Texas Quarterly Commercial Report: 1st Quarter 2020

Sources: CoStar and the Real Estate Center at Texas A&M University
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Real Estate Center economists continuously monitor multiple facets of the global, national, and Texas economies. The Texas Quarterly Commercial Report is a summary of important economic indicators that help discern commercial real estate (CRE) trends in four major Texas Metropolitan Statistical Areas (MSAs)—Austin, Dallas-Fort Worth, Houston, and San Antonio.

All quarterly measurements are calculated using seasonally adjusted and trend-cycled data. Seasonal adjustment smooths the quarterly fluctuations in the data, while trend-cycle adjustment provides a clearer, less volatile view of upward and downward movements. Both enrich our analysis by producing a more accurate depiction of long-term movements and trends in the data.

This report analyzes asking rents, which exclude tenant improvements and concessions, as opposed to effective rents. Rents reflect nominal year-over-year estimates, unless stated otherwise. The analysis uses industry-specific employment growth to reflect the employment most relevant to each industry. For example, the employment data for the office sector includes finance, insurance, and real estate as well as professional and business services (FIRE & PBS) employment to measure the bulk of employees working in the office sector.

This analysis uses CoStar and Dodge Analytics data. The time series varies by sector and geography, depending on the data available. Sectors with shorter time series limit the interpretation of the data. The data reflect nonowner-occupied space. No raw data are published in this report. Both CoStar and Dodge Analytics make changes to their historical data.

This quarterly publication provides data and insights on the Texas commercial real estate markets. We hope you find them useful. Your feedback is always appreciated. Send comments and suggestions to info@recenter.tamu.edu.

Dr. James Gaines, Dr. Luis Torres, Dr. Harold Hunt, Clare Losey, Caleb Smoot, and Samuel Woolsey
The first quarter of 2020 started strong, until the COVID-19 pandemic hit in the last weeks of March. The shutdown caused a significant decrease in economic activity while reflecting a steep decline in hiring and a related surge in unemployment. Initial unemployment insurance claims ballooned to unprecedented levels, signaling even higher joblessness in the second quarter. Manufacturing and service sectors saw huge slowdowns in business activity, according to survey data. Export values fell nearly 10 percent due to supply-chain disruptions and falling consumer demand. Home sales contracted 4 percent amid reduced buyer and seller confidence, the negative employment shock, and growing wariness of visiting and showing homes for sale. Texas’ energy sector struggled with decades-low oil prices due to diminished global demand during the pandemic, a sharp contrast to its role during the Great Recession. While preliminary coronavirus effects were visible in the March economic data, even more severe impacts are expected to appear in the second quarter. The severity of the economic shock due to the pandemic will likely result in losses that overshadow the damages from the 2008-09 financial crisis. For additional commentary and statistics, see Outlook for the Texas Economy at recenter.tamu.edu.

The Texas Nonresidential Construction Coincident Index, which measures current construction activity, depicts a slight decline in activity in 1Q2020. Future construction activity is expected to remain steady in coming months, as indicated by the Texas Nonresidential Construction Leading Indicator. Although the indicators for Austin office, DFW warehouse, Houston retail, and San Antonio office declined slightly, overall, the leading indexes by MSA and commercial sector are following trends that indicate neutral to positive growth in the future. See Figures 1-5 for the Nonresidential Coincident Index and Leading Indicator for Texas and the four major metros.

In March, Texas’ initial unemployment insurance claims soared in a two-week span to 567,500, with a worrisome number of people expected to file for unemployment in coming months. Using data from the Department of Labor and the Employment and Training Administration, the Real Estate Center estimates that from March 21 to March 28, nearly 123,900 seasonally adjusted claims were filed in Dallas-Fort Worth. That is the highest of Texas' major metros. In Houston, Austin, and San Antonio, an estimated 107,900, 44,500, and 41,200 claims were filed during that time, respectively.
The initial coronavirus-induced layoffs resulted in Texas’ nonfarm employment shedding 50,900 jobs in March, the steepest decline since the Great Recession. Meanwhile, the unemployment rate shot up to 4.7 percent, a three-year high. State and metropolitan joblessness rose more than 1 percentage point, with Texas and every major locale except Fort Worth reporting an unprecedented jump in unemployment. Hit particularly hard by critically low oil prices, Houston’s metric climbed to 5.2 percent. Dallas and Fort Worth unemployment increased to 4.3 and 4.4 percent, respectively, while San Antonio posted 4.2 percent. Austin fared relatively better with joblessness of 3.6 percent. The unemployment rate is important because of the strong relationship it has with commercial real estate (CRE) vacancy rates. As the unemployment rate rises (decreases) generally, so will CRE vacancy rates (see Figures 6-9). Unemployment rates are expected to increase in second quarter 2020, pushing up vacancy rates in the major metros.

Every major metro reported net layoffs in March, but Fort Worth reported the worst of it, shedding a record-breaking 19,900 jobs for a percentage loss of 1.8 percent. Nearly all the subsectors had cutbacks except for manufacturing and government, which posted negligible increases. The Central Texas MSAs registered their worst month in series history, contracting by 8,400 jobs in Austin and 5,500 in San Antonio, marking the metro areas’ second consecutive month of negative growth. Similar to Dallas employment, which decreased by 11,100 positions, leisure/hospitality accounted for most of the total reductions, especially in San Antonio.

In Houston, the leisure/hospitality, construction, and manufacturing industries were mainly responsible for the overall 18,200 jobs contraction. Counterintuitive to plummeting oil prices, mining/logging expanded by 1,400. However, this may be a slight correction to a ten-month decline. Houston’s energy-related employment is expected to fall if oil prices remain in the $20-30 per barrel range, since Houston has experienced only a partial recovery from the 2015-16 oil bust. There simply is not an abundance of excess positions employers can eliminate with sweeping, extended layoffs.

The ability of a metro’s labor force to work remotely is a factor in job losses during this recession; the more remote-compatible an occupation is, the greater chance workers will continue to work during the shelter-in-place. The Dallas Fed estimates Texas’ Urban Triangle has a greater proportion of workers who can work remotely than other areas in the state (28 percent). Austin leads the major metros with 48 percent of its workers who can work remotely, followed by DFW and Houston with 42 and 40 percent, respectively. San Antonio lags with 37 percent of its employees able to work remotely. While this bodes well for overall employment, it may be a precursor to problems in office occupancy rates if businesses decide they do not need as much space.
Due to the domestic coronavirus outbreak, the Federal Reserve cut interest rates a total of 150 basis points in March, taking the targeted federal funds rate to 0-0.25 percent. It also cut the discount window rate by 150 basis points and promised unlimited, open-ended asset purchases (quantitative easing). The liquidity injection by the Federal Reserve to financial markets, in conjunction with gloomy future growth expectations and low inflation expectations, caused interest rates to fall dramatically. In addition, capital flows seeking positive returns and low risk have flooded the Treasury market, pushing the ten-year Treasury bill further down to 0.9 percent in March. The fall in the ten-year yield at the end of 2019 caused the spread in commercial capitalization rates to increase, indicating increased risk and profitability in commercial real estate during 2019. The increase in the spread is projected to continue in 2020 as commercial real estate risks may increase further due to the COVID-19 pandemic.

Office cap rates (Figure 10) in the Major Texas MSAs, with the exception of Austin, registered an increase at the end of 2019. San Antonio and Houston remained the highest in 2019, with both cap rates increasing in 2019. DFW also registered an increase last year, with Austin trailing the other major MSAs. In 2019, Austin became the least risky market for office real estate based on the spread with the ten-year Treasury bill.

Retail cap rates (Figure 11) generally increased in 2019 in the major MSA markets, with the exception of San Antonio. Austin and DFW had the greatest increases, followed by Houston and San Antonio. The spread in the ten-year Treasury bill also increased in 2019. Austin and San Antonio are the least risky and lowest return markets for retail real estate.

Industrial cap rates (Figure 12) for San Antonio and Austin were the highest in 2019. San Antonio cap rates increased for the year until 4Q2019, while in Austin they were unchanged. Houston and DFW registered an increase in cap rates in 2019. Similar to the other two commercial markets, the spread in the ten-year Treasury increased in all four markets. DFW is the least risky and lowest return market for industrial real estate based on the spread with ten-year Treasury bill.
Expected Impact of COVID-19 in 2020

- 1Q2020 CRE data show some of the initial impacts of the COVID-19 shutdown.
- The shutdown will accelerate trends that were occurring before the health crisis and shutdown (e.g., retail restructuring and development of industrial space).
- Expect higher vacancy rates because of the higher unemployment rates.
- Retail will be hit the hardest, accelerating the shift to e-commerce.
- Industrial will be less affected, benefiting from the shift to e-commerce and the need for distributive and warehousing centers.
  - More warehouse space will be closer to the consumer. Companies will want to spread their risk geographically as well to minimize the impact of a local problem, such as another pandemic outbreak
- Office. Not everyone can work from home. The amenities that some offices provide cannot be duplicated at home. Relationship and networking-building are difficult to accomplish working from home.
  - The process of some high-tech employees working from home and of doing business online will accelerate.
  - Expect more satellite offices in the suburbs or in other cities with less density to put fewer employees in central downtowns or in high-density areas. This pattern was observed before the pandemic due to housing affordability issues.
**Overall Office (Figures 13 - 17)**

Vacancy continued a slow rise that started in 2017, while remaining well below the natural vacancy rate of 13.0 percent. The employment growth rate fell slightly from last year’s average of 5.6 percent but still remained well above zero. Net absorption remained negative for first quarter 2020, following a yearlong trend of falling absorption rates. These figures suggest demand in the Austin market slowed even prior to the onset of the COVID-19 pandemic, whose impact on the economy is not fully realized in data from the first quarter. Asking rent growth in the first quarter leveled off slightly in 2019 to bring the first quarter in at a positive rate.

After peaking in early 2019, construction start values (inclusive of Class A) dropped sharply, but the past two quarters have leveled off in the face of negative absorption. Square footage under construction continued a two-year decline, and deliveries dropped steeply in the first quarter.

**Class A Office (Figures 18 - 22)**

Actual vacancy continued to rise in 1Q2020 following a two-year trend. Despite the increasing vacancy rates, strong demand kept actual vacancy below the natural vacancy of 15.0 percent, continuing a streak back to 2012. Employment growth, while still positive, slowed in the first quarter following the long-term trend. Net absorption fell further for the third consecutive quarter. The COVID-19 pandemic will certainly affect the Austin economy in the short run; there was strong, but slowing, demand for office space in the quarter leading up to the crisis. Asking rent growth fell slightly for the third consecutive quarter while still remaining positive.

Construction starts (all office classes) continued to make up ground from a significant drop over the course of 2019. Space under construction declined in the first quarter after several quarters...
of stagnation. The first quarter data of construction starts suggests square footage under construction should trend upward in the coming quarters but will be subject to the effects of the current COVID-19 crisis. Deliveries fell for a third straight quarter, and this trend will likely continue.

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>Asking Rent Growth</th>
<th>Employment Growth</th>
<th>Net Absorption SF</th>
<th>Construction Starts</th>
</tr>
</thead>
<tbody>
<tr>
<td>95.8%</td>
<td>-0.2%</td>
<td>2.9%</td>
<td>184,158</td>
<td></td>
</tr>
</tbody>
</table>

Sources: CoStar and the Real Estate Center at Texas A&M University
Note: Arrows indicate change from previous quarter with the exception of asking rent growth (change from previous year). Seasonally adjusted data.

**Retail (Figures 23 - 27)**

Actual vacancy fell slightly, remaining under 5 percent for over four years, well below the natural vacancy (6.0 percent). Retail employment growth rate continued to climb for the third consecutive quarter, reinforcing the pre-crisis demand for retail. Net absorption remained modest but positive. Despite relatively strong demand, asking rent growth has remained largely flat for the past year, stabilizing a dramatic fall that started in 2018.

Construction starts continued a slight upward trend in the first quarter, leveling out a drop in 2018-19. Square footage under construction fell again in the first quarter continuing a small decline. Deliveries remained low even before the decline and will likely stay depressed for some time with the effects of the COVID-19 pandemic.

<table>
<thead>
<tr>
<th>Occupancy</th>
<th>Asking Rent Growth</th>
<th>Employment Growth</th>
<th>Net Absorption SF</th>
<th>Construction Starts</th>
</tr>
</thead>
<tbody>
<tr>
<td>92.4%</td>
<td>0.3%</td>
<td>7.3%</td>
<td>-289,706</td>
<td></td>
</tr>
</tbody>
</table>

Sources: CoStar and the Real Estate Center at Texas A&M University
Note: Arrows indicate change from previous quarter with the exception of asking rent growth (change from previous year). Seasonally adjusted data.

**Warehouse (Figures 28 - 32)**

Actual vacancy ticked up slightly in the first quarter, breaking a year of stability, but remained well below the natural vacancy rate of 11.0 percent. Employment growth fell from last year’s average of 7.3 percent. Net absorption was quite stable at close to zero all year in 2019 but fell sharply in first quarter 2020, in excess of negative 200,000 square feet. The increasing vacancy, decreasing employment growth, and negative absorption indicate demand for warehouse space in the Austin MSA started to weaken in the first quarter. Asking rent growth fell to near zero in the first quarter but will likely continue falling in the coming quarters as the COVID-19 crisis takes full effect.

Construction starts continued their fall from a late 2017 high in the first quarter. Square footage under construction rose slightly in the first quarter. Deliveries continued a three-quarter period of stagnation at a level not seen since a 2013 low.
**Overall Office (Figures 33 - 37)**

Actual vacancy stayed just below the natural vacancy rate of 18.0 percent for the second year running. Employment growth remained in line with last year’s averages, staying just below 4 percent. Net absorption continued a fall that began in 2Q2019, reaching below zero this quarter. The negative absorption rate and vacancy rate at the natural vacancy rate suggest demand for office space had slumped in first quarter 2020. Despite this, the asking rent growth rate reversed a slow decline from 2019 with a small increase in the first quarter.

Construction starts (inclusive of Class A) fell some in 1Q2020, representing only about 80 percent of the value started in the previous quarter. Square footage under construction and delivered to market continued a decline that started in 2016.

**Class A Office (Figures 38 - 42)**

Actual vacancy kept in line with previous quarters, just below the natural vacancy of 21.0 percent. The employment growth rate averaged 3.9 percent, declining marginally from a year of stability. Net absorption fell sharply, falling as low as levels recorded during the Great Recession. Asking rent growth rates stayed constant, averaging 3.0 percent over the last four quarters. While the full economic impact of the COVID-19 crisis is not yet fully realized, the negative absorption rate suggests it could have made an initial impact in the MSA and should continue to do so in the near future.

Construction starts (inclusive of all office classes) and square footage under construction continued to fall in the first quarter, a sign deliveries will be lighter in the future. In the first quarter, deliveries fell but remained moderate.
Retail (Figures 43 - 47)

Actual vacancy continued a yearlong trend of slight increases in the first quarter, while still remaining well below the natural vacancy of 9 percent. Retail employment growth was positive for the first time since 2018 but only barely. The trend will likely turn sharply negative in the coming months as the economic impact of COVID-19 is fully realized, but the long-term effects are yet to be determined. Net absorption of retail space in the first quarter fell for the eighth consecutive quarter, indicating a trend of weakening demand. Asking rent growth rates fell from 4Q2017-4Q2019 but leveled out just below zero in first quarter 2020.

Construction starts continued to increase in the face of weakening demand. Square footage under construction continued to fall in the first quarter as new development became increasingly less attractive. The COVID-19 crisis will only serve to reinforce this attitude for retail space in the next several quarters.

Warehouse (Figures 48 - 52)

Actual vacancy has hovered between 7 and 9 percent since 2014, well below the natural vacancy of 11.0 percent. Vacancy in the first quarter maintained this stability, sticking close to the 2019 annual average of 8.1 percent. Warehouse employment growth fell in the first quarter but still remained high overall. Net absorption reached a new high in 1Q2020, a rebound from a recent low just two quarters earlier. With stable vacancy rates and a high net absorption, the demand for warehouse space remains strong. Asking rent growth increased over the quarter to a new recent high as well, approaching 10.0 percent.

Square feet under construction continued to decrease rapidly, following a trend started in 3Q2019. This is likely the result of steep increases in construction costs and values since the latter half of 2019 and will be compounded by the uncertainty surrounding the COVID-19 crisis. While new supply entering the market is suppressed, increasing rent growth and net absorption show demand remained steady through the first quarter.
Vacancy rates remained stable near last year’s average of 20.0 percent, continuing a trend of rates higher than natural vacancy reaching back to the oil downturn that began in late 2014. FIRE & PBS employment growth was up in the first quarter over last year’s average of 2.3 percent. Net absorption was positive and increasing for the second quarter in a row, recovering from four quarters of losses. Despite employment growth and rising absorption rates, the Houston market was still weak in the first quarter and will continue to face challenges in the next quarter, due to COVID-19 and the oil glut dampening economic activity. Asking rent growth had already reached levels near zero in the first quarter and may even go negative for the first time since 2017.

Construction starts (inclusive of Class A) for the MSA are characteristically sporadic but fell in the first quarter. Recent spikes may explain in part the high vacancy rates and low absorption of the Houston MSA. The square footage under construction trended slightly upward in the past two quarters, and deliveries picked up slightly in 1Q2020.

In step with the Houston overall office market, Class A office vacancies rose sharply in the wake of the 2014 oil downturn. Actual vacancy has exceeded the natural vacancy of 16.0 percent for four and a half years. Houston employment increased in the first quarter after a two-year decline. Net absorption has remained largely stable and modestly positive since mid-2017. The Houston MSA shows weak demand for Class A office space, with high vacancy rates and low absorption rates. Asking rent growth continued to fall in the first quarter, this time turning negative for the first time since 2017.
A rise in construction starts (inclusive of all office classes) in 2018-19 explains the high vacancy rates and low absorption, but 1Q2020 saw a dramatic drop in the value of construction starts. Both office space under construction and deliveries remained low but increased modestly. The current economic conditions will keep additions to existing supply suppressed for some time.

Retail (Figures 63 - 67)

Actual vacancy continued to hover near 6.0 percent carrying on a near five-year trend of stability. Retail employment growth has trended downward from 2016 to the beginning of 2019, entering negative growth in 3Q2017. Employment growth remains negative, despite increasing from 2Q2019-1Q2020. Growth in net absorption is slowing for the third quarter in a row but remains positive. Negative employment growth and falling absorption suggest retail slowed a bit in the first quarter and will fall in the next as a result of the COVID-19 crisis and oil glut. Asking rent growth had already fallen several percentage points in the first quarter and will continue to slide in the coming year.

The value of construction starts fell approximately 20 percent in the first quarter, countering increases made in 2019. Square footage under construction and deliveries each continued the rate of decline shown since Q12019.

Warehouse (Figures 68 – 72)

Actual vacancy continued a year-long climb above the natural vacancy rate of 8.0 percent in the first quarter. Warehouse employment growth has continued rising again after a short stumble in the early half of 2019. Net absorption, however, has fallen below zero for the first time in recent history. Despite a modest increase in the employment growth rate, the negative net absorption and climbing vacancy rate suggest demand for warehouse space weakened in the first quarter. This trend will continue in the near future with the oil glut and COVID-19 crisis at hand.

The value of construction starts in the first quarter fell sharply from their high in 2019. The amount of space under construction has surged since 2Q2017 due to the high value of
construction starts. As expected, deliveries lagged just behind the space under construction, having begun their surge in 2Q2018. Space under construction and space delivered are at new highs in the first quarter, but the negative absorption rate and rising vacancy rate suggest they have out-paced supply.
Overall Office (Figures 73 - 77)

Actual vacancy has gradually increased toward the natural vacancy rate (12.0 percent) since 1Q2017. In first quarter 2020, actual vacancy reached the natural vacancy rate for the first time since 1Q2016. Employment growth continued to slow over 1Q2020 but remained positive. Net absorption fell negative again after only three quarters of positive absorption. The first quarter showed signs of weakening demand even before the full effects of the current COVID-19 crisis and will likely continue to fall in the coming months. Asking rent growth has fallen from a recent high in 3Q2019.

Construction starts (inclusive of Class A) continued a decline that started in 4Q2018. Square footage under construction fell along a trend started in 2017. Deliveries maintained a constant level since their small spike in 2019.

Class A Office (Figures 78 - 82)

In contrast to the overall office market, the San Antonio Class A market has actually had a relatively stable vacancy rate averaging 12.3 percent over the last year and a half, comfortably below the natural vacancy rate of 15.0 percent. Employment growth rate remained relatively stagnant in the first quarter, carrying on the same rate from the past three quarters. Class A net absorption trended upward in the past two quarters after a short decline in early 2019. Demand appeared to be up in the first quarter, supported by steady employment, high net absorption, and lower-than-market vacancies. Asking rent growth increased slightly in the last quarter, but as the COVID-19 crisis continues, rent growth is expected to decline.
Construction starts (inclusive of all office classes) declined over 2019 and into 1Q2020. Under construction has declined moderately since mid-2019, and deliveries have stagnated. This decline in supply growth may help support current supply through the current crisis.

Retail (Figures 83 - 87)

Retail vacancies have been inching higher since 2016 but remain several percentage points below the natural vacancy of 7 percent. Employment growth trended upward beginning in 2Q2018 and returned to positive territory at the end of 2019. While positive, the growth rate still remains just above zero. After several quarters of slightly negative absorption rates, absorption fell sharply in the first quarter. The effects of ecommerce have been taking their toll for quite some time as weak absorption reaching back to 1Q2017 shows, but weakened demand for retail space may have hit San Antonio, the first Texas MSA with confirmed cases of COVID-19, earlier than it hit the remainder of the state. Rent growth rate became positive again after two quarters at or less than 0 percent but will fall as consumption in retail spaces is curtailed by COVID-19.

Construction starts in San Antonio continued to decline in the first quarter, albeit at a slower rate. Space under construction remained low as it has for the past several years. Deliveries followed in turn, showing little change from the previous quarters.

Warehouse (Figures 88 - 92)

Actual vacancy continued to increase in the first quarter over last year’s average of 7.1 percent. Despite the increase in vacancy, it still remained below the MSA average of 8.0 percent. Warehouse employment growth rate continued its rally beginning in early 2019. Net absorption on the other hand, continued a negative streak lasting three quarters. It appears demand for warehouse space in San Antonio weakened in the first quarter with rising vacancy and net absorption remaining negative. Asking rent growth decreased slightly from a moderate rise over the course of 2019 but remained positive overall.
Construction starts stopped the slide that started from the peak in 4Q2018. Square footage under construction also rose in the first quarter. Deliveries in square feet decreased again in the first quarter, matching a low from two years ago.
**Figure 1. Texas Nonresidential Construction Coincident and Leading Indicators**  
(Index Oct. 1990 = 100)  

Source: Real Estate Center at Texas A&M University

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**Figure 2. Austin Nonresidential Construction Leading Indicators**  
(Index 2006 Q1 = 100)  

Source: Real Estate Center at Texas A&M University
Figure 3. DFW Nonresidential Construction Leading Indicators
(Index 2006 Q1 = 100)

Figure 4. Houston Nonresidential Construction Leading Indicators
(Index 2006 Q1 = 100)

Source: Real Estate Center at Texas A&M University
Figure 5. San Antonio Nonresidential Construction Leading Indicators (Index 2006 Q1 = 100)

Source: Real Estate Center at Texas A&M University

Figure 6. Austin Commercial Vacancy Rates and Unemployment (SA)*

*Note: Seasonally adjusted component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 7. DFW Commercial Vacancy Rates and Unemployment (SA)*

*Note: Seasonally adjusted component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 8. Houston Commercial Vacancy Rates and Unemployment (SA)*

*Note: Seasonally adjusted component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 9. San Antonio Commercial Vacancy Rates and Unemployment

*Note: Seasonally adjusted component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 10. Texas Major MSAs Office Cap Rates

Sources: CoStar and Real Estate Center at Texas A&M University
Sources: CoStar and Real Estate Center at Texas A&M University
Austin

Figure 13. Austin Office Overall Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 14. Austin Office Overall Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 15. Austin Office Overall Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 16. Austin Office Overall Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 17. Austin Office Overall Vacancy and Construction Index (SA and TC)*
(Index 2000 Q4 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 18. Austin Office Class A Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 19. Austin Office Class A Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 20. Austin Office Class A Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 21. Austin Office Class A Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total. Sources: CoStar and Real Estate Center at Texas A&M University

Figure 22. Austin Office Class A Vacancy and Construction Index (SA and TC)*

(Index 2000 Q4 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component. Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
Figure 23. Austin Retail Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 24. Austin Retail Net Absorption SF and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 25. Austin Retail Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 26. Austin Retail Vacancy and Deliveries (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 27. Austin Retail Vacancy and Construction Index (SA and TC)*
(Index 2006 Q1 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 28. Austin Warehouse Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
*Note: Seasonally adjusted and trend-cycle component.

Sources: CoStar and Real Estate Center at Texas A&M University
Figure 31. Austin Warehouse Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.

Sources: CoStar and Real Estate Center at Texas A&M University

Figure 32. Austin Warehouse Vacancy and Construction Index (SA and TC)*

(Index 2000 Q4 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.

Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
Figure 33. DFW Office Overall Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component. Sources: CoStar and Real Estate Center at Texas A&M University

Figure 34. DFW Office Overall Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component. Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 35. DFW Office Overall Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 36. DFW Office Overall Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 37. DFW Office Overall Vacancy and Construction Index (SA and TC)*
(Index 1982 Q1 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 38. DFW Office Class A Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 39. DFW Office Class A Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 40. DFW Office Class A Vacancy and Under Construction (SA and TC)*
*Note: Seasonally adjusted and trend-cycle component. 
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 41. DFW Office Class A Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total. 
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 42. DFW Office Class A Vacancy and Construction Index (SA and TC)*
(Index 1982 Q1 = 100)
*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 43. DFW Retail Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 44. DFW Retail Net Absorption and Employment Growth (SA and TC)*
*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 45. DFW Retail Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 46. DFW Retail Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 47. DFW Retail Vacancy and Construction Index (SA and TC)*

(Index 2000 Q1 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 48. DFW Warehouse Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 49. DFW Warehouse Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 50. DFW Warehouse Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 51. DFW Warehouse Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 52. DFW Warehouse Vacancy and Construction Index (SA and TC)*

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
Houston

Figure 53. Houston Office Overall Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 54. Houston Office Overall Net Absorption and Employment Growth (SA and TC)*
*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

**Figure 55. Houston Office Overall Vacancy and Under Construction (SA and TC)**

![Diagram of Houston Office Overall Vacancy and Under Construction (SA and TC)]

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 56. Houston Office Overall Vacancy and Deliveries (SA and TC)**
*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 57. Houston Office Overall Vacancy and Construction Index (SA and TC)*
(Index 1999 Q1 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 58. Houston Office Class A Vacancy and Asking Rent Growth (SA and TC)*
*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 59. Houston Office Class A Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 60. Houston Office Class A Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
Figure 63. Houston Retail Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 64. Houston Retail Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 65. Houston Retail Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component. 
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 66. Houston Retail Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total. 
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 67. Houston Retail Vacancy and Construction Index (SA and TC)*
(Index 2006 Q1 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 68. Houston Warehouse Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
**Figure 69. Houston Warehouse Net Absorption and Employment Growth (SA and TC)**

*Note: Seasonally adjusted and trend-cycle component. Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University*

**Figure 70. Houston Warehouse Vacancy and Under Construction (SA and TC)**

*Note: Seasonally adjusted and trend-cycle component. Sources: CoStar and Real Estate Center at Texas A&M University*
*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
San Antonio

Figure 73. San Antonio Office Overall Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 74. San Antonio Office Overall Net Absorption and Employment Growth (SA and TC)*
*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

**Figure 75. San Antonio Office Overall Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 76. San Antonio Office Overall Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 77. San Antonio Office Overall Vacancy and Construction Index (SA and TC)*
(Index 2005 Q3 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 78. San Antonio Office Class A Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
**Figure 79. San Antonio Office Class A Net Absorption and Employment Growth (SA and TC)**

- **Net Absorption (Thousands)**
- **Employment Growth %**

*Note: Seasonally adjusted and trend-cycle component.*

Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

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**Figure 80. San Antonio Office Class A Vacancy and Under Construction (SA and TC)**

- **Vacant Percent of Total**
- **Under Construction SF (Thousands)**

*Note: Seasonally adjusted and trend-cycle component.*

Sources: CoStar and Real Estate Center at Texas A&M University
Figure 81. San Antonio Office Class A Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 82. San Antonio Office Class A Vacancy and Construction Index (SA and TC)*

(Index 2005 Q3 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
Figure 83. San Antonio Retail Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 84. San Antonio Retail Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University
Figure 85. San Antonio Retail Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 86. San Antonio Retail Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 87. San Antonio Retail Vacancy and Construction Index (SA and TC)*

(Index 2005 Q3 = 100)

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

Figure 88. San Antonio Warehouse Vacancy and Asking Rent Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 89. San Antonio Warehouse Net Absorption and Employment Growth (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: Bureau of Labor Statistics, CoStar, and Real Estate Center at Texas A&M University

Figure 90. San Antonio Warehouse Vacancy and Under Construction (SA and TC)*

*Note: Seasonally adjusted and trend-cycle component.
Sources: CoStar and Real Estate Center at Texas A&M University
Figure 91. San Antonio Warehouse Vacancy and Deliveries (SA and TC)*

*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total. Sources: CoStar and Real Estate Center at Texas A&M University

Figure 92. San Antonio Warehouse Vacancy and Construction Index (SA and TC)*

*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component. Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University
**Asking rents.** The dollar amount per square foot the landlord requests from a tenant, excluding tenant improvements and concessions. Leases typically dictate this amount paid annually.

**Capitalization rate/ cap rate.** The cap rate is computed by dividing expected net operating income (NOI) generated from the property by the current property value (V) and expressing it as a percentage. NOI is rent minus the owners share of expenses, such as taxes, insurance, maintenance, and management costs. Mortgage costs and any other costs of financing are not included in expenses.

In general, the higher the cap rate, the higher the risk. Investors compare cap rates for potential projects with their cost of funds when selecting investment projects, considering only those investments where the cap rates exceed the cost of funds.

Risk can be estimated by computing the “spread”, the difference between the cap rate and some risk-free rate. Because commercial real estate investments are expected to generate streams of income over a long period, investors commonly use the U.S. ten year Treasury rate as a risk-free rate.

**Construction Starts Index.** Reflects the dollar value of construction starts in relation to a specified base year and is a precursor to future units under construction.

Dodge Analytics tracks commercial construction start figures as soon as a new project kicks off to estimate its total construction “value,” which is essentially total construction cost. We realize that some real estate professionals may question whether calling the total dollars to be spent on a project’s “construction value” actually equates to its “market value” at completion. However, for consistency, this report will use Dodge’s terminology.

**Trend-cycle component.** Removes the effects of accumulating data sets from a trend to show only the absolute changes in values while allowing potential cyclical patterns to be identified.

**FIRE & PBS.** A sector of the economy comprised of finance, insurance, and real estate. PBS employment represents professional and business services.

**Net absorption.** The net change in occupied space, measured in square feet, over a given period. Net absorption reflects the amount of space occupied as well as the amount of space vacated. Net absorption includes direct and sublease space.
**Nominal.** Value or rate reflecting current prices or rates, without adjusting for inflation.

**Real.** Value or rate reflecting current prices or rates adjusted for inflation.

**Seasonal adjustment.** A statistical method for removing the seasonal patterns in time series data.

**SF.** Square feet.

**Under construction.** The square footage being built within a particular market; applies to buildings that have not received a certificate of occupancy.

**Vacancy rate.** A measurement expressed as a percentage of the total amount of physically vacant space divided by the total amount of existing inventory.

**Natural and actual vacancy.**

The projected vacancy rates and rents for each commercial use in the four major metro areas are made relative to each area’s natural vacancy rate for each property type.

The natural vacancy rate is the point at which zero real (inflation-adjusted) rent growth will occur. Natural vacancy reflects the level to which current vacancy rates gravitate over the long term.

The actual vacancy rate is seasonally adjusted and trend cycled to smooth fluctuations in the data and provide a clearer, less volatile view of upward and downward movements.

Natural vacancies used to estimate the possibility of new construction are calculated separately using historical construction data. The calculated natural vacancies were compared with the actual vacancies to estimate whether new development could be expected in the various commercial real estate markets. When actual vacancy in a local market falls below natural vacancy, developers may consider building new space.

When actual vacancy in a local market falls below (rises above) natural vacancy, building managers may consider increasing (decreasing) rents. A comparison of natural vacancy and actual vacancy along with historical vacancy trends allows researchers to anticipate the future direction of CRE rental rates in real terms. However, changes in asking rents in this report reflect nominal changes since real estate professionals typically think in nominal terms.

Aggregate natural vacancy in an overall market may not reflect the vacancy rate an individual CRE professional uses to make decisions affecting a specific property or project. However, these measures indicate the direction of rents and new construction within the broader market.
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