large warehouse might only take one year to build. The higher land costs, strict zoning laws, and additional design considerations that raise the cost of building flex properties makes developing them unfeasible in many locations

because rents will not support it. This situation may exacerbate over time because of increased demand for large warehouses that are needed to support ecommerce and because of the potential for rezoning in markets with growing populations that need additional land for residential housing. All of these factors have contributed to a supply-demand imbalance for flex industrial properties in primary and secondary markets that has led to low vacancy rates, consistent rent growth, and asset appreciation.

The Investor View

Following the Great Recession, investor demand for flex assets was challenged relative to large warehouse properties that benefited from ecommerce growth, but since 2013, rents have grown consistently, even doubling in some markets. Flex properties in major markets can trade at the same IRR and cap rates as multifamily properties because of their strong fundamentals and limited supply growth. Also, while investing in flex industrial real estate is generally viewed as being riskier than investing in warehouse assets because of their office component, the potential for lower credit "mom and pop" tenants, buildout costs for new tenants, and re-leasing costs for vacant spaces, these additional risks can lead to higher returns.

Flex properties have also performed well in downturns relative to other types of real estate, particularly if they have a low percentage of office buildout. This was reinforced in 2020 when COVID-19 emerged and flex properties outperformed traditional office assets and other property types. Investors expect a greater number of traditional office tenants will consider using flex properties in the future because of their lower rents and the possibility that coming out of COVID-19, some companies will use remote work arrangements more often and will need less traditional office space.

Investors prefer flex assets with low levels of office space and buildout because they have been shown to reduce maintenance and turnover costs, vacancy rates, and cap rates. Investors also consider the layout of the park or location that the property is in, its appearance and age, parking availability, truck loading capacity, and other external features when underwriting flex facilities. Investors generally stratify flex properties by size when analyzing them and they view each sized property differently, both singularly and in the aggregate. For example, an investor may classify flex properties as less than 5,000 sf properties; 5,000 - 25,000 sf; 25,000 - 50,000 sf; and 75,000 sf and more. Investor capital is currently flowing to aggregate properties as the importance of scale has grown over the years.

Investors are also gravitating towards flex properties that are in infill locations in major MSAs, gateway markets, and in secondary markets with high levels of population growth, housing growth, job growth, and incomes relative to the national average. Properties in these locations have performed especially well and examples of these markets include Boston, New York's outer boroughs, the Inland Empire, Coastal California, Oakland, Seattle, Phoenix, Portland, Atlanta, Miami, Dallas, parts of North Carolina, and parts of New Jersey. Investor demand for flex properties is not as high in tertiary markets.

SPECIAL PURPOSE PROPERTIES

Along with traditional industrial properties, industrial real estate also includes a number of special purpose facilities.

Data centers typically house servers, IT systems, and telecommunications equipment. Because IT operations are critical for business continuity, data centers rely on continual power to keep their operations running around the clock and usually include redundant power sources and substantial backup components for power, communications, environmental controls, and security. The largest data centers may use as much electricity as a small town and are commonly located in areas with multiple power stations to ensure access to more than one power source. Other specialized features can include major fiber optic lines with dual independent feeds, customized flooring for cabling and cooling equipment, and supplemental HVAC systems to keep servers and equipment from overheating. The demand for data centers is being driven by companies increasingly prioritizing their digital infrastructure over other functions and the need for greater storage capacity as more people and businesses use technology dependent products. Increased demand for data centers is reflected in data from CBRE which reported that from 2H19 to 2H20, the total inventory for primary markets increased by 291.8 megawatts while vacancy rates fell by an average of 130 bps, indicating positive net absorption during this period. Similarly, in secondary markets, total inventory grew by 18.6 megawatts and vacancy rates fell by an average of 205 bps.

Cold storage facilities have large capacity coolers and freezers to store food and other temperature sensitive items. They often require seals on their docks and insulated overhead doors to keep products cold, and a specialized foundation because the cold temperatures can cause slabs to crack. These facilities are generally built-to-suit based on tenant needs and the products that are being stored. Investors previously shied away from cold storage facilities because they are highly specialized and costly to build and maintain because of their refrigeration equipment, control systems, heavy insulation, additional transformers, insulated metal panels, under-floor heating, refrigeration systems, packing rooms, fumigation, and blast freezing equipment. According to CBRE, development costs for cold storage facilities can be two to three times greater than for dry warehouses and they can also take months longer to build depending on the size and specifications of the facility. However, investors are taking another look at this asset type because cold storage facilities have benefited from significant growth in online grocery shopping, there has been increased interest in new healthy frozen food options by health-conscious consumers, and the market for meal kit services such as Blue Apron and HelloFresh has also been growing. Investors are also considering cold storage facilities because of vacancy rates which hovered around 1% towards the end of 2020, projected demand of at least 75 to 100 million sf of additional cold storage space in the next few years, and limited supply in the sector. The average age of cold storage facilities in the U.S. is 42 years and nearly 80% of cold storage properties were built before 2000.

The **self-storage** market has flourished during the last decade. From 2010 to 2019, annual revenues grew by nearly 50%, drawing the attention of investors. Furthermore, while transaction activity stalled in 2Q20 when COVID-19 emerged, it rebounded as the year progressed and occupancy rates increased as renters who were forced to downsize or move in with family and friends made greater use of these facilities to store their belongings. At the end of 2020, self-storage's occupancy rate was above 90% and the average cap rate had fallen from 6.1% in 4Q19 to 5.8% in 4Q20. Other factors that are driving self-storage's growth include downsizing baby boomers and greater demand from businesses that put their operations on hold or stopped leasing office space during the pandemic.

Life sciences properties are designed to address the needs of bioscience, pharmaceutical, and related organizations. Depending on the tenants' needs, these properties may include labs, administrative space, and manufacturing equipment. Life sciences properties are viewed as a defensive asset class because life sciences companies tend to invest heavily in their facilities, stay for longer terms, and there is growing demand for lab space; resulting in low vacancy rates in many life sciences cluster markets. It is also difficult for employees in this space to work offsite, offering some protection from the remote work arrangements that many companies have been using during the COVID-19 pandemic.

SPECIAL PURPOSE PROPERTIES

Venture funding for life sciences properties doubled YOY from approximately $5 billion in 1Q20 to $10 billion in 1Q21. Demand drivers for these facilities include an aging population that desires life-sustaining, life-enhancing, and life-extended care, wellness conscious millennials, a prescription drug market that is projected to reach $1 trillion by 2022 and significant medical advances, including the development of Messenger RNA vaccines, some of which are being used against COVID-19.

The top three life sciences markets are Boston, San Diego, and San Francisco. Combined, these markets have approximately 50% of life sciences inventory and secured 70% of venture capital investments in 2019, primarily because of their highly skilled workforces and their relationships with leading research institutions. However, life science companies are branching out because of high land costs and the high cost of living in the top three markets. Markets that are increasingly being considered by developers and investors include Raleigh, Philadelphia, Denver, Austin, Chicago, and Montgomery County in Maryland. Other markets that are being targeted tend to have good universities that receive generous funding, an educated workforce, a low to moderate cost of living, an attractive quality of life, and the support of local governments in developing and financing life sciences facilities.

Air cargo industrial facilities are located on airport grounds and can approach 1 million sf to accommodate multiple aircrafts, sorting and packaging facilities, truck loading docks, spacious concrete ramps, and extensive parking. These sites benefit from their airport based locations, which tend to have good highway access, affordable land, and favorable zoning laws.

Air cargo facilities are growing in number as online shopping increases and major companies and 3PLs strive to satisfy customer expectations for faster delivery times. For example, Amazon is building a 798,000 sf sorting center at the Cincinnati-Northern Kentucky International Airport and plans to spend $1.5 billion to build a 3 million sf air cargo hub at the airport. FedEx recently opened a $290 million, 251,000 sf sorting facility at the Ontario International Airport in Southern California, which is also home to air cargo facilities that are used by UPS and Amazon; and additional large scale air cargo development projects are underway at Ted Stevens Anchorage International Airport in Alaska, Chicago Rockford International, Philadelphia International Airport, and San Bernadino International Airport in California.

Truck terminals do not warehouse goods, instead they are intermediate sites that are used to transfer goods from one vehicle to another. They have minimal power, office space, and floor load requirements. Truck terminals generally have truck courts on both sides of the property, low ceilings (12 to 16 feet), are cross-docked and have a low sf to dock ratio: 500 to 1,000 sf per dock for most buildings. Ample truck-trailer parking results in a low site-coverage ratio and the typical building depth is 60 feet. Truck terminal expansion is affected by zoning and access to highways, and although ecommerce growth has increased the number of goods that move through the supply chain, except for owner-user construction projects, there has been little development of these facilities over the years. Investor interest in truck terminals stems from ecommerce's continued growth, limited non-owner-user development, and long-term redevelopment potential that allows for additional options at the end of the investment holding period.

Truck terminals are considered **transportation related industrial properties (TRIP)** or **high-flow through** properties (HFT). These are industrial properties that are designed for the quick and efficient transfer of goods from one transport vehicle to another (e.g., rail to truck, truck to truck, ship to truck, etc.). A typical TRIP property is rectangular and cross-docked to allow for the rapid movement of goods between trucks, is 5,000 – 40,000 sf, has low building-to-site coverage, and can have generous amounts of truck-trailer parking. TRIP properties also have numerous dock doors per sf to facilitate the rapid transfer of goods. For example, a truck terminal may have one dock door per 300 - 800 sf, which is significantly more than a flex industrial property which may have one dock door per 5,000 sf, or a traditional industrial property which may have one dock door per 10,000 sf. TRIP properties are often owned by small investors, family offices, or owner-users, and lease rates are based on doors instead of square footage.

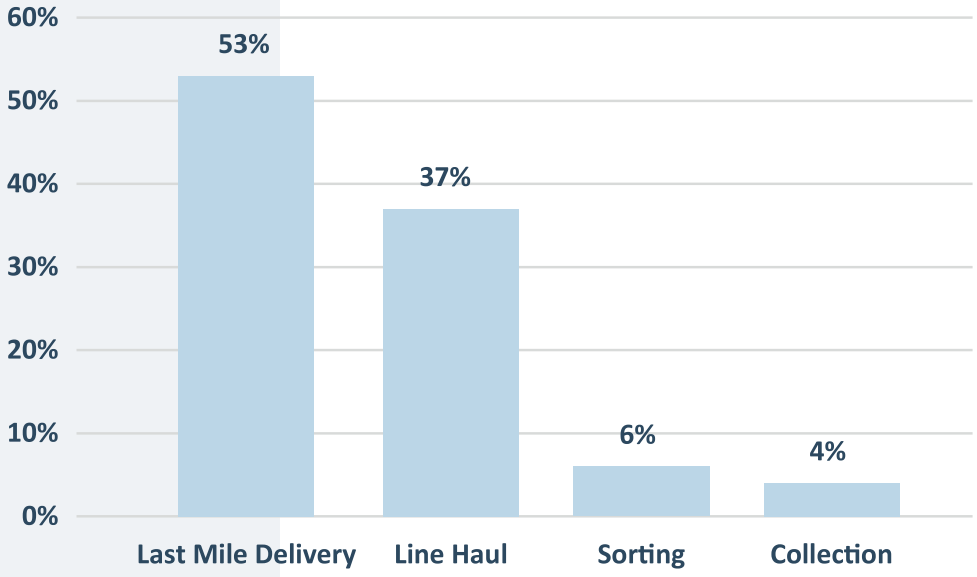
SPECIAL PURPOSE PROPERTIES

Truck terminals and other TRIP properties serve a critical purpose in the supply chain and the rapid growth of ecommerce has amplified their importance even more. However, the supply of these properties remains limited because developing them is inefficient due to their smaller sizes, and zoning restrictions also make it difficult to obtain enough land for the trailer parking and on-site traffic management that is needed at these facilities.

Last mile facilities are not conventional special purpose industrial facilities. Rather, they are used to describe industrial properties that are in the "last mile" of the supply chain. The last mile of the supply chain represents the final leg of a product's trip from the raw materials supplier, to the manufacturer, to the end consumer. Last mile delivery generally entails transporting smaller goods using multiple channels and routes, and because of these factors, it is the most expensive part of the delivery process. According to the Council of Supply Chain Management Professionals, businesses spent $1.04 trillion transportation costs in 2018, and Mordor Intelligence reports that last mile delivery costs account for slightly more than half of all transportation costs. This makes reducing last mile costs critical for businesses and having access to last mile facilities helps them accomplish this. Last mile facilities are typically distribution centers or TRIP properties, tend to be older and smaller than other industrial properties, and are generally in infill locations and heavily populated urban areas to lessen the delivery time between the facility and customer. Last mile facilities in primary and strong secondary markets are in high demand because of ecommerce growth and consumer expectations for quick deliveries. Last mile facilities in infill markets with long-term leases or upcoming lease renewals that allow their owners to increase rents to market rates are especially attractive to investors. Investors also gravitate to last mile assets in markets with growing populations and strong job growth. Chicago, Atlanta, Los Angeles, Dallas, the Inland Empire, NYC boroughs, Northern New Jersey, Boston, Phoenix, and Houston are all markets that experienced strong industrial real estate sales volumes overall in 2020, partly because of the demand for last-mile properties in those regions.

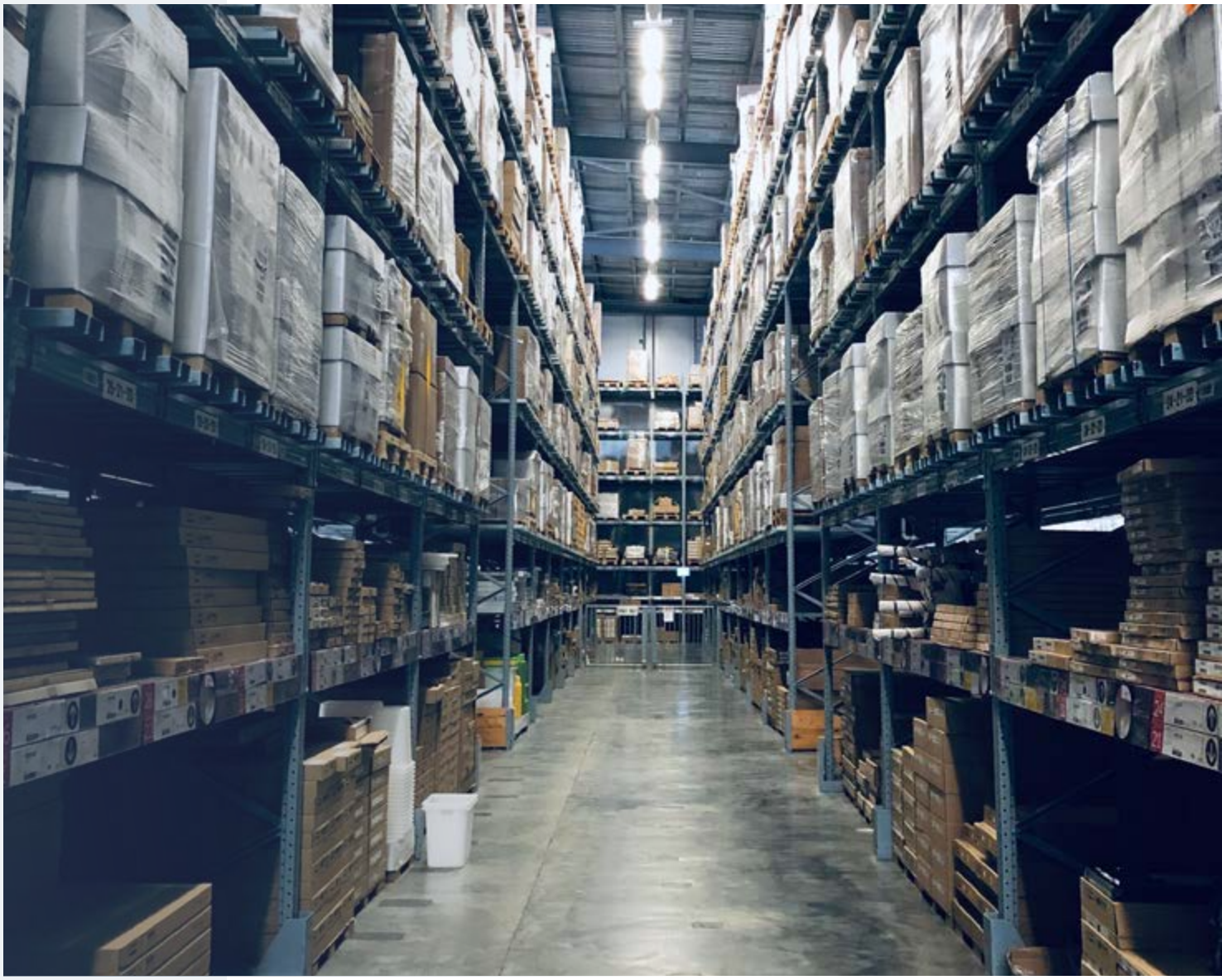
SHARE OF DELIVERY COSTS

Source: Mordor Intelligence



EMERGING TRENDS

Technological innovation and a stated goal from major companies to reduce their carbon footprints will impact industrial properties in the future. Google has committed to operating all of its data centers and campuses using carbon-free energy within ten years and Microsoft has pledged to eliminate its reliance on diesel fuel by 2030 as part of its goal to become carbon negative. Google, Microsoft, and other environmentally conscious companies plan to achieve their goals by using more energy from wind, solar panels, geothermal sources, hydropower, biomass, and batteries. Additional green technologies that may be used more frequently in the industrial sector includes air quality sensors, automatic temperature controls, thermal glass, motion activated LED lighting, "cool roof" systems, and electric vehicles. Also, industry professionals expect that more autonomous vehicles and shuttles will be used in companies' supply chains as self-driving technology advances. Lastly, the number of industrial properties that are greater than 1 million sf is expected to increase as ecommerce continues to grow and the number of goods that move through the supply chain increases.



THE OUTLOOK FOR INDUSTRIAL REAL ESTATE

In 2020, a supply-demand imbalance in many markets and rapid ecommerce growth led to high absorption levels, low vacancy rates, rent growth, and asset appreciation across the industrial real estate sector, and this dynamic has continued in 2021.

Industrial demand by occupiers continues to grow and is geographically dispersed across the U.S. with the top 10 markets including at least one market from all four Census regions - the Northeast, Midwest, South, and West. In 2021, nearly 40% of demand is projected to come from the South region because of its proximity to heavily used ports, rail access, and border markets; followed by the West, Midwest, and Northeast.[iv] Also, with half of the new deliveries scheduled to be completed in 2021 already preleased, high net absorption and low vacancy rates are expected to drive rents for industrial assets in strong markets, with some of the strongest rent growth occurring in the Inland Empire, Los Angeles, Dallas-Fort Worth, Atlanta, Chicago, and the Pennsylvania I-81/I-78 distribution corridor.

In addition to occupiers, industrial real estate is also coveted by a growing number of investors. From 1H20 to 1H21, transaction volumes increased by 10% YOY, cap rates fell by 30 bps, and the average price per sf increased by 11%. The investor appetite for industrial assets has been highlighted by John Huguenard, a senior managing director and industrial platform leader at JLL, who when asked about his company's outlook for industrial assets, stated that, "We foresee industrial demand continuing far into 2021, which is causing investors to aggressively increase their industrial holdings. We keep seeing record pricing, especially with high-credit profile ecommerce tenants with 10-year-plus weighted-average lease term. Since industrial is seen as a safe investment, we've observed an increase of new capital and investment groups entering the space since the pandemic started."[v] Also, while demand for industrial properties is especially strong in gateway and secondary markets, particularly in infill locations, smaller markets with growing populations are also expected to perform well because of broad-based ecommerce growth. Particularly markets in the Southeast and Southwest that are projected to experience significant population growth over the next five years. For example, Texas' population is projected to grow by nearly 10% during this period, which should boost demand for industrial properties in the Dallas-Fort Worth, San Antonio, Austin, and Houston markets.

THE OUTLOOK FOR INDUSTRIAL REAL ESTATE

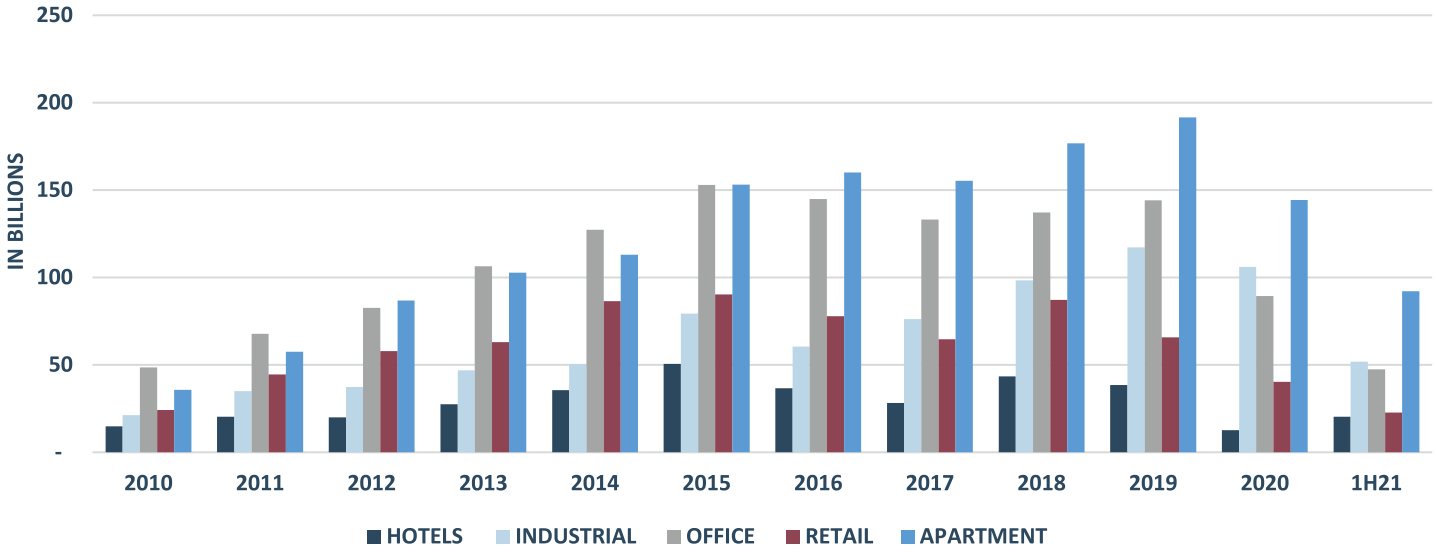
Growing demand for industrial real estate in secondary markets was highlighted at the NAIOP sponsored I.CON Virtual 2020 Industrial Real Estate Conference by Michael Brennan, the chairman and managing principal at Brennan Investment Group. At the conference, Mr. Brennan stated that, "Ecommerce demand is broad based, so you're seeing absorption numbers in smaller markets that are sort of identical to the larger market overall. Some of these markets that most people had written off are coming back and in a significant way – you wouldn't have seen that 10 or 15 years ago. This is a different pattern of absorption than the nation has seen before."[vi] Mr. Brennan's comments have been supported by Michael Kendall, Colliers International's executive managing director of industrial capital markets for the Western United States. In late 2020, Mr. Kendall stated that, "There has been a flight to safety and quality as a result of the pandemic, and U.S. industrial is seen as a safe haven. All primary and strong secondary markets across the U.S. are performing very well and are attracting significant investor interest."[vii]

Looking forward, with the Federal Reserve projecting strong GDP growth for the year, continued ecommerce growth, and potential significant federal investments in infrastructure further stimulating the sector, occupier and investor demand for industrial assets is likely to increase.[viii] In addition, because of high-barriers to entry, limited land for new development in core markets, low vacancies, consistent rent growth, and additional interest from private, equity, family offices, and high-net worth individuals, competition among investors for industrial assets is strong and sellers have leverage.

APPENDIX[IX]

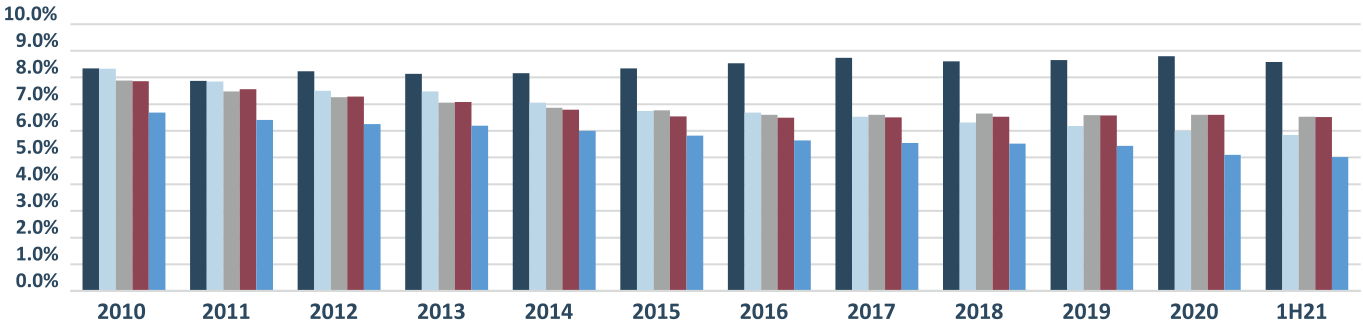
TRANSACTION VOLUME BY ASSET CLASS - 2010-2021

Source: Real Capital Analytics



AVERAGE CAP RATE BY ASSET CLASS - 2010-2021

Source: Real Capital Analytics



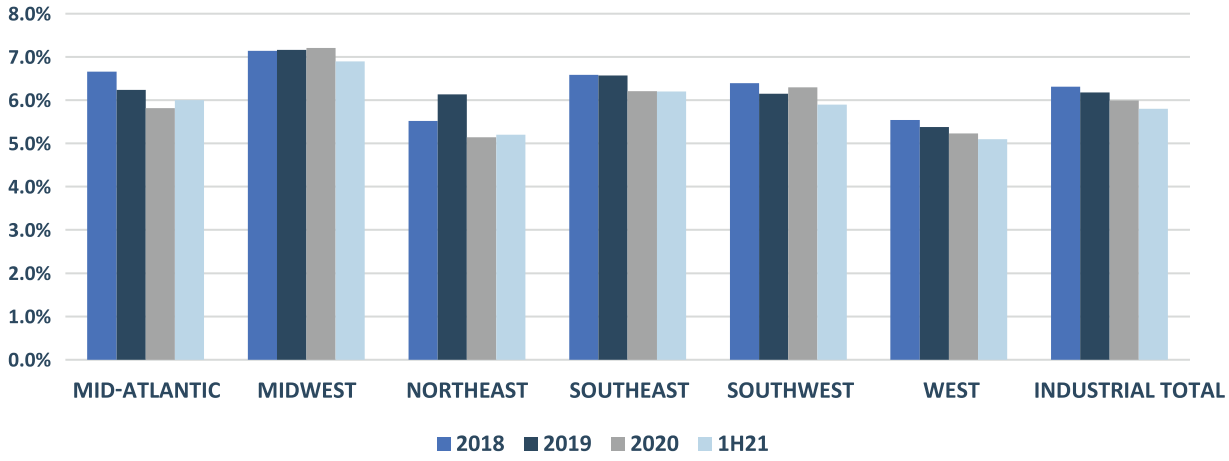
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	1H21
Hotels	8.3%	7.9%	8.2%	8.1%	8.2%	8.3%	8.5%	8.7%	8.6%	8.6%	8.8%	8.6%
Industrial	8.3%	7.8%	7.5%	7.5%	7.1%	6.7%	6.7%	6.5%	6.3%	6.2%	6.0%	5.8%
Office	7.9%	7.5%	7.3%	7.1%	6.9%	6.8%	6.6%	6.6%	6.6%	6.6%	6.6%	6.5%
Retail	7.9%	7.6%	7.3%	7.1%	6.8%	6.5%	6.5%	6.5%	6.5%	6.6%	6.6%	6.5%
Apartment	6.7%	6.4%	6.3%	6.2%	6.0%	5.8%	5.6%	5.5%	5.5%	5.4%	5.1%	5.0%

HOTELS INDUSTRIAL OFFICE RETAIL APARTMENT

APPENDIX[IX]

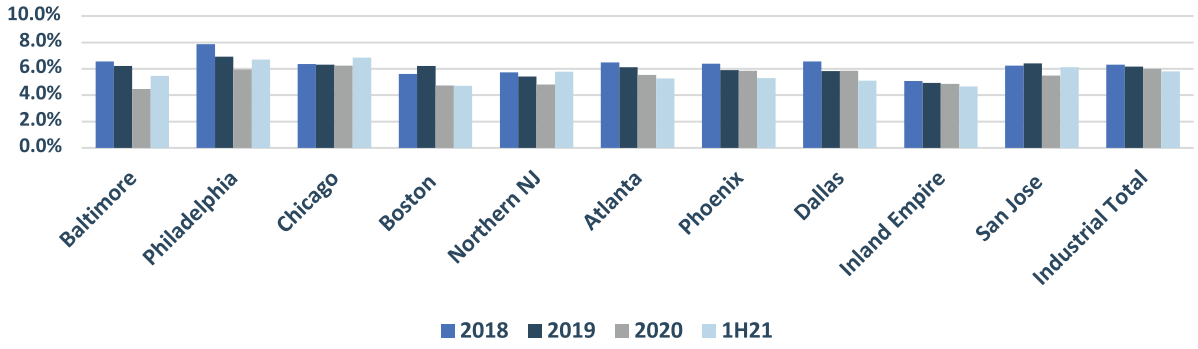
INDUSTRIAL REAL ESTATE AVERAGE CAP RATE BY REGION - 2018-2021

Source: Real Capital Analytics



INDUSTRIAL REAL ESTATE AVERAGE CAP RATE SELECT MARKETS - 2018-2021

Source: Real Capital Analytics



END NOTES

i JLL Industrial Outlook Q2 2021

ii Pricing data is according to Real Capital Analytics Commercial Property Price Indices

iii 20 of the 22 markets tracked by CBRE are in the United States and the remaining two are in Canada

iv Cushman North American Industrial Outlook

v Clodfelter, L. (2020, December 16). Industrial Predicted to Continue Strong Performance in 2021.

vi Ruff, M. (2020, June 24). Investing Outside the Box.

vii Hardy, P. (2020, November 12). Bidding Wars Underway for Last Mile Industrial Assets.

viii FACT SHEET: President Biden Announces Support for the Bipartisan Infrastructure Framework.

ix The 2021 period is for January through June – 1H21

ALEX. BROWN REALTY, INC.

Alex. Brown Realty (ABR) is a privately held real estate investment manager and sponsor of real estate private equity offerings for institutional, family office and high net worth clients. The firm has invested in over $4 billion in real estate assets since its founding in 1972 and has experience across diverse U.S. markets and property sectors.

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