
# Harris County

# Appraisal District

# 2022

# Market Trends Report

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## *2021 Residential Real Estate Market Overview*

Despite the numerous issues and challenges the greater Houston Metro area has faced including those brought about by unprecedented Covid-19 pandemic, Houston's residential single-family market is doing well. The stability in Houston's housing market can be best evidenced by several key metrics that are indicative of a healthy market: oil prices, interest rates, home inventory levels, and sales price and sales volume levels.

***OIL PRICES*** - The spot price for West Texas Intermediate oil (WTI) fell to negative prices in April 2020, stabilized in the mid -$60 in March 2021, and is now more than $120 in March 2022.

***Rig Count/Production*** - U.S. 61%, Canada 54%, Inter. 16%

| Area | Last Count | Count | Change from Prior Count | Date of Prior Count | Change from Last Year | Date of Last Year's Count |
|---|---|---|---|---|---|---|
| U.S. | 04 Mar 2022 | 650 | 0 | 25 Feb 2022 | +247 | 05 Mar 2021 |
| Canada | 04 Mar 2022 | 217 | -7 | 25 Feb 2022 | +76 | 05 Mar 2021 |
| International | Feb 2022 | 813 | -28 | Jan 2021 | +112 | Jan 2021 |

***JOB GROWTH***– Metro Houston created an estimated 151,800 jobs in 2021 (highest ever), and should return to pre-pandemic levels by mid-2022 (Greater Houston Partnership – 1/31/22).

***UNEMPLOYMENT* -** https://www.twc.texas.gov/news

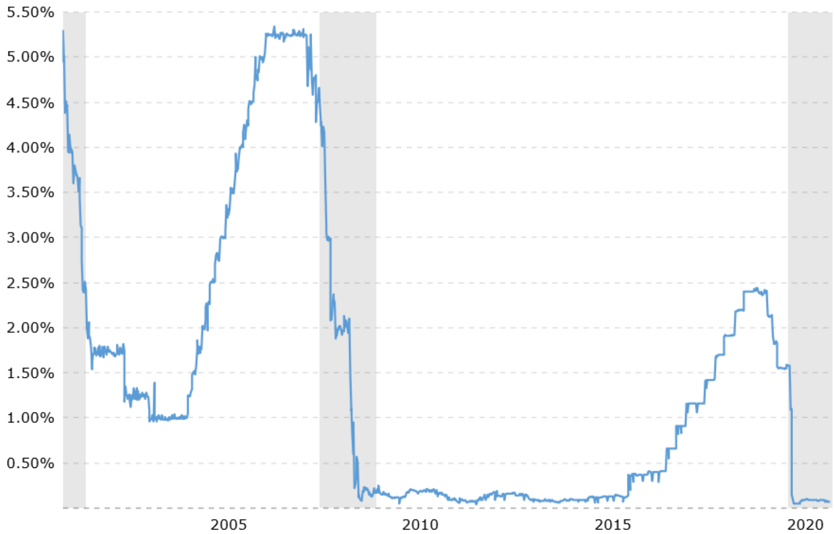
Dec 2019 – 3.9%

Dec 2020 – 8.0%

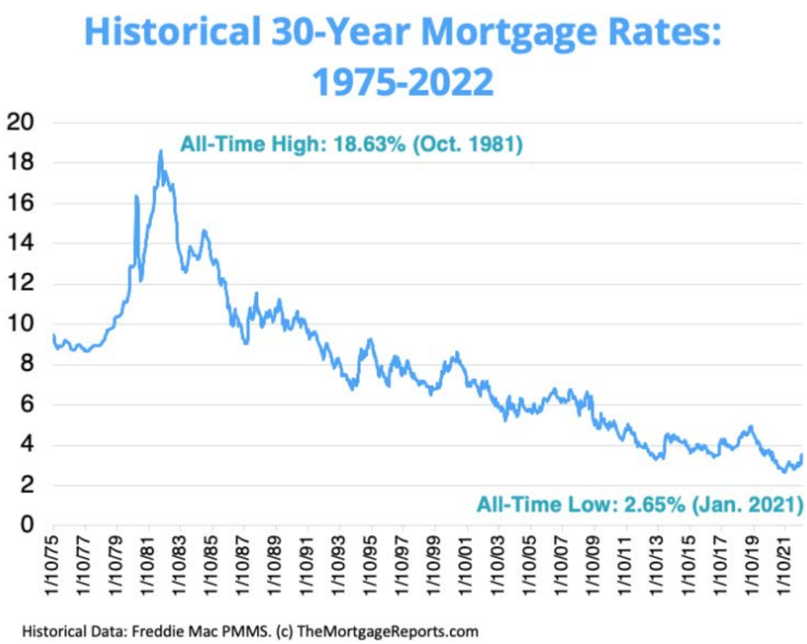
Dec 2021 – 4.8%

***INTEREST RATES* –** The Federal Funds rate, which is established by the FOMC which meets 8 times a year, is the rate banks charge each other to borrow and lend their excess reserves overnight. This rate indirectly affects the prime lending rate and many other lending rates including mortgage rates. Since the great recession which started in 2006, this rate has been less than 0.5% for 11 of 15 years as depicted in the first chart below. Mortgage rates, depicted in the chart at the bottom, have fallen consistently for more than 30 years and currently sit near historic lows. While mortgage rates remain at these levels the demand for homes will continue to be high which will keep the inventory level low while putting upward pressure on prices.

Federal Funds Rate (2000-2020)




Avg. 30-year Mortgage Rate (2000-2020)




https://www.macrotrends.net/2015/fed-funds-rate-historical-chart

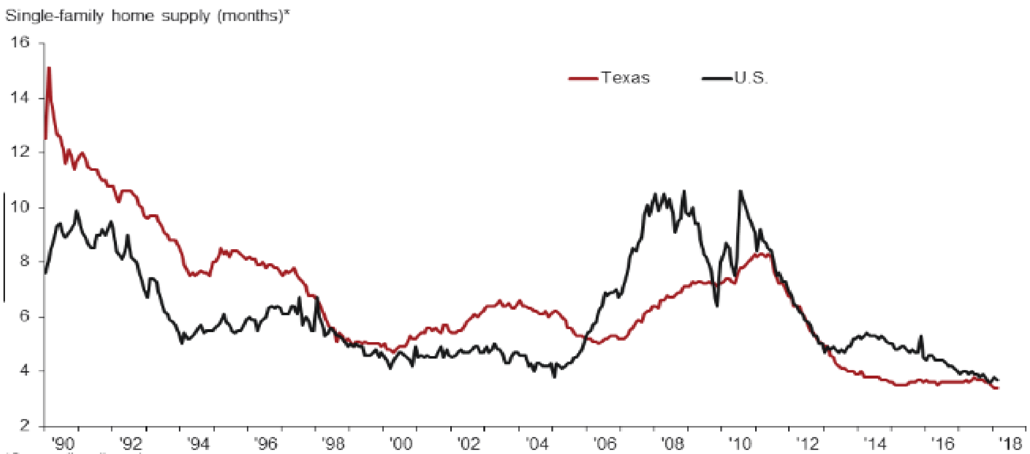
https://www.macrotrends.net/2604/30-year-fixed-mortgage-rate-chart

***HOME INVENTORY*** - According to the Houston Association of Realtors (HAR), the inventory of available homes fell to 21,643 (1.4 months) as of January 2022. The 1.4 months inventory is at an all-time low for the greater Houston area. Typically 6 months of inventory is considered equilibrium. Accordingly, inventory levels below 6 months indicate a seller’s market which is generally accompanied by an increase in sales prices and in turn appraisal values.

Until the supply of homes moves closer to equilibrium, we are likely to continue experiencing a seller's market and the corresponding increase in sales prices. The number of days it took a home to sell (a.k.a. Days on Market) fell sharply from 48 to 39 days.

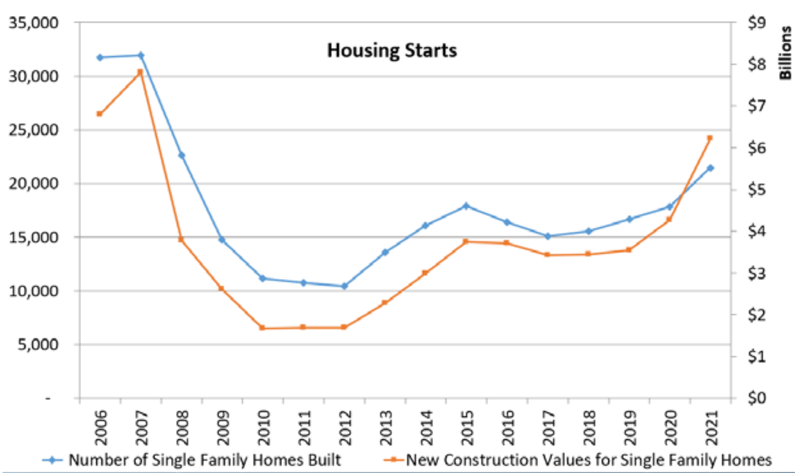
Houston's housing market has been a sellers' market since 2012-2013 which is depicted in the Houston association of Realtor's chart below:

Home Inventory (Texas vs. U.S.)




*Seasonally adjusted.
SOURCES: Real Estate Center at Texas A&M University; Multiple Listing Service.

***NEW STARTS*** - The number of new starts for 2022 will likely surpass 24,000 homes which will be the most in thirteen years. The new construction value associated with the new starts will exceed $6 billion which will be the most since 2007.



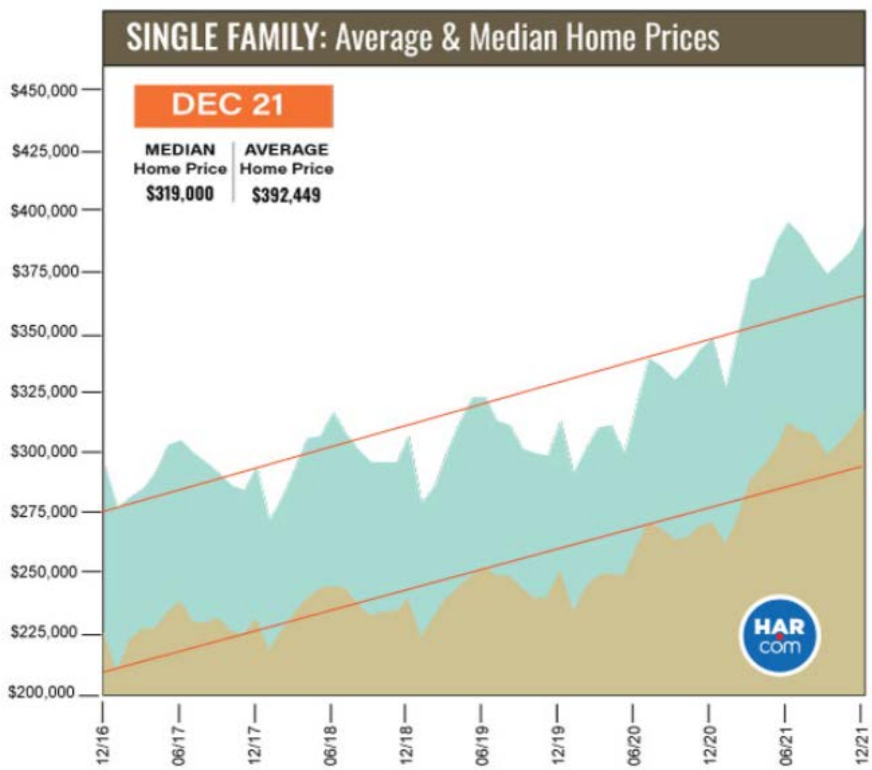

***SALES VOLUME*** - According to HAR, sales volume for single family residential properties for the full year 2021 totaled 106,229 units which is a 10.3 percent increase versus the 96,271 units sold in 2020. Additionally, January marked the 7th consecutive month where year-over-year sales volume increased.

| CATEGORIES | FULL-YEAR 2020 | FULL-YEAR 2021 | CHANGE |
|---|---|---|---|
| SINGLE-FAMILY HOME SALES | 96,271 | 106,229 | 10.3% |
| TOTAL PROPERTY SALES | 115,676 | 131,041 | 13.3% |
| TOTAL DOLLAR VOLUME | $35,303,946,677 | $46,544,097,535 | 31.8% |
| SINGLE-FAMILY AVERAGE SALES PRICE | $324,069 | $376,075 | 16.0% |
| SINGLE-FAMILY MEDIAN SALES PRICE | $260,000 | $300,000 | 15.4% |

*Courtesy HAR January 12, 2022*

***SALES PRICES*** - In a full year's comparison, the median price for a home increased to its highest level ever rising 15.4 percent from $260,000 to $300,000. In a full year's comparison, the average price increased 16.0% from $ $324,069 to $376,075.

The chart below shows a five-year trend line for both the average home sale price and the median home sale price of single-family homes. Over the last five years the average price of homes increased from $295,000 in December 2016 to $392,449 in December of 2021. This represents a 33 percent increase over the 5-year period. Over the last five years the median price of a home increased from $225,000 in December 2016 to $319,000 in December of 2021. This represents a 42 percent increase over the 5-year period.




*Courtesy HAR January 12, 2022*

## *2022 Outlook and Insights*

Although it is difficult to say what will happen with the housing market in 2022, given the 2021 results and all the corresponding market indicators, it appears that the housing market is on solid ground. Below is a list of factors that will be important indicators as to how the housing market will fair in 2022.

- Coronavirus – Have we "turned the corner" or are their other variants?
- Price of oil – Will oil prices stabilize as more production comes online? Will the on-going conflict in Europe be short-lived or escalate?
- Interest rates – Will the interest rate increases that the Fed. outlined for 2022 affect prices or inflation? Will these increases create a recession?
- Job Growth – Metro Houston created more than 151,000 jobs in 2021 (Greater Houston Partnership – Dec'20). Will interest rates and high oil prices affect employment?
- Will inventory recover from the historic lows? Will new starts continue to increase?
- Is there a large "shadow-foreclosure" backlog that is being hidden by various forbearance periods and moratoriums on the foreclosure of single-family homes? Although many of these programs ended in mid-2021 there has been no noticeable upturn in foreclosure activity.

## *2021 Houston Commercial Real Estate Market Overview*

Like most of the world the United States has seen its fair share of adversity. Starting with political turmoil, a lingering worldwide pandemic, and supply chain distribution problems, the issues seem to pile up.

The International Monetary Fund (IMF) has recently warned the global economy is entering 2022 in a weaker position than previously expected. The IMF downgraded its global growth outlook chiefly due to uncertainty in the recoveries of China and the United States of America.

The IMF's most recent World Economic Outlook calls for the global growth to downshift from 5.9 percent in 2021 to 4.4 percent this year. The 2022 forecast is half a percentage point lower than the Fund's October outlook and largely reflects forecast markdowns for the world's two largest economies.

The Fund saw the US economy growing 4.0 percent this year. That was 1.2 percentage points lower than its October call and reflected the failure to pass President Joe Biden's Build Back Better spending plan, the Federal Reserve's unwinding of pandemic stimulus measures, and continuing supply shortages that are driving inflation.

Inflation is the biggest question on the minds of investors. How much will it increase and how long should it be expected to last?

Federal Reserve officials and investors have not had to contend with meaningful inflation over the past three decades. This all changed in the summer of 2021.

When stimulus-induced demand met COVID-restricted supply it created distortions in the economy. That fueled rapidly rising prices wherever there were obstructions.

Federal Reserve officials have maintained that high inflation levels in the U.S. are temporal, and prices should regress once these distortions are corrected. Expert economists expect inflation levels will remain elevated throughout 2022.

Investors worried about the destructive impact of inflation on their portfolios should consider this: Even during times of higher inflation, stocks and bonds have generally provided solid returns. It's mostly at the extremes — when inflation is above 6% or negative — financial assets have tended to struggle.

What's more, some inflation can be healthy for companies, such as banks and commodity-linked companies that have struggled in a low inflation, low interest rate world.

The economic cycle consists of four actions: Expansion, Peak, Recession, and Recovery. When this cycle goes off the tracks it always corrects itself. We are currently in recovery mode, which means the market is correcting itself. It may not move at the same pace every time, but eventually the correction happens. With some patience and resilience, we can see better days ahead economically.

## ***Commercial Land***

The demand for land in Harris County has always been great, but in the past few years the demand has skyrocketed. With the population growing in Harris County, the supply of housing has fallen behind the demand. Residential developers are looking for as much land as they can acquire to develop into neighborhoods or master planned communities. Commercial land is just as sought after by commercial developers as well. Demand for residential land fuels the demand for commercial land.

The Houston area boasts cheap, open land, not just on its outskirts, but also within its city limits. Infill projects are mostly focused on mixed-use, luxury development, while outlying vacant land is more diversified, including retail, office, and residential development.

Houston's growth has shifted farther out as roads such as the Grand Parkway and Texas 249 have been constructed. The Houston metropolitan area has grown from 4 million in 1980 to more than 7 million in 2020 or about 100,000 people a year, according to Land Advisors, which is headquartered in Scottsdale, Arizona.

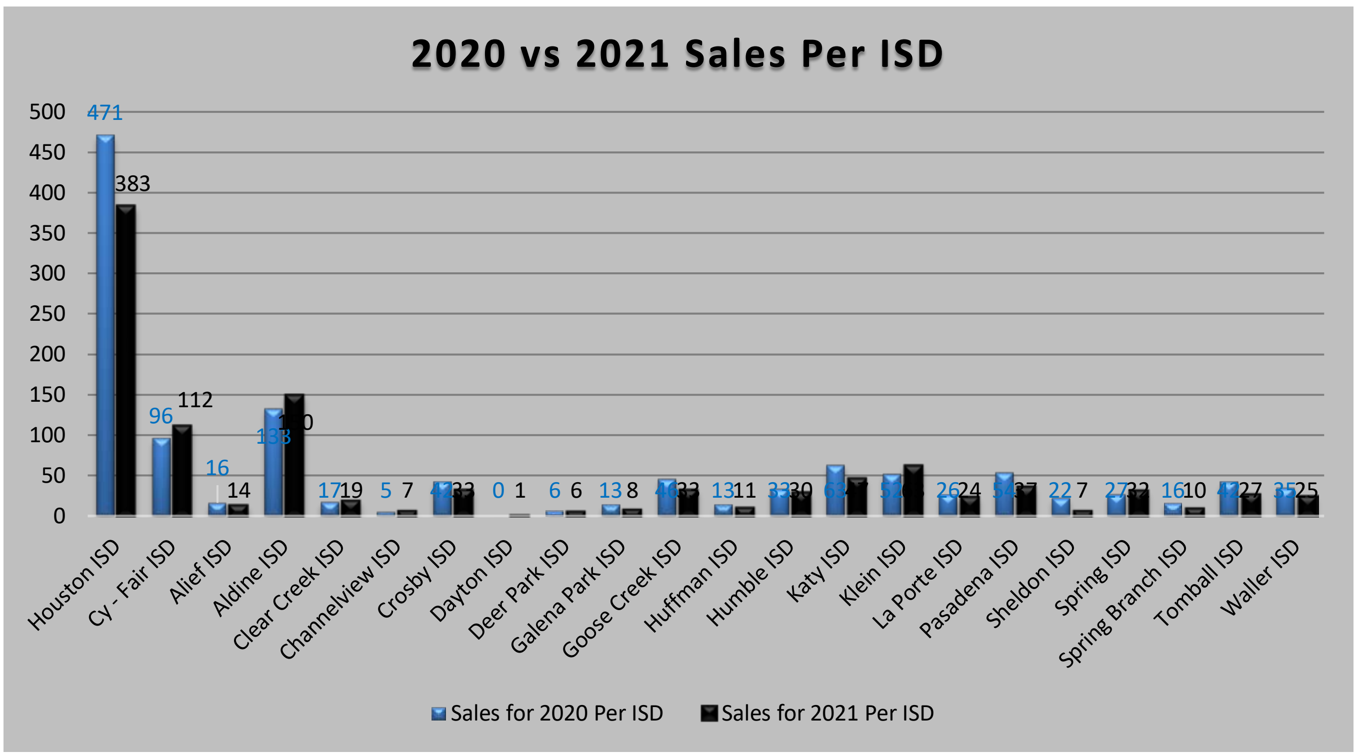
Houston had the highest volume of commercial real estate transactions of any city in the country in the third quarter of 2021. Dallas came in at No. 3.

In 2020, 4,180 acres of land classified as commercial was sold. In 2021, the supply sold for commercial development was less at 3,778 acres. Although less sold in 2021 the demand for land is still there.

Like previous years, most sales have taken place in Houston ISD, Aldine ISD and Cypress Fairbanks ISD. The reasons for the activity remain the same. Houston ISD is always considered the apex and will always have the desirability inner city development.

Cypress Fairbanks ISD is a growing school district with an abundance of available vacant land. Cypress Fairbanks is the second largest school district in Harris County by land mass. Cy-Fair has access to Highway 290, the Sam Houston Parkway, Interstate 10, State Highway 249, and the Grand Parkway.

Aldine ISD has access to a major airport, George Bush International Airport. Aldine also has access to Interstate 45, Intrastate 69, and the Sam Houston Parkway. This makes it a great location for distribution warehouses and other warehouse type properties.




*Source:* HCAD Sales Ratio Analysis

With all the new construction around the county, flood mitigation is a major concern. Texas leads the nation in disaster declarations, because of hurricanes, tropical storms, and occasional flooding.

The Texas General Land Office is looking to change that with infrastructure projects aimed at reducing flood risk in flood prone areas. Approximately $90.4 million has been approved for eastern Harris County. This $90.4 million comes out of $1 billion from U.S. Housing and Urban Development (HUD). Baytown, Galena Park, Jacinto City, and Pasadena are the cities that will receive those funds.

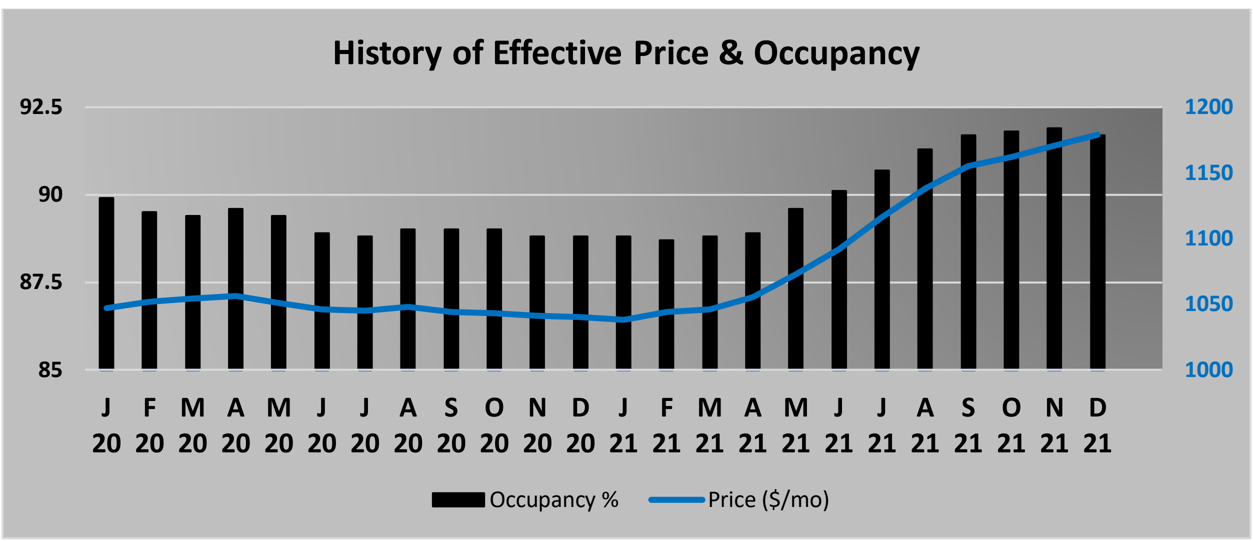
Although local leaders have pressed for $2 billion to cover mitigation for the City of Houston and Harris County, The GLO is planning to give Harris County $1.25 billion.

## *Multi-Family*

The Houston multi-family market seems to be on the rebound after many months of stagnation due to the COVID–19 Pandemic and the energy sector downturn. Although the Houston market has not recovered as well as the Dallas and Austin markets, the Houston market is making strong recovery efforts. Houston remains one of the more affordable cities in Texas, with only San Antonio listing cheaper average monthly rent. Houston also boasts the largest average rental unit size at 880 SF. These efforts are looking even better than pre-pandemic statistics. Rents are up, occupancy is on the rise and investment interest is back.

For the majority of 2020, occupancy hovered around an average of 88%. Rental rates stayed below an average of $1,150 per month. In 2021, statistics have shown a constant rise in rental rates and occupancy. Each month has been better than the previous month. Now the average rental rate is $1,171 per month and the average occupancy is 91.9%. The cost of rent varies depending on several factors, including location, size, and quality.

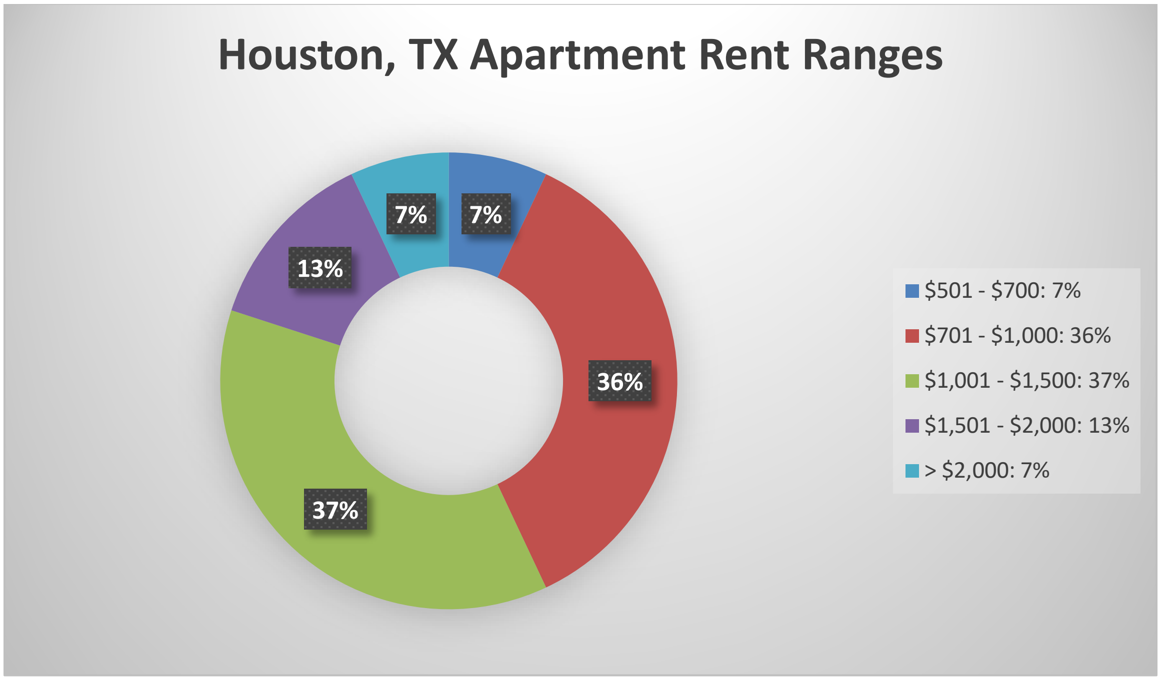
The graph below displays the overall occupancy and effective rental prices over the past 24 months. These statistics are derived from a continuous survey of all apartment communities in the Houston market. Effective rental prices are calculated net of concessions and utility adjustments.




*Source:* Apartment Data Services

Over the past twelve months the rental rate growth has increased 14.6%. 36,872 units have been absorbed. In the Houston market, there are 2,970 multi-family communities with 701,909 units. Over the last twelve month, 84 communities were added to the previous mentioned total adding 22,474 units. There are 50 communities currently under construction that will add 13,467 more units. There are 96 communities still proposed for future development. That proposed number will add 28,601 units.

The average size for a Houston, TX apartment is 880 square feet, but this number varies greatly depending on unit type, with cheap and luxury alternatives for houses and apartments alike. Studio apartments are the smallest and most affordable, 1-bedroom apartments are closer to the average, while 2-bedroom apartments and 3-bedroom apartments offer a more generous square footage.




*Source:* RentCafe

The most affordable neighborhoods in Houston are South Park, where the average rent goes for $625 per month, Golfcrest - Bellfort - Reveille, where renters pay $752 per month on average, and East Little York - Homestead, where the average rent goes for $753 per month. Other great deals can be found in Houston Suburban Heights ($753), Trinity - Houston Gardens ($753), and Greater Fifth Ward ($767), where the asking prices are below the average Houston rent of $1,171/month.

The most expensive neighborhoods in Houston are Neartown - Montrose ($1,930), Downtown Houston ($1,945) and Fourth Ward ($1,982).

The most popular neighborhood in Houston is Uptown Houston, where there are 34 verified RentCafé listings with an average rent of $1,413. Next up is Eldridge - West Oaks, where apartments go for $1,126/month, followed by Westchase with $1,061 If you're looking to rent in Houston's most popular neighborhoods, apartments can be found in Mid West Houston, where renters pay $1,094 on average, and Greenway - Upper Kirby, where the average monthly rent is $1,887.

The table below distributes and analyzes concessions by classification. Concessions are represented by three types of specials: move-in, months free, or floorplan. This table captures the effect of these specials and prorates them over a lease term to arrive at a percentage reduction in market or street rents.

| | CONCESSIONS | | | |
|---|---|---|---|---|
| Class | Total Units w/ Concessions | % of Total Units | Citywide Effect | Average Special |
| ALL | 176,376 | 25% | -1.6% | -5.7% |
| A | 64,460 | 33% | -2.4% | -6.6% |
| B | 47,502 | 21% | -0.9% | -4.4% |
| C | 54,311 | 26% | -1.3% | -4.9% |
| D | 10,103 | 13% | -0.8% | -5.8% |

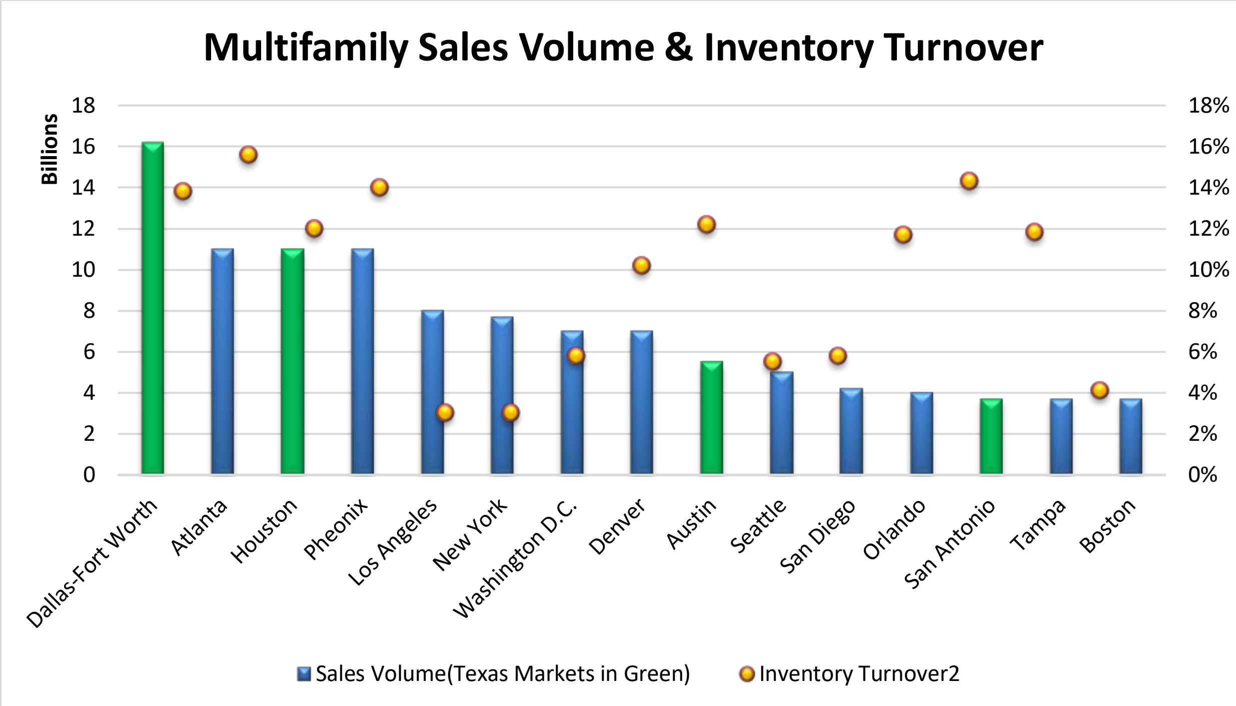
*Source:* Apartment Data Services

Texas' largest markets have materialized as a popular haven to establish capital in multifamily assets. They offer investors diversity as each of the four major markets have unique economic profiles and drivers and feature multifamily inventories that cater to different investor types and strategies.

With rent growth at an all-time high and vacancies at a seven-year low, investors have taken note of Houston's improving multifamily sector.

Sales activity has surged over the past few quarters. Houston ranks among the top three markets in the country for investment in 2021 with $10.7 billion through the end of the third quarter, trailing only Dallas-Fort Worth and Atlanta. Furthermore, 2021 is on pace to be a record year for investment sales volume in Houston.

Out-of-state investors continue to garner the lion’s share of investment volume, as has been the case for the past several years, accounting for more than 70% of buyer volume so far this year. Like Dallas-Fort Worth, investors in Houston seem particularly interested in fast-growing suburbs such as Katy and Cypress and value-add opportunities.




*Source*: CoStar, December 2021 Data through 21Q3

## Market Activity

| | January 2022 | VS | January 2021 |
|---|---|---|---|
| Occupancy | 91.8% | ↑ | 88.8% |
| Avg Price/Mo | $1,184 | ↑ | $1,038 |
| Rental Rate Per Sq Ft/Mo | $1.33 | ↑ | $1.17 |
| Avg Unit Size Sq Ft | 888 | ↑ | 885 |
| Rental Rate Growth Past 12 Mo | 16% | ↑ | -1.7% |
| Units Absorbed | 37,308 | ↑ | 11,309 |
| Operating Supply # Communities | 2,982 | ↑ | 2,903 |
| Operating Supply # Units | 704,812 | ↑ | 684,821 |
| Deliveries (12 Months) Communities | 81 | ↓ | 85 |
| Deliveries (12 Months) Units | 21,583 | ↓ | 23,983 |
| Under Construction Communities | 50 | ↓ | 61 |
| Under Construction Units | 13,478 | ↓ | 17,152 |

## Highlighted Multi-Family Activity


High Street Residential

High Street Residential, the residential subsidiary of Trammell Crow Company, is nearing completion of a 43-story residential tower in downtown Houston. Located at 808 Crawford Street, the building will include 309 residential apartment homes and a robust array of resident amenities. The project is slated to deliver in late 2022.

The property will offer a mix of one-, two- and three-bedroom apartment homes, including 16 two-story townhome-style units on the 15th through 34th floors and four two-story penthouses on the 41st floor with breathtaking views. Residents will enjoy finishes that include nine- to 10-foot ceiling heights, floor-to-ceiling windows, blackout shades, chef-quality kitchens with gas ranges and quartz countertops, premium European-made custom cabinetry, spa-like bathroom features, and spacious custom closets.

The property's high-end unit features, inspiring views, impressive amenity collection and tailored concierge services combine to deliver residents an elevated hospitality-like living experience. The tower's walkability to some of Houston's best dining and entertainment options further contributes to the appeal of downtown luxury living.

The 808 Crawford Street project is adjacent to Discovery Green, a 12-acre urban park in Downtown Houston. The property will be the only luxury high-rise in the area that offers direct access to the Houston skywalk/tunnel system, providing residents all-weather access to most of downtown's major employers.

Bowen

A brand-new apartment community is being developed in River Oaks, near downtown Houston and the Galleria. With inviting interiors and elegant finishes, Bowen will offer residents an exclusive lifestyle. Just steps away from Houston's prime restaurants and retail, residents will enjoy luxe living at home and around the neighborhood.

From the moment residents enter the leasing lobby at Bowen, they will enjoy all that the community has to offer. From the 10th-floor pool deck to the fitness studio with views of the Galleria, residents will enjoy their new home in Houston.

Amenities for this property also include a sky resident lounge, work from home stations, a pet spa, resident club with gaming tables and entertaining bar, a concierge, and a package system. The high-rise community will be located at the southwest cornet off San Felipe Road fronting on Westcreek Lane. This complex will complement the number of existing high-rise apartments in the area as well as add competition to them.

**The McKinley**

Located about 15 miles west of Downtown Houston, Memorial City is an upscale neighborhood perfect for renters who want plenty of dining, shopping, and entertainment options right outside their doorstep. The neighborhood offers luxury apartments, condos, and single-family homes. Memorial City is best known as a popular commercial district.

Owned by MetroNational, The McKinley Memorial City will offer 25 stories and 278 units of luxury residential high-rise apartments.

The thoughtfully designed floorplans, ranging from one- to three-bedroom offerings and sleek penthouses, create excellent sightlines and convey a tone of chic sophistication and timeless elegance. Visually stunning interiors with exquisite finishes and curated amenity spaces make The McKinley the urban oasis upscale residents always dreamed of.

The amenities include Resort-style pool with cabanas and wave bar, a golf simulator, movie theatre, chef's kitchen, state-of-the-art fitness center, dog park, bike storage, resident horizon bar and wine bar (with lockers).

The McKinley is located at Interstate 10 (Katy Freeway) near Bunker Hill Rd.

The Reserve at Baybrook

Locally based developer D’Agostino Cos. has broken ground on The Reserve at Baybrook, a 291-unit multifamily project in Friendswood, located south of Houston. The community will feature one-, two- and three-bedroom units that average 921 square feet and are furnished with stone countertops, tile backsplashes, stainless steel appliances and individual washers and dryers. Amenities will include a pool, outdoor entertainment area, clubhouse, fitness center and a golf simulator room.

Located at 13902 Glenwest Drive in Friendswood, Texas, the Reserve at Baybrook is 6.8 miles from Lyndon B Johnson Space Center, and is convenient to other military bases, including Pelican Spit Military Reservation.

Residents of this bayfront community are comforted by their direct access to Interstate 45 as well as the METRO and Harris County Transit services. Sylvan Rodriguez Park offers an abundance of recreational activities. The area is thriving in the cultural arts with monthly art exhibitions as well as performances by the Clear Lake Symphony and the local theatre troupe.

Arella

Located at 12840 Jones Rd, Adara Communities is bringing the Arella on Jones as luxurious 55+ senior living community. Amenities include a spacious 25,000 square foot resort club featuring a full-service salon and spa, resort-style pool with swim up bar and a paw-some dog park! With an enchanting ambiance and unparalleled amenities, Arella on Jones is one of the most unique active senior communities in Houston.

Other amenities include a billiard & poker lounge, coffee café & wine bar, creativity workshop, faith rooms, ping pong tables & outside activities, yoga studio, and power flush toilets with bidet in primary.

MorningStar at River Oaks

Also taking a dive into the senior living scene for the first time is Houston-based Hines. Hines is preparing for the official unveiling of a six-story rental community in the Upper Kirby area.

Hines, which partnered with Denver-based MorningStar Senior Living on the project, has scheduled an open house for Dec. 11 and Dec. 12, 2022 to allow the public to get its first look at the new MorningStar at River Oaks senior multifamily development. The new development at 2315 Richmond Ave. is MorningStar's first development in Texas.

The licensed assisted-living facility will offer a total of 112 units. Eighty-five units, spread across five floors of the building, will be geared toward assisted living, while 27 are located on a separate floor dedicated to memory care.

The pet-friendly units range from 396 square feet to 1,089 square feet and come in studio, one- and two-bedroom floorplans. All the assisted-living units are equipped with washing machines and dryers, and some of the larger floorplans have living rooms and full kitchens.

Monthly rents will range from $5,850 to $9,300, depending on the floor plan residents choose. There will not be a community buy-in fee.

The community is also home to an art studio with 18-foot, floor-to-ceiling windows; a theater; a club room for larger events; a sky terrace with views of downtown Houston; and a landscaped courtyard with a fireplace and an outdoor kitchen.

## *The Office Market*

The Covid-19 pandemic, its multiple variants and working from home have all had negative effects on the national office market. Houston is ahead of many major cities in bringing employees back to the office, but the city's office market continues to struggle amid rising vacancy rates, according to a series of reports released by major commercial real estate firms. Meanwhile, new offices continue to be built. Houston commercial real estate experts say they are overall no longer feeling weighed down by the pandemic.

Progressing into 2022, the commercial real estate market is guardedly encouraged about the upcoming year, forecasting even the subnormal office market will see improvement, with some already seeing activity reach 2019 levels or better. Experts are also predicting 2022 will bring the continued revival of retail and a new focus on green building and technology to attract and retain talent.

Houston lost 361,400 jobs at the start of the pandemic, but the metropolitan area has since recovered about 74.4% of those positions, according to the Greater Houston Partnership's annual employment forecast. About 8,700 jobs are expected to be added in the professional, scientific, and technical services sector, which includes office-using industries such as accounting, engineering, architecture, and law to name a few. However, it's not clear how many of the office-using jobs will translate to the need for more office space.

The vacancy rate expanded 180 basis points to 25.4% as of November 30, compared to this time last year at 23.6%. Almost 2.6 million sq. ft. has been conveyed to the market in 2021, with half of that space available for lease. At a time when leasing activity hasn't returned to pre-pandemic levels, overall office net absorption registered at negative 2.4 million sq. ft.

As of year-to-date December 31, 2021, there is 2.4 million sq. ft. under construction, representing non-owner-occupied buildings 20,000 sq. ft. and over. The submarket with the most square footage under construction is the Texas Medical Center, underscoring continued momentum toward life sciences office product.

The Houston overall full-service average rates are at $29.32 per sq. ft., up from last quarter at $29.26, and down from one year ago at $29.87 per sq. ft. Asking rates for overall Class A space are $33.93 and Class B are $22.50 per sq. ft. Rent growth has varied across Houston's submarkets. Asking rents in the Greenway Plaza submarket averaged $34.43 per sq. ft., which is 17% higher than the metro average as a whole and ranked number two—only behind the CBD at $38.48—among Houston submarkets as of year-end 2021.

Quarterly leasing velocity—which is comprised of both new leases and renewals—stood at 2.6 million sq. ft. during the fourth quarter—down from 3.6 million sq. ft. in Q3 2021. Year-over-year, Q4 2020 leasing activity registered at 3.1 million sq. ft.

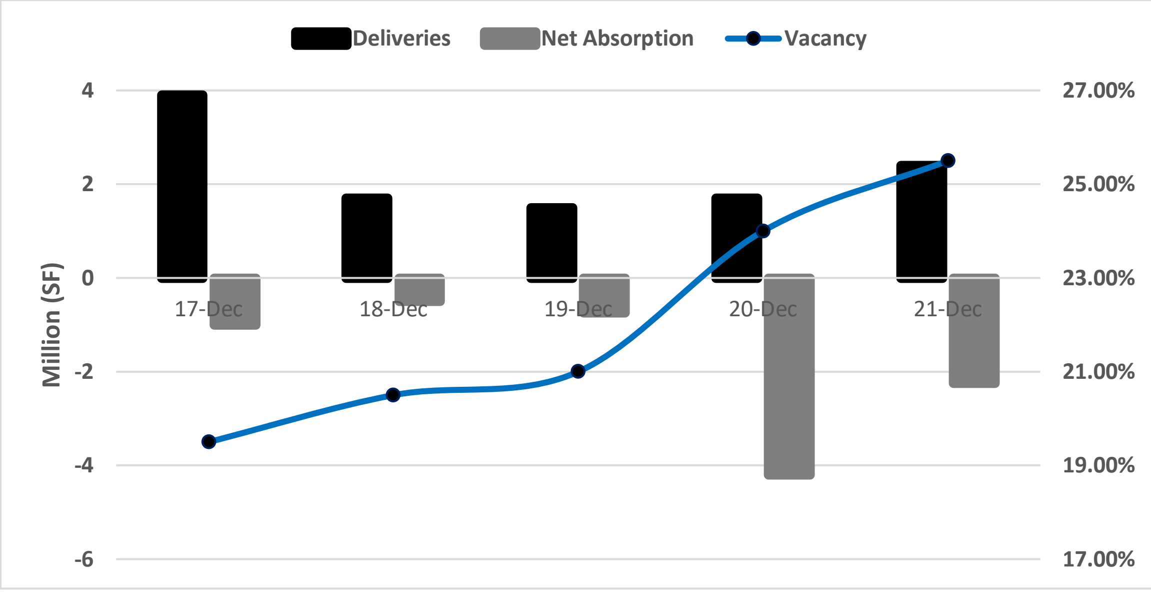
Real Capital Analytics data reports quarterly office sales volume for Q4 2021 in the Greater Houston area at $697 million. The year-over-year change in volume is up 30% from $537 million in Q4 2020, signaling renewed optimism. The primary capital composition for buyers in 2021 was made up of 67% private investors, 10% institutional and 10% REIT/listed. For sellers, the majority was 34% private investors, 28% REIT/listed, and 27% institutional.

## Market Activity

| | December 2021 | vs | December 2020 |
|---|---|---|---|
| Vacancy | 25.4% | ↑ | 23.6% |
| Availability | 29.2% | ↑ | 28.1% |
| Under Construction SF | 2,431,198 | ↓ | 4,131,108 |
| Gross Average Asking Rent | $29.46 | ↓ | $29.87 |
| Net Absorption SF YTD | (2,437,797) | ↑ | (4,465,197) |
| Leasing Activity SF YTD | 10,792,925 | ↓ | 14,897,714 |
| Deliveries SF YTD | 2,551,375 | ↑ | 1,495,968 |

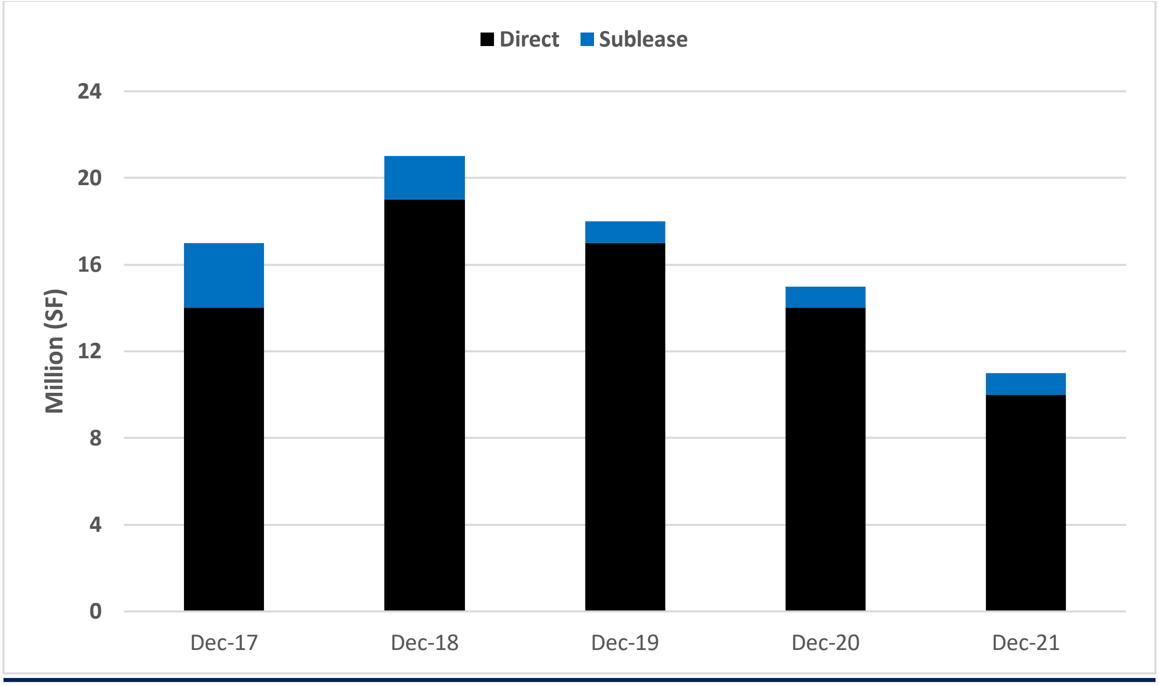
**Source: NAI Partners**

## Supply & Demand




**Source: NAI Partners**

## Leasing Activity




**Source NAI Partners**

## Highlighted Office Activity

Most of the activity in the Central Business District is aimed toward renovations and rehabbing older Class A properties. The renovations are being done to help the older properties compete with the recently constructed office towers and the office towers that are still under construction. As many as six office towers recently completed renovations in the CBD.


FC Tower

FC Tower Property Partners, owner of downtown’s 1001 Fannin office tower, invested $20 million towards renovation aimed at bringing modern amenities desired by companies, while positioning the building to fill upcoming vacancies.

The main lobbies of the 1.3 million-square-foot building have been renovated with new escalators, artistic lighting, a coffee bar and various seating areas for tenants and guests. On the tunnel level, the updates include an 8,000-square-foot fitness center and adjacent tenant lounge with areas for entertainment, seating, and games.

The building, on the block bounded by Fannin, San Jacinto, Lamar, and McKinney just west of the Park Shops at Houston Center, completed renovations of the north and south exterior plazas. The work brings collaborative lounging areas and comfortable places for employees to meet outside.

Brookfield Properties has renovated Heritage Plaza, the Houston Center, and the Allen Center in efforts to attract new tenants and to maintain existing tenants.

The renovations to Heritage Plaza included adding a new exterior glass curtain wall at the corner of Dallas and Brazos streets to create a more inviting arrival experience. The previously dark, heavy façade was transformed through the addition of a glass curtain-wall system. The three-story Kawneer 1600 Wall System offers unobstructed views between the interior and exterior, which brings in more natural lighting into the lobby. The exterior plaza also features new landscaping and artificial turf, which can be used for outdoor fitness activities, as well as new seating areas.

The building also saw the addition of new landscaping, a new staircase that provides gathering areas, a revamped lobby with an exterior patio and fixture upgrades. Brookfield Properties also added a new conference center and an upgraded fitness center.

Heritage Plaza

Houston Center consists of LyondellBasell Tower, 2 Houston Center, Fulbright Tower, 4 Houston Center and The Shops at Houston Center, but the project primarily focused on upgrades to LyondellBasell Tower and 2 Houston Center. According to a Feb. 3 press release, key elements of the project included:

- An entirely new arrival experience through a reimagined central plaza and greenspace along McKinney Street.
- A new central plaza featuring a digital water wall, flexible entertainment space and a spiral staircase connecting to two landscaped terraces above.
- Renovation of the 2 Houston Center and LyondellBasell Tower lobbies, featuring a three-story glass façade at 2 Houston Center and modernized elevator cabs throughout.
- Completely reclad skybridges connecting the complex to a shopping and retail center.
- The Lift Fitness Center at LyondellBasell Tower, featuring floor-to-ceiling windows overlooking the campus's new central greenspace.
- Conferencing venues and lobby coworking spaces to foster communication and collaboration, including a new outdoor sky deck and LyondellBasell Tower’s adaptive conferencing venue, The Exchange Conference Center.
- New multitenant corridor and restroom designs.
- Creation of a glass box stair and elevator along Rusk Street; and
- Upgrades to the 4 Houston Center lobby.

Renovations to Two and Three Allen Center included new lobbies, bike storage and a suite of rooms for breastfeeding mothers outfitted with hospital-grade pumps, milk storage bags and other supplies. The renovations follow on Brookfield’s overhaul of One Allen Center, which included an acre greenspace, and Houston Center, which also focused on outdoors and pedestrian access.

The other two office towers that underwent renovation, completed in 2021, include TC Energy Center and JPMorgan Chase & Co. Tower.

TC Energy Center is the Former Bank of America Center. The high-rise renovations cost $20 million. The first phase of the renovation program in the lobby brings a white-tablecloth restaurant and 10,000 square feet of creative office space with views of Jones Plaza across Capitol Street.

The second phase of the renovations brings a new tenant lounge and conference center, a lobby coffee bar and mezzanine level of collaborative workspaces above the former Bank of America lobby.

The only true office construction taking place in the Central Business District is 1550 on the Green. The 28-story Class A tower overlooking Discovery Green Park is expected to be delivered by Skanska in 2024.

## *Medical Office*

Houston is the seat of the Texas Medical Center, which describes itself as containing the world's largest concentration of research and healthcare institutions. All 49 member institutions of the Texas Medical Center are non-profit organizations. They provide patient and preventive care, research, education, and local, national, and international community well-being. Employing more than 73,600 people, institutions at the medical center include thirteen hospitals and two specialty institutions, two medical schools, four nursing schools, and schools of dentistry, public health, pharmacy, and virtually all health-related careers.

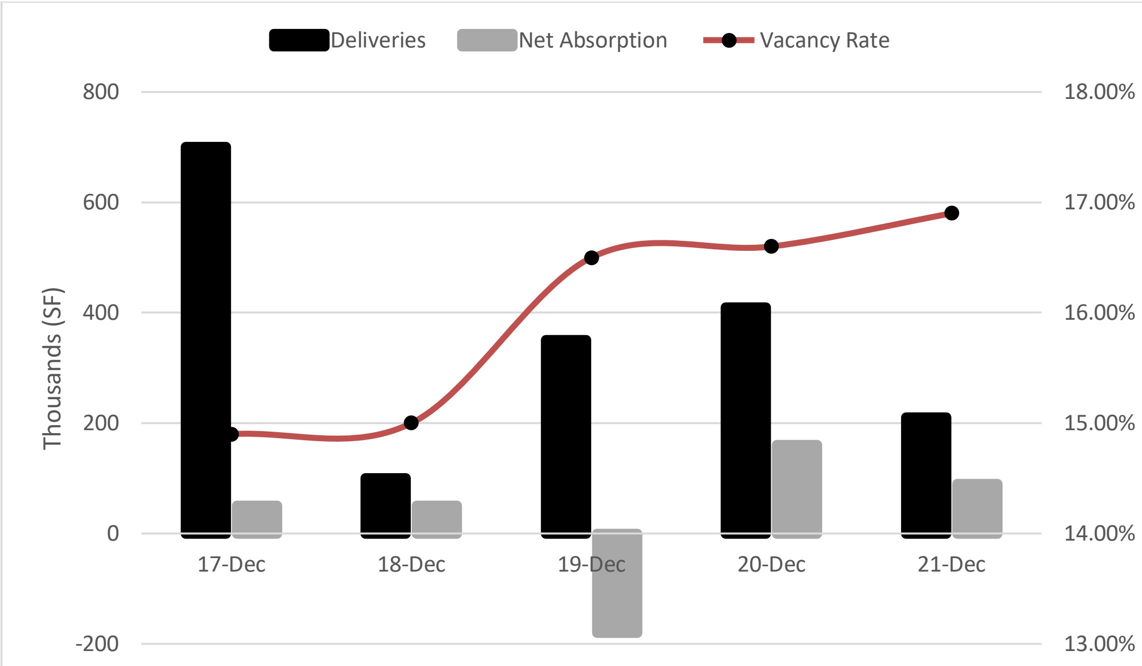
This sub-sector of office buildings is thriving in comparison to regular office buildings. Overall vacancy for medical office space in the Houston market is at 16.9%, up 30 basis points from 16.6% this time last year. Houston medical office space has recorded more than 1.3 million sq. ft. of leasing activity year-to-date—which is comprised of both new leases and renewals—while net absorption (move-ins minus move-outs) registered at positive 73,000 sq. ft. So far this year, developments under construction stand at just over 1.0 million sq. ft., and 209,000 sq. ft. has delivered. The average asking full-service rent is at $25.69 per sq. ft., down slightly from this time last year, while Class A medical office space is averaging $30.30 per sq. ft., down 2.7% from the prior period at $31.15 per sq. ft.

### Market Activity

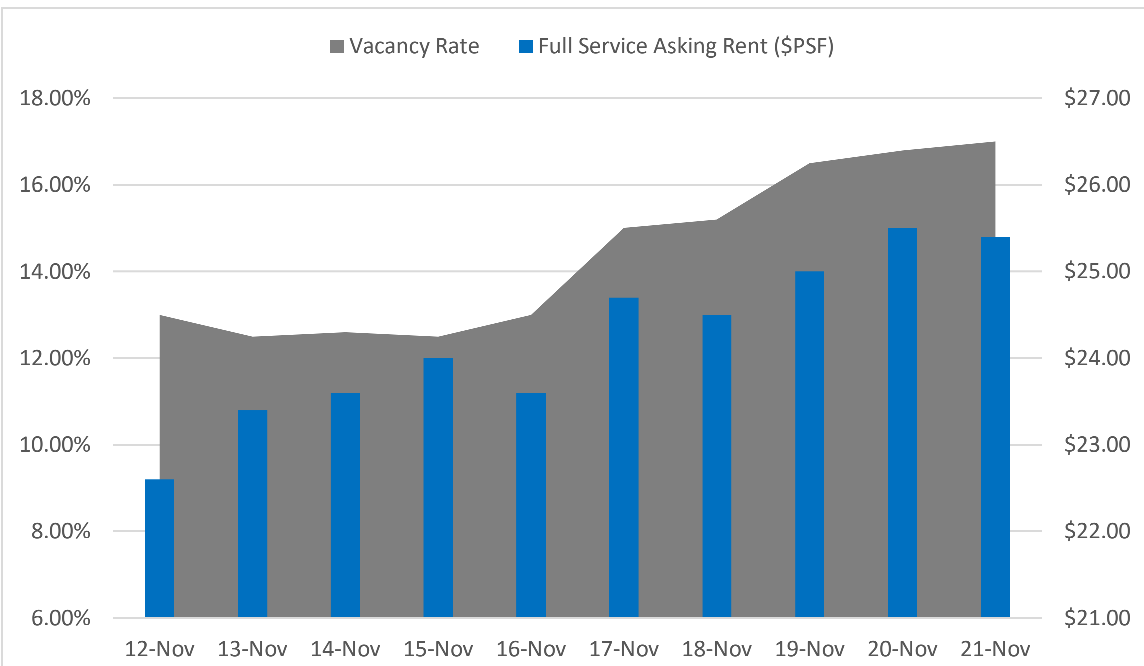
| | December 2021 | | December 2020 |
|---|---|---|---|
| Vacancy | 16.9% | ↑ | 16.6% |
| Availability | 20.7% | ↑ | 20.4% |
| Under Construction | 1,049,847 | ↑ | 873,733 |
| Gross Average Asking Rent | $25.69 | ↓ | $25.78 |
| Net Absorption SF YTD | 72,768 | ↓ | 149,216 |
| Leasing Activity SF YTD | 1,361,107 | ↓ | 1,693,018 |
| Deliveries SF YTD | 208,681 | ↓ | 427,270 |

*Source:* NAI Partners

## Supply & Demand – Year Over Year




## Vacancy & Rent – Year Over Year



# Highlighted Medical Office Activity

Innovation Plaza

The submarket with the most square footage under construction is the Texas Medical Center, underscoring continued momentum toward life sciences office product.

Medistar Corp. and Healthcare Trust of America, Inc., have broken ground on Horizon Tower, a new life sciences and medical building at Texas A&M Innovation Plaza in Houston, adjacent to Texas Medical Center, the largest medical center in the world.

Horizon Tower, slated for delivery in early 2023, will include 17 stories of life sciences and medical space with three floors offering 38,000-square-foot floorplates and 14 stories providing 28,000-square-foot floorplates, all with visibility and access from Main Street, Holcombe Boulevard and Fannin Street. Horizon Tower will sit atop a 13-story, 2,700-space parking structure, as well as 15,000 square feet of ground-floor retail.

The building has emergency power for mission-critical applications, appliances and apparatuses, and access to vertical and horizontal pathways for specialized venting and infrastructure routing. It is the first medical/life sciences building in the world to offer Integrated Viral Protection's (IVP) HVAC-integrated and mobile biodefense systems to continually provide unrivaled safety and indoor air quality for tenants and guests.

In connection with Horizon Tower and under construction is Life Tower. Life Tower provides 19 stories of design-forward interiors, student-tailored amenities, and everything residents will need within walking distance. The community is suited for studying, relaxation, and community. Life Tower student housing will include 483 one-, two- and four-bedroom units and is slated to deliver in the summer of 2022, with move-ins available for the 2022 academic year.

In November 2021, Houston's Kelsey-Seybold opened a 19,137 sq. ft. location in the Gulfgate Center at 520 Gulfgate Center Mall, at the northeast corner of the intersection of I-45 and Loop 610 South, supplementing existing facilities in Baytown, Pasadena, and the North Channel area.

The new Gulfgate Clinic is an integral part of Kelsey-Seybold's strategy of providing convenient access to all patients in the South-Central region of Houston. In addition to primary care services for adults and children, patients will have access to an on-site pharmacy, laboratory, X-ray, ultrasound, 3D digital mammography, and other diagnostic testing.

The company has opened five new locations in 2021, with more planned in the near future—including the currently under construction five-story, 126,113 sq. ft. Class A medical office building in Memorial Villages with room for up to 50 providers. The new clinic will also bring surgeons and other medical specialists together with its on-site Ambulatory Surgery Center, full-service imaging center, expansive laboratory services, and Kelsey Pharmacy.

Memorial Villages will be located on the north side of the Katy Freeway at 1001 Campbell Road in Spring Valley Village.

Kelsey-Sebold Memorial Villages

Additionally, it is expanding its main campus by 20,000 sq. ft. near West University at 2727 Holcombe Blvd., according to local filings. The project, estimated to cost approximately $4.18 million, would also revise existing parking on the main clinic campus. The health care provider noted that it has yet to determine how the expanded space at the clinic will be used.

Texas Health and Human Services is over halfway complete on construction of a 264-bed state psychiatric hospital in Houston. The UTHealth Behavioral Sciences Center will provide inpatient psychiatric care for adults from Harris County and surrounding counties.

HHSC has partnered with The University of Texas Health Science Center at Houston (UTHealth) for the design, development, and construction of the facility. The medical school will also contract with HHSC to operate the hospital.

Construction crews are building the 253,000-square-foot UTHealth Behavioral Sciences Center (UTHealth BSC) next to the UTHealth Harris County Psychiatric Center (UTHealth HCPC) in the Texas Medical Center. Combined, the new hospital and UTHealth HCPC will have 538 beds, making the campus the largest academic psychiatric hospital in the country.

Construction is underway on two new four-story buildings that are connected by an enclosed, air-conditioned walkway. Eleven 24-bed units will have a mix of single and double occupancy patient rooms, as well as therapy rooms, classrooms, and activity rooms for art, music, and recreation. The hospital also includes two courtyards providing natural light throughout the building to promote recovery. The hospital was designed to be a therapeutic environment that helps patients successfully transition back to their home communities.

Construction was scheduled to be completed in November 2021 with the first patients to be admitted in February 2022. Once open, UTHealth Behavioral Sciences Center will create more than 400 new jobs and become the first new public psychiatric hospital built in the Houston area in almost 35 years.

UTHealth Behavioral Sciences

In May of 2021, Houston-based commercial real estate development and investment firm Bryant + Stacy Group broke ground on the first phase of a medical office plaza in Tomball.

The Medical Center of Tomball will be located off Highway 249 at 155 School St. The project is being built in collaboration with U.K.-based Global Healthcare Partners, which partners with doctors, health systems and developers to bring customized, scalable health care facilities to market.

Phase I of the project is a three-story, 64,395-square-foot medical office building designed by Browne McGregor Architects. The building was 97% pre-leased prior to breaking ground and will house imaging and diagnostic suites, a primary care physician group and a variety of specialty care providers and outpatient services.

The building consists of concrete tilt-wall panels, curtainwall, aluminum storefront, thin stone veneer with cast stone accents and high-end, Class A lobby finishes. Houston-based Arch-Con Corp. is serving as general contractor for the project.

Tomball Medical Office Plaza

Walgreens Boots Alliance has agreed to become the majority owner of VillageMD, as it opens hundreds of doctor offices with the primary-care company.

As part of the deal, the drugstore chain will invest $5.2 billion in VillageMD. That will increase Walgreens' ownership stake from 30% to 63%. VillageMD will remain an independent company with its own management and board.

The investment is part of Walgreens' broader effort to turn its stores into health-care destinations that not only fill prescriptions, but also have doctors who can write them and provide other types of care, such as annual checkups. The company is speeding along its plans to open Village Medical clinics at existing Walgreens drugstores. The goal is to have at least 600 primary-care clinics in more than 30 U.S. markets by 2025 and 1,000 by 2027.

Walgreens and VillageMD are expected to open 29 full-service primary care practices in Texas in 2021 through 2022. In Austin, El Paso and Houston, there are more than 825,000 patients within five miles of a new or planned Village Medical at Walgreens who are over 65 years old, which further underscores the need for quality, accessible healthcare.

Walgreens / VillageMD

## *Retail*

The Houston retail market has seen its share of ups and downs. Like the rest of the country, retailers and e-commerce players are facing ongoing issues with the global supply chain crisis.

On a macro level, air and ocean freight are experiencing massive delays and skyrocketing prices. Not only is it peak shipping season, but many companies are suffering from supply chain problems due to the residual effects of the pandemic and new COVID-19 restrictions. Natural disasters like typhoons, floods, and wildfires have also affected the freight market, further slowing down supply chains and reducing capacity.

Companies are also facing growing consumer demand for foreign-made imports, a shortage of labor, lack of empty containers, congested ports, and terminals, and lagging inventory levels. Supply chains have slowed, and prices have increased as a result.

Amid the supply chain crisis and the long-lingering pandemic, demand for retail real estate has bounced back, thanks to the trend of the industrial boom. The restaurant super-sectors' need for second-generation product has expanded to meet the space requirements for the increase in take-out and delivery setups. The momentum gained in the second half of 2021 is projected to continue into the new year, bringing the Houston economy back to pre-pandemic levels.

The Houston retail market's vacancy rate has tightened 6.0% compared to this time last year at 6.5% vacancy.

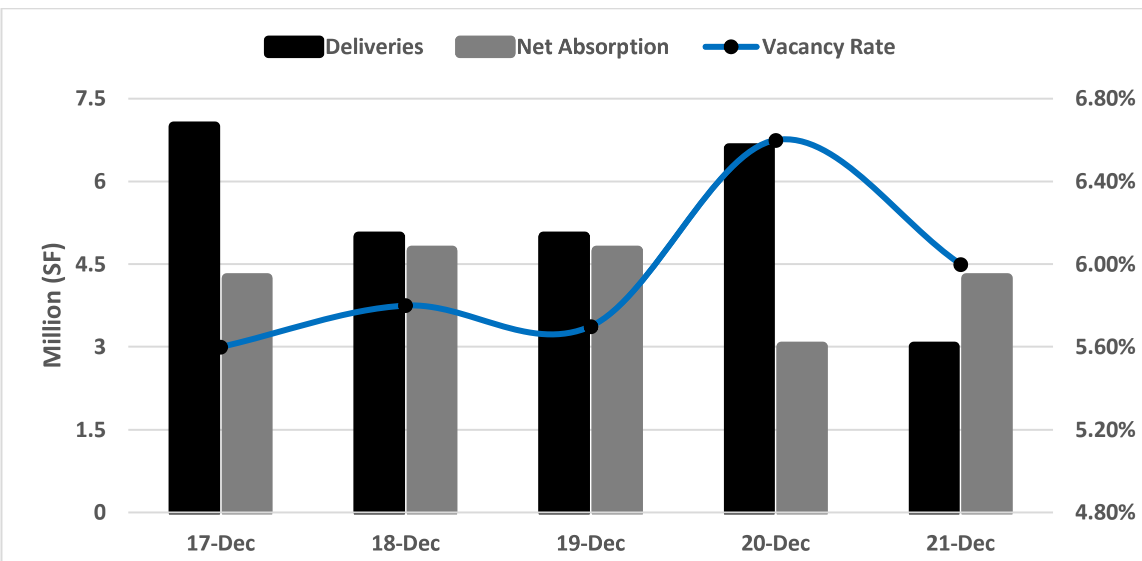
The Houston retail market has recorded 7.0 million sq. ft. of leasing activity—which is comprised of both new leases and renewals—from January through December 2021, a 7.3% increase from this time last year.

Demand for Houston retail space (4.3 million sq. ft. of net absorption) outpaced supply (2.9 million sq. ft. of deliveries) during 2021 in the Houston metro. From January through December the amount of net absorption was greater than the amount of square feet delivered, a marker not seen since 2016. With 2.9 million sq. ft. delivered since the beginning of the year, 4.1 million sq. ft. under construction, and another 5.0 million sq. ft. proposed through 2022, the demand for retail real estate may continue to surpass supply.

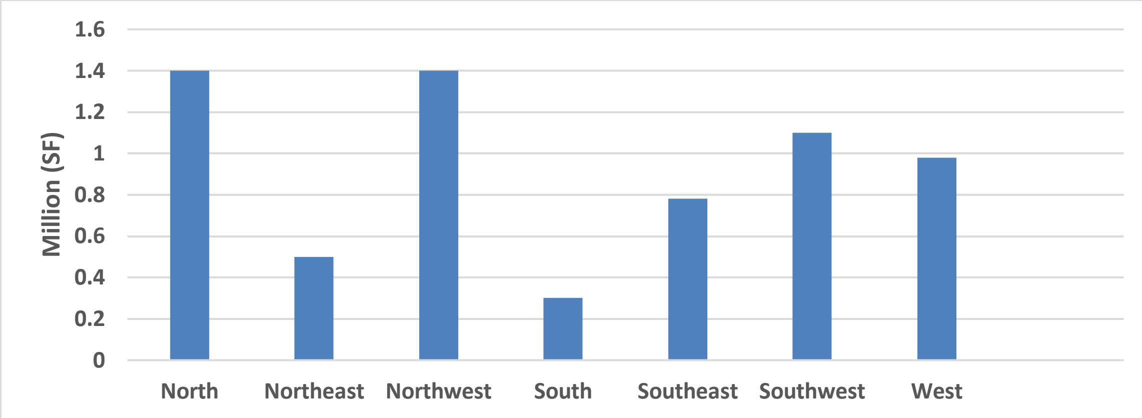
## Market Activity

| | December 2021 | VS | December 2020 |
|---|---|---|---|
| Vacancy | 6.0% | ↓ | 6.5% |
| Availability | 6.8% | ↓ | 7.5% |
| Under Construction SF | 14,135,275 | ↑ | 2,786,235 |
| NNN Avg Asking Rent/MO | $19.02 | ↑ | $18.34 |
| Net Absorption SF YTD | 4,346,157 | ↑ | 2,842,091 |
| Leasing Activity SF YTD | 7,031,087 | ↑ | 6,550,988 |
| Deliveries SF YTD | 2,881,106 | ↓ | 6,256,785 |

## Supply & Demand



## Leasing Activity




## Retail Highlighted Activity


A regional shopping center is in the works for the southwest corner of the Sam Houston Parkway and Highway 90. The multi-anchored center, to be known as New Forest Town Center, will be 500,000 square feet of retail space and will cover 132 acres of land.

The site is expected to have several national large anchor tenants like At Home, Burlington, Michaels, Petco and Ulta. The frontage of the center will have approximately 20 pad-sites offering scores of fast-food and sit-down style restaurants.

New Quest Properties is the developer of this master planned center. The delivery date has not been specified yet. The center is expected to service a growing population on the east side. The property is not far from Wallisville Road and minutes away from Generation Park.

Regency Centers Corp., in partnership with CDC Houston, announced the development of Eastfield at Baybrook, a retail center anchored by H-E-B at Interstate 45 and El Dorado Boulevard.

Eastfield at Baybrook will have an additional 30,000 square feet of multi-tenant retail and six outparcels serving the southeast Houston, Clear Lake and Friendswood areas.

Located at the regional retail hub for southeast Houston and Galveston County and anchored by the market-leading grocer, Eastfield will incorporate a mix of carefully selected retail, service, and dining uses.

Planned for completion in early 2022, the center will offer open-air seating and abundant greenery.

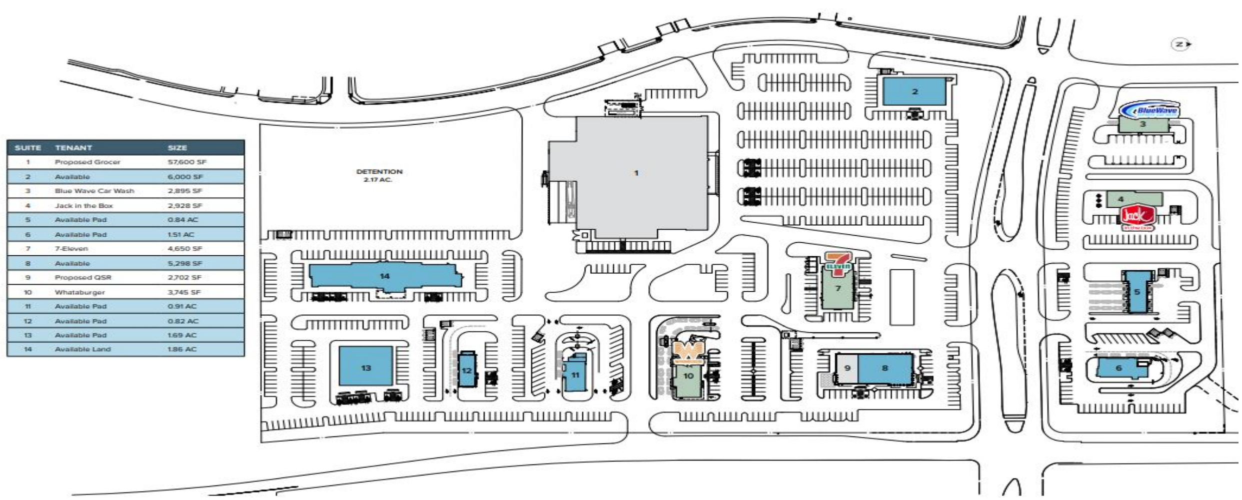

| | AT LEASE | SIZE |
|---|---|---|
| RT2 | BANK | .83 Acre Pad |
| RT5 | AUTOMOTIVE | .89 Acre Pad |
| RT6 | QSR | .96 Acre Pad |
| 120 | LIQUOR STORE | 3,500 |
| 230 | NAIL SALON | 3,000 |
| | **LOI** | **SIZE** |
| RT1 | DENTAL | 3,500 |
| 130 | SERVICE | 1,500 |
| | **AVAILABLE** | **SIZE** |
| RT3 | RESTAURANT | 1.39 Acre Pad |
| RT4 | AVAILABLE | .8 Acre Pad |
| 110 | RESTAURANT | 2,800 |
| 140 | AVAILABLE | 2,772 |
| 210 | AVAILABLE | 2,100 |
| 220 | AVAILABLE | 3,000 |
| 240 | RESTAURANT | 4,500 |
| 310 | RESTAURANT | 3,863 |
| 340 | AVAILABLE | 2,400 |

Eastfield at Baybrook

The Market at City Park is being proposed at State Highway 288 and Orem Drive. The retail center will cover close to twenty-five acres. The center will bring a grocery store, in-line retail, and several pad-sites consisting of fast-food and single occupancy retail.

The center would support close to two-thousand homes and several apartment complexes in the surrounding area.

City Park is located almost midway between the Medical Center and Pearland.




| SUITE | TENANT | SIZE |
|---|---|---|
| 1 | Proposed Grocer | 57,600 SF |
| 2 | Available | 6,000 SF |
| 3 | Blue Wave Car Wash | 2,895 SF |
| 4 | Jack in the Box | 2,928 SF |
| 5 | Available Pad | 0.84 AC |
| 6 | Available Pad | 1.51 AC |
| 7 | 7-Eleven | 4,650 SF |
| 8 | Available | 5,298 SF |
| 9 | Proposed QSR | 2,702 SF |
| 10 | Whataburger | 3,745 SF |
| 11 | Available Pad | 0.91 AC |
| 12 | Available Pad | 0.82 AC |
| 13 | Available Pad | 1.69 AC |
| 14 | Available Land | 1.86 AC |

The Market at City Park

Houston-based Midway, the privately-owned, fully integrated real estate investment and development firm, broke ground in August 2021 on its 150-acre East River development, one of the most impactful urban revitalizations for a generation in Houston's urban core. Designed to grow and evolve through multiple phases across a decades-long development horizon, East River will transform the city's waterfront east of Downtown into a new economic center. Alongside commemorating this significant milestone, Midway announced two office tenants—Method Architecture and TEAL—as well as a new event venue and rooftop bar from the owners of The Astorian will join the development's first phase, slated for completion in 2023.

East River's 150-acre redevelopment site is the largest in Houston's urban core, with over one-million square feet of new construction extending 60 city blocks. Centrally located less than a mile from Downtown at the intersection of culturally rich and historic communities, East River is in the Historic Fifth Ward, adjacent to East End (Second Ward). The project is ideally positioned to serve a wide range of residents and a spectrum of housing price points, innovative and globally competitive companies, cutting-edge retail and restaurant concepts, and a host of institutional, educational, and recreational opportunities.

Located on approximately 26 acres at the intersection of Jensen Drive and Clinton Drive, East River Phase One is comprised of The Laura, a five-story, modern-industrial multifamily community of 360 apartment homes; approximately 250,000 square feet of office space designed to fit a wide variety of business needs; and an additional 110,000 square feet of retail at the ground floor of the office buildings, garage, and freestanding plaza and bayou pavilions that will fuse commerce and culture with restaurant, hospitality, retail, medical, and entertainment forming spaces. At the heart of the first phase will be more than 13,000 square feet of plaza greenspace with a full calendar of activations including events and live music. Located on the Buffalo Bayou, East River's hike and bike trails will also be connected to the nearly 500 miles of bike lanes and trails in Houston.

East River Phase I

According to hotel experts dealing with trends and insights, the bumpy ride the hotel industry has been on is coming to an end. We should assume less than six months into 2022 might remain bumpy or uneven. The reasoning behind this is business travel is not back and group business is just starting to book going forward. International travel will likely return in April 2022 when we should be back to 2019 numbers.

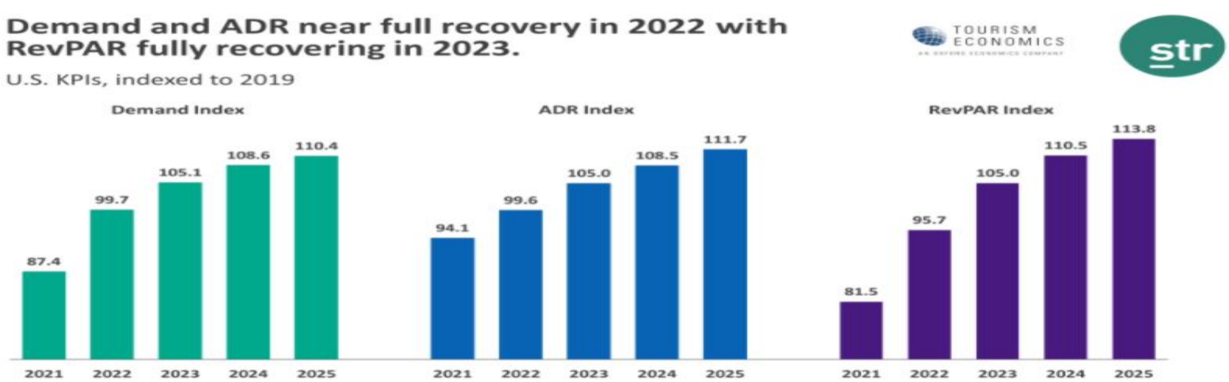
U.S. hotel demand as well as average daily rate (ADR) on a nominal basis will near full recovery in 2022, according to the upgraded forecast just released by STR and Tourism Economics at the 43rd Annual NYU International Hospitality Industry Investment Conference. Additionally, revenue per available room (RevPAR) on a nominal basis is projected to be fully recovered in 2023.

Travel activity entered the fall with strong momentum. With improving public health conditions and sustained economic recovery, additional business and group travelers are expected to join leisure travelers, supporting further gains in 2022. The demand recovery, coupled with successful revenue management, has supported resilient hotel pricing, helping shorten the time it will take to recover 2019 revenue levels.

**After a strong five months, the U.S. forecast has been revised upwards.**

U.S. KPI forecast (standard methodology)

| Metric | 2020 Actual | 2021 Forecast | 2022 Forecast |
|---|---|---|---|
| Occupancy | 44.0% | 57.1% | 63.4% |
| ADR | $103 | $123 | $130 |
| RevPAR | $45 | $70 | $82 |
| RevPAR Compared to 2019 | -47% | -19% | -4% |




## Highlighted Hotel Activity

Houston's hotel market is on fire. Growing demand for rooms has led to rising occupancy rates and a slew of new developments. More than 2,300 rooms will come on-line in Downtown alone in the next few years, with hundreds more slated for the Galleria, Energy Corridor, and the Medical Center.

Houston-based American Liberty Hospitality (ALH) expanded its regional footprint with the rollout of the company's second dual-branded hotel, bringing two distinct-yet-complementary lodging experiences under one hometown roof. The combined Holiday Inn Express Houston – Galleria Area and Staybridge Suites Houston – Galleria Area offers a total of 319 rooms and is the first new hospitality offering in the Bayou City's sought-after Galleria area in several years when it made its February 2021 debut. Both brands are franchises of InterContinental Hotels Group (IHG).


Holiday Inn Express Staybridge Suites

In May 2021, the Blossom Hotel opened in the Houston Medical Center. The 16-story, 267-room hotel located at 7118 Bertner is the only luxury hotel near NRG Stadium and the latest entry into the Texas Medical Center's field of luxury hotels. The Chinese-owned hotel brings unique amenities like an ambitious sushi restaurant, karaoke bar, and offerings like transport to the medical center, long-term storage options, and translation services.


Blossom Hotel

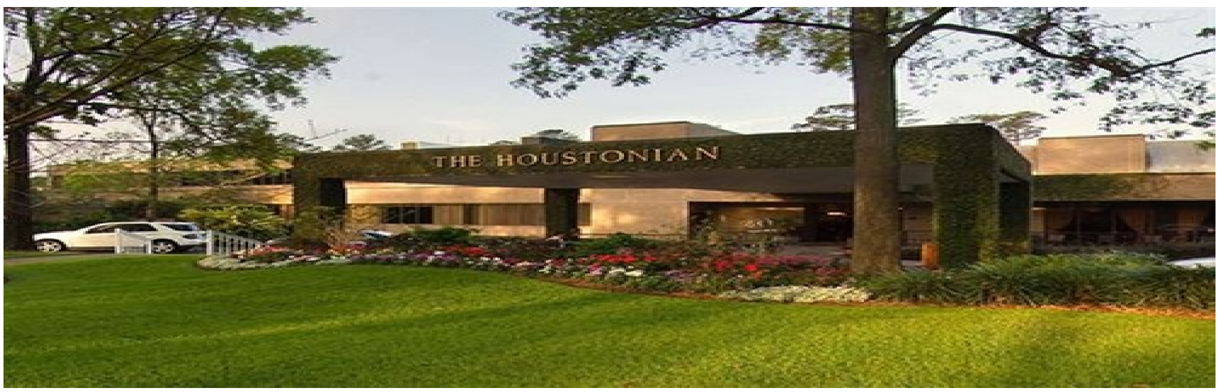
Houston-based developer Satya Inc. has broken ground on a 350,000-square-foot hotel near the Texas Medical Center. The project, at 7329 Fannin St. near the corner of Fannin and Old Spanish Trail, is slated to be branded as a dual Hyatt Hotel and extended stay facility. The 14-story development will offer 159 hotel rooms under the Hyatt Place flag and 139 extended-stay rooms under the Hyatt House brand. The development will be Chicago-based Hyatt Hotels Corp.'s (NYSE: H) first dual-branded property in Houston.

Hyatt House Hyatt Place Houston Medical Center

A $30.4 million project to expand and renovate the Hilton University of Houston, the teaching hotel for students at UH’s Conrad N. Hilton College of Hotel and Restaurant Management. Design plans include the addition of a five-story tower consisting of 71 guest rooms above the south wing, increasing the hotel’s total number of rooms to 151. Six suites on the second floor will be removed to create much-needed executive meeting space. The hotel’s existing 80 guest rooms in its north wing will be renovated, along with its lobby and public spaces. The adjacent courtyard between the north, south and west wings will also be renovated.

University of Houston Hilton Hotel

The Houstonian Hotel, Club & Spa has begun work on its new master plan, just in time for the venue's 40th anniversary. Overall, the project is expected to cost $45 million. The Houstonian sits on 27 acres at 111 N. Post Oak Lane in the Uptown/Galleria area. Plans for the hotel include completely remodeled guest rooms and suites, creating "an enhanced arrival experience," updating the hotel's Great Room lobby, adding a new deck overlooking Buffalo Bayou, a new indoor-outdoor restaurant overlooking the pool areas plus redesigning and expanding multiple club studios and childcare areas, a rooftop event space will be added for movies, entertainment, and gatherings. Trellis Spa will be completely refurbished, and plans include a luxury outdoor water experience.




The Houstonian Hotel

## ***Warehouse (Industrial) Market***

Texas continues to captivate companies and businesses from outside the state. The appeal of the Houston market is just as strong as Austin and or Dallas. Houston's industrial/warehouse market is performing better than average, and the pandemic has not interrupted this trend. Manufacturing companies are the biggest contributor to this trend.

Houston benefits from being a port city and an expanding population constantly attracts new e-commerce and long-established retailers to take down large blocks of distribution space.

Demand in Houston's industrial market is strong. Industrial net absorption (23.6 million sq. ft.) outpaced deliveries (16.5 million sq. ft.) through December 2021 in the Houston metro. The amount of net absorption (move-ins minus move-outs) has continued to outpace the amount of square feet delivered. This is the first time this has happened from January through December since 2017. With 16.5 million sq. ft. delivered since the beginning of the year, 21.9 million sq. ft. under construction, and another 23 million sq. ft. proposed through 2022, the demand for industrial real estate does not look like it will be slowing down any time soon.

Even with an expanding supply of industrial space, vacancy continues to diminish. The current vacancy rate is at 7.3%, declining 120 basis points year-over-year, marking the lowest rate seen since Q4 2019. An unwavering increase in imports from retailers restocking ravaged inventories has underscored the need for increased construction. Overall industrial net absorption is at a record level, expanding to 23.6 million sq. ft. so far this year. This is the highest level of demand ever recorded during January through December.

Year to date, the volume of singed lease transactions set an all-time record, with 40.6 million sq. ft. of activity. This is an increase over the previous period at 29 million square feet. Houston industrial leasing volume was up 40% January through December of 2021 compared with the same period last year. In total, over 2,000 building lease transactions were signed over the twelve-month period.

The average monthly rental rate for the entire Houston market was $0.64 per sq. ft. as of the end of Q4 2021, unchanged quarter-over-quarter and up from $0.63 per sq. ft. year-over-year. The monthly average rate for Flex space is currently at $0.84 per sq. ft.; Manufacturing rates are at $0.56; and Warehouse/Distribution space are at $0.62. The Southwest ($0.75 PSF) and North ($0.69 PSF) submarkets currently have the highest monthly overall average rate, followed by the Northwest ($0.68). As demand has ramped up, industrial developers are paying significantly more for well-positioned land than a few years ago. After years of slow growth, these costs may be passed down to tenants in the future.

Real Capital Analytics data reports quarterly industrial sales volume for Q4 2021 in the Greater Houston area at $901 million, down 3% from the amount in Q4 2020 at $928 million. The primary capital composition for buyers in the fourth quarter was made up of 48% private investors, 22% institutional, and 21% cross-border (a transaction is defined as cross-border if the buyer or major capital partner is not headquartered in the same country where the property is located). For sellers, the majority was 44% private investors, 35% institutional, and 9% user/other.

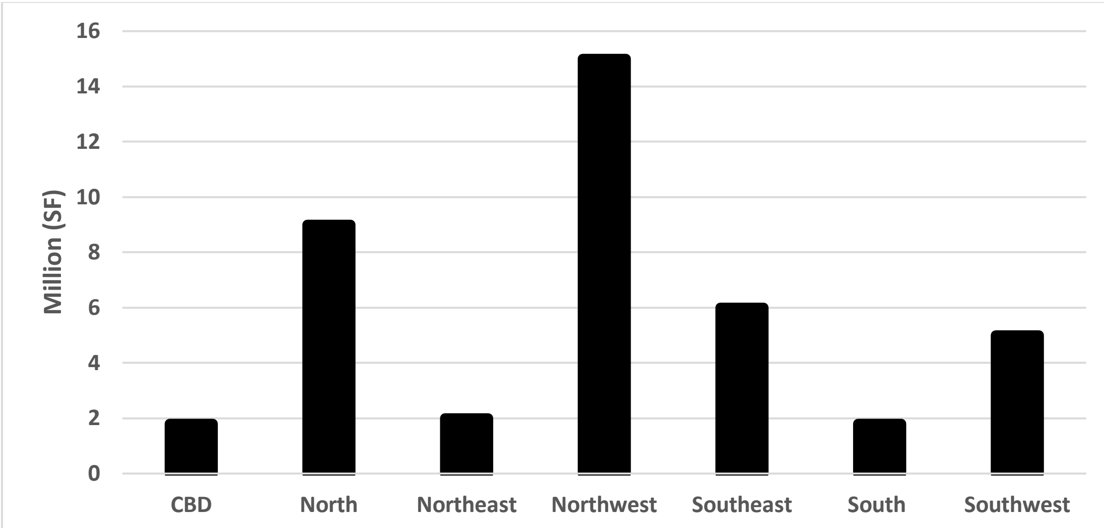
## Market Activity

| | December 2021 | VS | December 2020 |
|---|---|---|---|
| Vacancy | 7.3% | ↓ | 8.5% |
| Availability | 10.9% | ↓ | 12.5% |
| Under Construction SF | 21,892,254 | ↑ | 13,873,771 |
| NNN Avg Asking Rent/MO | $0.65 | ↑ | $0.63 |
| Net Absorption SF YTD | 23,583,295 | ↑ | 15,107,809 |
| Leasing Activity YTD | 40,583,583 | ↑ | 29,030,549 |

| | | | |
|---|---|---|---|
| Deliveries SF YTD | 16,452,660 | ↓ | 30,111,177 |

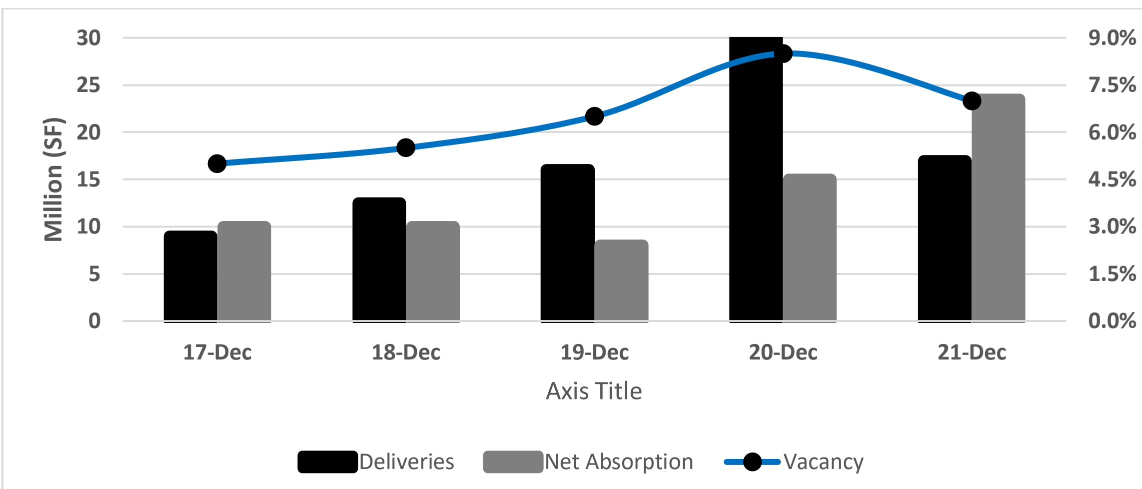
**Source: NAI Partners**

## Leasing Activity



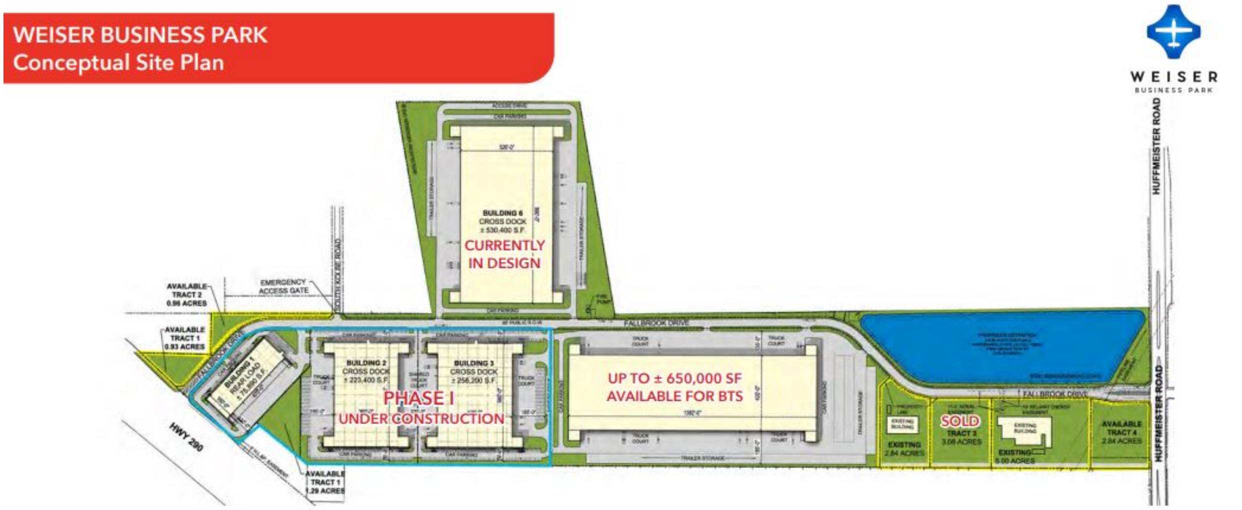

Source: NAI Partners

## Supply & Demand




**Source: NAI Partners**

# Highlighted Industrial Activity




Weiser Business Park

Weiser Business Park will be a 130-acre planned industrial park located in the heart of Houston's northwest industrial sub-market. With unparalleled access via Highway 290 on the west side and Huffmeister Road on the east side, Weiser Business Park is uniquely positioned as an optimal logistics location for tenants. Weiser Business Park is located just minutes from Beltway 8 with the ability to service Austin (2.5 hours), San Antonio (3 hours), and DFW (3.5 hours) metros. Estimated completion of the park is first quarter of 2022.

Air 59 Logistics Center

Located in Humble, Texas, Air 59 Logistics Center is a 685,400 square foot cross-dock logistics facility. The site has visibility and direct access to I-69 (US 59) at Will Clayton Parkway. Building specifications include 40' clear height, 60' x 55' column spacing, 65' staging bays, 4 drive-in ramps, 242 trailer parking spaces, 332 auto parking spaces, ESFR sprinklers, 180' truck court depth and office-to-suit. The property is two miles from the Houston International Airport. It also offers proximity to the Fed Ex Ground facility (7 miles), Port of Houston (25 miles), Houston

Hobby Airport (27 miles) and Bayport Terminal (40 miles). The center was slated for completion in 2019, but due to the pandemic, the center was completed in the fourth quarter of 2021.

225 Logistics Center

225 Logistics Center is located at 2818 Pasadena Freeway in East Pasadena, TX. The Industrial building features a total of 403,066 square feet. 225 Logistics Center is strategically located in a highly prominent and visible location fronting Highway 225 within Houston's port submarket. The site offers quick access to Houston's urban core and other submarkets via numerous major throughfares and is located only 3 miles from Bayport Terminal and 8 miles from Barbour's Cut.

Located on 25.7 acres of land the center, is a cross dock configuration facility. The building has a 36-foot clear height, 180-foot truck courts, 86 dock doors, four drive-in doors and 116 trailer stalls. The building is outfitted with an ESFR sprinkler system and has 284 vehicle parking spaces. It is estimated to be completed in the first quarter of 2022.


Houston ColdPort

Construction is underway on the first speculative cold storage warehouse in Houston. Upon completion of the development plan, Houston ColdPort will operate as a state-of-the-art cold storage facility strategically situated to service a major market locally as well as the high-growth Sunbelt regions of the United States more broadly. Expected delivery is the first quarter of 2022.

The property will feature up to 50' clear heights, 38 fully-automated dock positions, a 200' truck court, 57 trailer parking spaces and the ability to accommodate up to 40,000 pallet positions.

The project is expected to not only address growing demand, but also limited supply of cold storage capacity and a lack of modern inventory in Houston. Houston ColdPort can accommodate a single tenant or can be developed for a two-tenant layout. The building features 211,714 square feet. The office space available is 20,000 square feet with an option for a second floor. The site is within the heavyweight corridor of Port Houston making it an ideal cold solution for users with a port-centric operation.

Northpoint 90 Logistic Center

Northpoint 90 Logistics Center is a master-planned Industrial Park located near Highway 90 (Crosby Highway) on 6702 Purple Sage Rd. The 190-acre Class A park is boasting 2,655,030 square feet of warehouse space. The park is estimated to be completed in the fourth quarter of 2022.

The park is less than a minute from the South Sam Houston Parkway, ten miles from the Port of Houston, twelve miles from downtown Houston, and nineteen miles from George Bush Intercontinental Airport.

The park will be home to online pet supply retailer Chewy. The 700,000 square foot lease has been signed as the e-commerce retailer is expanding its distribution network with new warehouses in Nashville, Tennessee, and Reno, Nevada, and using new technology to make its real estate more efficient.

## ***Summary***

Despite a challenging year, the commercial real estate sector is cautiously optimistic about what 2022 holds in store. Commercial real estate is still recovering from colossal disruptions dating back to 2020. Investors must adapt to a new normal and changing property landscape. Look for the new emerging trends to define commercial real estate activity for the near future. Here are some trends that are projected to be successful in 2022.

Commercial property developers have noticed the trend of consumers placing increased value on lifestyle and convenience by building mixed-use developments that combine retail, residential and commercial all in one building. In a city where the population is ever-expanding, people become fed up with commuting and would rather have everything they do within walking distance. To a certain extent, mixed use properties take that into consideration creating options for those who want to live, shop, and work all in the same place or close by.

As landlords battle to attract and retain office tenants and with many companies moving their workforces online, expect to see increases in creative approaches to traditional office space to fill vacancies. Landlords are working hard to attract long-term tenants by offering attractive incentives such as on-site baristas, fully equipped gyms with free access for tenants, hot showers and even rooftop bars for after-work drinks. Rooms equipped for video conferencing, modular office furniture and open-plan workspaces are trends that will continue to define office space in 2022. In addition, you may see a continuation of rental incentives such as complimentary amenities and reduced rates.

Commercial properties with generators are in demand, but buildings that run on renewable energy sources, such as solar power, are even more desirable with many businesses looking to be as ‘green’ as possible. Expect to see an increase in buildings with eco-friendly features such as solar thermal water heaters and energy-efficient lights. LEEDS certifications have been selling points developers use in the marketing of new properties.

Auctions have become increasingly popular, and this is set to continue in 2022. Expect to see an increase in online auctions, which spiked in activity as a response to the pandemic and is now seen as a simple and safe way to buy and sell property in the digital age.

## *Refineries*

The SARS-CoV-2 pandemic oscillated its way through 2021 creating variant infection spikes named Alpha, Delta, and Omicron. In late 2020 and the first quarter of 2021 reopenings began, but work-from-home options remained. Travel has picked up, but most airlines still had reduced services and limited international flights. As a result, demand for fuel, specifically gasoline and diesel were greater than in 2020. On the first trading day of 2022, the price of West Texas Intermediate (WTI) crude oil was about $75.99 per barrel compared to last year at $47.47 (NYMEX; first trading day 2021).

The Texas Gulf Coast refinery's average annual capacity utilization, as defined by the Department of Energy, for 2021 was 86.3 percent compared to 82.8 percent in 2020. Pre-pandemic (2019), the rate was 90.1 percent, so recovery is not yet where it needs to be but trending higher. Winter storm Uri, in mid-February, smashed all previously underutilized months with an operable rate of just 50.5 percent. All refiners were impacted to some extent.

For 2021, Baker & O'Brien Inc.'s PRISM® cash margins for refining on the Gulf Coast (PADD 3) are more than $4 per barrel better than the same period for the prior year. Fundamentals are significantly stronger than last year, mainly driven by demand recovery for gasoline and jet fuel. Another third-party subscription service reflects a 72% increase in the U.S. composite refiner earnings from '20 to '21 and then forecasts an earnings increase of almost 17% from the 2021 level through 2022. Again, the economics of the refineries are site-specific. As an example, Houston Refining's performance was so poor last year that they took a significant impairment charge against the book value of their assets, similar to what they did in 2020. Refiner margins will be site-specific depending on configuration, crude diet, and utilization, but in general, it was a nice recovery year for the segment. 2022 could prove to be better, but much of that depends on the speed at which economies return to a level of normalcy, whether or not there's pent-up demand for travel this summer, and whether folks can tolerate $4 per gallon for gasoline.

The price of D6, or ethanol-based, RINs (Renewable Identification Numbers; the renewable fuels trading/compliance mechanism) rose sharply throughout 2021, and their average cost was about three times that of the 2020 average. Diesel RINs (D4) were up about 2.4 times in 2021 compared to 2020. There are concerns that a higher 2022 RVO (renewable volume obligation) will exceed the available ethanol volume and that smaller refiner exemptions will no longer be granted.

ExxonMobil is expanding its chemical plant operations adjacent to the refinery in Baytown with a performance polymer unit and a specialty additives unit. Construction for both units began in 2020 but has been put on a "slow-paced" status as the company tries to conserve cash from operations during the pandemic.

There were two sale announcements for Texas-based refineries in 2021, both in the Houston area: Shell-Deer Park Refining, and Houston Refining. The Shell Deer Park Refinery sale closed in January of 2022. The unsolicited transaction by Shell's partner, PEMEX, resolved the partnership's outstanding debt of about $1.2 billion to complete the sale.

## *Chemicals*

The US economy is growing steadily since bottoming out in the second quarter of 2020 when the Coronavirus first hit. Since then, the market has been on a steady upward trend into the beginning of 2022. The biggest disruptions coming into 2021-22 have been supply chain issues, winter storm Uri, and the rapid spread of Omicron early in 2022. The chemicals industry varies by product but has done well in the calendar year 2021.

Winter storm Uri hit the Texas Gulf Coast extremely hard. Governor Abbot ordered chemical plants and refineries to shut down to preserve power for homes. In some cases, this only gave plants as little as an hour to shut down which was insufficient time for a controlled shutdown. Most plants that were operating at the time of the order did not fare well. To put it in perspective: 75% of the US ethylene capacity was shut down, 70% of HDPE, and 75% of Polypropylene. Some intermediates were completely offline. This freeze event had more economic impact than a Cat 4 hurricane.

The chemicals industry is heavily dependent on auto manufacturing and homebuilding. So goes the economy, so goes the chemical industry. GDP is up around 4% for the 2021 year as a whole and expectations are that it could be up again in 2022. The growth hasn't come without its concerns and with oil prices over $100/bbl, the Fed is looking at the potential of a looming recession. The Fed is looking to battle out of control inflation by raising interest rates. However, the Russian invasion of Ukraine may be enough of a distraction to cause the Fed to hold off on raising rates.

Housing starts are up for 2021 about 2.5% above this time last year, but vehicle sales have struggled due to the semiconductor shortage. Vehicle inventories are down around the country due to manufacturing interruptions which will lead to a reduction for many automotive products including tires, plastics, urethanes, and other products used in vehicles. Vehicle sales are expected to rebound in 2022 as the chip constraints ease later in the year.

Texas has been blessed with oil and natural gas fields that continue to be discovered, or through newer technologies. West Texas has been the most recent boom area, but with low oil and gas prices from Covid, little has been done towards discovery and production in the market. The glut of natural gas that has been in place since 2005 has caused a tremendous amount of new construction to process the gas and the natural gas liquids have been piped to the Texas Gulf Coast to be fractionated into Ethane, Propane, Butane, and heavier components which can be sold domestically or liquified for exports.

Many companies have begun exporting natural gas through LNG liquefaction terminals. Expansion of existing facilities and construction of new projects is on the horizon and with natural gas going out to the world market, natural gas prices may not be as cheap or as stable as they have been for the past 10 years. Recently natural gas prices have been creeping upward which will lead to reduced margins on products that result from natural gas derivatives.

Crude oil prices increased steadily in 2021, the price per barrel of WTI started the year near $50 in January and increased to a year-end at over $70 per barrel. With the increase in oil pricing, gasoline pricing has also increased. All of this has been positive for the markets, but some producers are holding back new drilling activity, choosing to produce what they can with existing wells. In early 2022, the price of oil has spiked over $100/bbl again due to regulations, increased foreign dependence, and the Russian/Ukrainian conflict.

Economics of the large commodities chemical units built in the Gulf Coast have been surprisingly good this past year despite the substantial increase in global capacity over the last 10 years. Operation rates for olefins units have decreased 2.3% for the year, though this industry had solid margins during the year. Oil prices appear to not have significantly affected olefin unit run rates at this point, but oil is impacting the overall economy of Texas and the US which does impact profitability. All together this industry appears to have peaked in 2015 for the current 5-15-year cycle and is not likely to get to those levels again for a while.

Chemical-related inventory volumes are likely to be all over the place. Many plants are trying to sell everything they can produce while others are trying to build as much inventory as they can to combat supply chain issues. Values on older facilities will likely hold steady or have a slight increase for 2022, but the newer facilities are still depreciating heavier than the growth in the industry. Specialty chemicals may be up or down depending on the products.

## *Utilities*

### *Natural Gas Distribution*

Natural Gas Distribution utility companies are always requesting that regulators allow them higher returns (through the rates they are allowed to charge their customers) to pay for the cost of expansion when needed, repair storm damage at times, and maintain reliable service overall. However, the main goal of regulators is to make sure gas distribution companies remain operational while keeping service costs as low as possible, in return for the monopoly power given to these companies over designated service areas. Because both revenues and expenses tend to be held in line with this process, the values of property owned by these natural gas distribution businesses tend to be rather stable. Other factors that augur well for continued healthy future demand for utility services are; the nation’s population appears to be on a steady upward growth course, limited practical alternatives exist for consumers seeking a steady supply of natural gas, and natural gas supplies in this country are abundant thanks to proficient drilling and extraction technologies. Unseasonably warm or cold weather (e.g.: Winter Storm Uri in Feb. 2021) can always cause substantial volatility in quarterly operating results; however, companies strive to counteract this exposure through long-term oriented temperature-adjusted rate mechanisms.

The market values of the companies in this sector should remain stable if not improve slightly for 2022, due to a continued increase in customer base in their operational areas, higher rate cases being approved, and regulatory relief to offset bad debt and other operating expenses incurred due to Winter Storm Uri and the pandemic. Natural gas quotations have risen significantly of late, reflecting heightened demand. Even though this scenario augurs well for the financial performance of companies that produce this commodity, regulated utility units are at a disadvantage. That is partially due to increased gas pricing tends to lead to higher bills for customers, exacerbated by the fact that prices for food, gasoline, and other important products are on the rise. Consequently, there may be an increase in bad-debt expenses for these companies in our category in the coming months. The market is optimistic, in general, about the sector's operating performance over the long term. Natural gas ought to remain an abundant resource in the United States, brought about partially by new technologies, so a shortage does not seem probable anytime soon. Too, there are limited alternatives for the services the companies in this category offer. Furthermore, it's a challenge for new entrants in the market, given such factors as the size of existing competitors and the substantial initial capital outlays that are required. Finally, the country's population ought to remain on a steady, upward course, which augurs well for future demand for utility services.

### ***Telecommunications***

Merger and acquisition (M&A) activity continue to be a feature of the Telecommunications Services Industry. While the mega-deals, such as the T-Mobile/Sprint merger that closed last year, have disappeared, smaller deals are still taking place. For example, ATN International purchased Alaska Communications Systems Group, Inc in an all-cash deal valued at $332 million. Companies are currently focusing on smaller, niche acquisitions in addition to divesting non-core business assets to specialize their businesses and improve balance sheets. For example, América Móvil recently sold TracFone wireless to Verizon for more than $6 billion. Finally, AT&T is currently in the process of divesting its Warner Media business.

Capital spending is also a focus of the Telecommunications Services Industry. Technology changes quickly and wireless carriers are in a constant battle to keep their networks on the cutting edge to satisfy their customers and maintain their market share. For example, the news has covered several stories about 5G and its effects on airports. Increased government spending on broadband should also be a benefit to many of the companies in this industry. The American Rescue Plan and infrastructure bills have funds set aside for increased broadband coverage, especially for rural areas. In addition, 5G should open additional markets for these companies including automated cars, fleet asset tracking, sensors, and drones. Companies that can better differentiate their networks gain subscribers faster than their competitors.

For the traditional portion of Telephone Utilities, the number of phone lines in the United States continues to decrease. Competition from alternative technologies, namely wireless, instant messaging, and Voice over Internet Protocol, has caused residential and business customers to continue to cancel their wireline service. Most wireline carriers are rural; thus, peer competition is scarce. Access lines continue to be in decline. Margins remain under pressure across the Telecommunications Services Industry. Data usage continues to grow exponentially as technological innovation has led to faster networks and more powerful cell phones. Thus, price competition has become more intense. The continuing build-out of 5G technology has the potential to increase network speeds markedly and allow a plethora of new uses and services, but they may come with added costs to reimburse some of the expense of the network upgrades. Traditional telephone property across the state is expected to continue declining over the next few years. It should be noted that all telephone calls, including cell calls, are currently still directed through the traditional telephone switching system, but the carriers are working on upgrading those systems to allow for the eventuality when traditional wireline systems are obsolete.

The Telecommunications Utility Industry continues to be inhospitable. Lumen Technologies (formerly CenturyLink) is the last U.S.-based company that is analyzed in this industry grouping. Other U.S. telecom services providers, including Frontier Communications and Consolidated Communications, were dropped from the industry analysis after weak operating results and heavy debt, which resulted in declining market values and bankruptcy for Frontier. Considering only 2021, this industry's performance has been better, with Lumen Technologies stock being the group's best performer. In addition, while revenues have continued to decline in 2021, margins and earnings have improved as companies have specialized their assets.

### *Cable TV*

The Cable TV Group continues to decline with losers, experiencing double-digit percentage losses, outnumbering gainers eight to two. Survivors in this industry will have successfully bridged the digital divide. DISH Network is soon launching a next-generation wireless service that its management expects to capture a good portion of the Internet-of-Things enterprise market. In addition, Comcast, the nation's largest cable service provider lost 408,000 subscribers during the 3rd quarter of 2021. This coincides with the growing popularity of inexpensive streaming services such as Netflix and Disney+. Comcast is fighting for survival by improving its streaming presence through additional investment in its Peacock service and is planning on providing a smart TV specifically geared to streamers in the future.

In terms of this industry's broadband franchises, the group does face very tough near-term comparisons. Demand for internet connectivity was so high in 2020 due to the COVID-19 related work and study from home mandates, that it is said to have lifted broadband penetration to nearly 100% of households with at least $25,000 a year in income. DISH Network's company founder and board chairman, Charlie Ergen, reiterated his stance that a merger between DISH's satellite-TV business and DirecTV is inevitable, due to the secular decline of the satellite-TV business and DirecTV recently becoming a private, stand-alone company after it was recently spun off with a minority interest sold by AT&T.

Finally, this group also stands to benefit from the government's efforts to bridge the digital divide between low-income and rural-area households. The Investment and Jobs Act that was signed into law on November 15th provides $65 billion of investments in this area, including $14 billion for a $30/month credit to aid an estimated 30 million households that currently can't afford broadband, and $42 billion in rural buildouts that wouldn't be economically viable otherwise.

***Electric Power***

The EIA, who analyzed data through October 2021, projects that the U.S. will add about 78 GW of new electricity generation capacity in 2022 through year-end 2023. The agency expects that 62% (or approximately 49 GW) will come from large scale solar power and energy storage projects. The remaining capacity is expected to be 21% (or 16.1 GW) of natural gas and 14% (or 11.0 GW) of wind. In addition, on January 18th, the EIA in their Short-Term Energy Outlook said that it expects US power generation from renewables (solar and wind) to grow to 17% of the nation's total electric output in 2023 up from 13% in 2021. It further expects that production from natural gas will fall to 34% from 37%, and coal production will be reduced to 22% from 23%. In 2021, coal had its first year-over-year increase in U.S. power generation since 2014, because of the high natural gas prices, but this trend is expected to be of short duration.

The maximum peak demand for ERCOT in August 2021 at 73,687 MW was slightly below the maximum peak demand in August 2020 at 74,376 MW. The ERCOT system is continuing to add capacity. Currently, in 2022, ERCOT expects to add 9,490 MW of wind power, 10,923 MW of solar power, 3,205 MW of battery power, 526 MW of gas-combined cycle repower, and 1,129 MW of new gas power plant capacity including the WattBridge Peak Power Facility in Brazoria County.

The Competitive Renewable Energy Zones (CREZ) initiative was adopted by the Public Utility Commission of Texas (PUCT) in April 2008, with a $5 billion plan to add transmission infrastructure to move electricity from wind farms in West Texas to markets in the North, South, and Houston zones. Wind energy has zero fuel cost and is a clean alternative to burning hydrocarbons. Wind generation can receive federal tax incentives allowing them to sell power at negative prices (loss of ~20+ dollars per Megawatt) and the federal government makes up the difference. When the government incentives go away, wind power producers will have to bid in at positive pricing increasing the average price for electricity. Phase-out of the incentives began in 2017 for projects that started construction after 1/1/2017. Under the current law, a 60% incentive will be available for projects that start construction in 2021. A new 30% offshore wind ITC was created for projects that begin construction by Dec. 31, 2025. Finally, the solar ITC will continue to apply at 26% for any project that begins construction by 2022. In addition to new wind farm construction, there has been a trend of taking existing wind farms that have lost their incentives and replacing the turbines, which allows the wind farm to qualify for the ITC incentives all over again. These "re-powered" wind farms are getting another 10 years of production tax credits in addition to any local abatements on property taxes.

The TCEQ and Texas Legislative Branch completed a rulemaking process and law change during the special legislative sessions in 2021, which finalized the tax exemption of Heat Recovery Steam Generators (HRSGs). HRSGs have been added to the Tier 1 exempted properties at 65% exempted.

Those taxpayers who have not applied for HRSG exemptions can now get a 65% tax exemption on the HRSG portion of their combined cycle facility.

***Underground Storage***

Natural gas–a colorless, odorless, gaseous hydrocarbon–may be stored in several different ways. It is most commonly held as inventory underground under pressure in three types of facilities. These underground facilities are:

- depleted reservoirs in oil and/or natural gas fields
- salt cavern formations
- aquifers

Natural gas is also stored in liquid or gaseous form in above–ground tanks, found in liquid natural gas (LNG) export facilities. Each storage type has its own physical characteristics (porosity, permeability, retention capability) and economics (site preparation and maintenance costs, deliverability rates, and cycling capability) which govern its suitability for applications. Two important characteristics of an underground storage facility are its capacity to hold natural gas for future use and its deliverability, the rate at which gas inventory can be withdrawn.

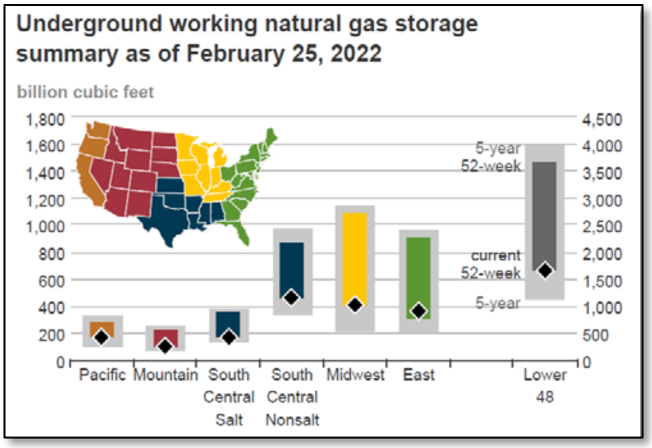
The principal owners/operators of underground storage facilities are interstate and intrastate pipeline companies, local distribution companies (LDCs), and independent storage service providers. If a storage facility serves interstate commerce, it is subject to the jurisdiction of the Federal Energy Regulatory Commission (FERC); otherwise, it is state regulated. Most working gas held in storage facilities is held under lease with shippers, LDCs, or end users who own the gas.

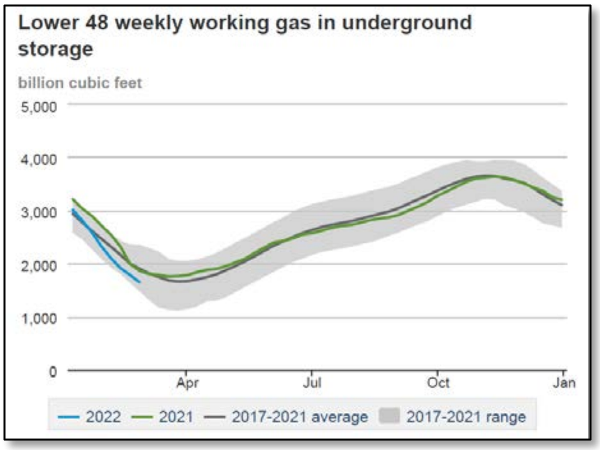
Underground gas storage serves a variety of purposes. Pipeline companies, both interstate and intrastate, rely heavily on underground storage to facilitate load balancing and system supply management on their long-haul transmission lines. Local gas distribution companies generally use underground storage exclusively to serve various customer needs directly. Independent storage service providers build and own underground storage facilities to almost exclusively serving third-party customers like marketers and electricity generators on an “open access” basis. All of these storage purposes exist because of the underlying principle that injection will/must happen during summer months when demand is relatively low (and which keeps upstream producers in business), and conversely, the withdrawal will/must happen in the winter months when there isn’t enough upstream gas being produced to satisfy total demand. This underlying principle has been somewhat eroding over the last ten years as available supply from upstream producers has ramped up to be adequate year-round now, thus diminishing the value of the underground gas storage “middleman” facilities.

The value of underground gas storage in Texas has the potential to increase as the population here continues to grow and the associated need for electricity ramps up, especially if gas production itself doesn't commensurately increase and renewable sources of energy (wind, solar, commercial battery storage, etc.) can't fill the breach. Currently, the U.S. Energy Information Administration (EIA) projects in their February 2022 Short-Term Energy Outlook (STEO) that the share of U.S. electric power generated with natural gas will average 35% in 2022 and 2023, down from 37% in 2021. This decline is despite the estimated cost of natural gas delivered to power generators (i.e., the fuel, which is an expense) being expected to fall to $4.16/MMBtu in 2022 and $3.86/MMBtu in 2023 after averaging $4.97/MMBtu in 2021. The share of electricity generation from natural gas will likely decline in the future because of growth in the renewable generation which is forecasted to increase from 20% in 2021 to 22% in 2022 and 24% in 2023.

This doesn't mean that the business of storing natural gas is a declining industry, as electricity generation is hardly the only use for natural gas. EIA expects U.S. consumption of natural gas to hold fairly constant from 2021, with declines in residential and commercial sectors being offset by increases in industrial sector consumption. As always, winter weather plays a leading role in how much gas is ultimately withdrawn from storage for domestic heating purposes. But a significant and growing use of domestically produced natural gas is as export volumes to the world at large in the form of liquified natural gas (LNG). The EIA assumes that global demand for natural gas will remain strong and that the expected additional U.S. LNG export capacity comes online. This will provide additional incentive for the upstream natural gas producers, as well as the midstream storage operators, and will theoretically help stabilize and sustain a reasonably profitable price all along the value chain. Record LNG exports all during 2021, increased power demand coming out of the pandemic, and a decline in January natural gas production all contributed to above-average storage withdrawals in January 2022, putting significant upward pressure on prices. In January, U.S. LNG exporters continued to operate at maximum capacity, resulting in exports above 11 Bcf/d for the second consecutive month.

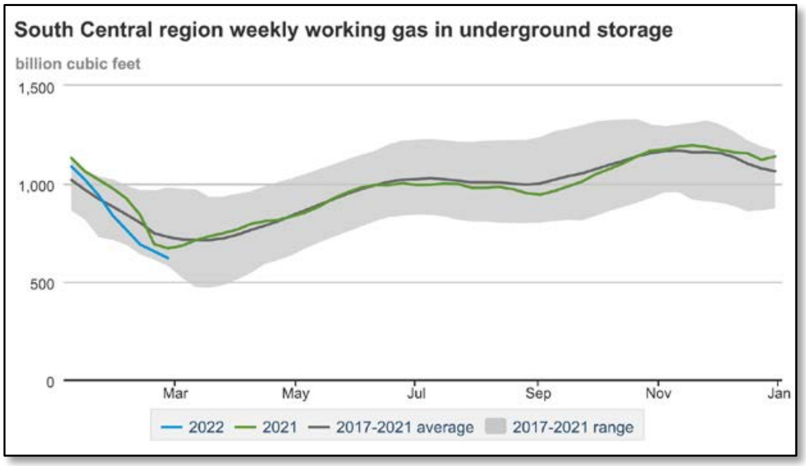
Per the EIA's Weekly Natural Storage Report released on February 25, 2022, working gas in storage for the Lower 48 states (the amount of gas owned by the third party customers of the storage facility operators) was estimated to be 1,643 Bcf, decidedly within the lower part of the five-year historical range. This points to heavy withdrawals in recent months, exceeding volumes injected into the facilities to build up the inventories. The five-year range of available inventory volume oscillates during the year, with the high point typically reached in November before the winter heating season. The low point is typically in late March or April, or immediately after the winter heating season.

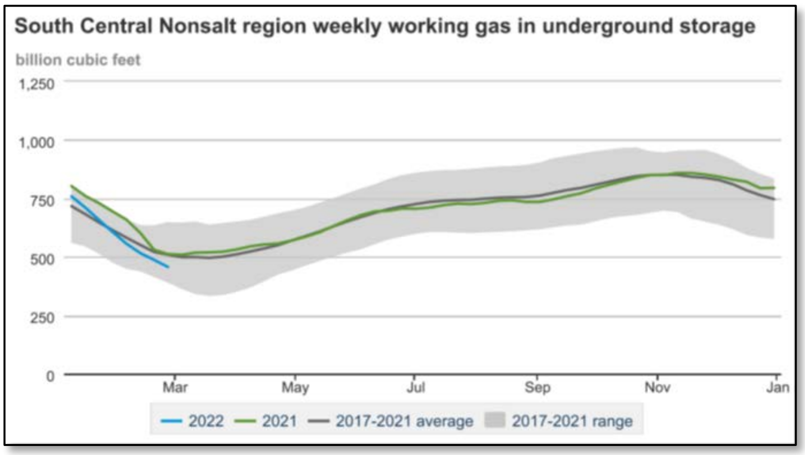


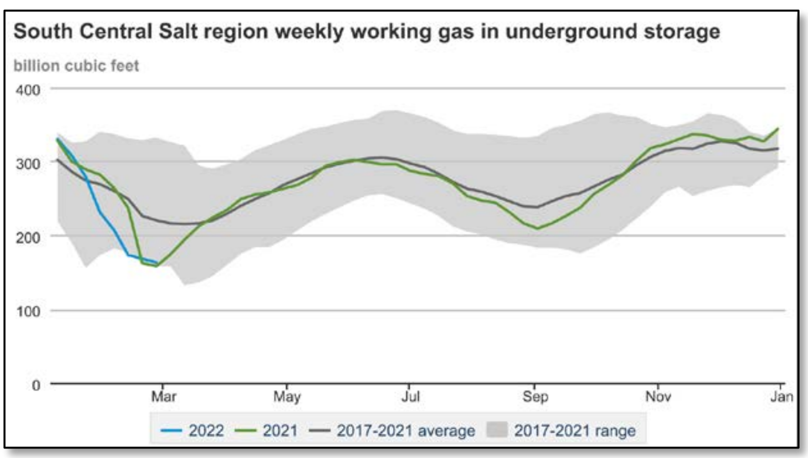




Injection and withdrawal amounts can fluctuate widely over short periods, particular in winter when significant cold weather events can trigger large sudden withdrawals. However, over time, storage levels have a predictable swing pattern of increasing during the summer months and depleting during the winter months.

For the South-Central Region (includes Harris County), storage was at 620 Bcf on February 25, 2022, or approximately 46% of the region's 1.341 Tcf maximum storage level recorded on this date over the last five years. Just like for the national figures cited above, this 620 Bcf level is decidedly towards the bottom of the 5-year historical range. Salt dome cavern storage represents about 30% of the region's total capacity.




According to the EIA in their February 2022 STEO, the amount of gas in storage nationwide is expected to fall by about 730 Bcf for the rest of the withdrawal season, ending March just below 1.6 Tcf, which would be 8% less than the 2017–21 average for that time of year. This is mostly due to increasing LNG exports. Stored gas inventories in Europe remain much lower than their five-year averages and are contributing to the strong demand for LNG imports.

The storage volumes at individual storage sites such as the Enterprise's Pierce Junction salt dome caverns, or the depleted gas field storage facilities operated by Kinder Morgan (West Clear Lake) and Energy Transfer (Bammel), do not necessarily follow overall U.S. trends. They each have unique markets, shippers, and end-users. In any event, gas inventories present on the inventory owner's chosen lien date (either January 1 or September 1) will be appraised with the prevailing market price at that time. The facilities themselves (including salt dome caverns as man-made structures) will be appraised with analysis and consideration of the most appropriate methods and techniques applicable to each property, in conjunction with and adherence to Property Tax Code Sec. 23.01(b) regarding uniformity of appraisal for similarly situated properties.

As with any other commodity, the price of natural gas is regulated by supply and demand. In their January 2022 STEO report, the EIA projects the price of natural gas price (Henry Hub spot) to decline to $3.79/MMBtu for 2022 and then $3.63/MMBtu in 2023, after averaging $3.91/MMBtu in 2021. This forecasted decline in price comes about due to EIA's corollary forecast of rising U.S. gas production for the next two years: 96.0 Bcf/d for 2022, then 97.6 Bcf/d in 2023, after averaging 93.5 Bcf/d in 2021 which itself was up 2.0 Bcf/d from 2020. As with all forecasts, there are no guarantees. The EIA warns that their January 2022 STEO continues to reflect heightened levels of uncertainty because of the ongoing COVID-19 pandemic. Notably, the Omicron variant of COVID-19 was still raising questions about global energy consumption (demand). The first two variants of COVID-19 caused U.S. real GDP to decline by 3.4% in 2020 from 2019 levels. In addition to macroeconomic uncertainties, uncertainty about winter weather and related consumer energy demand always presents a wide range of potential outcomes for eventual energy consumption in any given year. Supply uncertainty in the forecast stems from doubts about OPEC+ production decisions and the rate at which U.S. oil and natural gas producers will (or won't) increase drilling due to ESG (environmental) concerns that threaten their very long-term existence or at least business viability.