

Houston economic overview



Fourth Quarter 2020

**AVISON
YOUNG**

Houston



Houston has been cited as one of the youngest, fastest growing and most diverse cities in the nation with the seventh largest metro economy. Twenty-three Fortune 500 companies call it home, and the region was just named to the top 10 list of places for startup activity.

Like most of the country, the region suffered economic slowdowns as COVID-19 caused business closings and re-openings during the past year with many employees working from home. Return-to-office protocols are varied as vaccine availability is starting to make a difference. Although the long-range effects from the pandemic are uncertain, the metro is on a slow track to recovery. The recent devastating freeze causing power and water outages halted some business operations, adding another diversion on the region's path to economic growth of recent memory.

Employment

COVID-19 caused major interruptions in business activity which increased unemployment and halted prior job growth and diversification during 2020.

The Greater Houston Partnership (GHP) reported that metro Houston has regained about 60% of the 350,200 jobs lost during the year; the remaining 141,300 jobs represent the largest annual job loss on record. Gains were limited but noted for these sectors: health care and social assistance; services to buildings and dwellings; transportation, warehousing and utilities; and professional, scientific and technical services. Losses were heavy in arts, entertainment and recreation; air transportation; energy; and manufacturing.

Metro Houston's December unemployment rate improved to 8% from 8.9% in November, according to the Texas Workforce Commission. Pre-pandemic February's rate was 3.9% while April's was the high at 14.2%. The GHP forecasts that between 35,000 and 52,000 jobs could be added during 2021, with the exact number depending on the effects and containment of the pandemic.

Population

As of July 1, 2019, the U.S. Census Bureau estimated that the nine-county Houston Metropolitan Statistical Area had a



population of 7.1 million residents. Houston is the nation's fifth most populous metro area and the fourth most populous city, with one in four residents foreign born. The metro area had the third largest population growth in the country between July 1, 2018 and July 1, 2019. This population upsurge has been fueling e-commerce and distribution facilities before and during the pandemic.

Purchasing Managers Index

The Houston Purchasing Managers Index (PMI), a short-term leading indicator for regional production, registered 52.6 in January, up from 51.5 in December. The January PMI represents the sixth consecutive month above 50 and the third highest reading in the past 12 months, according to the GHP. Readings above 45 correlates with expansion of the service side of Houston's economy and below 45 a contraction, while readings above 50 signal expansion in Houston's goods producing sectors and below 50 a contraction.

Port of Houston

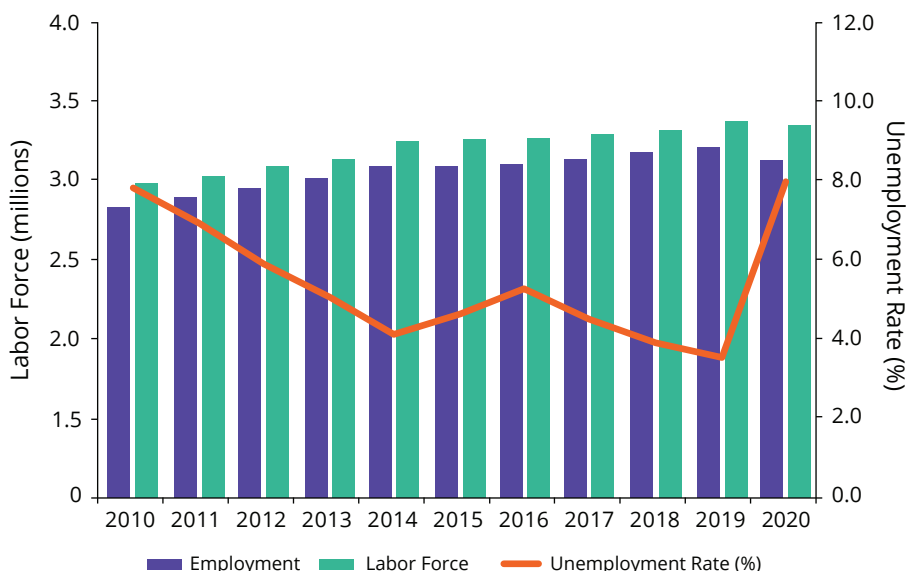
Congress authorized the Houston Ship Channel's widening and deepening construction project, dubbed Project 11, in December by passing the Water Resources and Development Act of 2020. The project received a "new start" designation in January, along with \$19.5 million in construction funds and \$55.5 million in annual operations and maintenance funds for the current channel. Project 11 will allow larger vessels and safer increased traffic.

The Port of Houston will be the first port of call in the United States on a new direct Trans-Pacific Asia service called the East Coast Loop 6 being launched by THE Alliance, a group of shipping carriers. Significant growth in 2020 Asian imports coupled with delays on the West Coast prompted the new Gulf Coast weekly service scheduled to start in the spring.

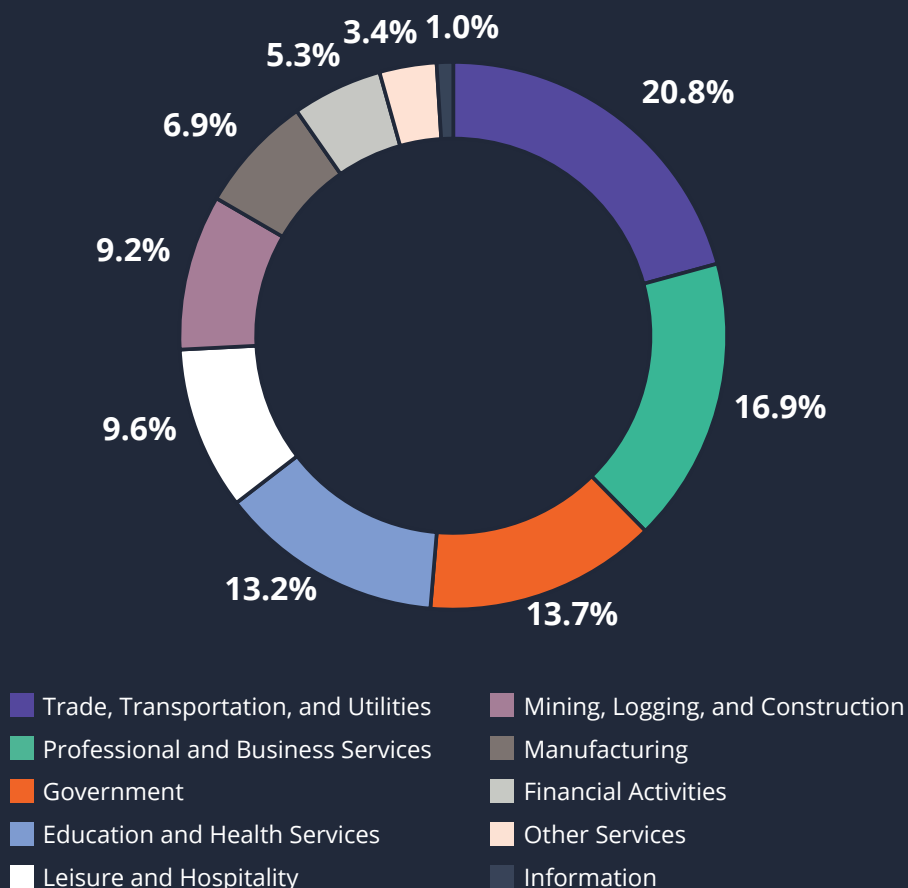
Container activity at the Gulf Coast's largest container port has kept pace,

Employment

Source: Texas Workforce Commission



MSA employment by industry



As of December 2020
Source: Texas Workforce Commission



even as the coronavirus outbreak resulted in local and global slowdowns and lockdowns. The overall total for 2020 was 2,989,347 twenty-foot equivalent units (TEUs), just 828 containers short of the record-breaking 2019 year. Total monthly TEUs started dropping in March but rebounded in August, and the rebound continued strong through December, with the port's largest monthly volume ever recorded during October.

The Houston-Galveston Customs District handled more than 341 million metric tons of cargo in 2020, a 7.5% increase over 2019 and more tonnage than any other port. The cargo was valued at \$196 billion, a 16.5% decrease over the previous year.

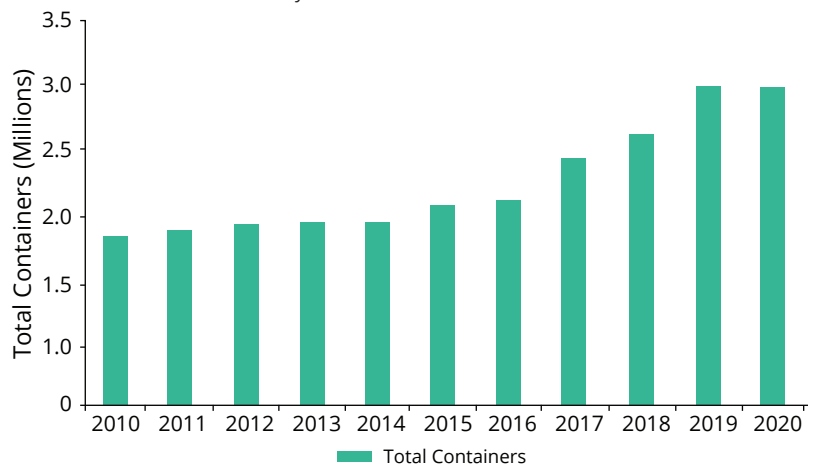
Commercial Real Estate

All commercial real estate sectors are still experiencing COVID-19 disruptions, although the industrial sector continues to outperform any other sector. Retail, restaurants and small businesses have been hit the hardest by the economic shutdown. At year-end 2020, retail had a vacancy rate of 5.8%; multi-family's vacancy is 10.4% with 19,525 units currently under construction and rental rates decreasing.

Industrial projects are soaring as large retailers and distributors expand warehouses to both keep up with escalated home deliveries and to add last-mile facilities closer to consumers. The fourth-quarter industrial vacancy rate was 7.9%. Absorption was 3 million square feet (msf) during fourth quarter to total 10.8 msf at yearend. Amazon's new 1.1 msf distribution center in Fort Bend County was the largest lease signed in 2020 and one of several Amazon deals of the year.

Port of Houston container growth

Source: Port of Houston Authority



The construction pipeline has slowed but is still very active. At yearend, 12.4 msf in 57 buildings were underway with the largest being Ross Distribution's 2.2-msf facility in Brookshire. Deliveries totaled 26.5 msf in 160 buildings during 2020, setting an all-time record for completions in a year. By comparison, 2019's overall delivery total was 14.8 msf in 108 properties.

The office market is still seeking recovery. Sublease space has risen but not at the pace of other larger U.S. markets. At yearend, the office vacancy was 19.6% for direct space with 6.5 msf of available sublease space. Direct availability increased to 23.2%. Flight to quality was the norm for new leases while many tenants paused to determine their space needs during and after a pandemic. Negative absorption for the year was almost 4.4 msf while leasing activity dropped to 40% of the prior year's total.

One major bright spot in the office market included Hewlett Packard Enterprise's plan to relocate its global headquarters to its new campus in North Houston. Occidental Petroleum signed the largest deal of the year, a renewal of 972,145 sf total in Three and Five Greenway Plazas. The office pipeline is at 4.1 msf in 19 buildings and 62% preleased. The largest spec building, Texas Tower in downtown, is 38.5% preleased with 1.1 msf and scheduled for completion in fourth quarter 2021. The flight-to-quality factor is evident as larger tenants such as Marathon Oil and Hewlett Packard Enterprises are opting to custom build their own spaces.

Housing

Houston's housing market shattered records in 2020 as sales increased each month after a June turnaround, according to the Houston Association of Realtors (HAR). July recorded Houston's greatest one-month sales volume of all time - 10,815 single-family units sold. Record high prices included an average price of \$347,164 and a median price of \$273,443, both reported in December.

Annual transactions also reached a record 96,151 single-family homes sold across greater Houston in 2020, a 10.5% jump from the previous record of 86,996 in 2019. On an annual basis, the average price rose 5.9% to \$324,069 while the median price increased 6.1% to \$260,000. Total dollar volume for full-year 2020 soared 18.1% to a record-setting \$35.3 billion.

The first month of 2021 saw homebuyers taking advantage of the low interest rates as sales increased 27.7% year over year. The luxury housing segment drew the strongest sales activity during January with mid-range home sales also brisk.

Aviation

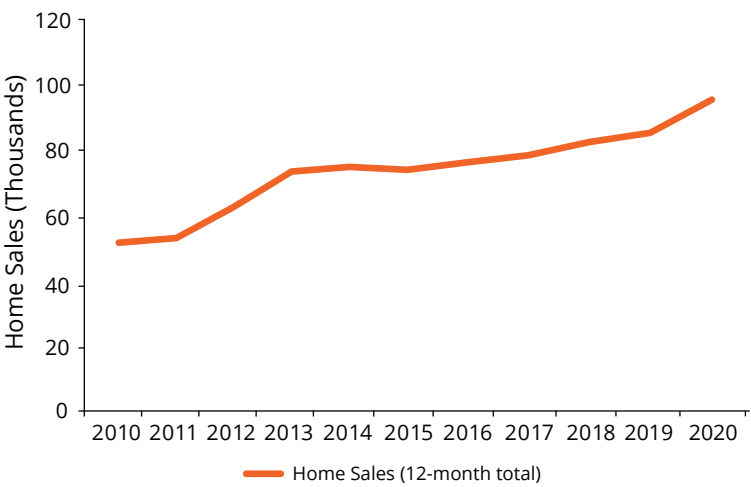
The pandemic halted air travel dramatically as some countries closed borders or imposed travel restrictions. The Houston Airport System handled 24.7 million passengers in 2020, almost 58.7% fewer passengers than the 59.7 million passengers in 2019. The numbers include all domestic and international flights in both George Bush Intercontinental Airport (IAH) and William P. Hobby Airport.

Improvements and expansions are happening at all airports in Houston. IAH has closed Terminal D/E Parking Garage for its eventual demolition to make way for a new international terminal and arrivals hall. The expanded facilities will provide additional support for continued growth in

Houston-area single-family home sales

Year-end 12-month totals

Source: Houston Association of Realtors



Houston-area home sales

Source: Houston Association of Realtors

All property types			
	December 2019	December 2020	% Change
Sales	9,099	11,572	27.2%
Volume (\$billions)	2.762	3.847	39.3%
Active Listings	37,574	26,821	-28.6%
Single-family homes			
Sales	7,689	9,652	25.5%
Average Price	\$311,665	\$347,164	11.4%
Median Price	\$251,600	\$273,442	8.7%
Pending Sales	5,315	7,469	40.5%



international travel. Hobby Airport also completed improvements including new quartz flooring in the concourse and new carpet in the gate areas.

Houston airports also reached a biometric technology milestone as Houston became the only U.S. city to equip two airports with facial comparison technology at international arrival checkpoints. The facial comparison or "Simplified" program affects all international arrivals and departures and is in coordination with U.S. Customs and Border Protection started at IAH last November and at Hobby in February. The new technology will both process passengers faster and reduce touchpoints.

Houston's airports were also recognized for various achievements in 2020. Both airports were designated as safe and secure airports for the traveling public by the Airports Council International (ACI) through its Airport Health Accreditation program. Houston's airports are the first in Texas to be given ACI's accreditation, which recognizes airports around the world for prioritizing health and safety measures to curb the COVID-19 pandemic. The accreditation also endorses the FlySafe Houston program, which was launched as a

commitment to new safety measures for a healthy airport experience.

The Transportation Security Administration (TSA) also named IAH the 2020 Airport of the Year, marking the second consecutive year of this recognition. The award recognizes the best of TSA with outstanding team achievements in key operations and mission support functions.

Energy

Oil and gas firms struggled throughout the year, working through both a global price war and the pandemic, all starting in March. The closing spot price for West Texas Intermediate (WTI) oil was \$63.69 per barrel during the first week in March, up 35% from the average \$47.02 per barrel for 2020, according to the U.S. Information Administration. WTI prices dropped to a low of \$16.55 in April this year due to the global oil price war after peaking at \$76.40 in early October 2019. Baker Hughes reports 402 active drilling rigs in the U.S. as of late February, almost half the 790 rigs reported in February 2020.

Startups and Incubators

The pandemic has not slowed down innovation as Houston is quickly becoming an active hub for all types of startup activity. Real estate investment

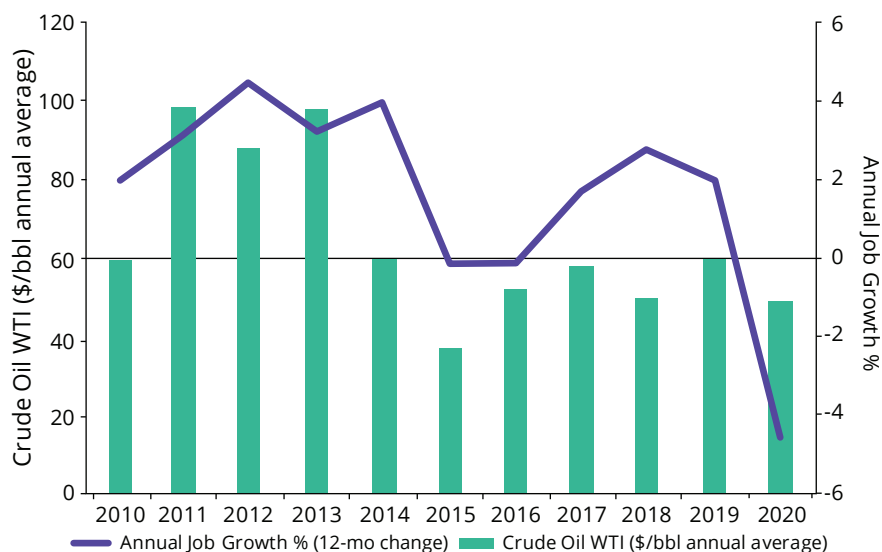
platform *Roofstop* recently ranked Houston No. 10 among major U.S. metro areas with the highest rates of startup formation. The Houston region had 9,214 startup formations annually, which equated to a startup formation rate of 9.48%, according to data compiled from the Census Bureau.

Roofstop also reported that startups created 55,4754 annual jobs, which represents 14.44% of all jobs created in the region. *Clever*, a residential real estate platform, also ranked Houston sixth in both 2020 and 2019 on a list of most affordable U.S. metros for startups.

The Houston metro's growing technology sector is attracting new business incubators and start-ups along with well-known firms. The Innovation Corridor, a four-mile stretch along Main Street between the Texas Medical Center (TMC) and downtown, is housing many new firms. Rice University's The Ion, a 288,000-sf redeveloped former Sears store, will offer flexibility to start-ups with tenants including Chevron Corp., Microsoft Corp. and coworking group Common Desk. To open in early 2021, The Ion at 4201 Main is right across the street from Greentown Labs' new facility, its only one outside Boston, in a re-purposed Fiesta store.

Oil prices and job growth

Source: Texas Workforce Commission, U.S. Energy Information Administration by Federal Reserve Bank of St. Louis



Texas Medical Center

The Texas Medical Center is the largest medical complex in the world and one of the area's main economic drivers. It is home to both the world's largest children's hospital and the world's largest cancer hospital. The 50-msf campus employs more than 110,000 individuals and is home to more than 60 premier clinical, research and education institutions. The University of Houston's College of Medicine became the newest member of the Texas Medical Center in 2021.

Biotech business accelerators include the Texas Medical Center's TMCx, AT&T Foundry for Connected Health, Johnson & Johnson's Center for Device Innovations and JLABs, which all provide networks to advance the development of technology companies and hasten commercialization. Expansion plans include enhanced collaborative research capabilities in its future 37-acre TMC3 translational research campus set to break ground this year and to open in 2022.

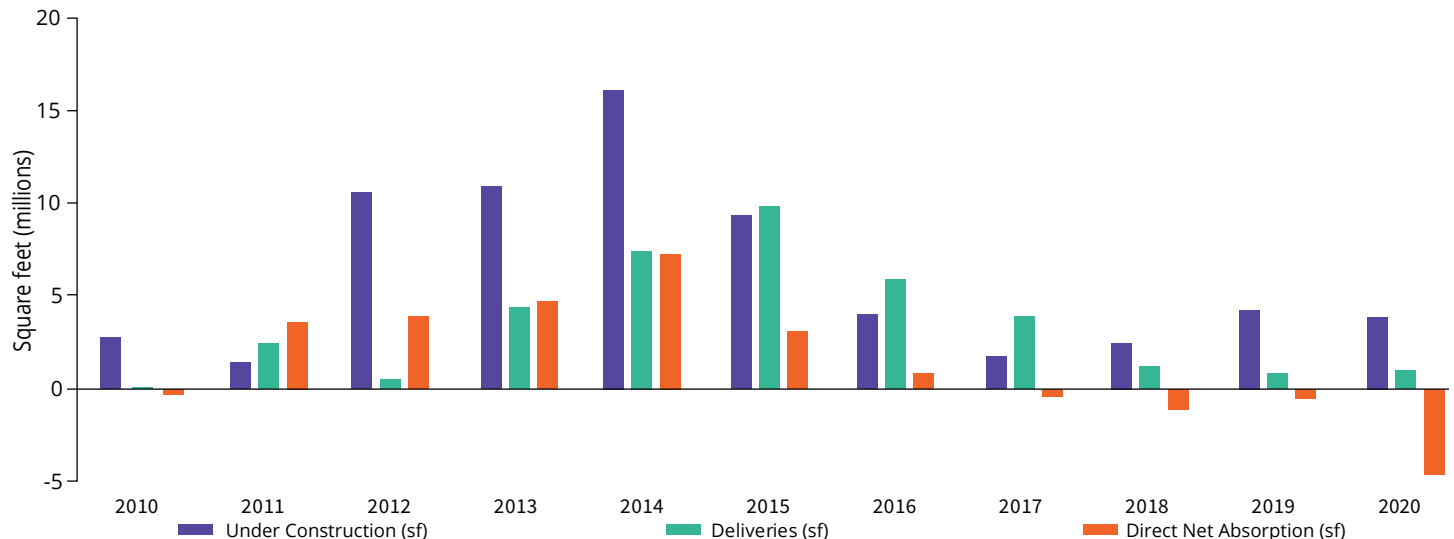
The TMC area is expanding in all directions as life science projects

continue to break ground. Four projects totaling 1.4 msf are currently underway. The largest is Horizon Tower, a 511,599-sf building in Texas A&M/Medistar's Innovation Plaza development, joining the under-renovation Discovery Tower in the same complex. The 427,000-sf O'Quinn Medical Tower in Baylor St. Luke's McNair Campus and a 160,681-sf Museo Plaza Office Building at 5115 Fannin round out the new project list.

Texas A&M recently announced a new complex to house the school's engineering medical master's degree program. Other proposed life sciences

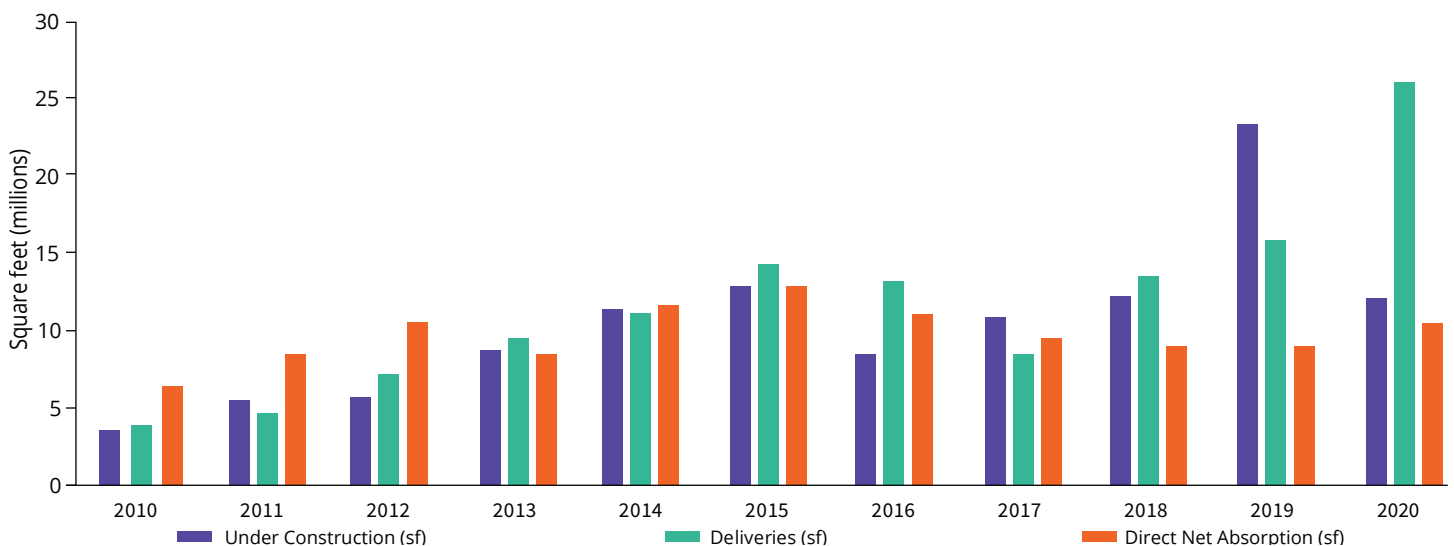
Office supply and demand

Source: Avison Young Research, CoStar



Industrial supply & demand

Source: Avison Young Research, CoStar



developments include Medistar's 1.7-msf, multi-use tower along with Hines and 2ML Real Estate Interests' 52-acre mixed-use Levit Green project. All new projects are incorporating health science space with multi-family and retail.

NASA Johnson Space Center

NASA Johnson Space Center (NASA-JSC) is a \$1.5 billion complex housing one of NASA's largest R&D facilities with the nation's most talented, high-tech professionals in science and engineering. Houston's aviation/aerospace community includes more than 500 companies and institutions, with 10 of the 50 largest aerospace manufacturing companies in the country. NASA employs more than 11,000 people in the region, which already has one of the highest concentrations of engineering talent in the nation. NASA is currently working on landing a crew on the moon through its Artemis project in late 2021.

Another ongoing project is the Houston Spaceport located at HAA's Ellington Airport. The urban commercial spaceport now boasts a new control tower at Ellington with dedicated mission control facilities for commercial spaceflight operations. Commercial space station builder Axion Space announced plans to create a 14-acre headquarters campus to train private astronauts and begin production of its Axiom Station, the world's first internationally available private space station to serve as a central hub for research, manufacturing, and commerce.

Intuitive Machines is another tenant in the Spaceport. The private company secured a NASA contract to build the NOVA-C Spacecraft, a lunar lander that will deliver cargo to the moon in 2021.

Sources: Avison Young Research, Baker Hughes Rig Count, Bay Area Economic Partnership, CoStar, Federal Reserve Bank of St. Louis, Greater Houston Partnership, Houston Airport System, Houston Association of Realtors, NASA, Port Houston, Texas Workforce Commission and U.S. Census Bureau.

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