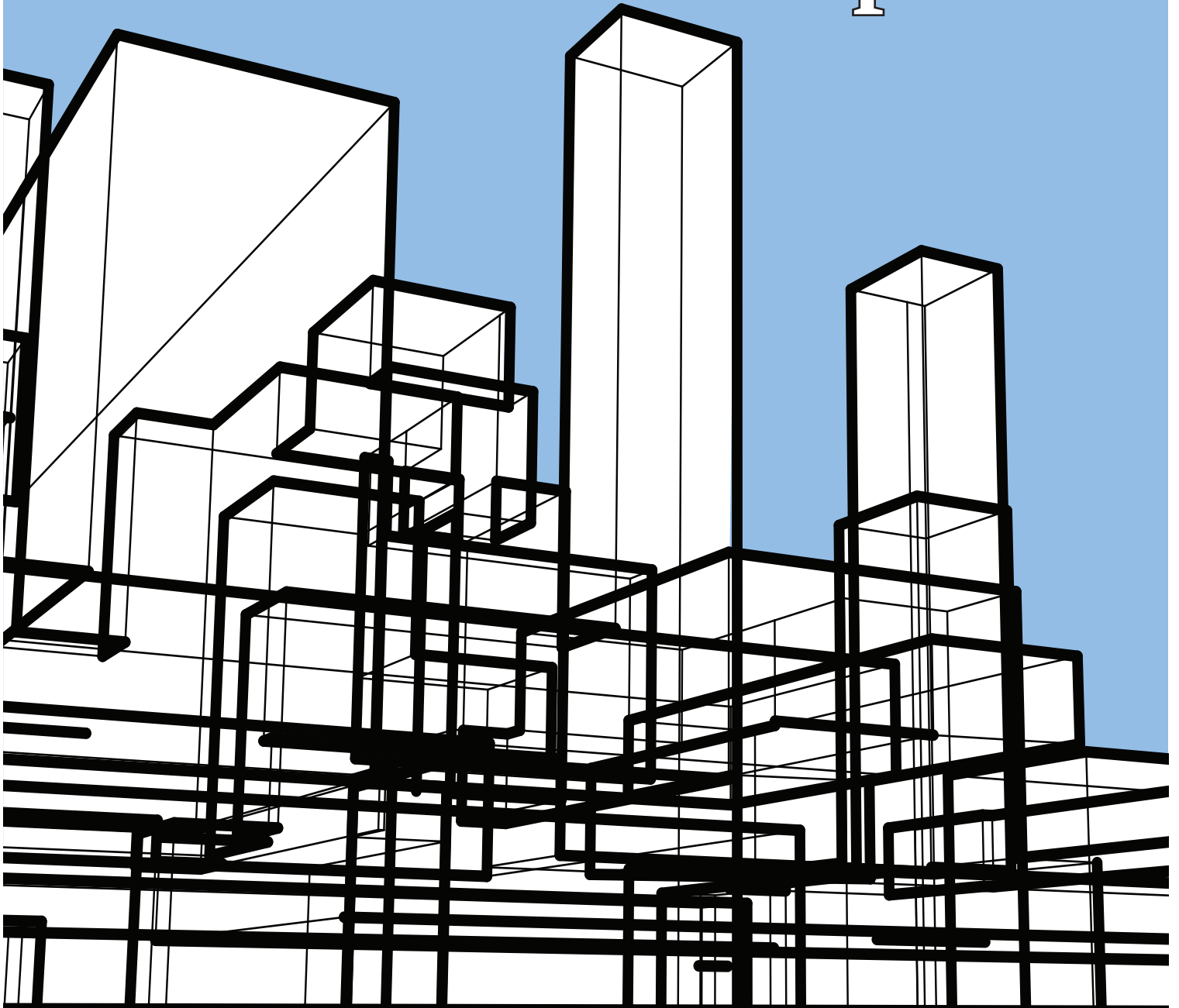




TEXAS A&M UNIVERSITY  
Real Estate Center

# Texas Quarterly Commercial Report



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Technical Report  
**2211**  
SECOND QUARTER 2019

# Texas Quarterly Commercial Report: 2019 Forecast

## DALLAS FORT WORTH

	OCCUPANCY RATES	ASKING RENTS
OFFICE	82.3% ▼	1.7% ▼
RETAIL	94.5% ▬	-0.2% ▼
WAREHOUSE	92.2% ▲	6.4% ▼

## AUSTIN

	OCCUPANCY RATES	ASKING RENTS
OFFICE	91.1% ▲	5.7% ▲
RETAIL	95.6% ▲	0.0% ▲
WAREHOUSE	92.7% ▼	1.7% ▲

## SAN ANTONIO

	OCCUPANCY RATES	ASKING RENTS
OFFICE	87.5% ▼	3.6% ▲
RETAIL	94.5% ▼	1.6% ▼
WAREHOUSE	93.0% ▼	0.8% ▲

## HOUSTON

	OCCUPANCY RATES	ASKING RENTS
OFFICE	80.0% ▼	4.3% ▼
RETAIL	94.2% ▲	4.4% ▼
WAREHOUSE	91.8% ▼	3.6% ▼



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

The header features a blue rectangular background. On the left side, there is a white line-art illustration of a city skyline with several skyscrapers. To the right of the illustration, the words "Table of Contents" are written in a large, white, serif font with a thin black outline.

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# About this Report

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—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.

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](mailto:info@recenter.tamu.edu).

Dr. James Gaines, Dr. Luis Torres, Dr. Harold Hunt, Clare Losey, and Trenton Forbes



# Definitions

**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.

**Construction index.** The construction value in relation to a specified base year.

**Construction values.** The collective dollar value of project starts for a particular sector.

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.



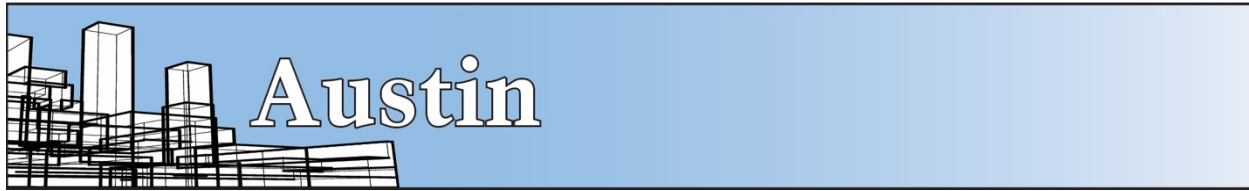
# Overview of the Texas Economy

Entering the ninth year of the business cycle expansion, Texas' economic activity remained strong. Payroll employment grew at a steady pace, and unemployment remained historically low. Headline wage numbers, however, were sluggish despite labor-market tightness and decreased inflationary pressure. Low interest rates and job growth supported commercial investments and pushed housing sales to a record high. Total commodity exports stalled in the first quarter and could continue to struggle amid the ongoing U.S.-China trade spat. Political tension, trade uncertainty, and a slowdown in the global economy present the greatest challenges to extending the current expansion. For additional commentary and statistics, see [Outlook for the Texas Economy](https://recenter.tamu.edu/Outlook-for-the-Texas-Economy) at [recenter.tamu.edu](https://recenter.tamu.edu).

The Texas Nonresidential Construction Coincident Index, which measures current construction activity, indicates growth. However, the Texas Nonresidential Construction Leading Indicator, which measures potential future construction activity, suggests growth may slow going forward due to a decline in construction values even though commercial loans register growth as interest rates have fallen (see Figures 1-5).

The outlook for the rest of 2019 appears to be positive for the major Texas MSAs due to the strength of the U.S. and Texas economies. Interest rates should continue to remain low as inflation pressure remains subdued combined with low future growth expectations. On the negative side, a declining trade environment and a slowing world economy are the greatest headwinds to the Texas economy, challenging some of the state's most productive industries like oil and manufacturing. The U.S. economy is already showing signs of slowing in 2019 to its expected growth potential of around 2 percent.

Austin's overall economic activity improved in 2Q2019 from the first quarter as job growth continued its upward trend, and the unemployment rate continued to fall. Employment continued to climb in Dallas-Fort Worth (DFW) with both the goods and services sectors registering strong job growth. In Houston, the overall outlook remains positive, supported by a strong U.S. economy, although less so than during the oil boom. San Antonio's job growth continued strong in 2Q2019.



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.

### Austin Office (Figures 6 - 10)

Actual vacancy fell below 9 percent in 2Q2019, much less than the natural vacancy of 13.0 percent. Actual vacancy is expected to continue to increase slightly in the near-term, averaging 9.1 percent for 2019. As actual vacancy measured lower than natural vacancy, rent growth has faced upward pressure. Rent growth is expected to average 4.0 percent in 2019 versus 1.8 percent in 2018, but rents may experience even stronger growth—on average, 4.4 percent—in 2020.

FIRE & PBS employment growth has moderated since 2014 but remains strong in 2Q2019. Despite the downward trend in employment growth, asking rent growth increased quarter-over-quarter, bolstered by long-term gains in employment.

The significant uptick in construction values observed since 3Q2017 has started to show some signs of slowing in 2019.

Net absorption was positive for 2Q2019 as demand, bolstered by strong employment growth, outpaced the new supply of office space.



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.

### Austin Retail (Figures 11 - 15)

Actual vacancy fell slightly in 2Q2019. However, at just over 4 percent, actual vacancy remains much lower than the natural vacancy of 6.0 percent. The vacancy rate is forecasted to average 4.4 percent in 2019. Despite sustained low actual vacancy, asking rent growth has declined since 2018; it entered negative territory in 1Q2019 and registered zero growth in 2Q2019. Rent



growth is expected to remain sluggish in the near-term, averaging 0.5 percent in 2019 and -0.6 in 2020.

Since 2016, retail employment growth has generally trended downward but remained positive until the first half of 2019. Net absorption registered positive in 2Q2019, reversing the negative values observed in 4Q2018 and 1Q2019, while being hampered by the continued decline in employment growth.

Construction values showed a significant uptick in 1Q2019 before falling in 2Q2019 as construction activity remained at post-recessionary lows. Dampening rent and employment growth, as well as concerns surrounding e-commerce, may continue to discourage growth in construction activity.



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.

## Austin Warehouse (Figures 16 - 20)

Actual vacancy increased above 7 percent in 2Q2019. Actual vacancy is expected to average 7.1 percent in 2019, which, at a level well below the natural vacancy (11.0 percent), should spur new development in the near-term. Rent growth is expected to average 2.7 percent in 2019, indicating a significant gain in the growth rate over the previous quarters.

Warehouse employment growth slowed considerably after peaking in 2017 but remained positive in 2Q2019. Due to the decline in employment growth, net absorption turned negative in the first half of 2019.

Construction values continue to fall in 2019, in addition to construction activity that weakened considerably since 2018.

**Table 1. Projected Overall Vacancy Rates and Asking Rent Growth**

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2018	2019	2020	2018	2019	2020
Office	13.0	9.3	9.1	9.0	1.8	4.0	4.4
Retail	6.0	4.1	4.4	4.5	3.8	0.5	-0.6
Warehouse	11.0	5.9	7.1	7.2	0.5	2.7	2.0

Note: Annual numbers represent the four-quarter average of the seasonally adjusted data. Rent growth is nominally estimated from the previous year's average.

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

# Dallas-Fort Worth

OCCUPANCY  
▼ 82.3%

ASKING RENT GROWTH  
▼ 1.7%

EMPLOYMENT GROWTH  
▲ 4.3%

NET ABSORPTION  
▼ 201,507

CONSTRUCTION VALUES  
▲

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.

## Dallas-Fort Worth Office (Figures 21 - 25)

Actual vacancy increased in 2Q2019 while asking rent growth slowed. Actual vacancy measured only slightly below the natural vacancy of 18.0 percent, suggesting that rent growth may continue to taper. Actual vacancy is expected to average 17.7 percent in 2019, while rent growth is expected to average 2.0 percent in 2019. Asking rent growth may struggle as the gap between actual and natural vacancy remains narrow.

FIRE & PBS employment registered strong growth in the second half of 2019. Net absorption continued to measure positive in 2Q2019, bolstered by strong employment growth.

Construction values posted strong growth during the first half of 2019 following a sharp decline over the previous three years. In contrast, construction activity, or square footage under construction, continues to register a declining trend that started at the end of 2016.

OCCUPANCY  
= 94.5%

ASKING RENT GROWTH  
▼ -0.2%

EMPLOYMENT GROWTH  
▲ 14%

NET ABSORPTION  
▲ 9,591

CONSTRUCTION VALUES  
▲

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.

## Dallas-Fort Worth Retail (Figures 26 - 30)

Actual vacancy has increased during the first half of 2019. However, it still measures well below the natural vacancy of 9.0 percent. Actual vacancy, which is expected to average 5.5 percent in 2019, should remain relatively unchanged over the ensuing quarters. Asking rent growth is expected to fall -1.0 percent in 2019 and remain flat going forward.

Retail employment continues to register slow growth. Net absorption entered into a negative trend during the first half of 2019 due to slowing rent and employment growth.

Construction values and construction activity, which posted positive growth in the first half of 2019, reversed their previous downward trend.

OCCUPANCY  
▲ 92.2%

ASKING RENT GROWTH  
▼ 6.4%

EMPLOYMENT GROWTH  
▲ 4.6%

NET ABSORPTION  
▼ 2,185,318

CONSTRUCTION VALUES  
▼

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.

### Dallas-Fort Worth Warehouse (Figures 31 - 35)

Actual vacancy has continued to hover between 7 and 9 percent since 2014, well below the natural vacancy of 11.0 percent. Rent growth is expected to grow on average 4.8 percent in 2019. Actual vacancy should remain well below natural vacancy in the near term, with expectations for an average vacancy rate of 7.8 percent in 2019.

Employment growth registered a stronger growth rate in the first half of 2019 than in 2018, reversing its downward trend. Net absorption has remained positive since the GR, reflecting strong demand for industrial space in the MSA.

Construction values and construction activity fell during the first half of 2019.

**Table 2. Projected Overall Vacancy Rates and Asking Rent Growth**

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2018	2019	2020	2018	2019	2020
Office	18.0	17.9	17.7	17.6	2.6	2.0	1.4
Retail	8.0	5.5	5.5	5.6	3.2	-1.0	-0.2
Warehouse	11.0	7.6	7.8	8.0	5.7	4.8	1.6

Note: Annual numbers represent the four-quarter average of the seasonally adjusted data. Rent growth is nominally estimated from the previous year's average.

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



OCCUPANCY  
▼ 80.0%

ASKING RENT GROWTH  
▼ 4.3%

EMPLOYMENT GROWTH  
▲ 3.4%

NET ABSORPTION  
▼ -612,843

CONSTRUCTION VALUES  
▼

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.

### Houston Office (Figures 36 - 40)

The oil downturn in mid-2014 continues to be troublesome to Houston's office market as net absorption entered negative territory in 2Q2019. Actual vacancy rates remain higher than the natural rate of 15 percent. At just below 20 percent in 2Q2019, actual vacancy is forecasted around 20 percent in 2019 and 20.2 percent the following year. Even with expected increases in vacancy rates, rent growth is anticipated to register, on average, positive growth of 2.9 percent in 2019.

FIRE & PBS employment continues to post steady positive growth. The current employment growth rate has not been able to sustain positive net absorption as net absorption again turned negative in 2Q2019.

Construction values and construction activity fell during 2Q2019, reflecting the oversupply of office construction that continues to dampen vacancy rates and rent growth.

OCCUPANCY  
▲ 94.2%

ASKING RENT GROWTH  
▼ 4.4%

EMPLOYMENT GROWTH  
▲ -1.5%

NET ABSORPTION  
▲ 678,551

CONSTRUCTION VALUES  
▼

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.

### Houston Retail (Figures 41 - 45)

Actual vacancy has remained stable between 5 and 6 percent since 2Q2015, measuring below the natural vacancy of 8.0 percent. Actual vacancy is expected to hold constant over 2019, averaging 5.8 percent. Asking rent is expected to average 3.7 percent in 2019 as the Houston economy continues to gain momentum.

Retail employment growth has fallen during the first half of 2019. Despite decreasing employment growth, net absorption remained positive in 2019. If employment growth continues its decline, Houston may post negative net absorption over the ensuing quarters.



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Construction activity remains relatively low in Houston's retail market, reflecting the difficulty in finding desirable retail sites in the MSA. Despite large increases in rent growth, poor employment growth is reflected in dampened construction activity.



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.

### Houston Warehouse (Figures 46 - 50)

Actual vacancy increased slightly above the natural vacancy of 8 percent in 2Q2019. Rent growth is forecasted to average 3.4 percent in 2019 as the recent decline in rent growth is expected to moderate in the near term.

Warehousing and transportation employment growth continues to remain strong during the first half of 2019. After registering a negative value during the first quarter, net absorption was positive in 2Q2019 due to strong employment growth and demand in the warehouse sector.

As vacancy rates increased and rent growth slowed, construction activity has also slowed. The uptick in construction values in the first half of 2019 was possibly due to an increase in owner development values; construction activity data only include for lease.

**Table 3. Projected Overall Vacancy Rates and Asking Rent Growth**

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2018	2019	2020	2018	2019	2020
Office	14.0	19.9	20.0	20.2	2.6	2.9	1.7
Retail	7.0	5.7	5.8	5.8	3.5	3.7	3.0
Warehouse	8.0	6.7	7.8	7.9	3.6	3.4	3.0

Note: Annual numbers represent the four-quarter average of the seasonally adjusted data. Rent growth is nominally estimated from the previous year's average.

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



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.

### San Antonio Office (Figures 51 - 55)

Actual vacancy increased to 12.5 percent in 2Q2019, surpassing the natural vacancy of 12.0 percent. Asking rent growth is expected to moderate through 2019, averaging 2.4 percent in 2019.

FIRE & PBS employment growth rate improved in 2Q2019. Net absorption, after registering negative in both 4Q2018 and 1Q2019, turned positive in 2Q2019. This could be explained by the increasing employment growth rate and the low construction deliveries.

Construction values have fallen significantly in 2019, largely attributable to the construction of three Microsoft data centers totaling \$400 million around 3Q2018.



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.

### San Antonio Retail (Figures 56 - 60)

During the first half of 2019, actual vacancy rates increased along with a decline in rent growth. The actual vacancy rate is expected to increase to 6.8 percent and rent to decrease an average of -0.1 percent over 2019.

The retail employment growth rate, after dipping into negative territory for seven quarters, reverted to positive growth in 2Q2019. The decline in employment growth contributed to negative net absorption in 2Q2019, even after registering positive growth in the same quarter.

Construction values have remained positive in 2019. In contrast, construction activity remains low.

OCCUPANCY  
▼ 93.0%

ASKING RENT GROWTH  
▲ 0.8%

EMPLOYMENT GROWTH  
▲ -0.5%

NET ABSORPTION  
▼ -143,454

CONSTRUCTION VALUES  
▲

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.

### San Antonio Warehouse (Figures 61 - 65)

Actual vacancy increased to 7 percent in 2Q2019. Vacancy is forecasted to increase to an average of 6.8 percent in 2019 from 2018. Rent growth entered positive territory in 2Q2019 after registering negative growth in the past four quarters. Rent growth is projected to remain essentially flat over 2019, averaging -0.1 percent for the year.

Warehousing and transportation employment growth has trended downward since the beginning of 2017 and registered as negative for the previous four quarters. This trend has likely been the key factor behind the decline in rent growth in San Antonio. The negative employment growth contributed to negative net absorption for the first half of 2019.

Construction activity and construction values declined in 2Q2019 after registering a spike in previous quarters. This spike was attributed to H-E-B initiating construction of a new 1.6 million-sf warehouse around 1Q2019.

**Table 4. Projected Overall Vacancy Rates and Asking Rent Growth**

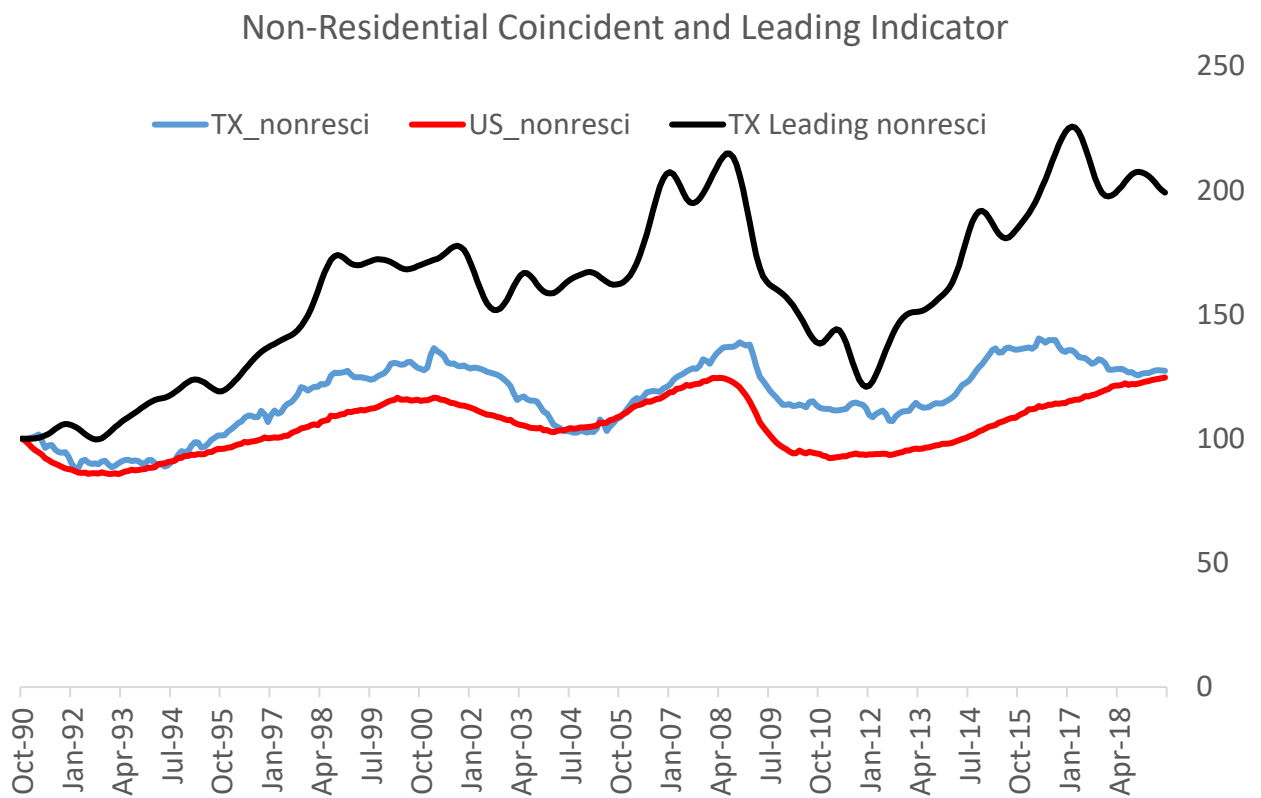
Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2018	2019	2020	2018	2019	2020
Office	12.0	11.9	12.3	12.4	2.6	2.4	2.1
Retail	6.0	4.6	5.3	5.2	4.8	2.7	1.3
Warehouse	8.0	6.5	6.8	7.0	-0.8	-0.1	1.0

Note: Annual numbers represent the four-quarter average of the seasonally adjusted data. Rent growth is nominally estimated from the previous year's average.

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



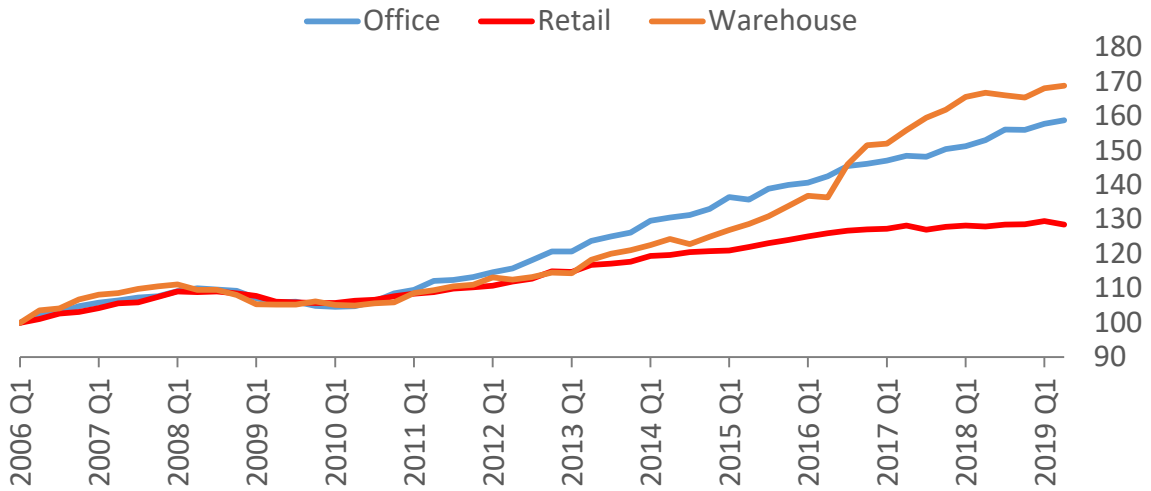
**Figure 1. Texas Nonresidential Construction Coincident and Leading Indicators**  
(Index Oct. 1990 = 100)



Source: Real Estate Center at Texas A&M University

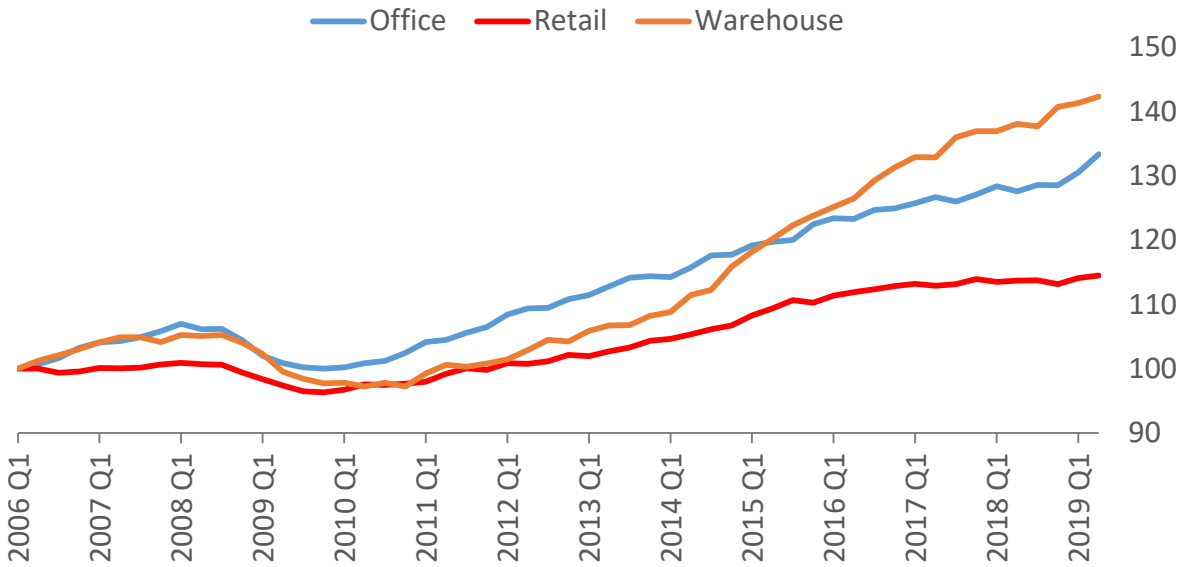


**Figure 2. Austin Nonresidential Construction Leading Indicators**  
(Index 2006 Q1 = 100)



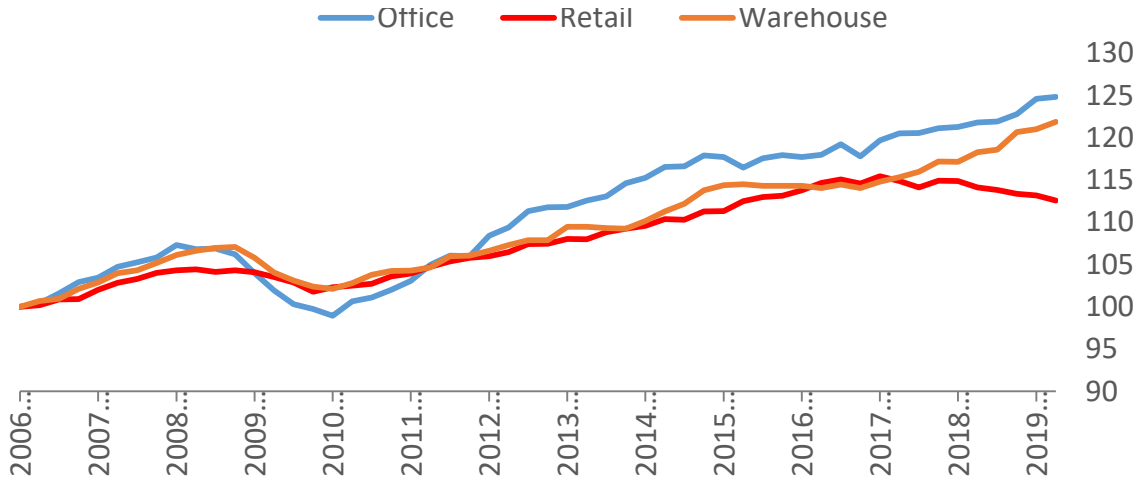
Source: Real Estate Center at Texas A&M University

**Figure 3. DFW Nonresidential Construction Leading Indicators**  
(Index 2006 Q1 = 100)



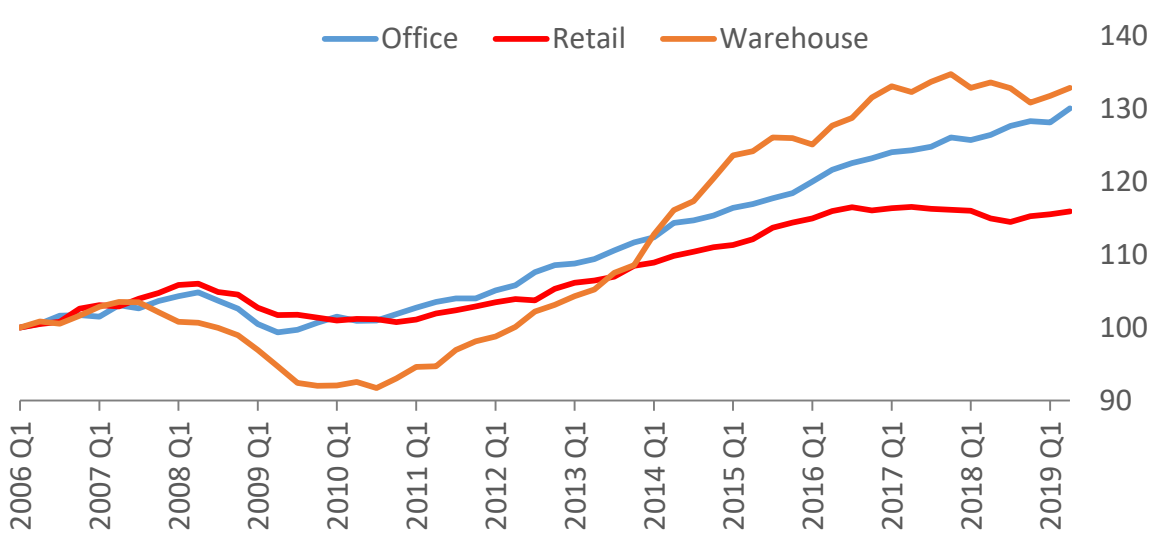
Source: Real Estate Center at Texas A&M University

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



Source: Real Estate Center at Texas A&M University

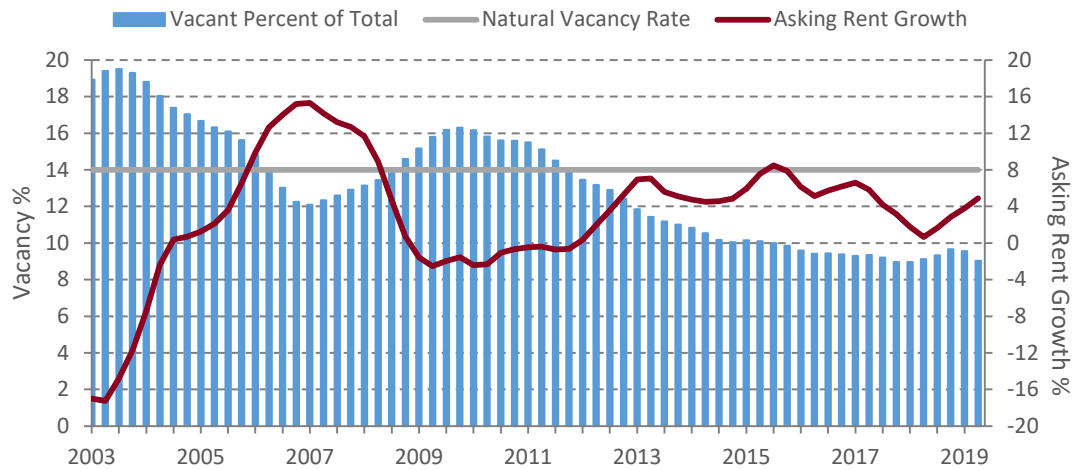
**Figure 5. San Antonio Nonresidential Construction Leading Indicators**  
(Index 2006 Q1 = 100)



Source: Real Estate Center at Texas A&M University

## Austin

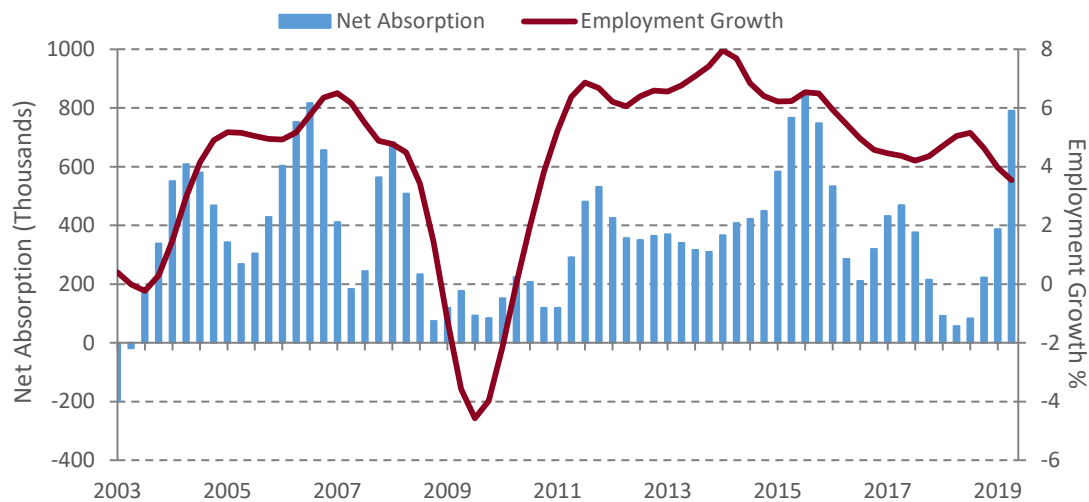
**Figure 6. Austin Office Vacancy and Asking Rent Growth (SA and TC)\***



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

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

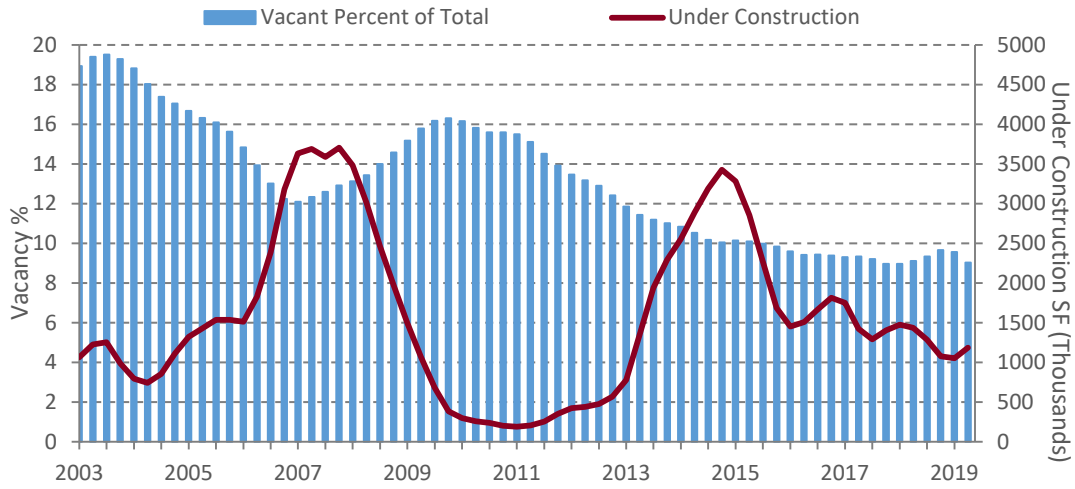
**Figure 7. Austin Office Net Absorption and Employment Growth (SA and TC)\***



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

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

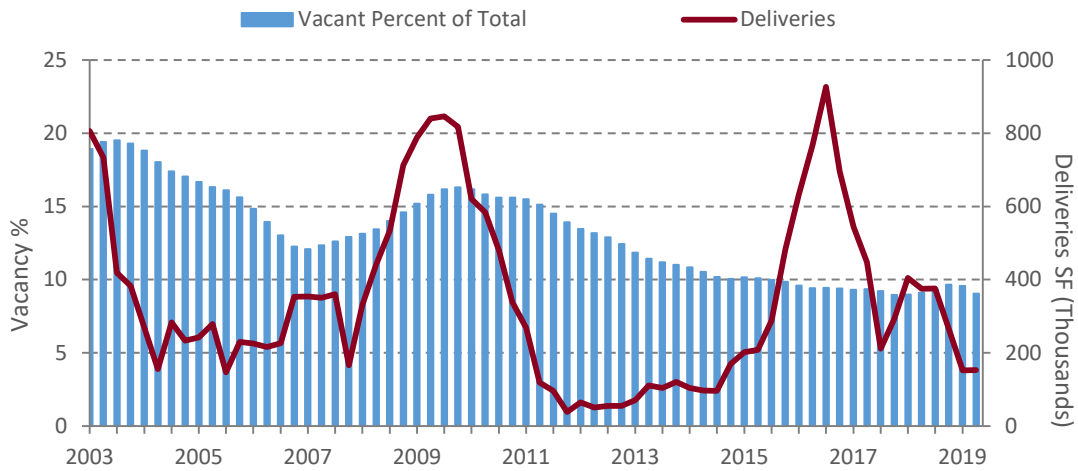
**Figure 8. Austin Office Vacancy and Under Construction (SA and TC)\***



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

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

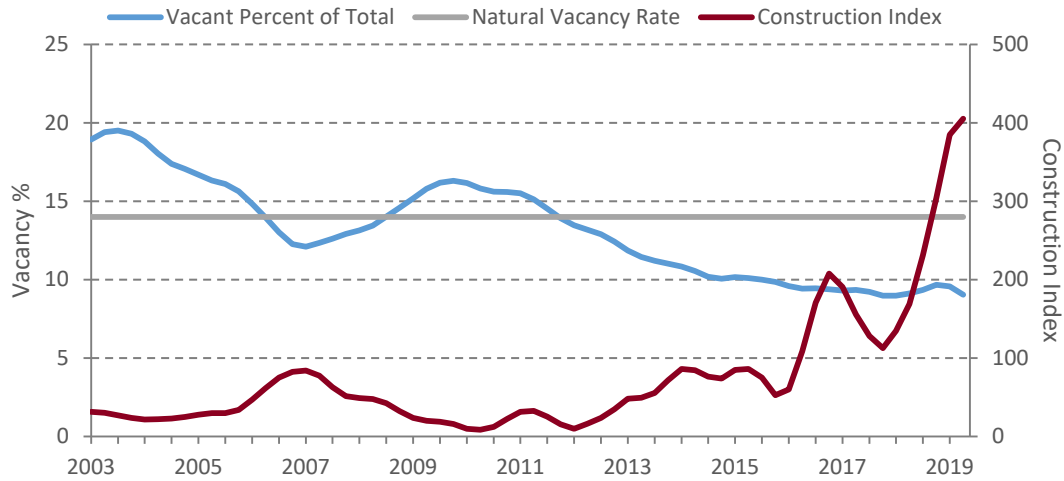
**Figure 9. Austin Office Vacancy and Deliveries (SA and TC)\***



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

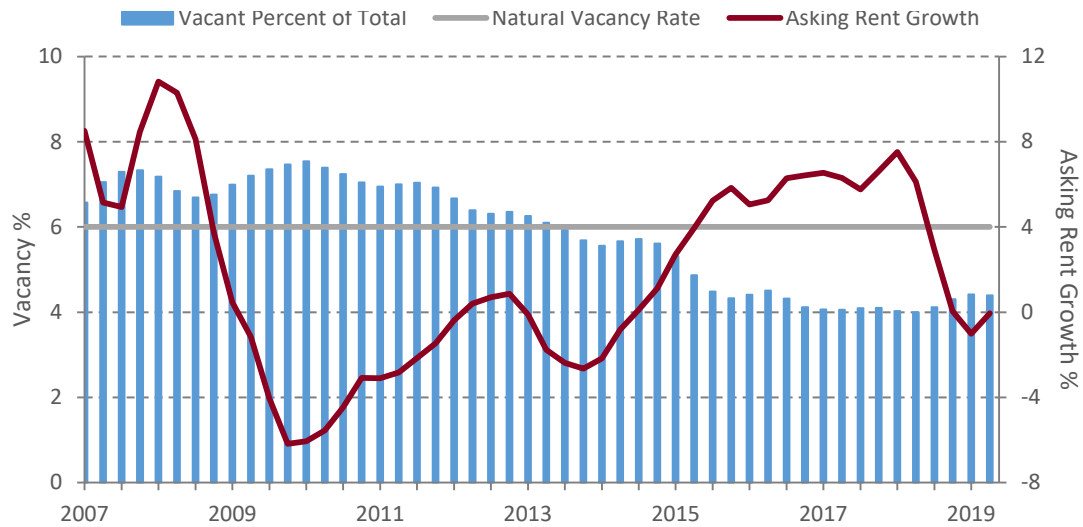
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 10. Austin Office Vacancy and Construction Index (SA and TC)\***  
(Index 2000 Q4 = 100)



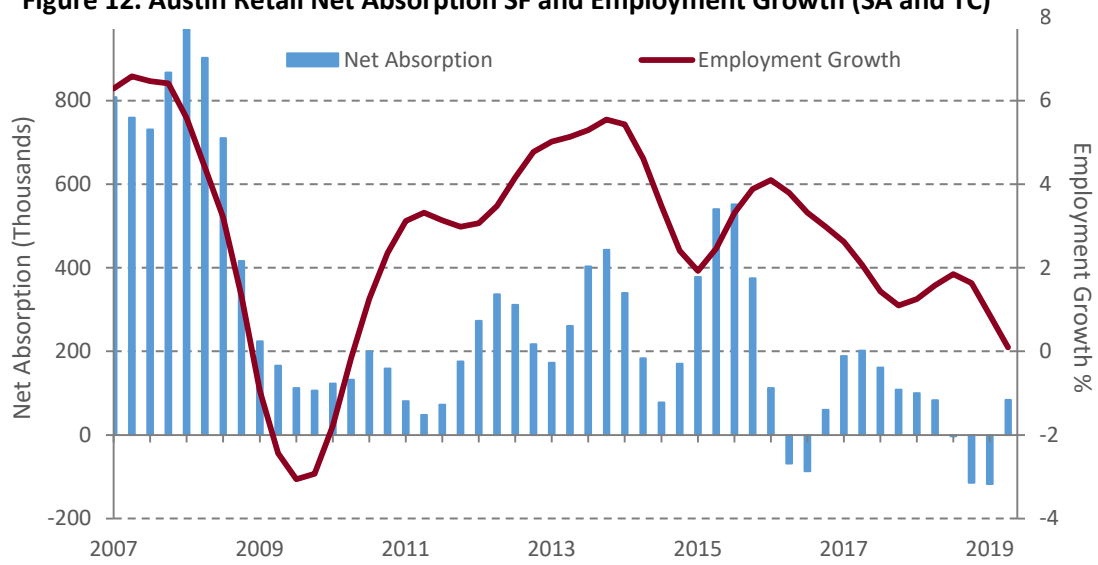
\*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 11. 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

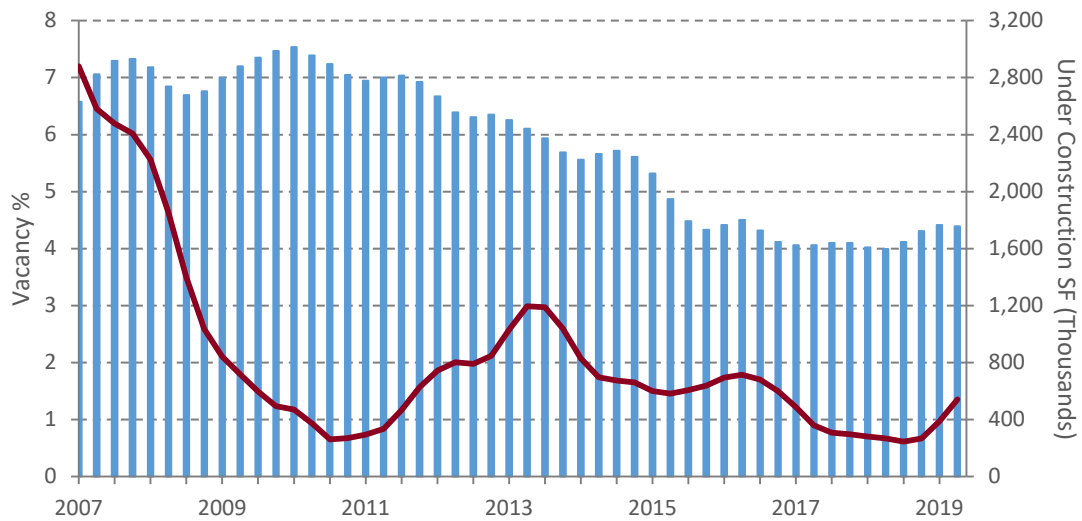
**Figure 12. Austin Retail Net Absorption SF and Employment Growth (SA and TC)\***



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

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

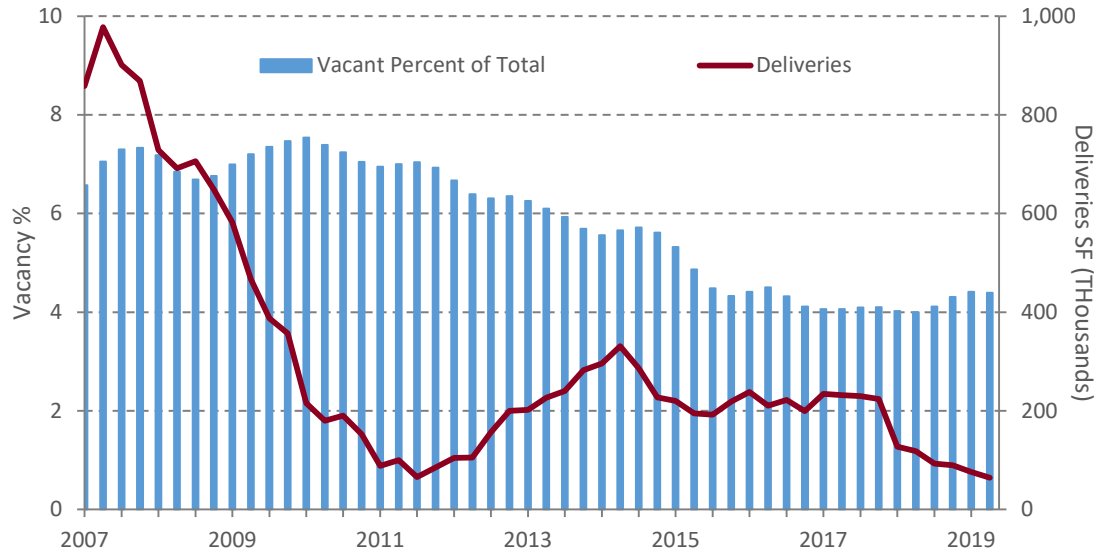
**Figure 13. Austin Retail Vacancy and Under Construction (SA and TC)\***



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

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

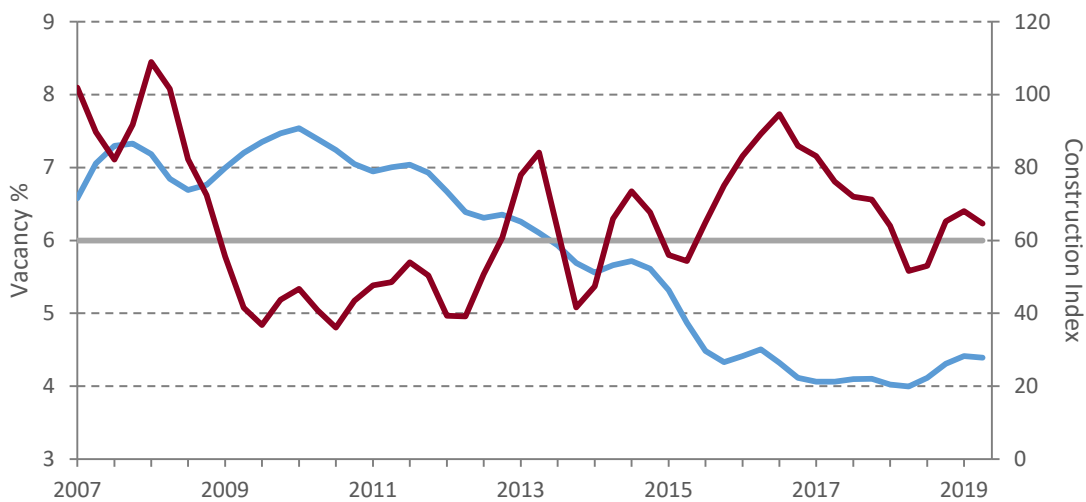
**Figure 14. Austin Retail Vacancy and Deliveries (SA and TC)\***



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

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

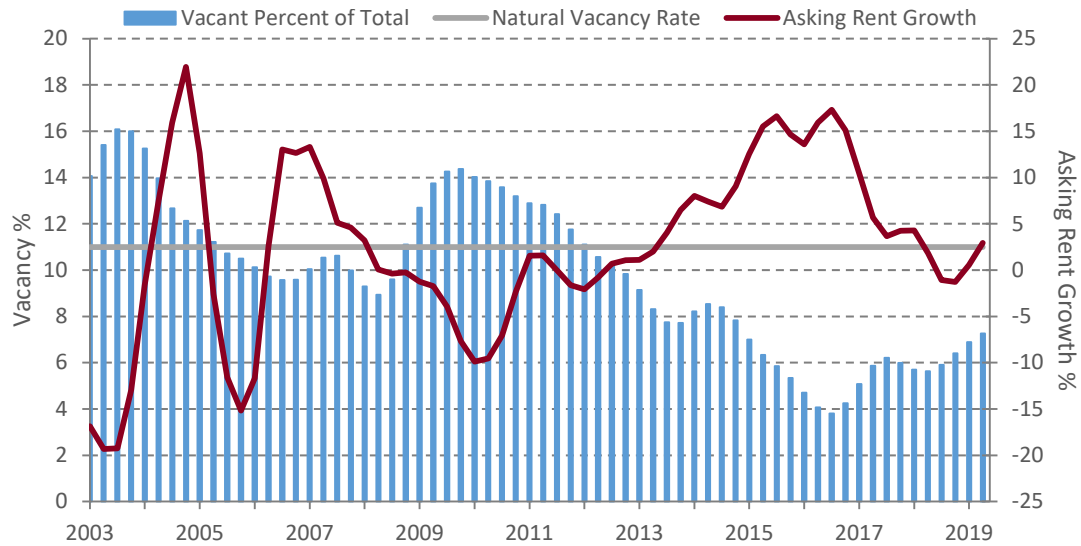
**Figure 15. Austin Retail Vacancy and Construction Index (SA and TC)\***  
(Index 2006 Q1 = 100)



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

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

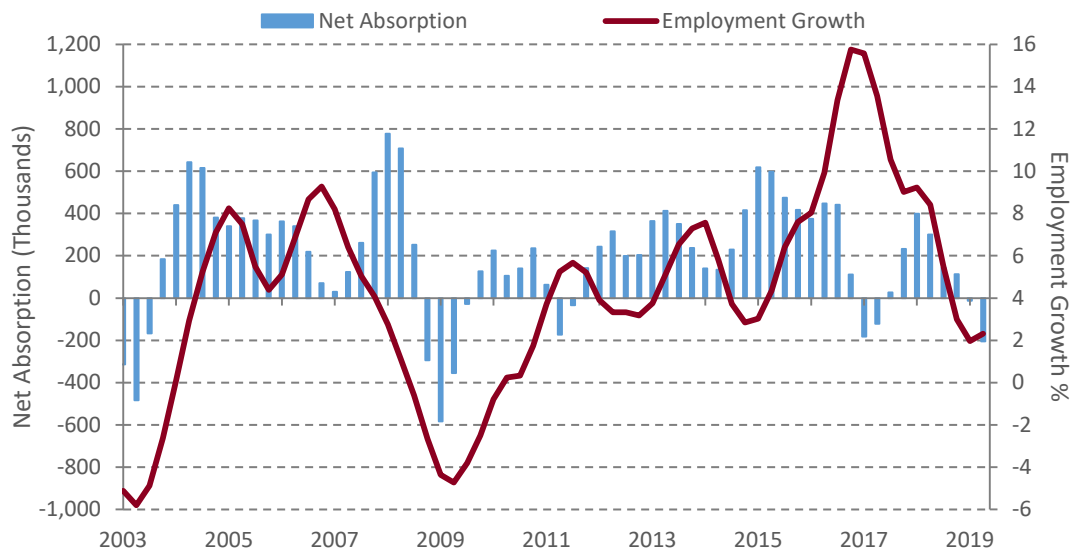
**Figure 16. Austin Warehouse Vacancy and Asking Rent Growth (SA and TC)\***



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

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

**Figure 17. Austin Warehouse Net Absorption and Employment Growth (SA and TC)\***

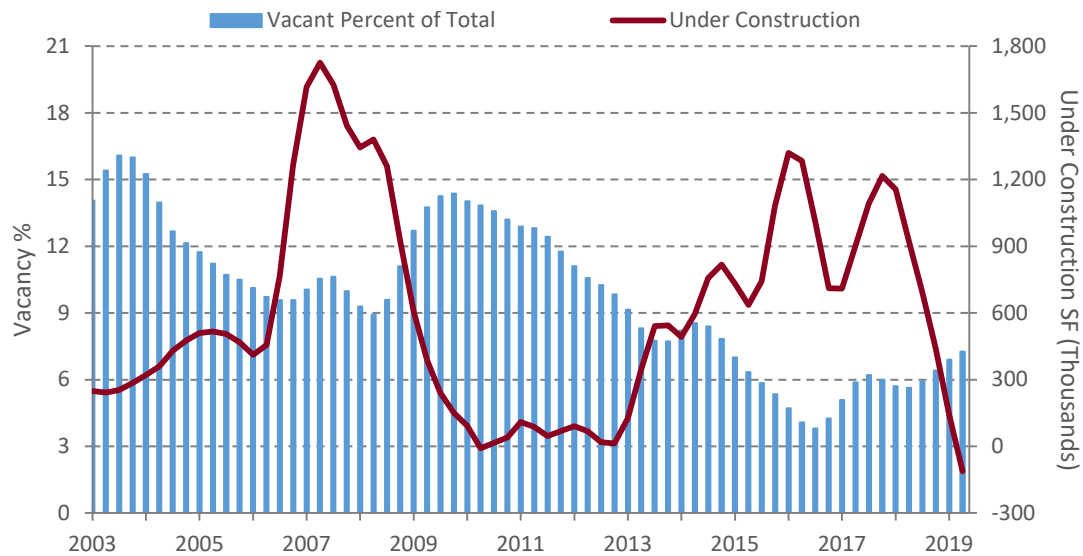


\*Note: Seasonally adjusted and trend-cycle component.

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



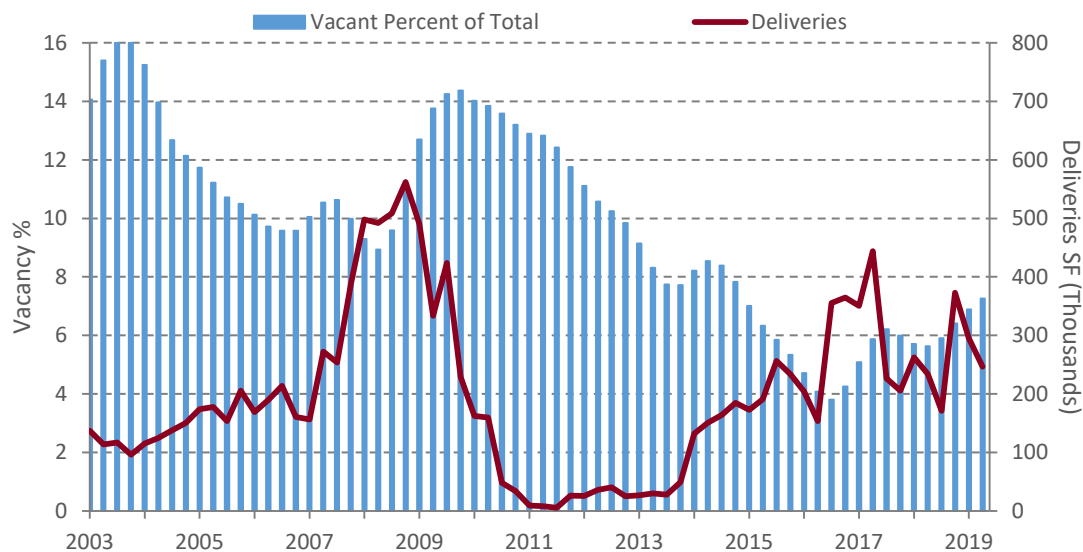
**Figure 18. Austin Warehouse Vacancy and Under Construction (SA and TC)\***



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

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

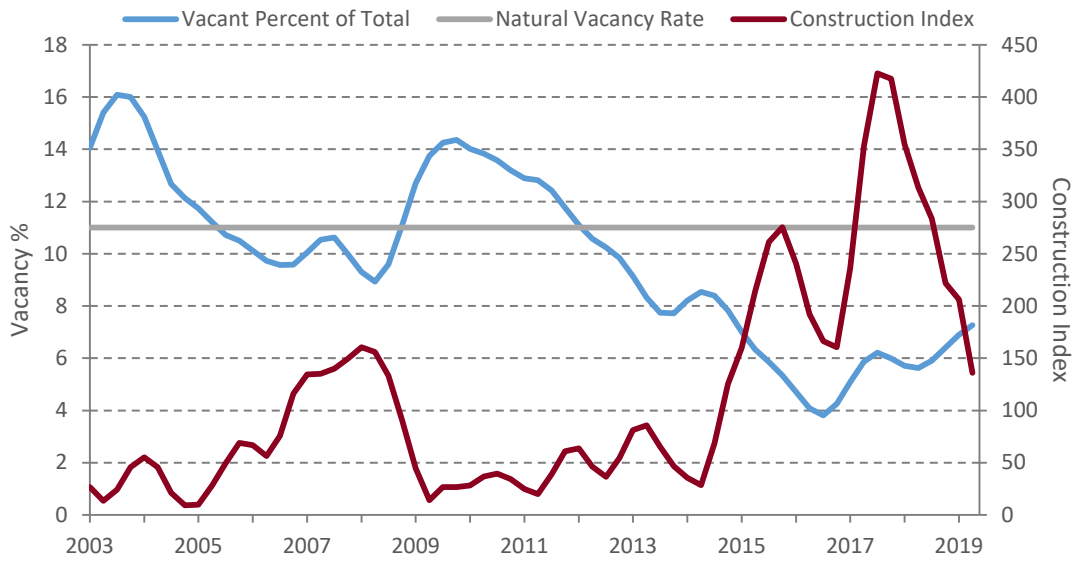
**Figure 19. Austin Warehouse Vacancy and Deliveries (SA and TC)\***



\*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

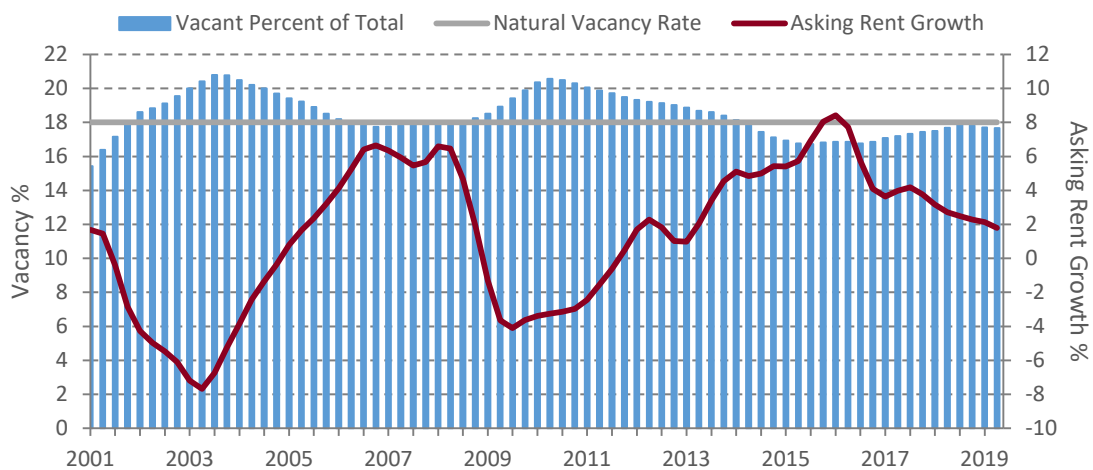
**Figure 20. Austin Warehouse Vacancy and Construction Index (SA and TC)\***  
(Index 2000 Q4 = 100)



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

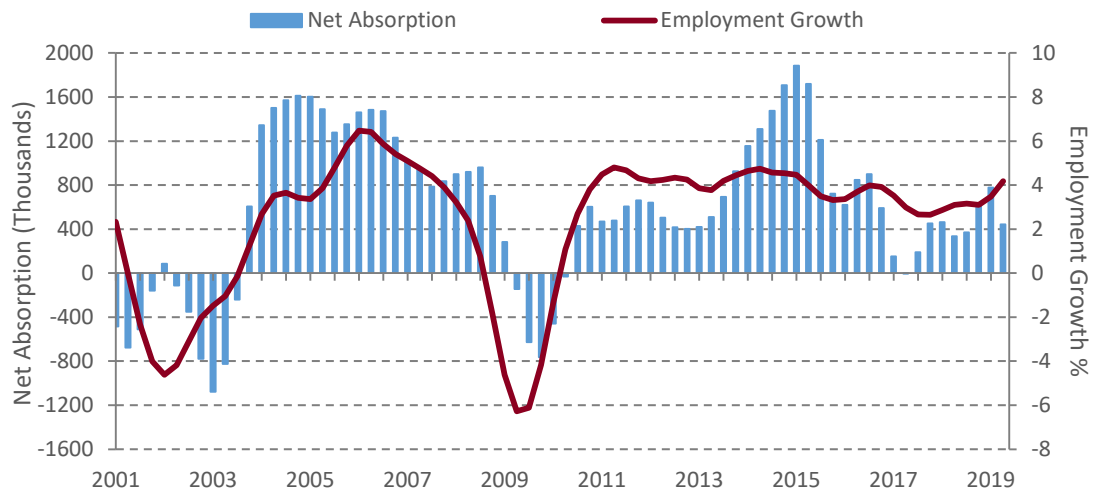
## DFW

**Figure 21. DFW Office 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

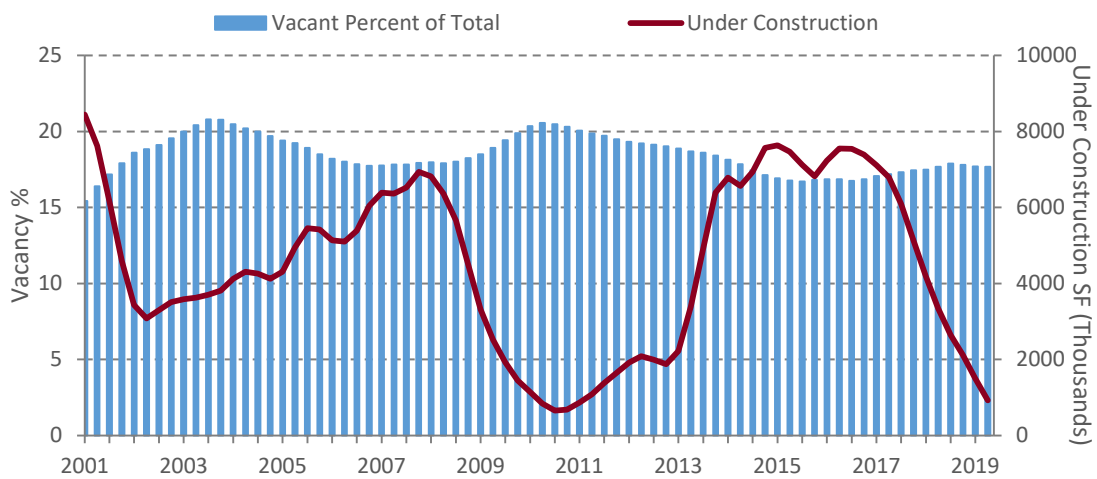
**Figure 22. DFW Office Net Absorption and Employment Growth (SA and TC)\***



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

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

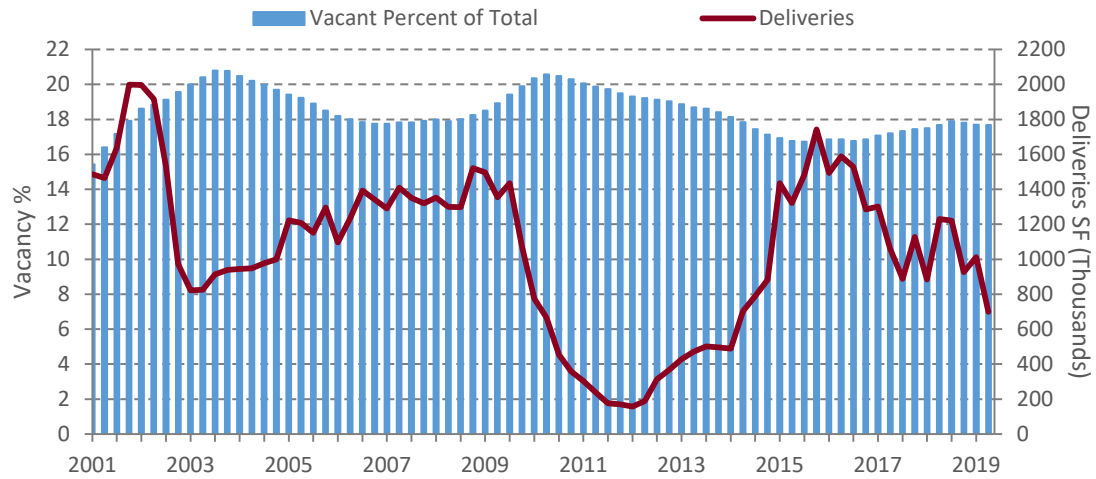
**Figure 23. DFW Office Vacancy and Under Construction (SA and TC)\***



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

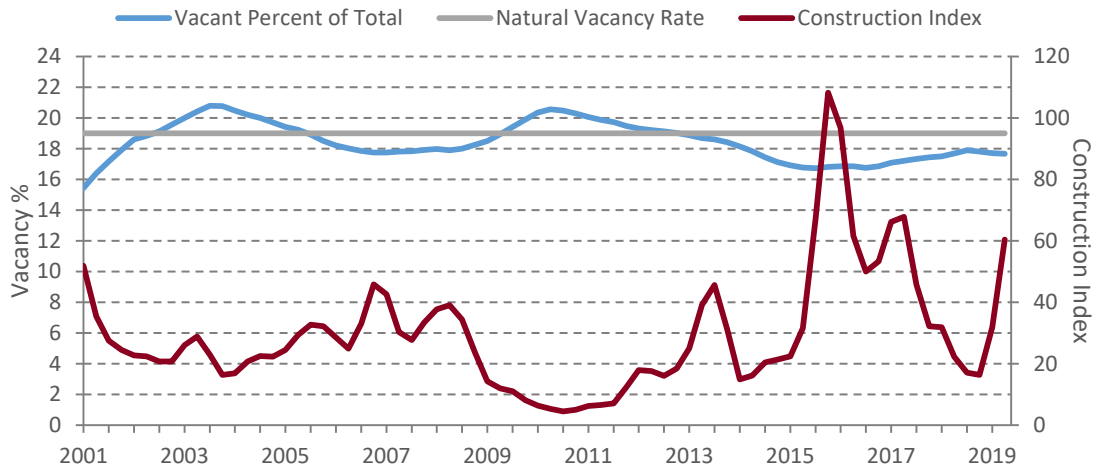
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 24. DFW Office Vacancy and Deliveries (SA and TC)\***



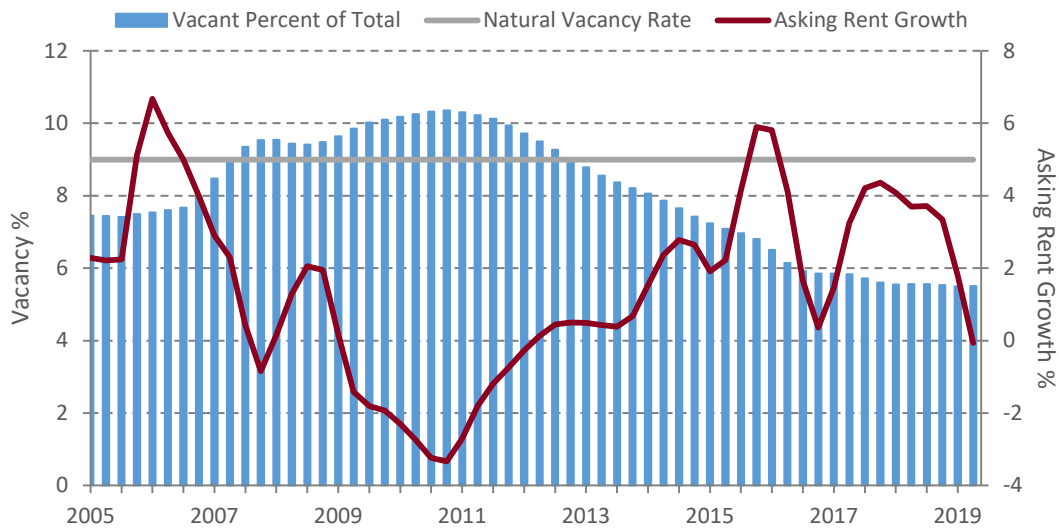
\*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.  
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 25. DFW Office 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

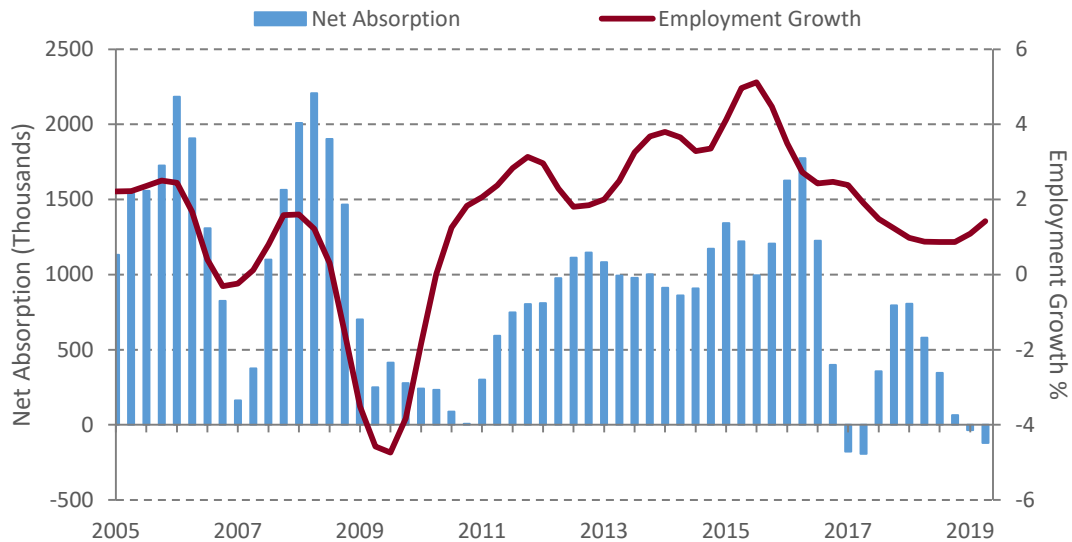
**Figure 26. DFW Retail Vacancy and Asking Rent Growth (SA and TC)\***



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

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

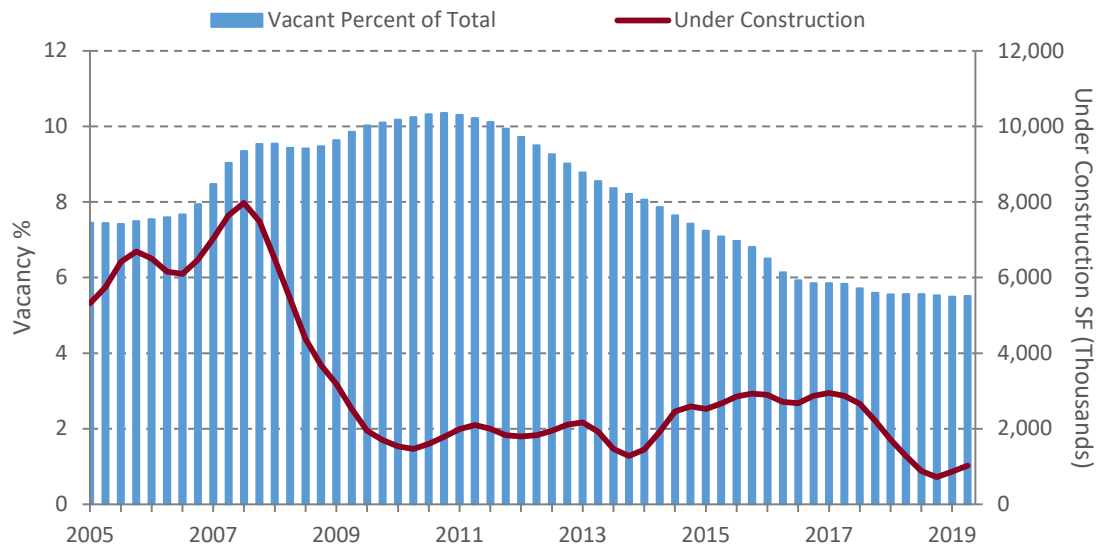
**Figure 27. DFW Retail Net Absorption and Employment Growth (SA and TC)\***



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

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

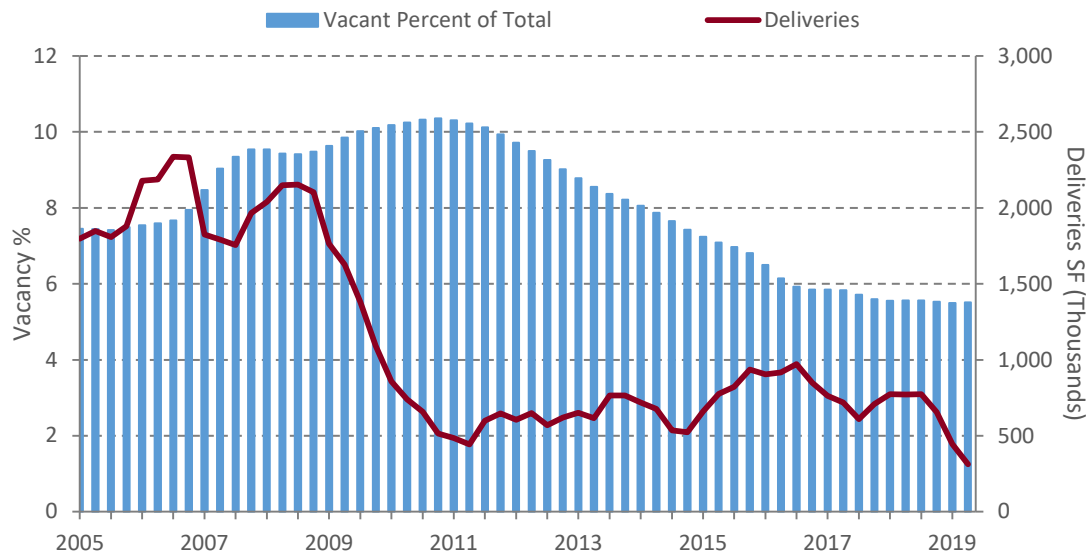
**Figure 28. DFW Retail Vacancy and Under Construction (SA and TC)\***



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

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

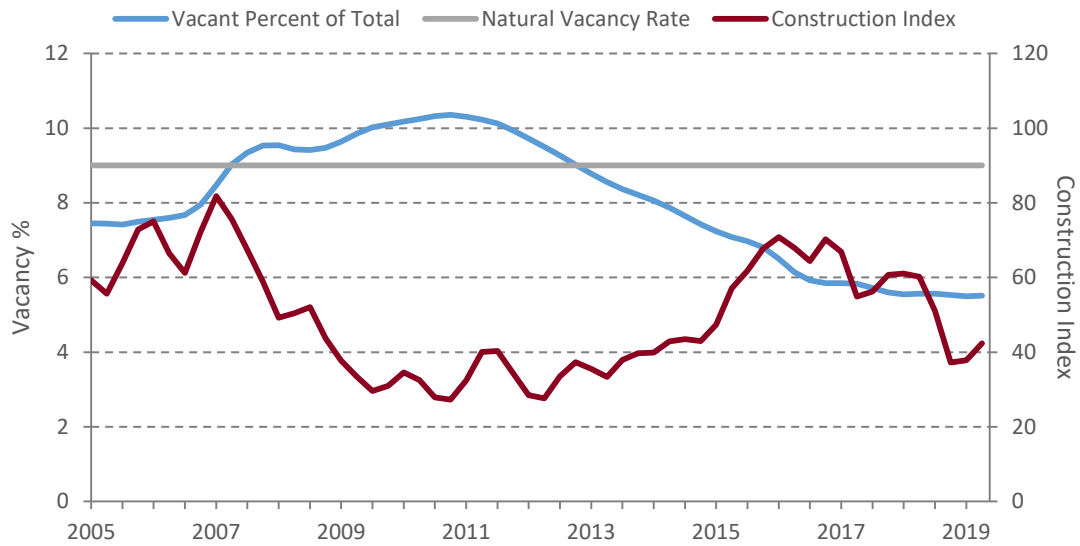
**Figure 29. DFW Retail Vacancy and Deliveries (SA and TC)\***



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

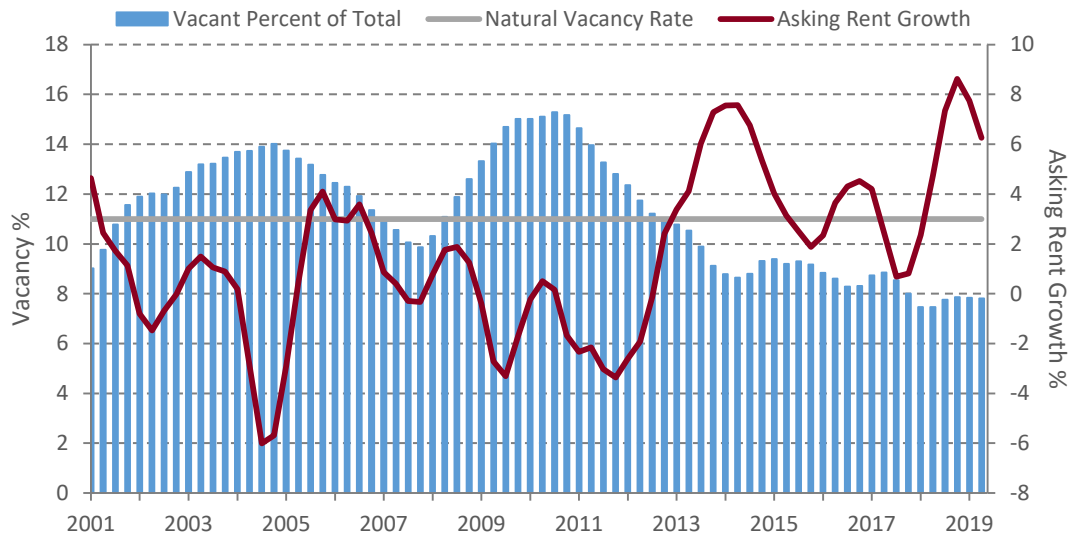
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 30. DFW Retail Vacancy and Construction Index (SA and TC)\***  
(Index 2000 Q1 = 100)



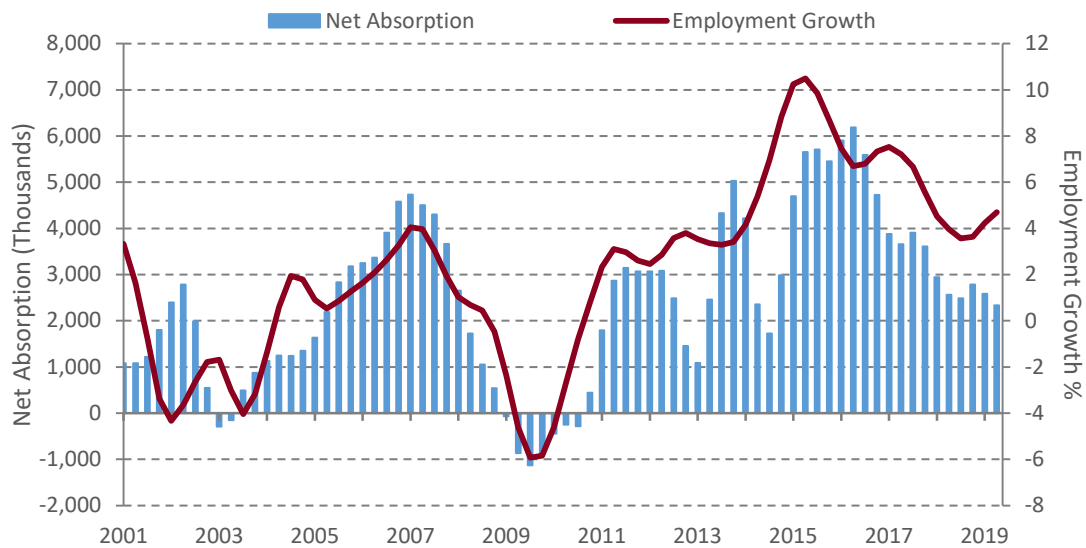
\*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 31. 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

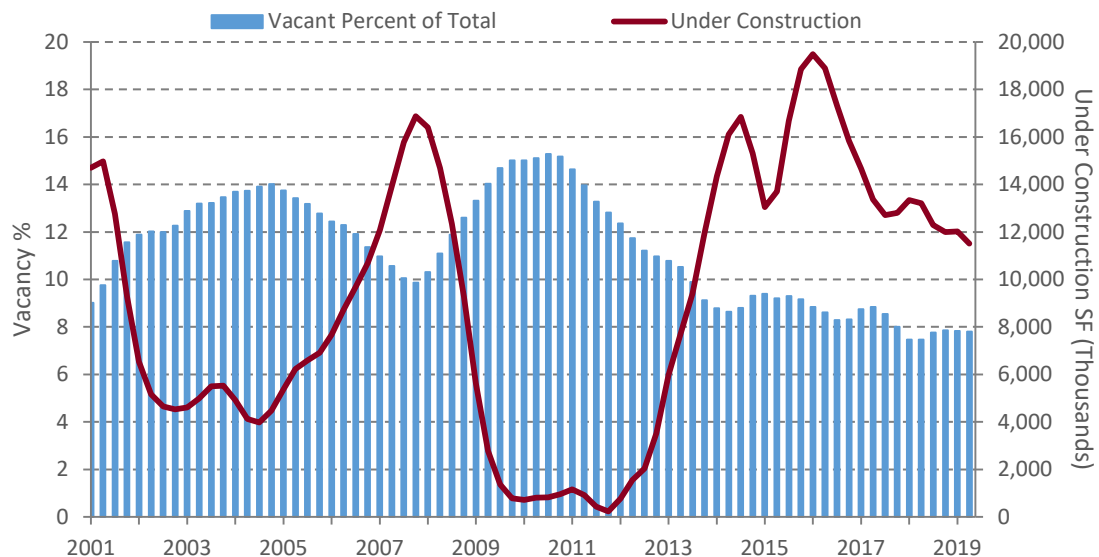
**Figure 32. DFW Warehouse Net Absorption and Employment Growth (SA and TC)\***



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

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

**Figure 33. DFW Warehouse Vacancy and Under Construction (SA and TC)\***

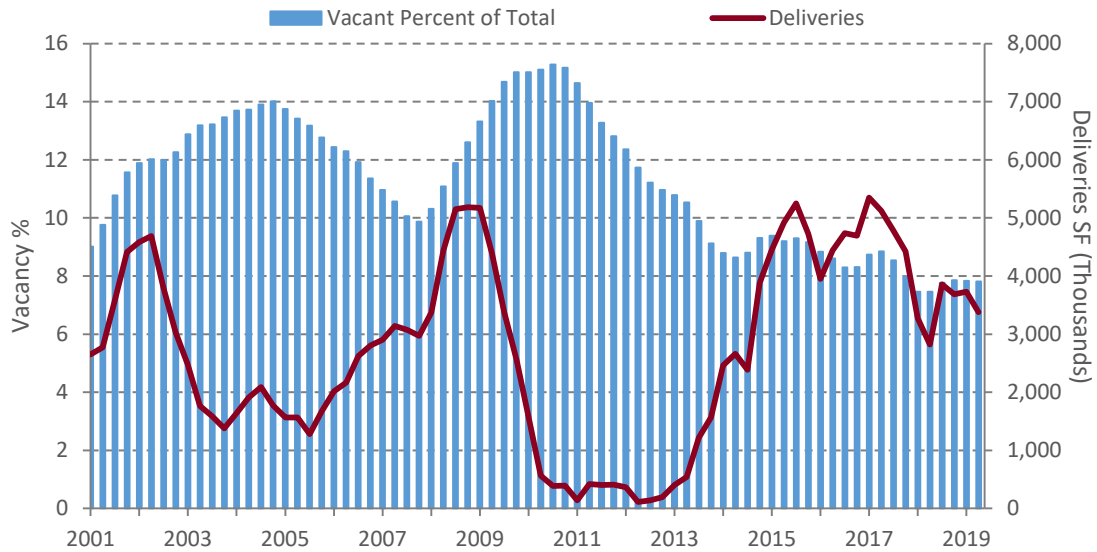


\*Note: Seasonally adjusted and trend-cycle component.

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

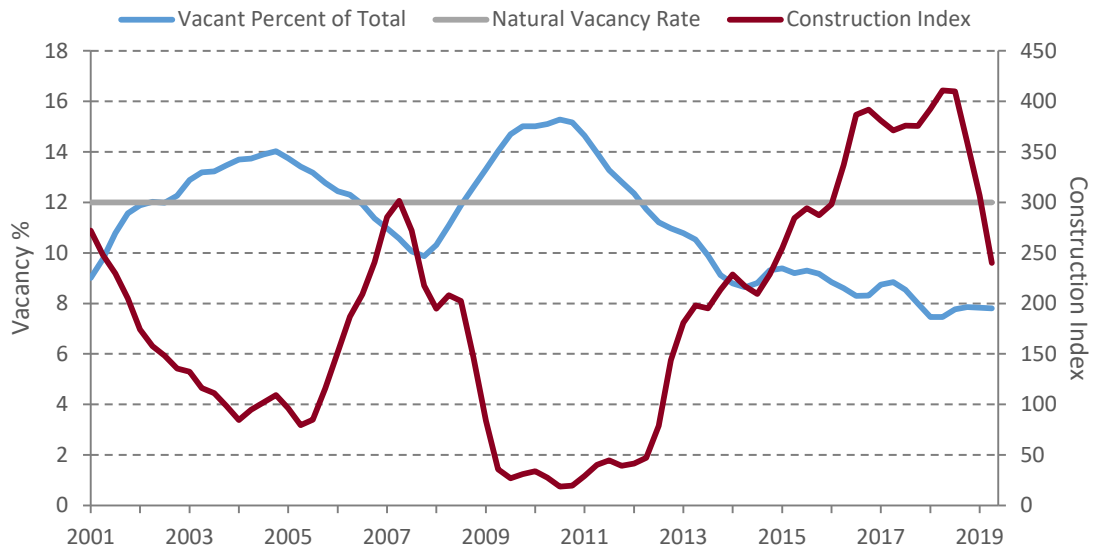


**Figure 34. DFW Warehouse Vacancy and Deliveries (SA and TC)\***



\*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

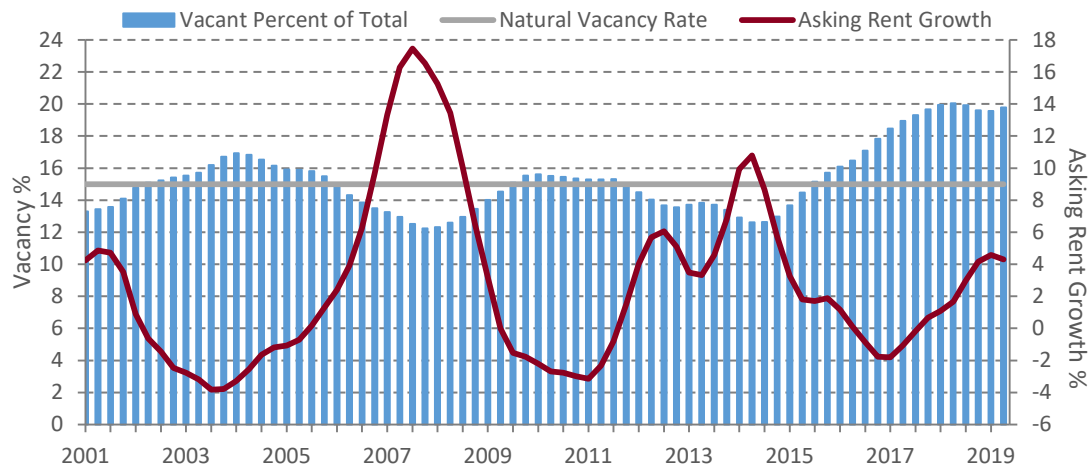
**Figure 35. DFW Warehouse Vacancy and Construction Index (SA and TC)\***  
(Index 1995 Q1 = 100)



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

## Houston

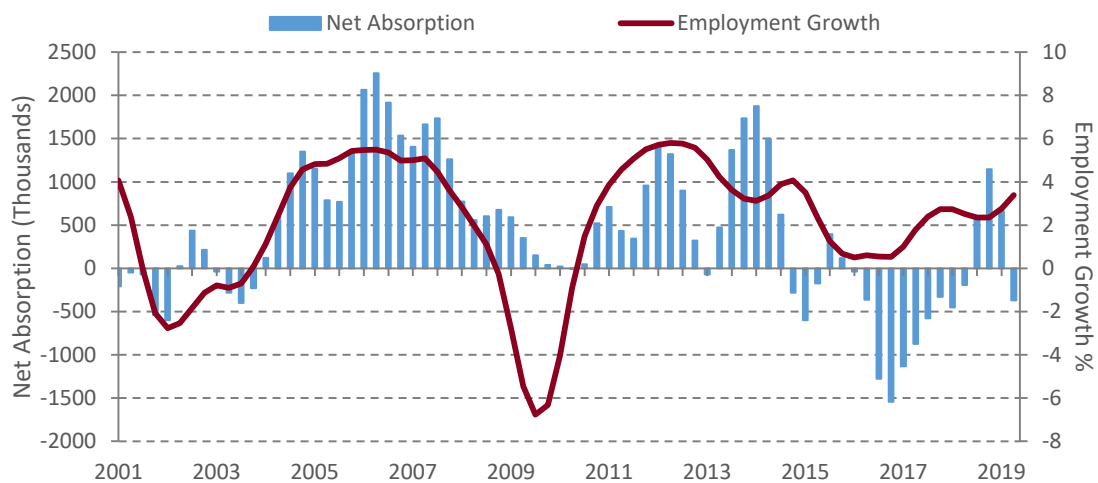
**Figure 36. Houston Office Vacancy and Asking Rent Growth (SA and TC)\***



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

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

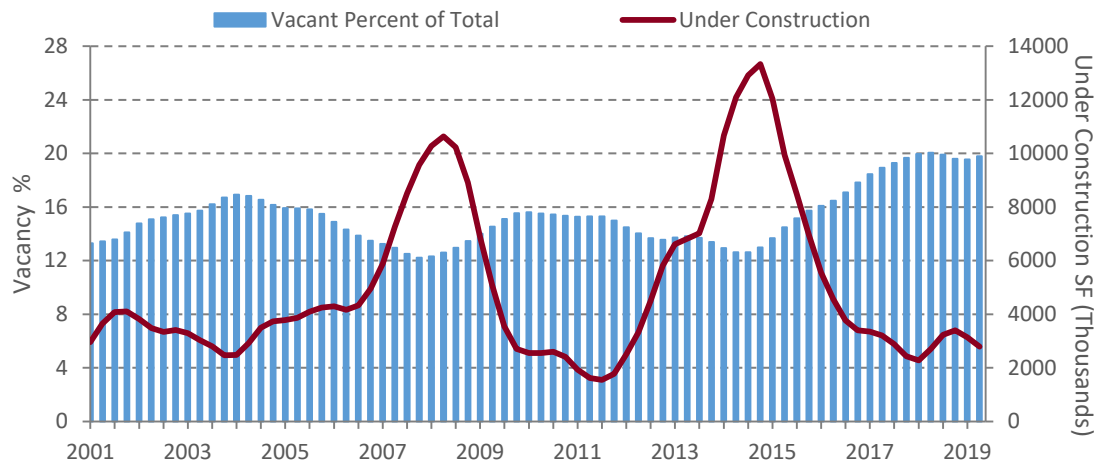
**Figure 37. Houston Office Net Absorption and Employment Growth (SA and TC)\***



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

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

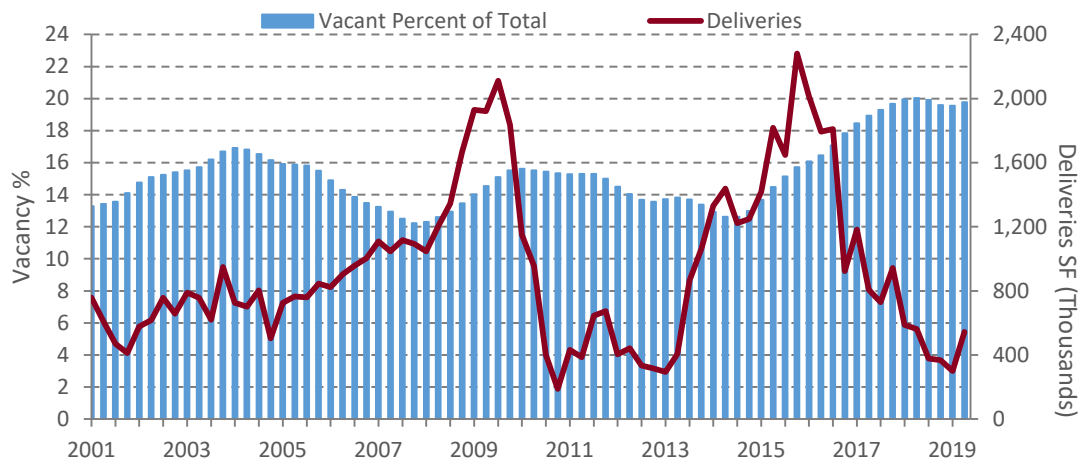
**Figure 38. Houston Office Vacancy and Under Construction (SA and TC)\***



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

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

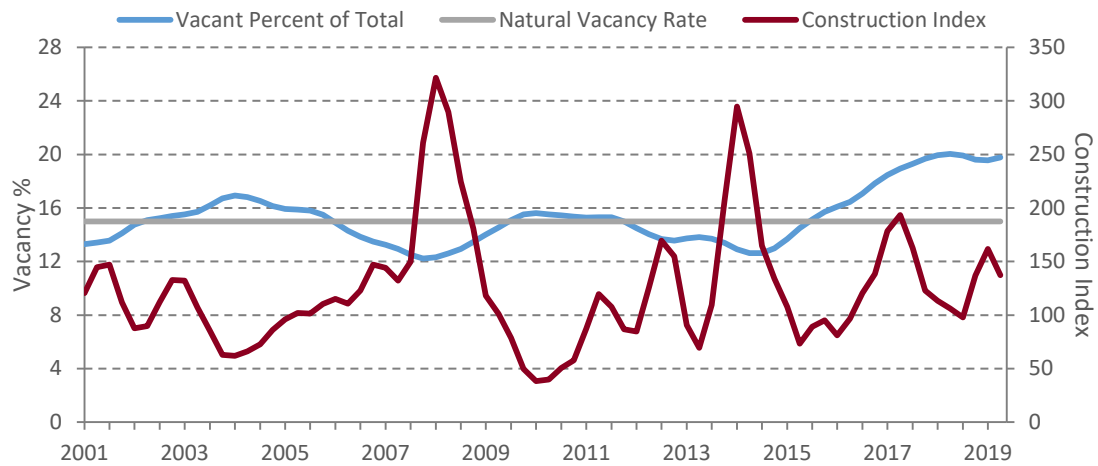
**Figure 39. Houston Office Vacancy and Deliveries (SA and TC)\***



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

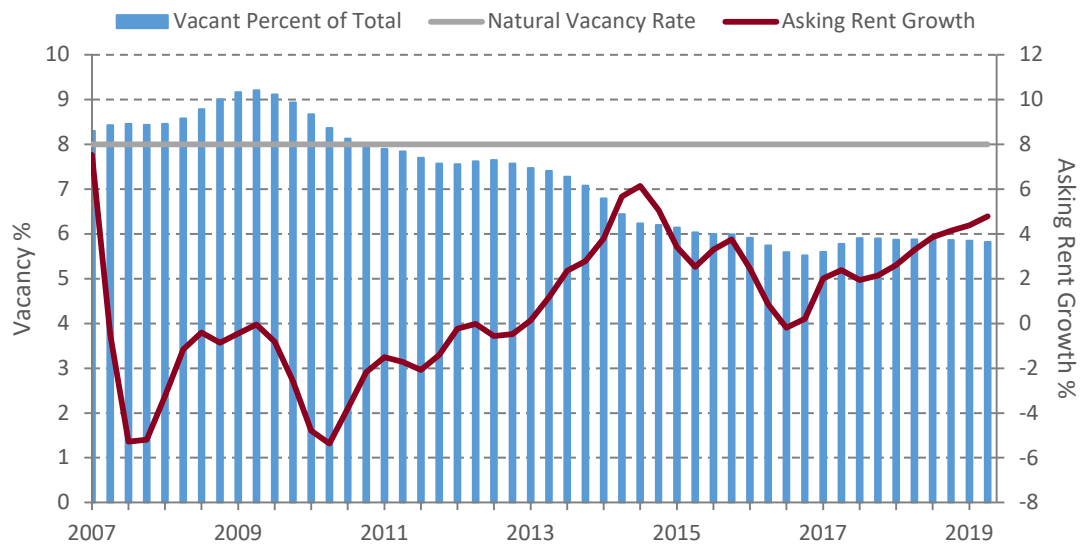
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 40. Houston Office Vacancy and Construction Index (SA and TC)\***  
(Index 1999 Q1 = 100)



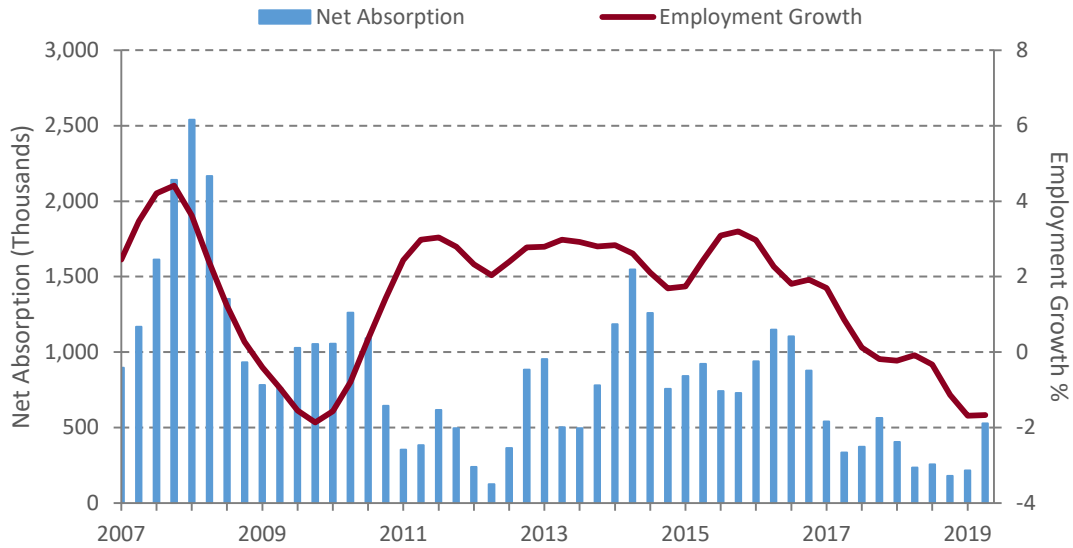
\*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 41. 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

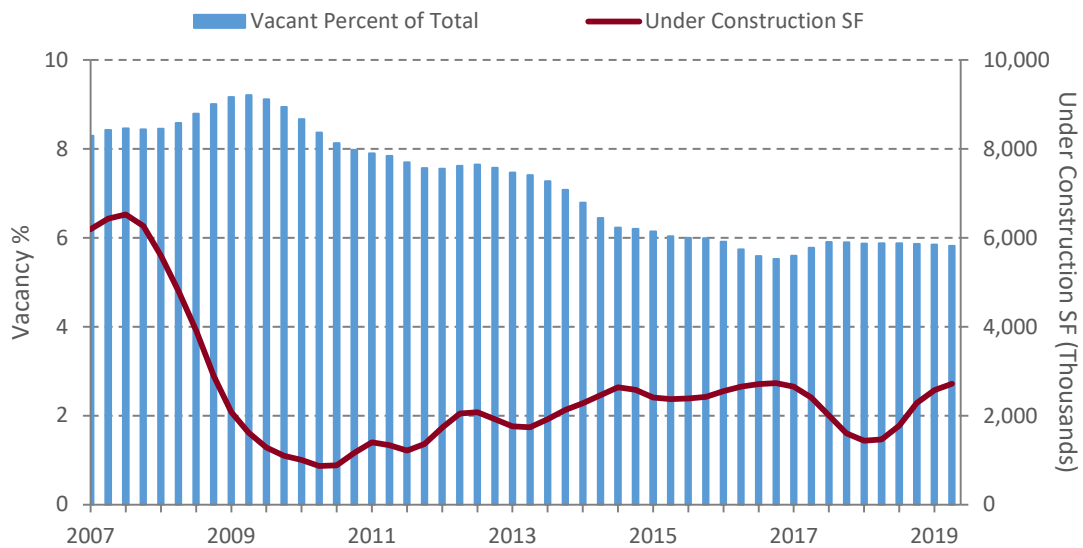
**Figure 42. Houston Retail Net Absorption and Employment Growth (SA and TC)\***



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

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

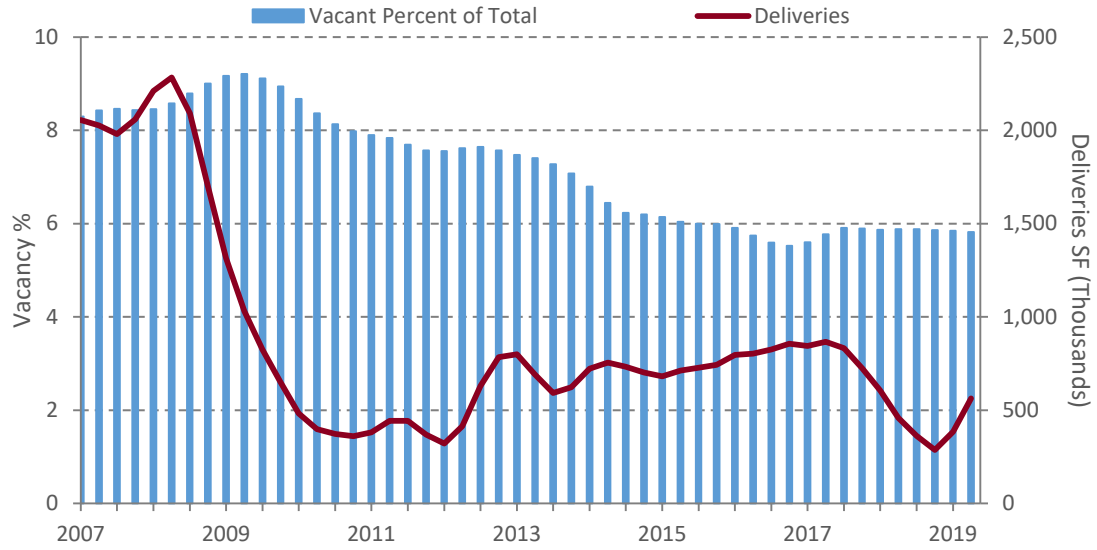
**Figure 43. Houston Retail Vacancy and Under Construction (SA and TC)\***



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

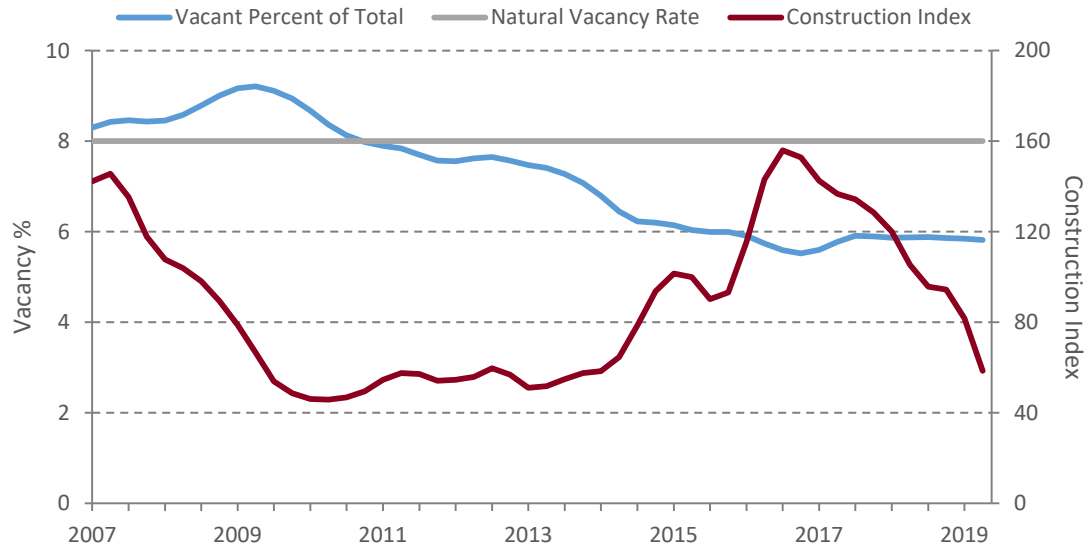
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 44. Houston Retail Vacancy and Deliveries (SA and TC)\***



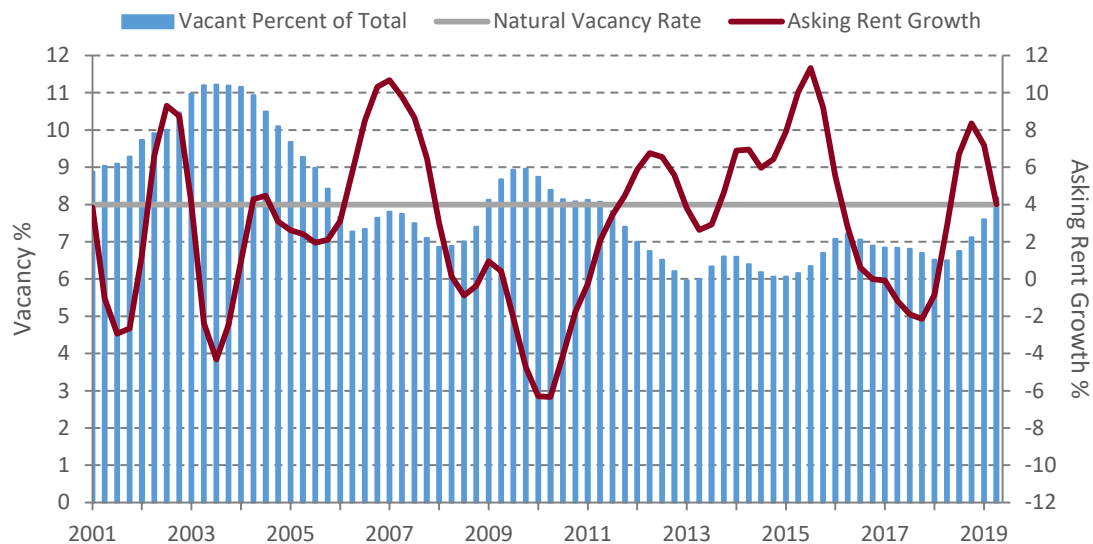
\*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.  
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 45. 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

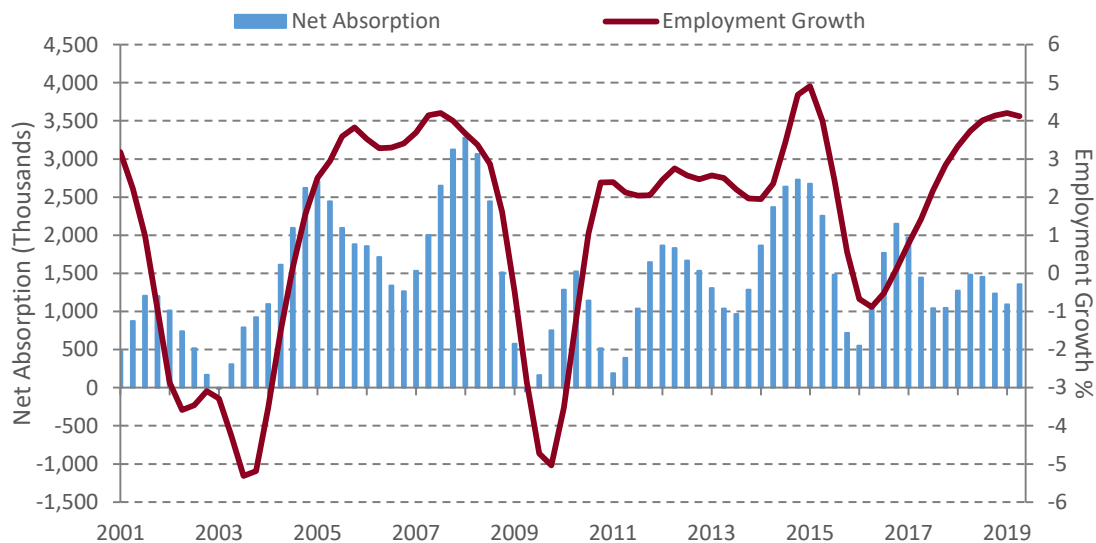
**Figure 46. Houston Warehouse Vacancy and Asking Rent Growth (SA and TC)\***



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

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

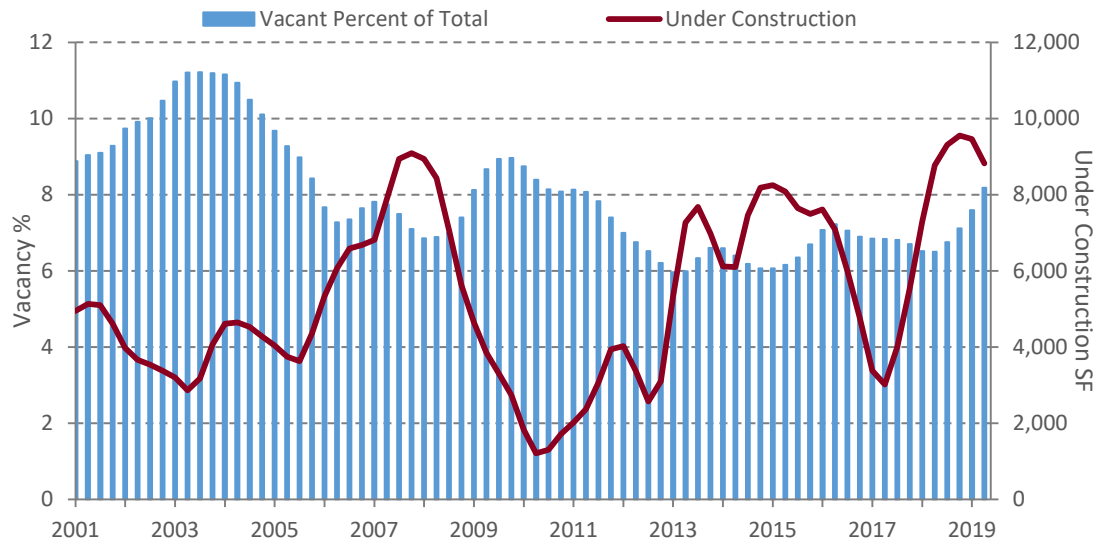
**Figure 47. Houston Warehouse Net Absorption and Employment Growth (SA and TC)\***



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

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

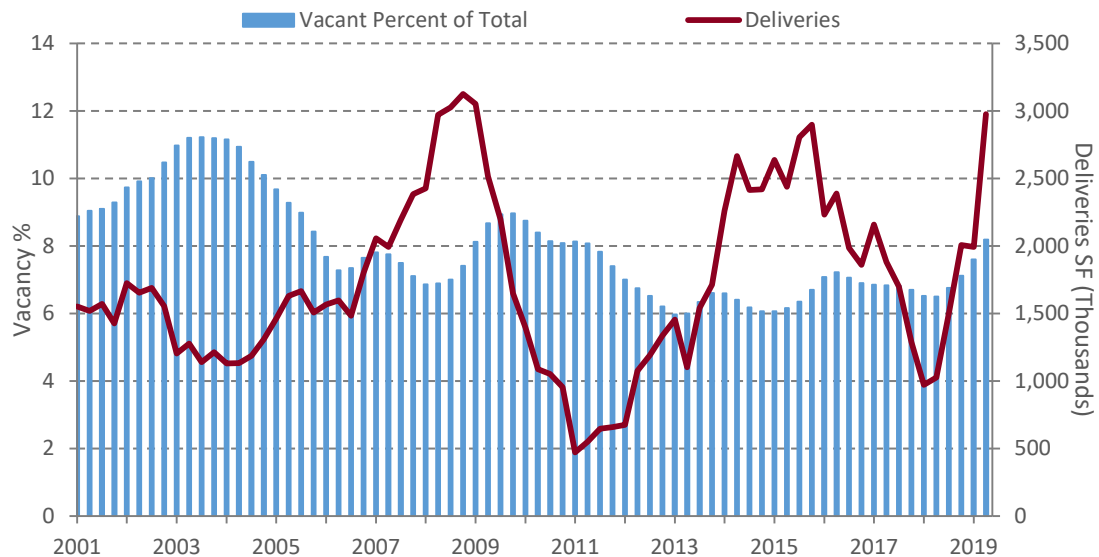
**Figure 48. Houston Warehouse Vacancy and Under Construction (SA and TC)\***



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

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

**Figure 49. Houston Warehouse Vacancy and Deliveries (SA and TC)\***

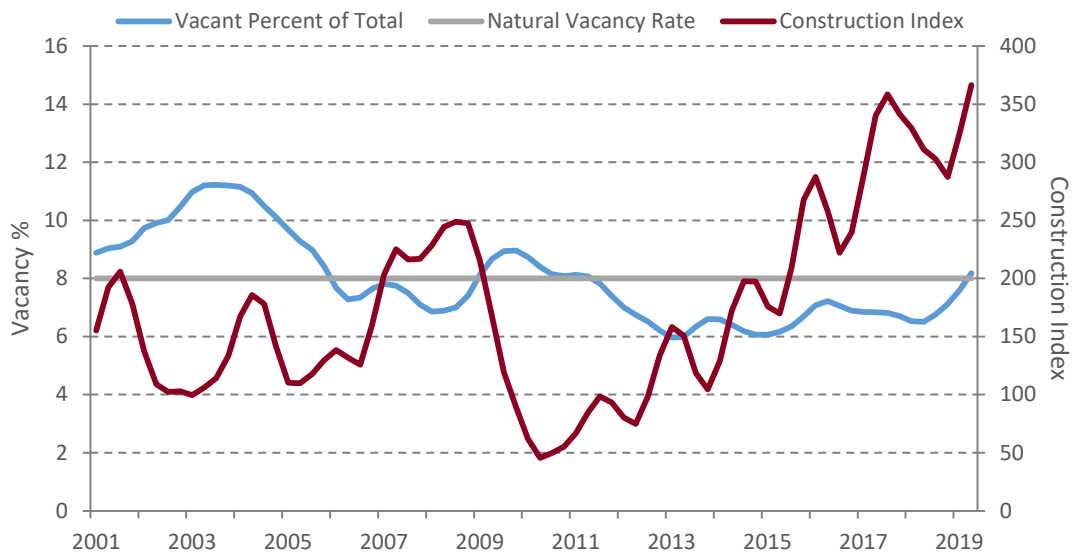


\*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.

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



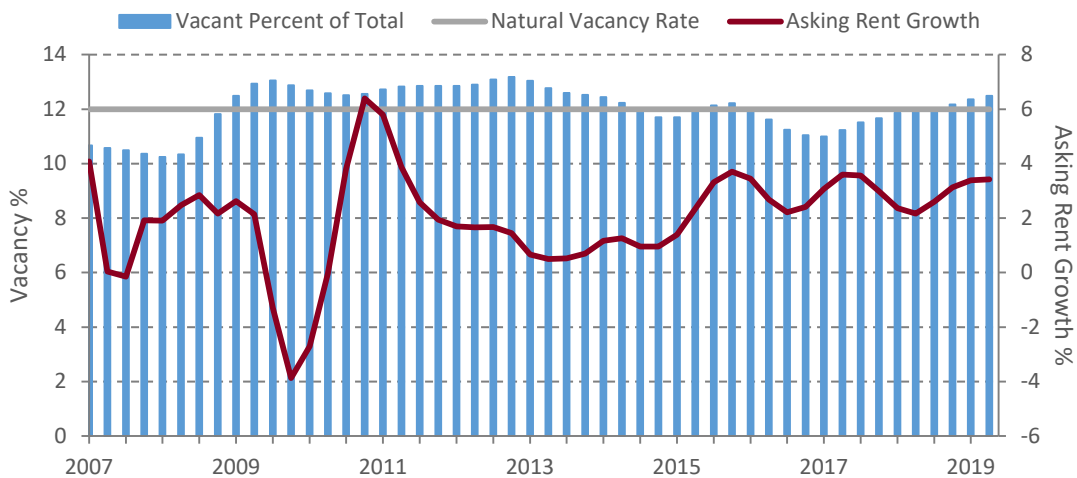
**Figure 50. Houston Warehouse Vacancy and Construction Index (SA and TC)\***  
(Index 1999 Q1 = 100)



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

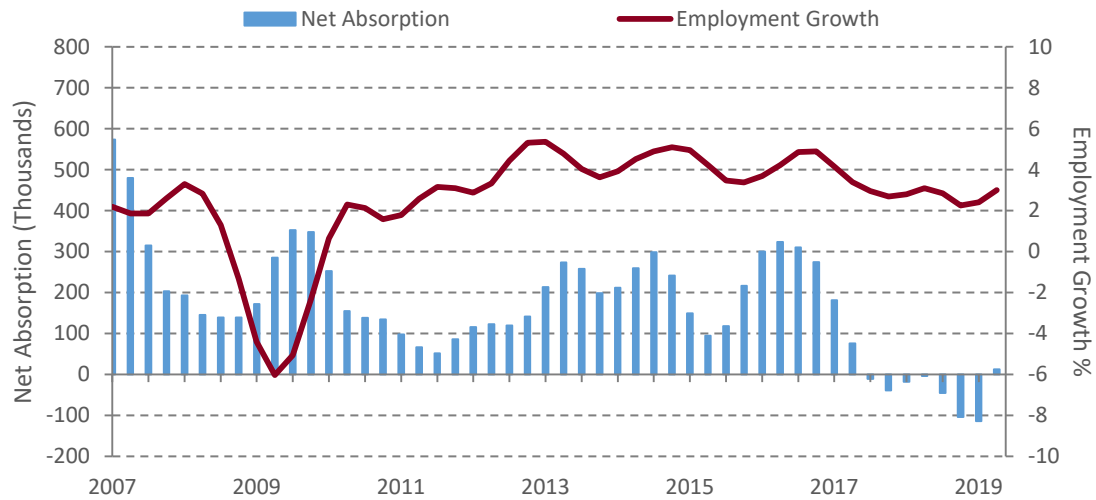
## San Antonio

**Figure 51. San Antonio Office 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

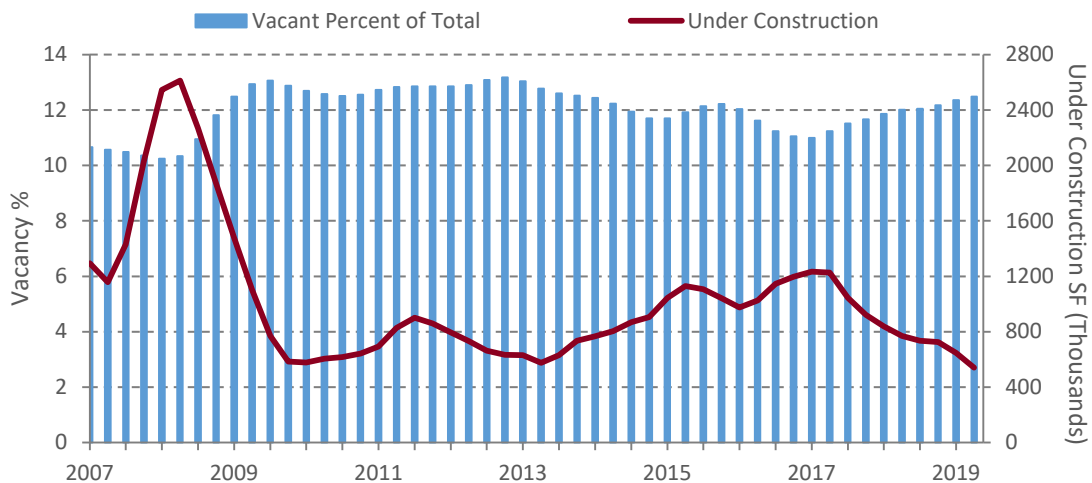
**Figure 52. San Antonio Office Net Absorption and Employment Growth (SA and TC)\***



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

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

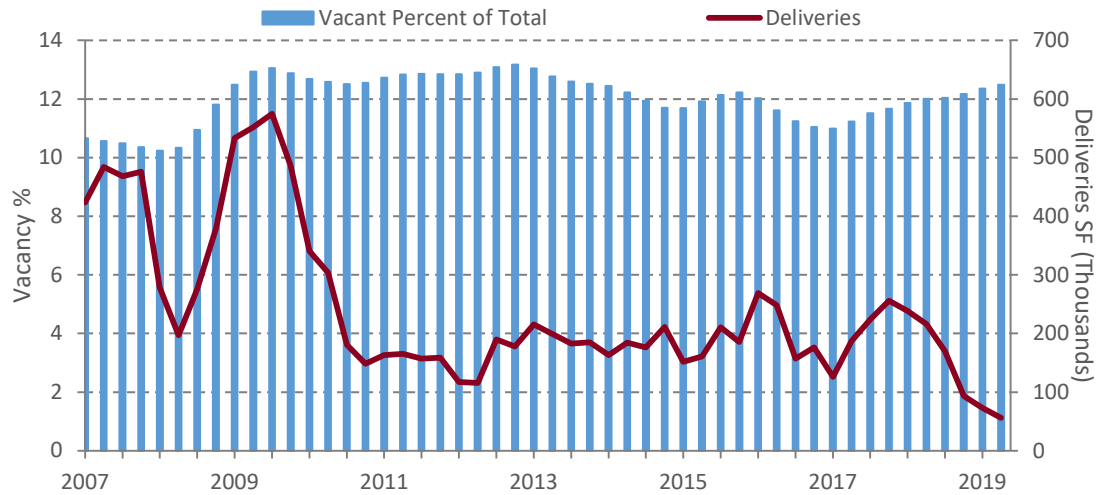
**Figure 53. San Antonio Office Vacancy and Under Construction (SA and TC)\***



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

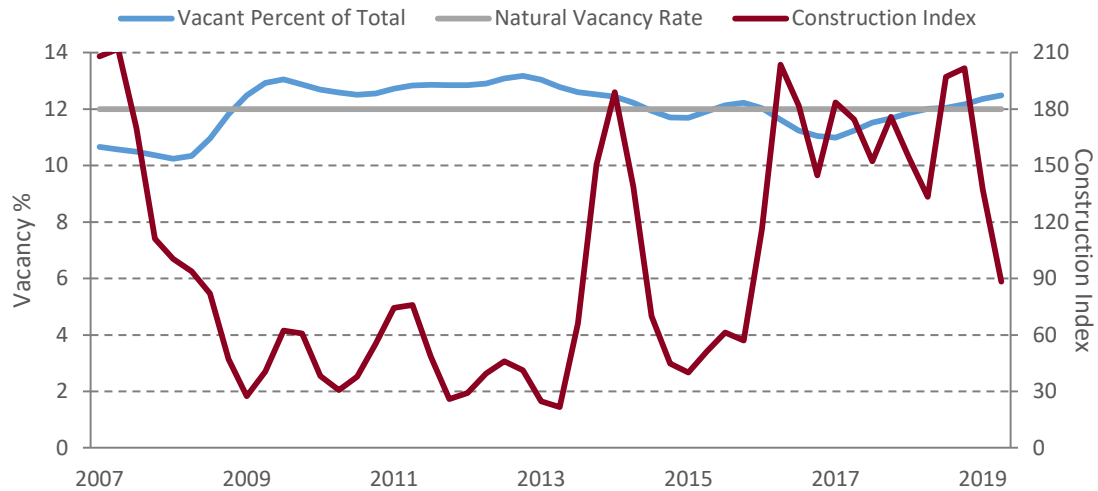
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 54. San Antonio Office Vacancy and Deliveries (SA and TC)\***



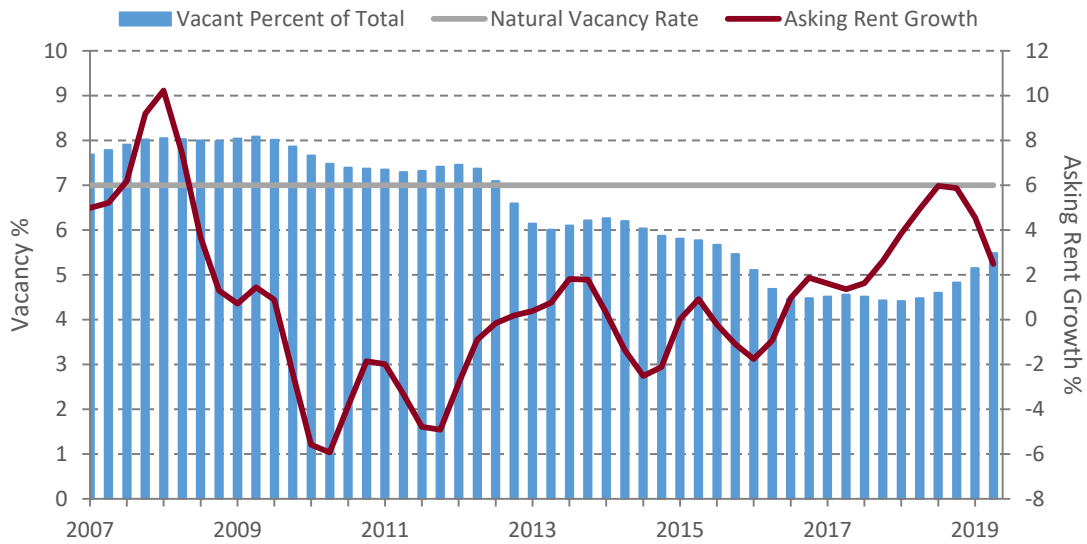
\*Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.  
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 55. San Antonio Office 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

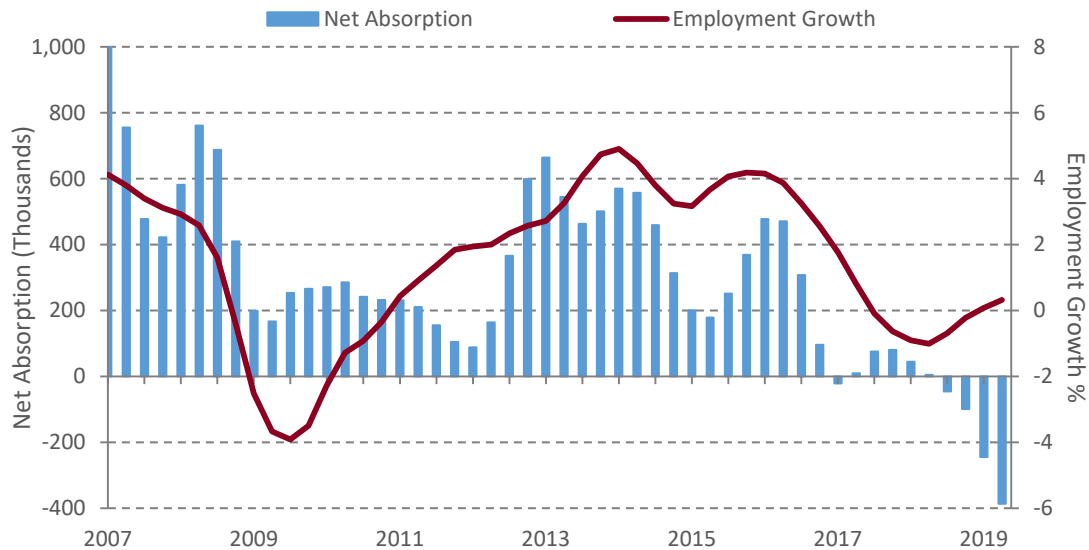
**Figure 56. San Antonio Retail Vacancy and Asking Rent Growth (SA and TC)\***



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

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

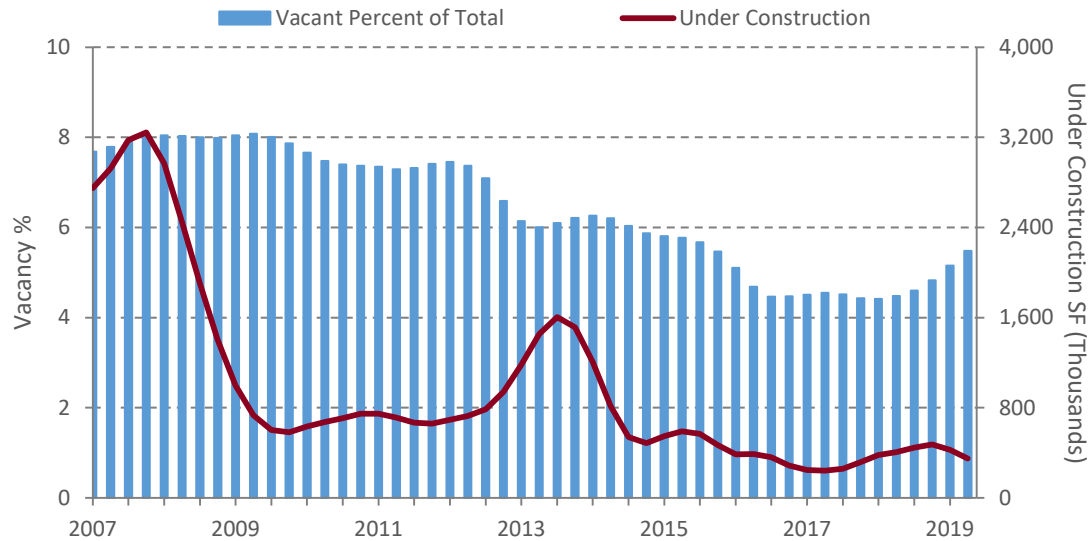
**Figure 57. San Antonio Retail Net Absorption and Employment Growth (SA and TC)\***



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

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

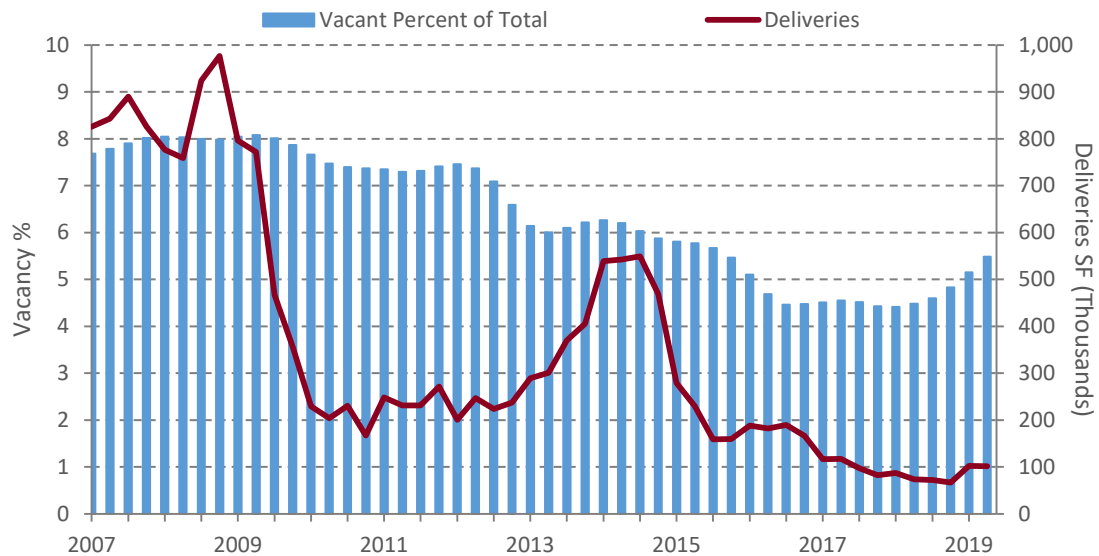
**Figure 58. San Antonio Retail Vacancy and Under Construction (SA and TC)\***



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

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

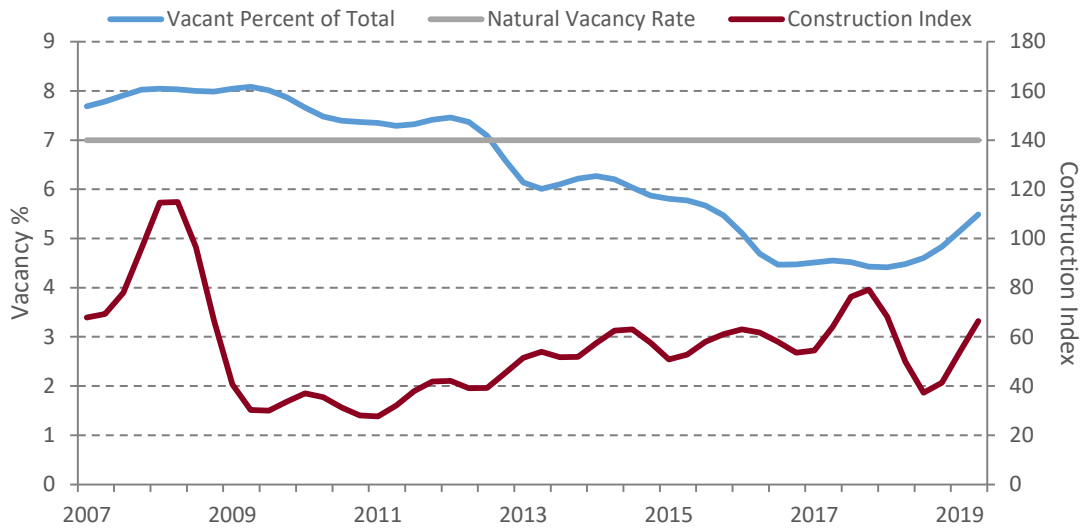
**Figure 59. San Antonio Retail Vacancy and Deliveries (SA and TC)\***



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

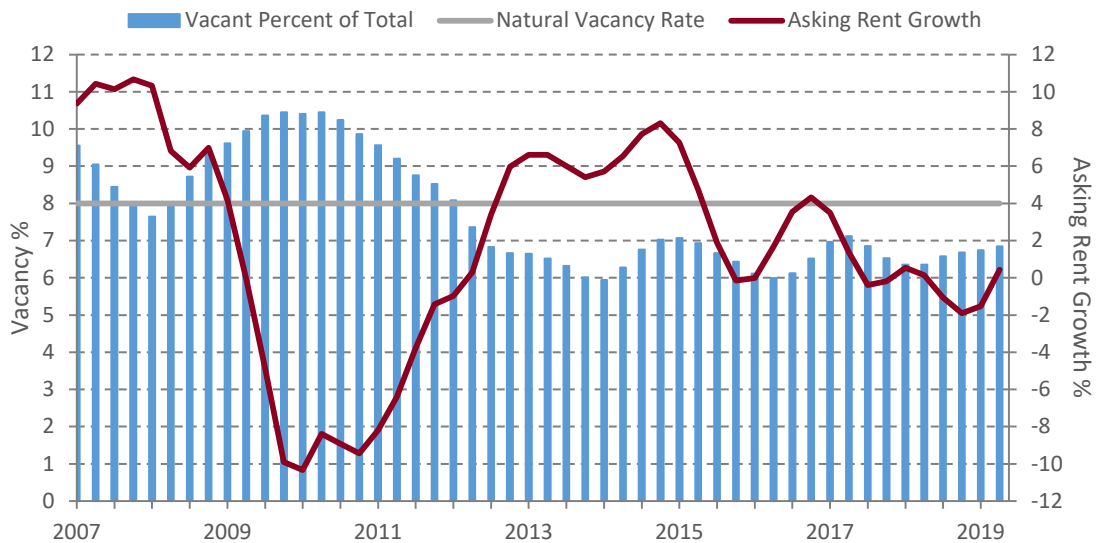
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 60. San Antonio Retail Vacancy and Construction Index (SA and TC)\***  
(Index 2005 Q3 = 100)



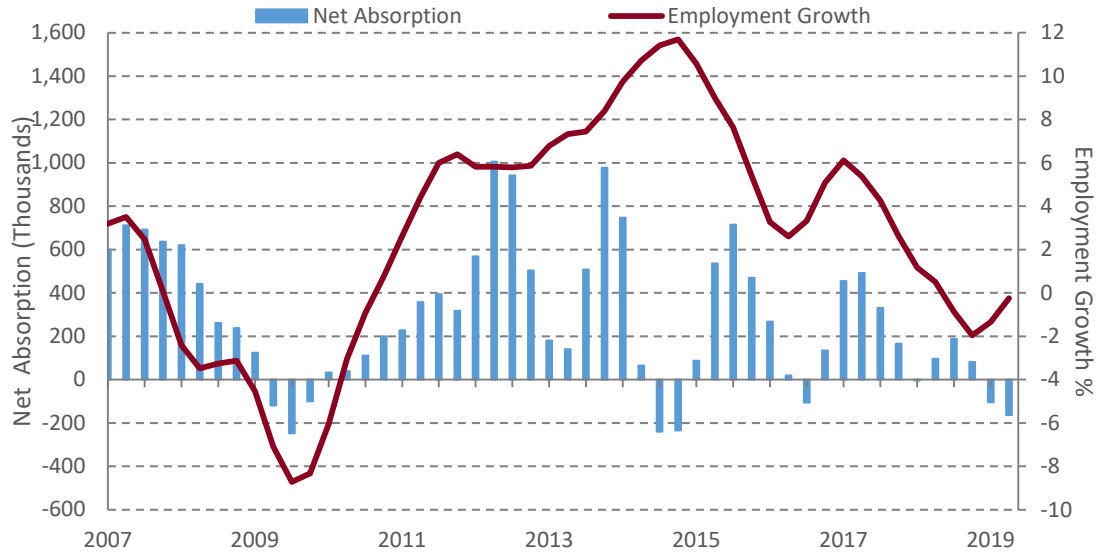
\*Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 61. 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

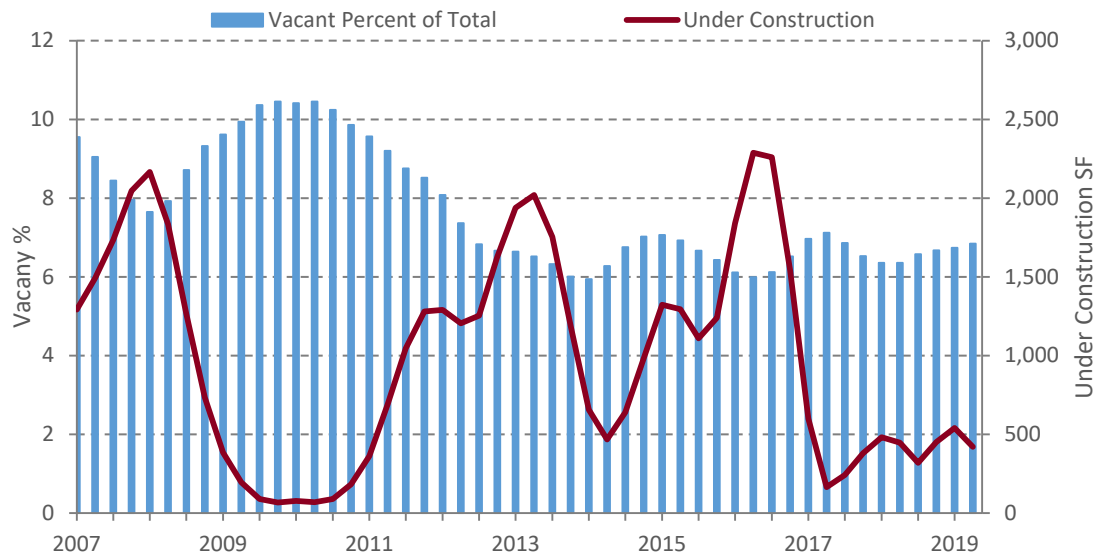
**Figure 62. San Antonio Warehouse Net Absorption and Employment Growth (SA and TC)\***



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

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

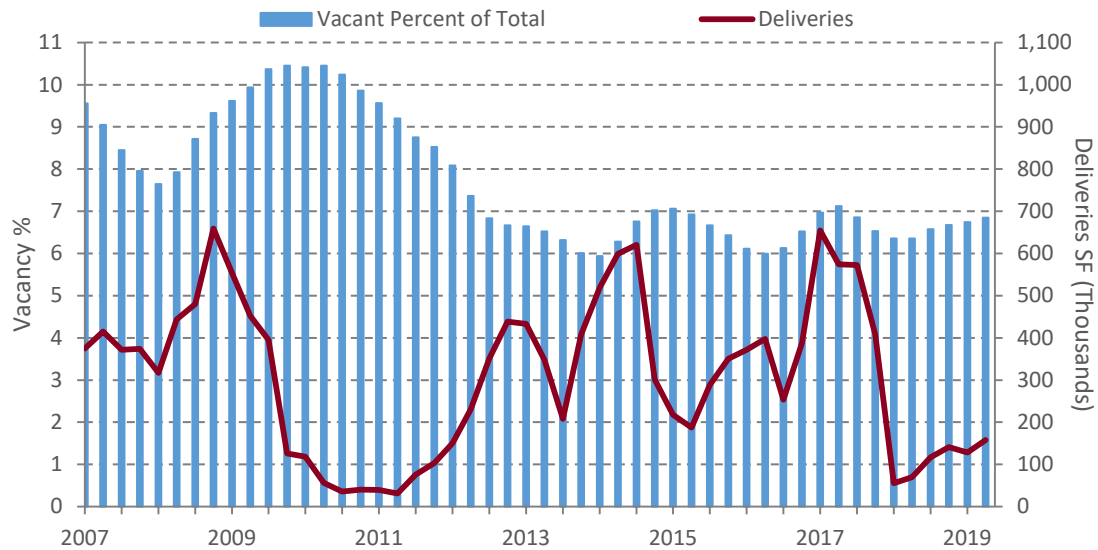
**Figure 63. San Antonio Warehouse Vacancy and Under Construction (SA and TC)\***



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

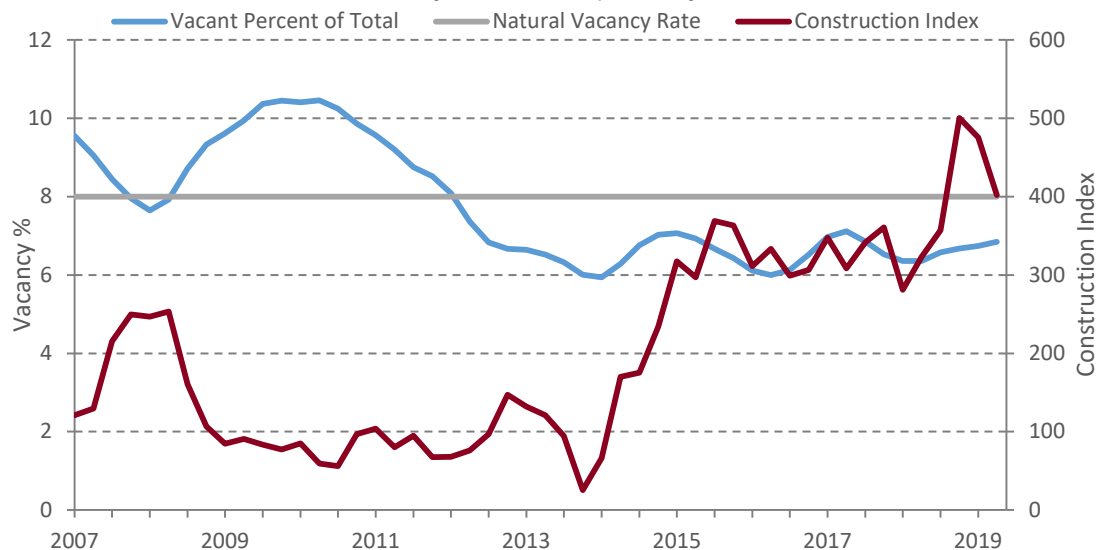
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 64. 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 65. San Antonio Warehouse 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





TEXAS A&M UNIVERSITY

## Real Estate Center

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