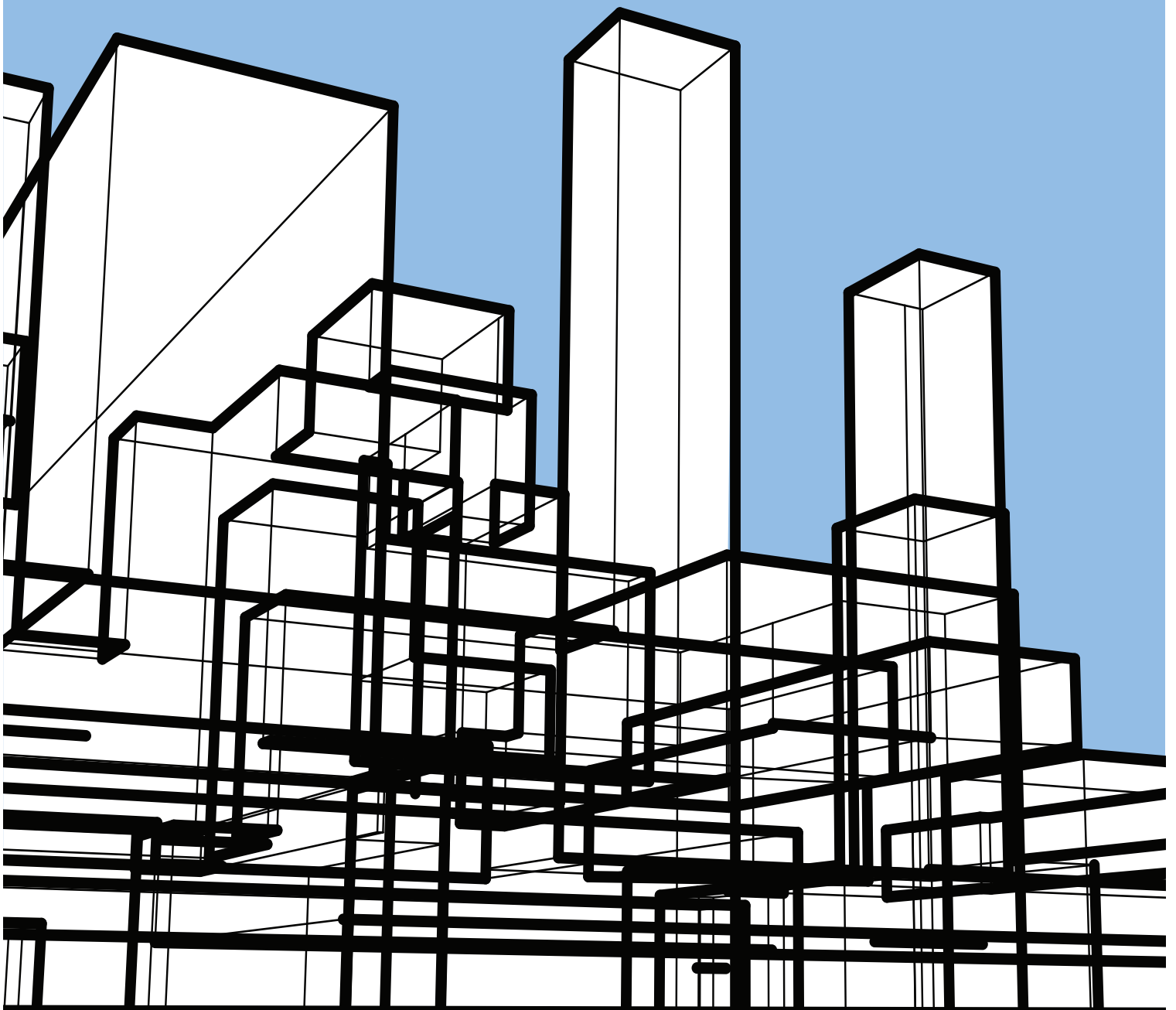


# Texas Quarterly Commercial Report



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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. Rents reflect nominal year-over-year estimates, unless stated otherwise. 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 in the data.

This report analyzes **asking rents**, which exclude tenant improvements and concessions, as opposed to **effective rents**. The report uses industry-specific employment growth to reflect the employment most relevant to each industry. For example, the employment data for the office sector represent finance, insurance, and real estate as well as professional and business services (FIRE & PBS) employment to include the bulk of employees working in the office sector.

This report 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 Carter Neill



# 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 its “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 **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

The Texas economy accelerated in 2018 in the midst of one of the longest expansionary cycles in recent history. Activity and production strengthened in a multitude of industries. Record highs were reached in crude oil production, single-family housing starts, commodity exports, and multiple employment categories. The labor force participation increased, and the unemployment rate sank to a 40-year low. The Texas economic expansion is poised to continue throughout 2019, but potential headwinds are building. Downward pressure on oil prices, augmented by a slowing global economy, the trade war with China, and higher interest rates, present the greatest economic challenges on the horizon. For additional commentary and statistics, see [Outlook for the Texas Economy](http://www.recenter.tamu.edu) at [www.recenter.tamu.edu](http://www.recenter.tamu.edu).

The overall strong performance in the Texas economy translates into a positive outlook for the commercial real estate sector. The Texas Nonresidential Coincident Index, which measures current construction activity, indicates, growth may slow as nonresidential construction values declined and interest rates increased in 2018. However, the Texas Leading Indicator, which measures future construction activity, indicates growth may slow as nonresidential construction values declined and interest rates increased in 2018. See Figures 1-5 for the Nonresidential Coincident Index and Leading Indicator for Texas and the four major metros.

The pace of commercial mortgage borrowing and lending moderated in 2018. Compared with the first half of 2017, office borrowing remained unchanged. Overall, the dollar volume of mortgage originations in the office sector has stabilized since 2015. While industrial borrowing showed little movement from the first half of 2017, dollar volume of mortgage originations increased sharply from 2016 to 2017. Over the long term, retail borrowing has declined in dollar value of mortgage originations; new loans on retail properties measured 70 percent lower than 2007. Although market fundamentals remain strong—low long-term interest rates and increasing property values have incentivized commercial activity—mortgage borrowing and lending activity suggest that the performance of each sector varies.

The state's solid economy relies on the performance of the four major MSAs. Austin's economic activity held steady during 2018 as job growth continued its upward trend and wage gains followed. Employment continued to climb in Dallas-Fort Worth (DFW) with the goods sector leading job growth. In Houston, the overall outlook remains positive, supported by recent strong and broad-based job growth, although at a slower pace than during the oil boom. In contrast, San Antonio's job growth was softer through 2018, registering lower employment growth than the other MSAs.

The outlook for 2019 appears to be positive for the major Texas MSAs due to the strength of the U.S. and Texas economies. Although oil prices dipped in late 2018, fundamental factors appear to provide a positive tailwind moving forward. Interest rates should continue to rise as

inflation increases. On the negative side, volatility in the oil market, a slowing global economy, and a declining trade environment remain the greatest headwinds to the Texas economy, challenging some of the state's most productive industries. Although Mexico, Canada, and the U.S. announced an unofficial trade agreement, the net impact of the proposal is still uncertain. The U.S. economy may slow in 2019 as the effects of the 2018 fiscal stimulus dilute.

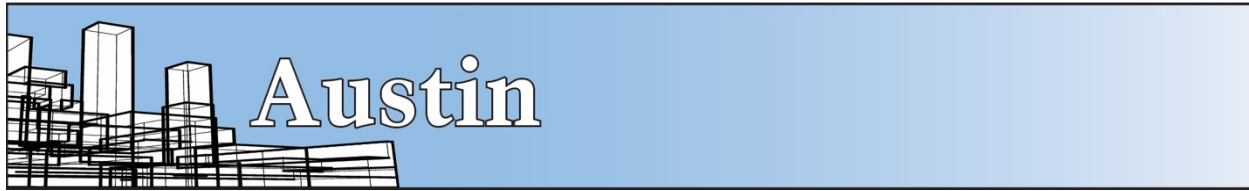


Table 1. Projected Overall Vacancy Rates and Percent Change in Nominal Asking Rents

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2017	2018	2019	2017	2018	2019
Office	13.0	9.2	9.3	9.4	3.5	2.6	2.0
Retail	6.0	4.0	4.0	4.3	6.5	4.3	1.0
Warehouse	11.0	5.9	5.5	4.8	6.6	0.1	1.5

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

### Austin Office (Figures 6 - 10)

Actual vacancy has hovered around 9 percent since mid-2015, well below the natural vacancy of 13 percent. Actual vacancy is expected to stay constant in the near-term, averaging 9.4 percent for 2019. Because actual vacancy measures considerably lower than natural vacancy, rents should increase. Rent growth is expected to slow to 2.0 percent in 2019.

Employment growth in FIRE & PBS, has slowed through 2018, ending the year at 3 percent. Despite the recent downward trend in employment, asking rent growth grew by approximately 2 percentage points from 2Q2018 through 4Q2018. This recent uptick in rent growth follows the employment growth, which peaked in 1Q2018.

The square footage under construction has dampened significantly since 2015, ending 2018 approximately at 100,000 sf. However, despite the decline in deliveries, the supply of Austin office space outpaced demand in 2018. Net absorption has declined quarterly since the beginning of 2017, with 4Q2018 seeing 167,000 sf of negative absorption.

Construction values indicate that there will be a decrease in construction activity due to the significant decrease in values seen in 4Q2018. However, the available data on square footage under construction do not yet reflect the large uptick depicted in the construction values in 2016.



### **Austin Retail (Figures 11 - 15)**

Actual vacancy continued to hover around 4 percent in 4Q2018, still much lower than the natural vacancy of 6 percent. Even with sustained low actual vacancy, rents have seen a three-quarter decline since 1Q2018; rent growth declined to -1 percent in 4Q2018. As new construction remains suppressed, little movement is expected in the vacancy rate, which is forecasted to average 4.3 percent over 2019. Rent growth is expected to slow through 2019, averaging 1.0 percent for the year.

The recent uptick in the retail employment growth rate through 2018 has not translated into positive net absorption. The supply of Austin retail space has exceed demand over the past two quarters, with 4Q2018 seeing a low of approximately -140,000 sf absorbed. Low levels of new construction, negative absorption, and rent growth suggest retailers may be consolidating operations, downsizing, or struggling to locate desirable available space for lease.

New construction toppled in the aftermath of the Great Recession (GR) and has remained suppressed. In 4Q2018, space under construction totaled approximately 153,000 sf, which is the lowest amount in over ten years. While low actual vacancy suggests developers may consider building new space, diminished levels of new construction may indicate that market trends, such as the growth of e-commerce, are not conducive to new development.

Although the long-term trend since the GR points to a gradual uptick, construction values have continued their seven-quarter decline, which coincides with the downward trend in new construction.

### **Austin Warehouse (Figures 16 - 20)**

Since the end of the recovery from the GR, actual vacancy has measured below the natural vacancy of 11.0 percent, totaling 6 percent in 4Q2018. The ongoing downward trend in actual vacancy suggests rent growth should have continued through 2018. However, rent growth has continued its downward trend throughout 2018, ending 4Q2018 at -2.3 percent. Actual vacancy is expected to average 4.8 percent over 2019, which at a level well below the natural vacancy, should spur new development.

Rent growth is expected to average 1.5 percent over 2019, bolstered by strong warehouse and transportation employment growth. Closely trailing rent growth, employment growth surged from mid-2015 to the end of 2016 but has since trended downward, slipping negative over the last two quarters of 2018. Despite the recent slowing in employment growth, net absorption measured positive over 2018, equaling approximately 225,000 sf in 4Q2018. This is likely a factor of the 2018 decrease in new construction, which had a significant decrease in 4Q2018.

The sharp downtick in construction values since the end of 2017 suggests new construction should continue to slow in the near term.



Table 2. Projected Overall Vacancy Rates and Percent Change in Nominal Asking Rents

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2017	2018	2019	2017	2018	2019
Office	18.0	17.4	17.8	18.5	3.8	2.6	0.9
Retail	8.0	5.5	5.4	5.2	3.9	3.2	1.5
Warehouse	11.0	7.6	7.6	7.7	2.3	6.1	4.3

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 Office (Figures 21 - 25)

As actual vacancy continued to mirror the natural vacancy of 18 percent, rent growth saw a slight uptick in 4Q2018. Actual vacancy is expected to average 18.5 percent over 2019. While rental rates are expected to average 0.9 percent in 2019, rent growth may struggle to meet expectations as the gap between actual and natural vacancy narrows.

FIRE & PBS employment growth hovered around 3 percent, which it has done throughout 2018. With the continued moderate growth in FIRE & PBS employment and less square footage under construction, net absorption unsurprisingly continued to measure positive in 4Q2018. The net absorption at the end of 2018 was DFW's best in two years.

Construction values have shown increased volatility since 2015. However, the decline in values over the past three years precipitated the decline in the square footage under construction.

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

Actual vacancy, which is expected to average 5.2 percent over 2019, measures well below the natural vacancy rate of 8.0 percent. Rent growth is expected to start to slow in 2019, averaging 1.5 percent.

Rent growth saw an uptick through 2017 but declined through 2018 to end at 1.8 percent. As deliveries tapered, rent growth reversed its downward trend in 2017. However, the decline in retail employment growth, which reflects lower demand for space, has caused the recent

dampening in rent growth. Net absorption has continued to be positive, which indicates that the demand for Dallas retail space continues to strengthen.

New construction, which has not kept pace with demand, has contributed to the continued tightness in actual vacancy. While the large gap between actual and natural vacancy should dictate an increase in construction, the conditions for development—which among others include, land availability, consumer trends, and investor sentiment—may not be ripe.

As anticipated, the decline in new construction follows the continuing decline in construction values.

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

Although actual vacancy has measured below natural vacancy since 2012, rent growth largely trended downward through 2017. New construction increased significantly from 2012 through 2015, which may have caused the suppressed rent growth by providing an onslaught of new deliveries. However, rent growth has since drastically increased through 2018 to hit 7.7 percent in 4Q2018. Average rent growth is expected to be 4.3 percent over 2019. Actual vacancy should remain well below natural vacancy in the near term, with expectations for an average vacancy rate of 7.7 percent over 2019.

Warehousing and transportation employment growth posted a substantial hike in the aftermath of the GR, reaching 10.2 percent in mid-2015. Employment growth has since trended downward, but net absorption has remained positive. This indicates demand for Dallas warehouse space remains firm.

New construction has reached levels unobserved since before the GR in 2016. The significant uptick and recent decline in new construction coincides with the rise and recent fall in construction values.



Table 3. Projected Overall Vacancy Rates and Percent Change in Nominal Asking Rents

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2017	2018	2019	2017	2018	2019
Office	14.0	19.4	20.3	20.1	-0.8	2.4	2.4
Retail	7.0	5.7	5.6	5.6	2.5	4.0	3.0
Warehouse	8.0	6.9	6.8	6.7	-0.7	5.2	2.8

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

### Houston Office (Figures 36 - 40)

The oil downturn, which began in mid-2014, has proven troublesome to Houston's office market. Since mid-2015, actual vacancy (20 percent in 4Q2018) has exceeded natural vacancy (15.0 percent). Vacancy, which is expected to average 20.1 percent in 2019, should remain relatively flat from 2018.

Rent growth declined steadily in the wake of the oil downturn, dipping to -1.8 percent at the end of 2016. Rent growth turned positive at the end of 2017 and ended 4Q2018 at 3.6 percent. Robust FIRE & PBS employment growth should induce continued rent growth; expectations dictate rent growth will average 2.4 in 2019.

FIRE & PBS employment growth declined in the aftermath of the oil downturn, precipitating a decline in the demand for office space. This is reflected in the negative net absorption from 2016 to mid-2018. However, FIRE & PBS employment growth has experienced robust growth since mid-2016, reaching 5.4 percent in 4Q2018, which explains net absorption's change from negative to positive in the second half of 2018. Combined with the decline in the square footage under construction, high employment growth suggests net absorption should stay positive as long as demand continues to outweigh supply.

Construction values, which have been decreasing since mid-2017, continued their downward trending through 4Q2018. Both the oil downturn and Hurricane Harvey appear to have dampened new construction, which has declined significantly since mid-2015.

### **Houston Retail (Figures 41 - 45)**

Actual vacancy stayed unchanged at 5.7 percent through 4Q2018, well below the natural vacancy of 7 percent. The growing divide between actual and natural vacancy should continue to place upward pressure on rent growth; however, the oil downturn also dampened growth. In the aftermath of the GR, rent growth proved robust until the oil downturn in 2014, at which point rent growth declined considerably, reaching a low of -1.0 percent in mid-2016. Rent growth has since turned positive, measuring approximately 5 percent in 4Q2018, and is expected to average 3.0 percent in 2019 as the Houston economy gains momentum. Actual vacancy is expected to hold constant over 2019, averaging 5.6 percent.

The oil downturn precipitated a decline in retail employment growth to mid-2017, until shooting up through 3Q2018 and settling down to 1 percent in 4Q2018. Employment growth remained positive in the wake of the oil downturn, which along with low levels of new construction facilitated positive net absorption throughout the downturn. While new construction initially climbed during the oil downturn, it has tapered significantly since the end of 2016, to end 2018 at approximately 900,000 sf. This has allowed demand for Houston retail space to outpace supply.

As anticipated, the decline in construction values precedes the decrease in new construction.

### **Houston Warehouse (Figures 46 - 50)**

Actual vacancy, which measured 7 percent in 4Q2018, has remained below the natural vacancy of 8 percent since mid-2011. The disparity between natural and actual vacancy finally resulted in a large uptick in rent growth through 2018 to end 4Q2018 at 11 percent. Rent growth climbed in the immediate wake of the oil downturn, peaking at 12 percent in mid-2015 before plunging into negative territory in 2017. Due to the large uptick in 2018, rent growth was expected to average 2.8 percent over 2019. Meanwhile, expectations dictate actual vacancy should have averaged 6.7 percent for 2019.

Warehousing and transportation employment growth preceded the significant rent growth observed in 2014 and 2015. While employment growth initially increased in the wake of the oil downturn, it soured in 2015 before plunging into negative territory in 2016. Employment growth has since increased and subsequently increased construction for Houston warehouse space. Net absorption has remained positive through 4Q2018, suggesting that demand for space remains strong.

New construction slowed in the aftermath of the oil downturn and picked up the pace in mid-2017. In the final two quarters of 2018 new construction has slowed. Construction values have followed a generally positive trend since the GR. However, more recent values have declined sharply, which is reflected in the recent downtick in new construction.



Table 4. Projected Overall Vacancy Rates and Percent Change in Nominal Asking Rents

Property Type	Natural Vacancy Rate	Vacancy Rates (%)			Asking Rents (y-o-y %)		
		2017	2018	2019	2017	2018	2019
Office	12.0	11.4	11.6	11.6	3.3	2.8	2.6
Retail	6.0	4.3	4.3	4.5	1.7	4.5	3.9
Warehouse	8.0	6.8	6.7	6.6	1.0	-1.1	-0.8

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

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

The actual vacancy remained steady at 11.5 percent in 4Q2018 and continues to approach the natural vacancy of 12.0 percent. While actual vacancy has been less than natural vacancy since mid-2014, historical actual vacancy has exceeded natural vacancy. Expectations dictate that actual vacancy should average 11.6 percent in 2019. Rent growth, which measured 4.7 percent in 4Q2018, is expected to decrease through 2019, reaching 2.6 percent for the year.

Despite the declining FIRE & PBS employment growth rate since mid-2016, net absorption remained positive until registering negative in 4Q2018. This suggests the demand for San Antonio office space has weakened. The previous positive net absorption, despite the decreasing employment growth rate, can be explained by the decreases in new construction. As actual vacancy approaches natural vacancy, little new development is expected.

New construction has fluctuated little since the recovery from the GR. However, construction values shot up tremendously in 4Q2018. This large uptick is due to Microsoft's construction of three data center buildings totaling \$400 million.

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

Rent growth has largely been negative since the GR but reached a post-recessionary high of approximately 6 percent in 3Q2018 and slightly dropping to 5.2 percent 4Q2018. Since mid-2012, natural vacancy has exceeded actual vacancy, which dictated the increase in rent growth.

Rent growth is expected to average 3.9 percent over 2019, while actual vacancy is predicted to average 4.5 percent, much less than the natural vacancy of 6 percent.

The retail employment growth rate dipped into negative territory at the end of 2017 but measured positive in the second half of 2018. The decline in employment growth precipitated into negative net absorption in 4Q2018.

New construction declined significantly in the aftermath of the GR and has generally continued its downward trend, with the exception of a brief uptick in 2013. Despite the decline in employment growth from 2015 to 2017, suppressed levels of new construction likely facilitated positive net absorption.

Construction values have dropped and flattened in the last three quarters, indicating that the trend is now starting to reflect the level of new construction.

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

Actual vacancy has been below the natural vacancy of 8 percent since the end of the recovery from the GR, largely hovering between 6 and 7 percent. Vacancy is expected to remain flat through 2019 to average 6.6 percent for the year. However, rent growth has declined overall since the end of 2014 and entered negative territory in 2018. Although rent growth sank to a seven-year low of -3.7 percent in 4Q2018, it is expected to remain flat over 2019, averaging -0.8 percent for the year.

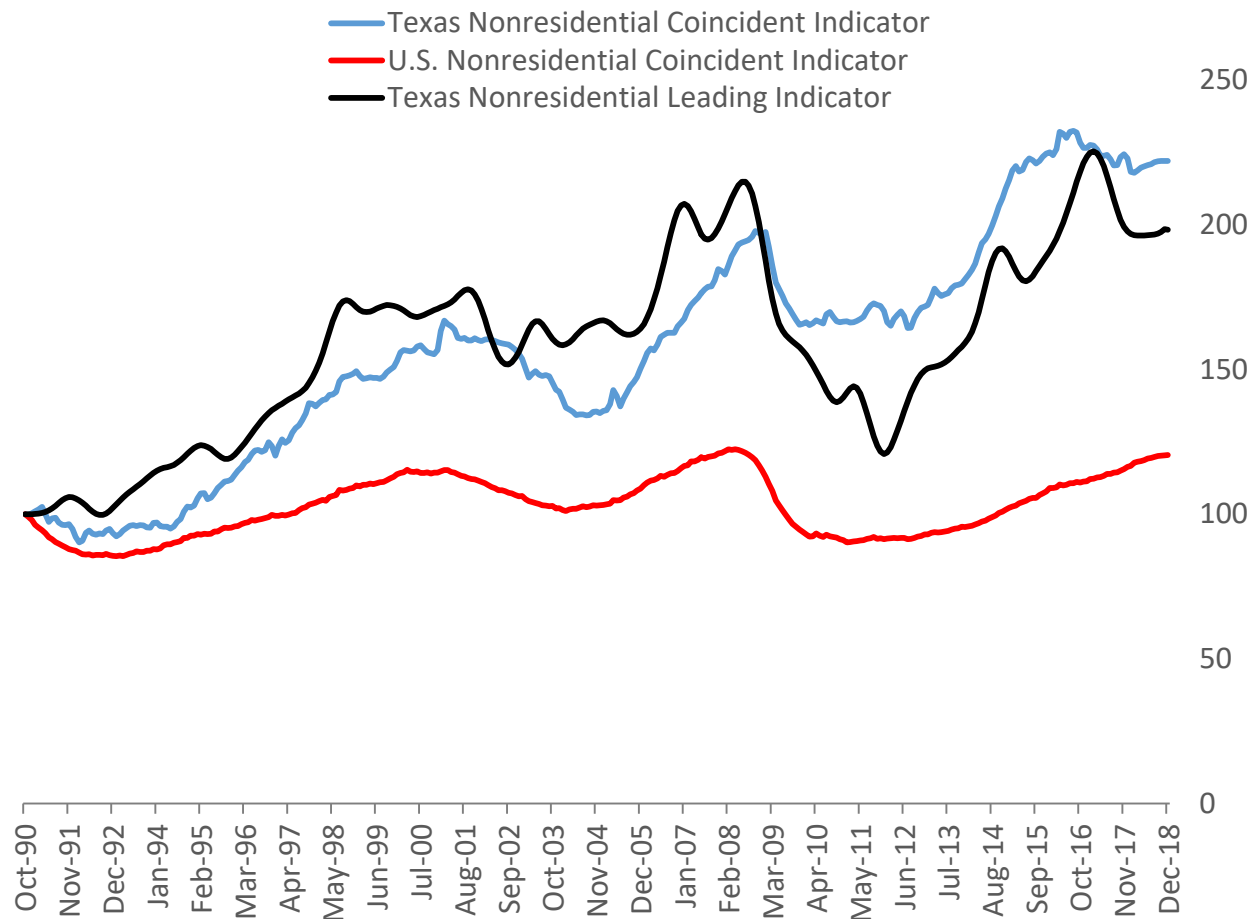
Warehousing and transportation employment growth climbed rapidly in the aftermath of the GR, which contributed to positive rent growth. Employment growth has experienced a recent downtick in 2018, which should reflect negatively on rent growth. Despite the decline in employment growth, net absorption remained positive in 3Q and 4Q 2018.

The level of new construction has proven volatile; a sharp uptick in new construction after the GR was succeeded by a considerable decline. In mid-2017, new construction reached a low unobserved since the GR. The confluence of low actual vacancy and low levels of new construction should facilitate rent growth. Although new construction has not increased in response to the uptick in construction values, this trend should become apparent in future quarters.

The recent sharp increase to construction values is due to the construction of H-E-B's new 1.6 million-sf warehouse, expected to add 600-700 jobs.



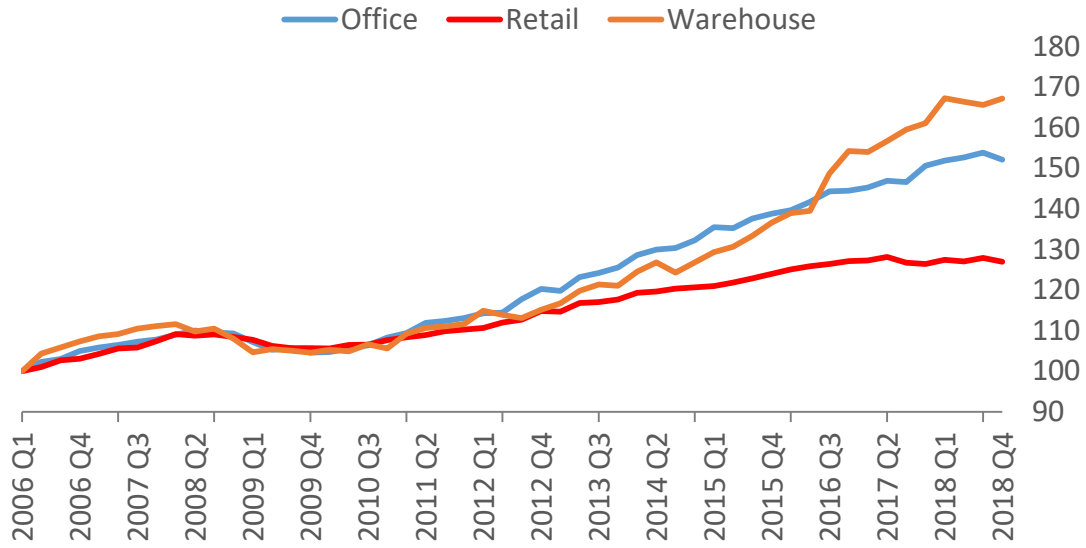
**Figure 1. Texas Nonresidential Coincident and Leading Indicators**  
(Index Oct. 2009 = 100)



Source: Real Estate Center at Texas A&M University

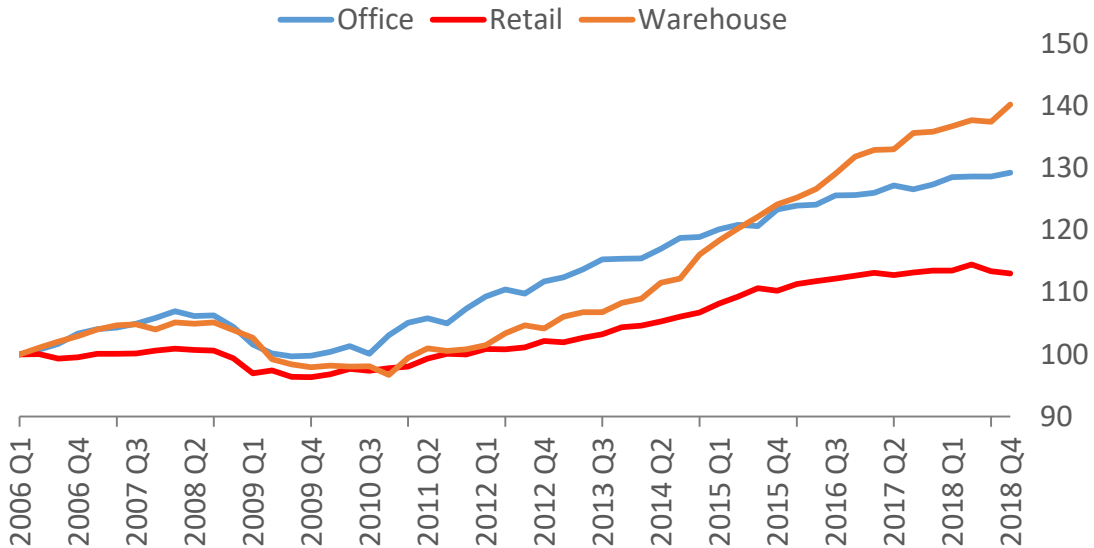


**Figure 2. Austin Nonresidential Leading Indicators**  
(Index 2006 Q1 = 100)



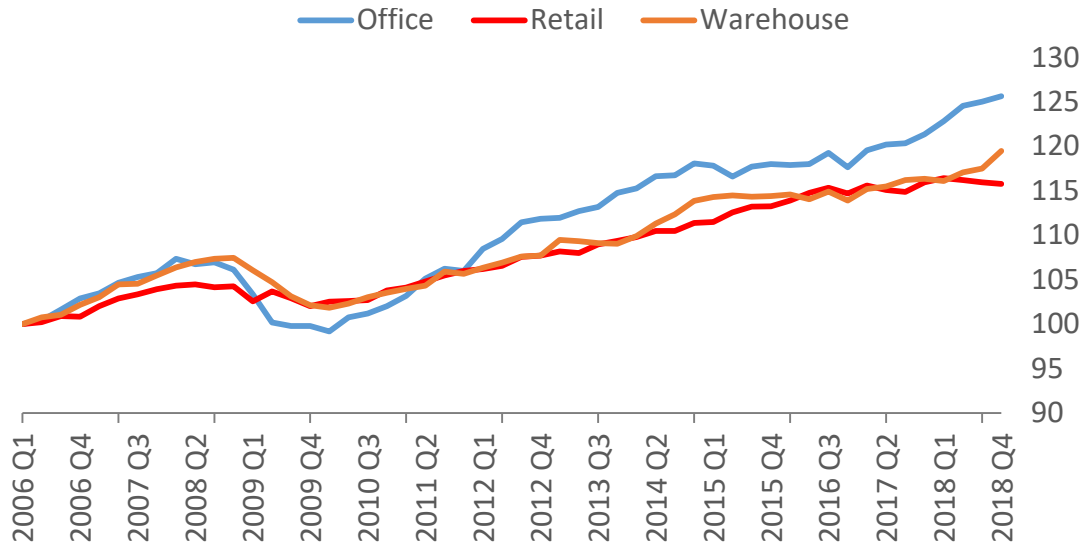
Source: Real Estate Center at Texas A&M University

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



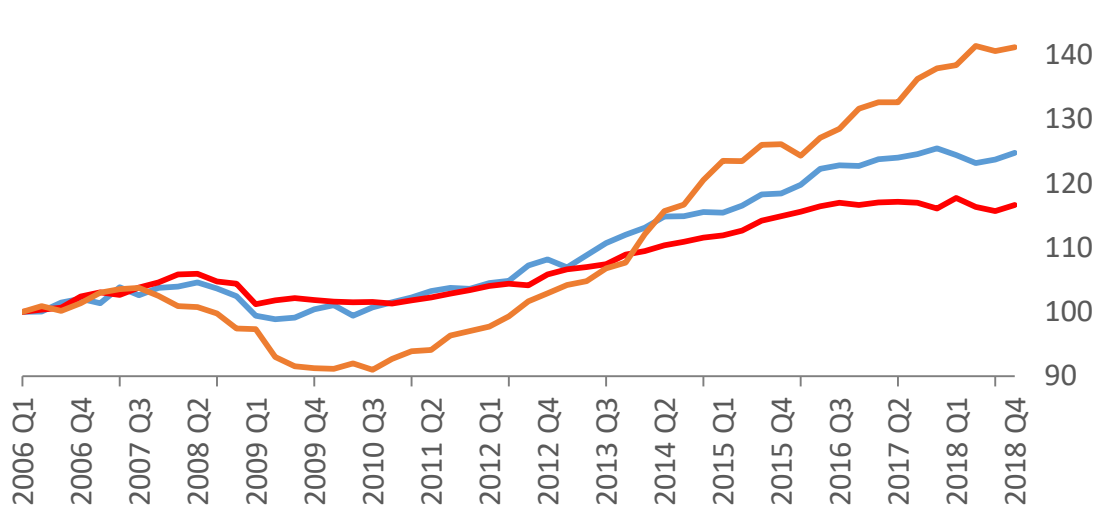
Source: Real Estate Center at Texas A&M University

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



Source: Real Estate Center at Texas A&M University

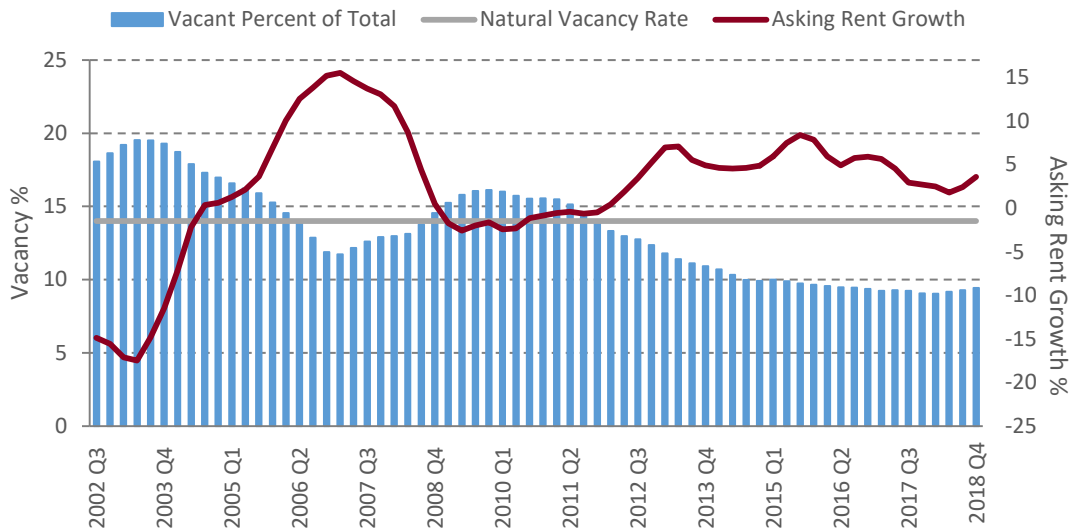
**Figure 5. San Antonio Nonresidential Leading Indicators**  
(Index 2006 Q1 = 100)



Source: Real Estate Center at Texas A&M University

## Austin

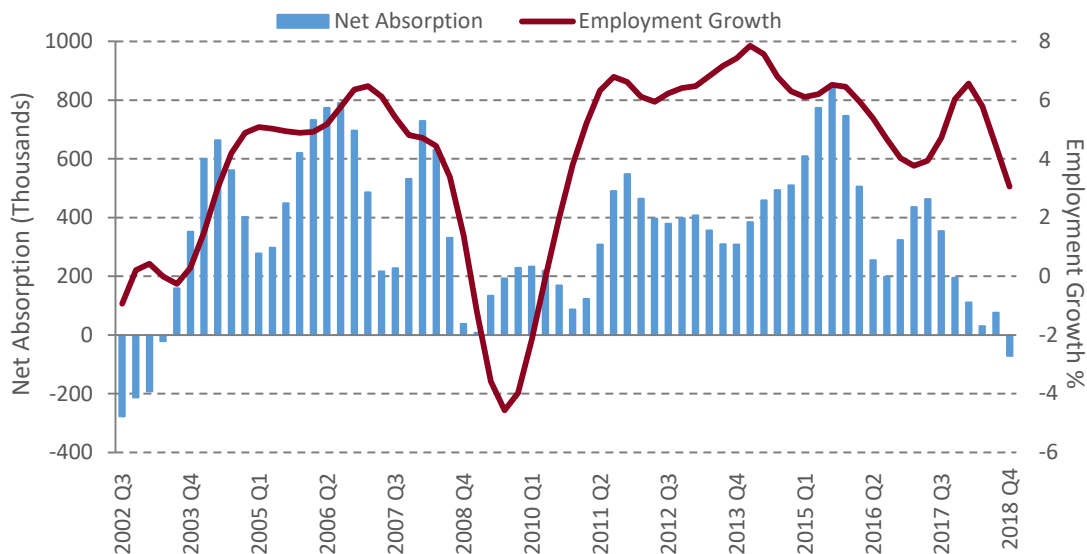
**Figure 6. Austin Office Vacancy and Asking Rent Growth**



Note: Seasonally adjusted and trend-cycle component.

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

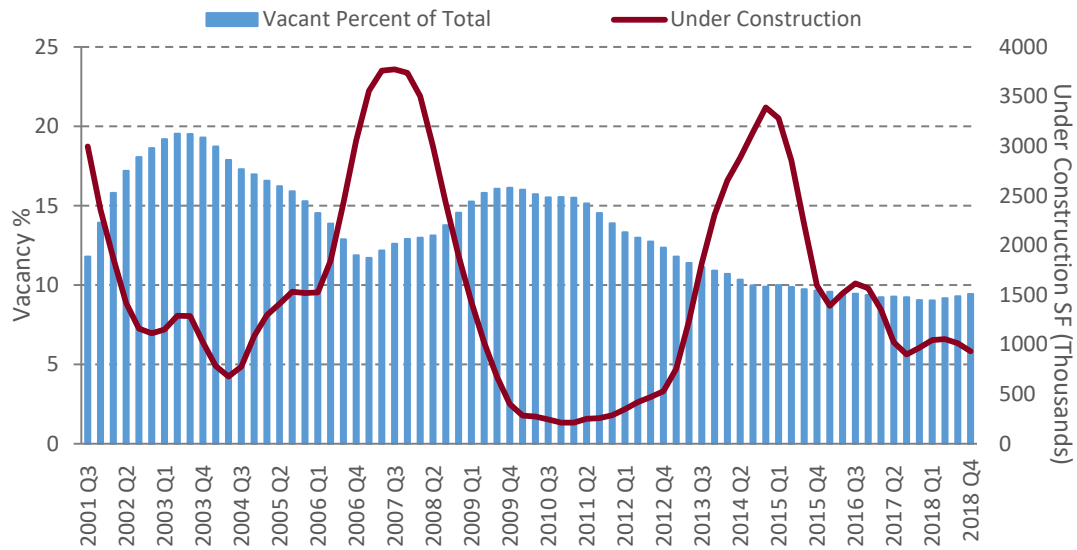
**Figure 7. Austin Office Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

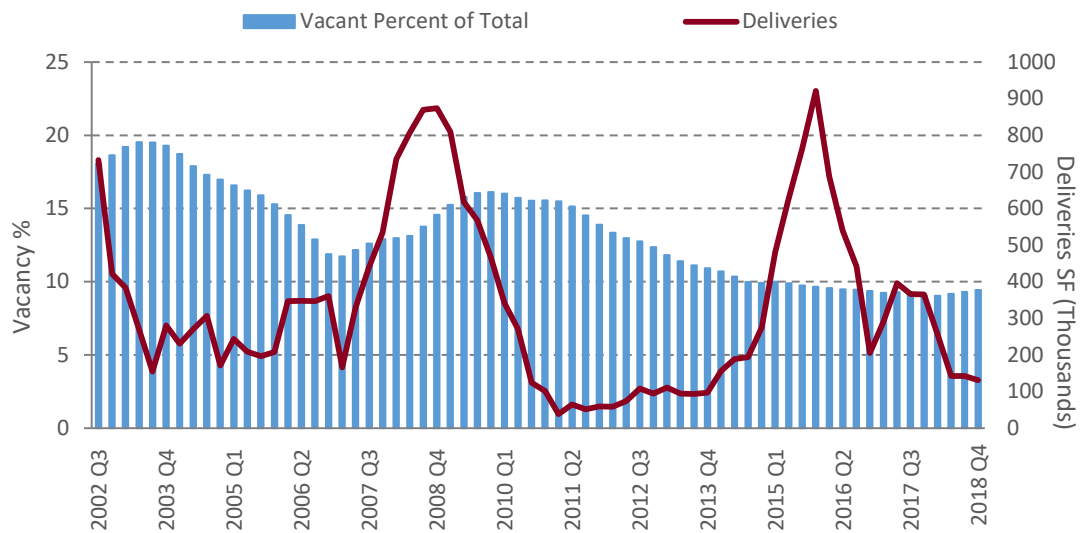
**Figure 8. Austin Office Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

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

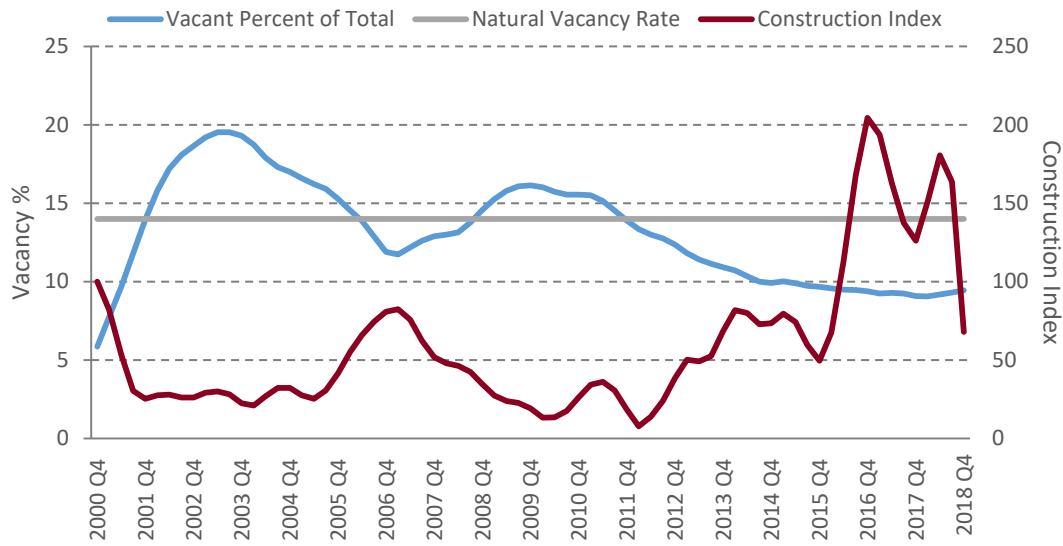
**Figure 9. Austin Office Vacancy and Deliveries**



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

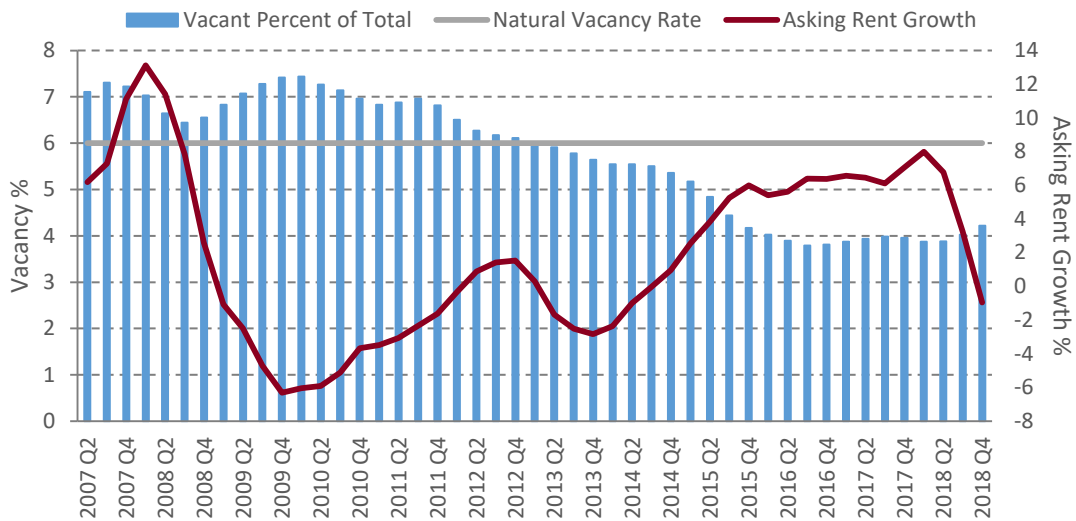
Sources: CoStar and Real Estate Center at Texas A&M University

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



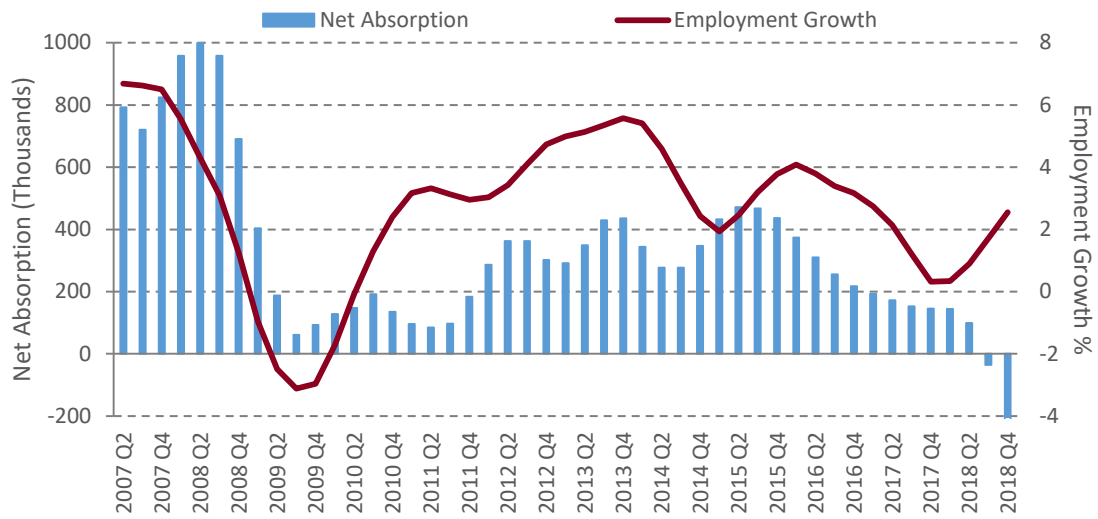
Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 11. Austin Retail Vacancy and Asking Rent Growth**



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

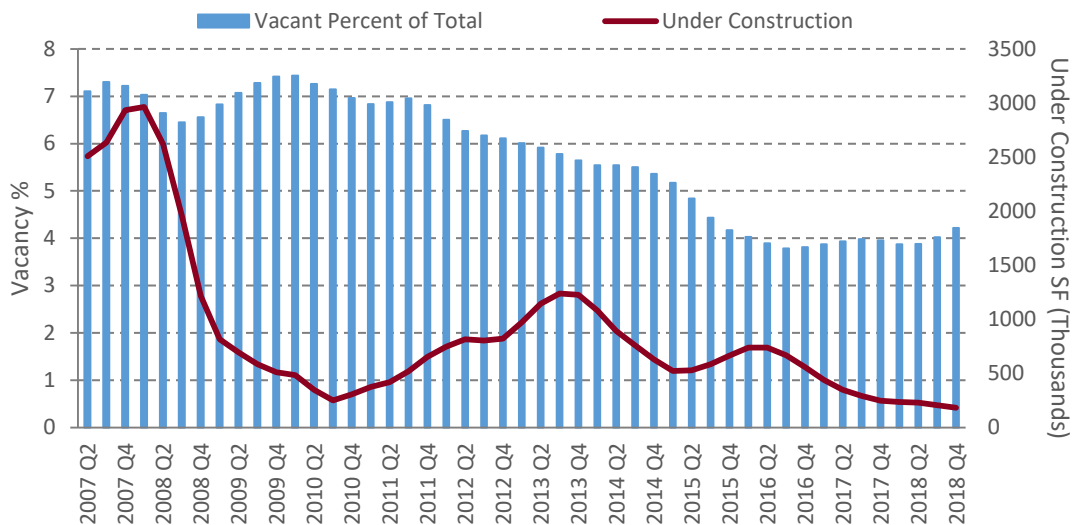
**Figure 12. Austin Retail Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

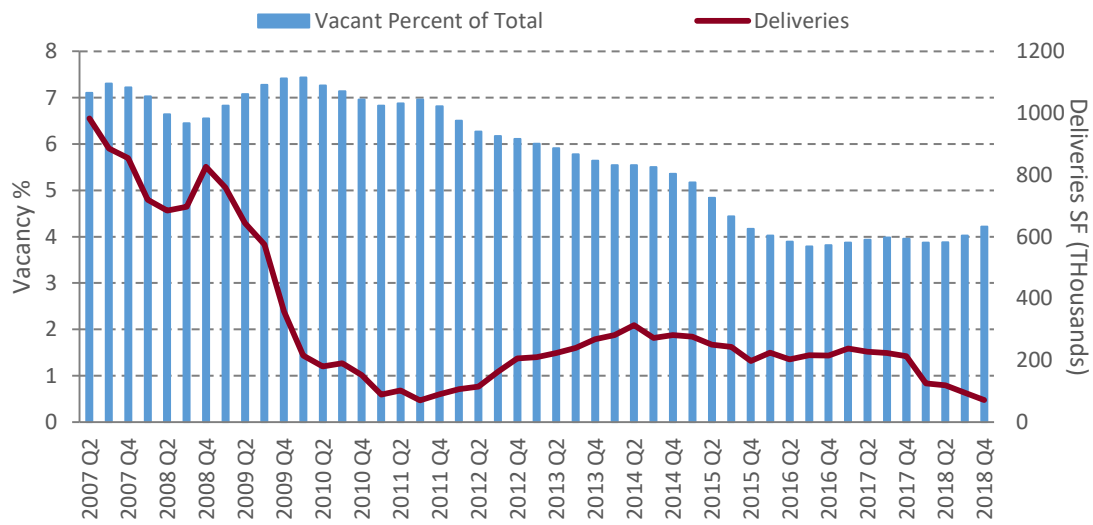
**Figure 13. Austin Retail Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

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

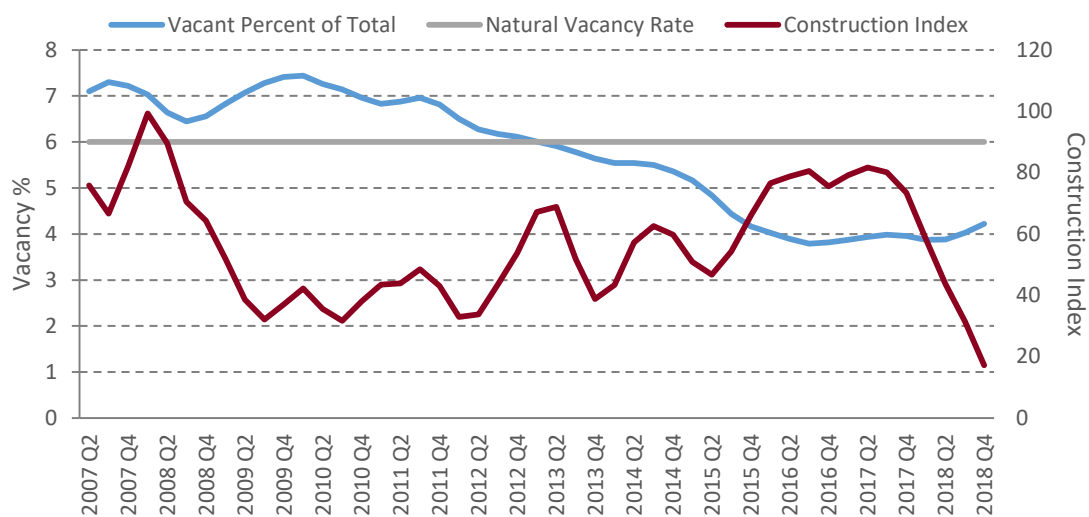
**Figure 14. Austin Retail Vacancy and Deliveries**



Note: Seasonally adjusted and trend-cycle component.

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

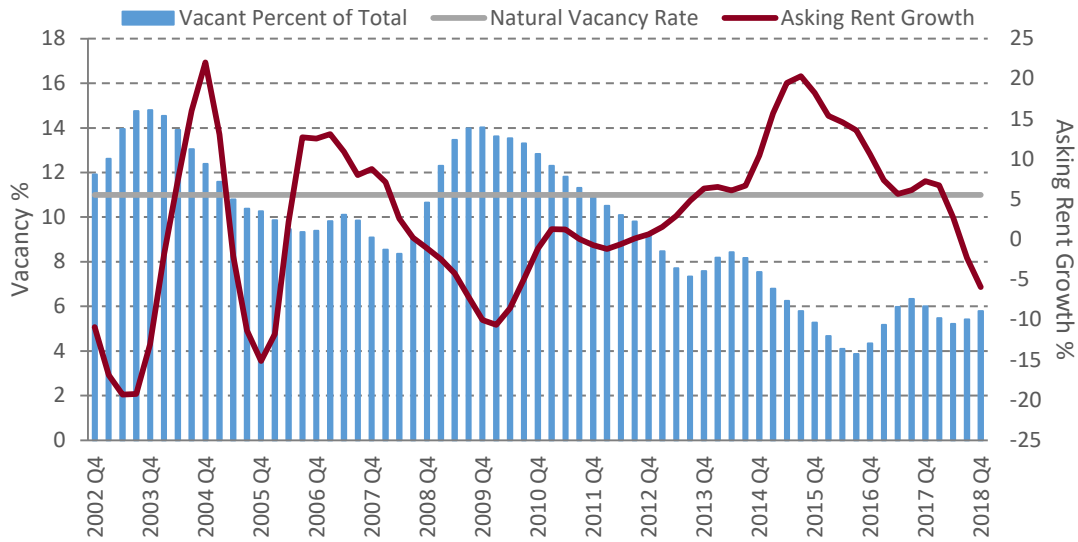
**Figure 15. Austin Retail Vacancy and Construction Index**  
(Index 2006 Q1 = 100)



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

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

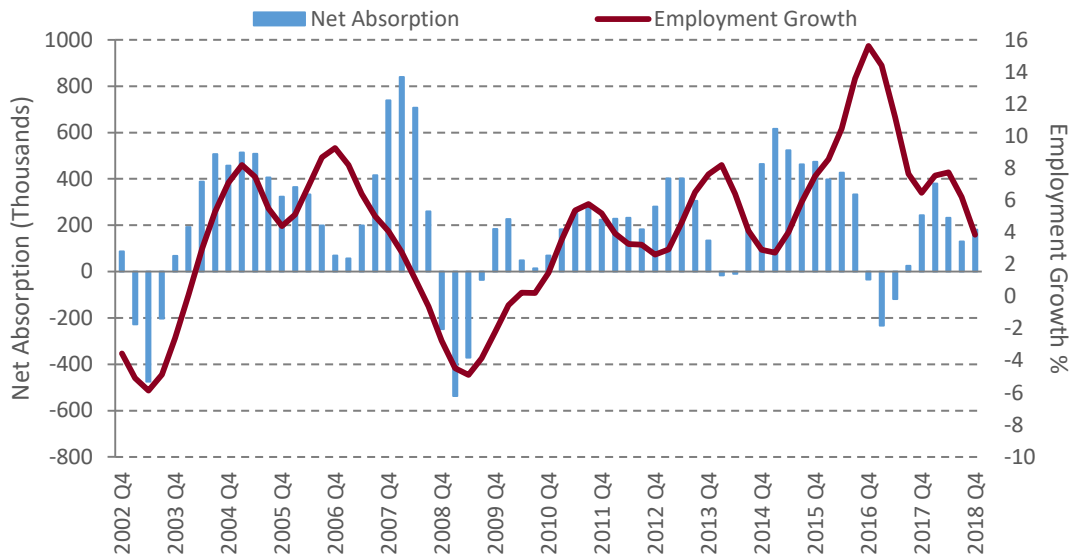
**Figure 16. Austin Warehouse Vacancy and Asking Rent Growth**



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**

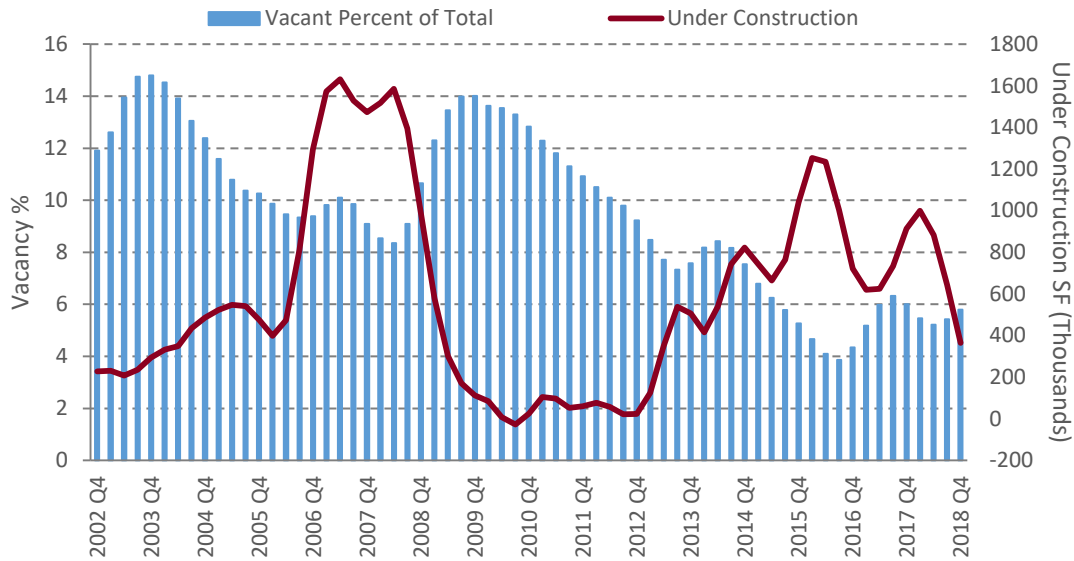


Note: Seasonally adjusted and trend-cycle component.

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



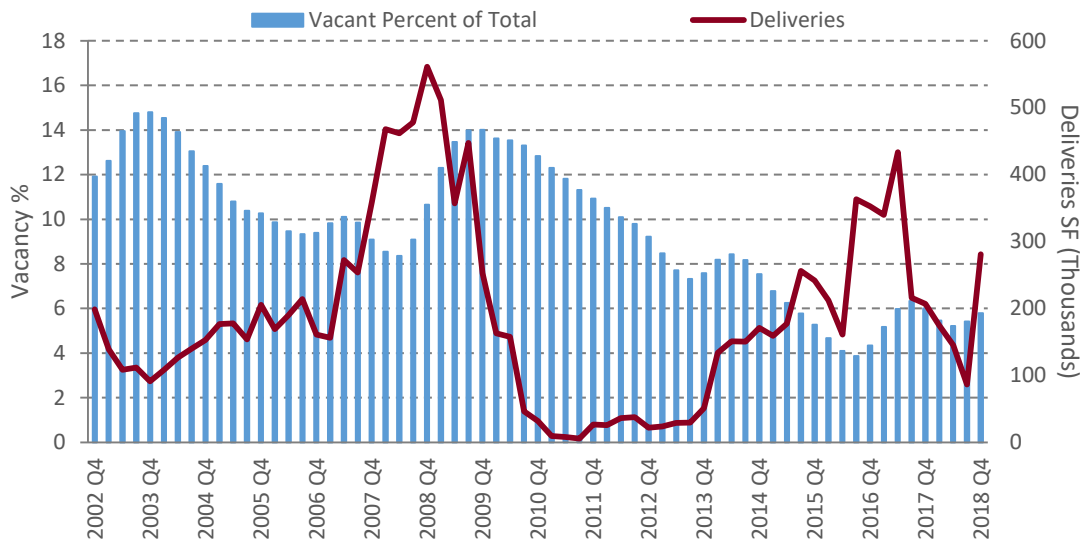
**Figure 18. Austin Warehouse Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

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

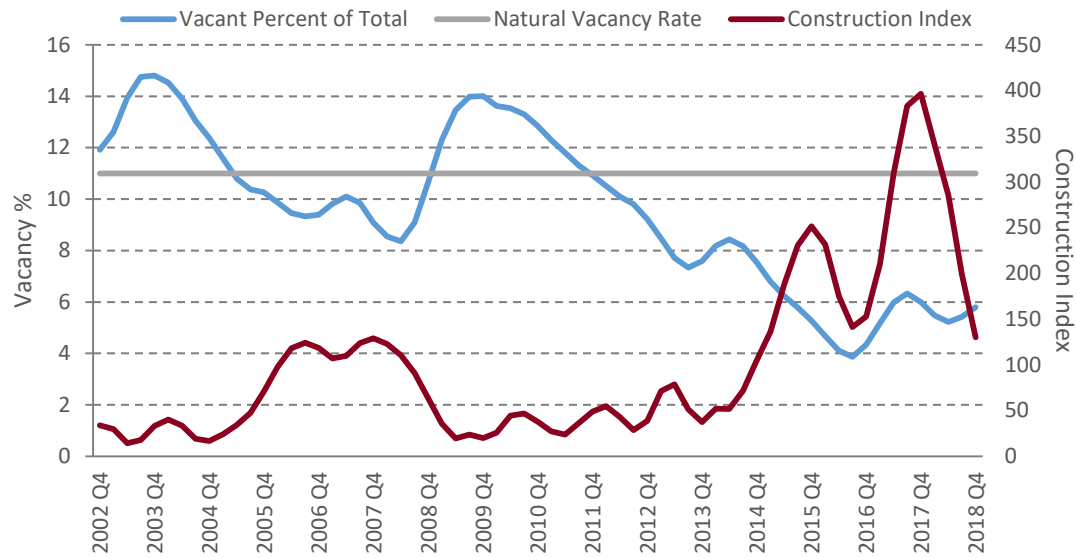
**Figure 19. Austin Warehouse Vacancy and Deliveries**



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

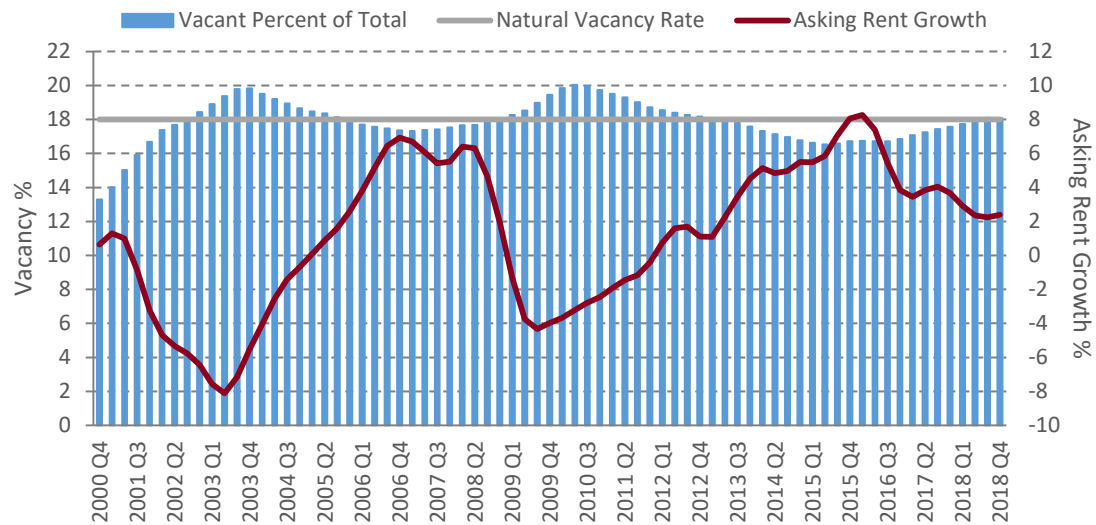
**Figure 20. Austin Warehouse Vacancy and Construction Index**  
(Index 2000 Q4 = 100)



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

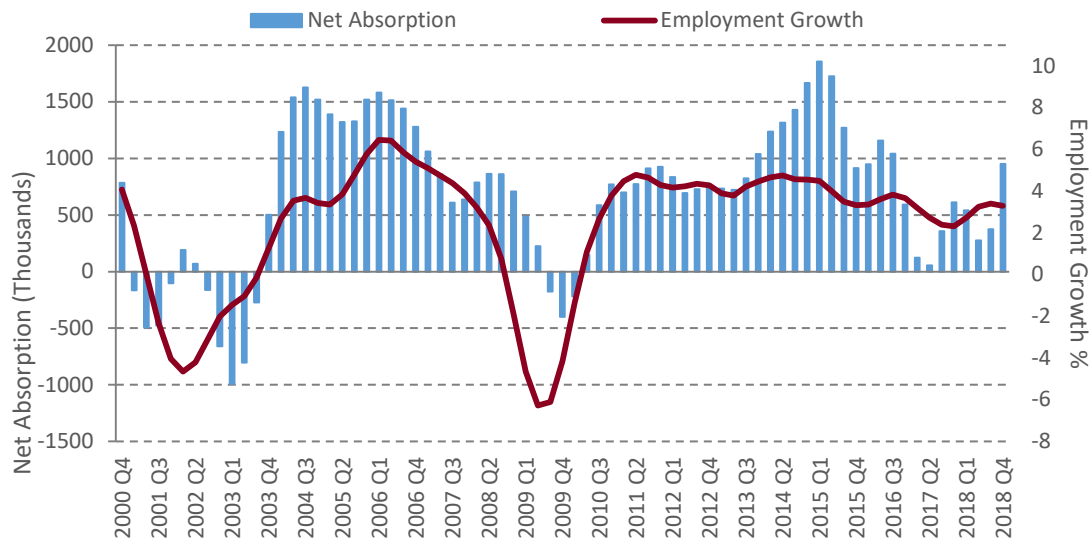
## DFW

**Figure 21. DFW Office Vacancy and Asking Rent Growth**



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

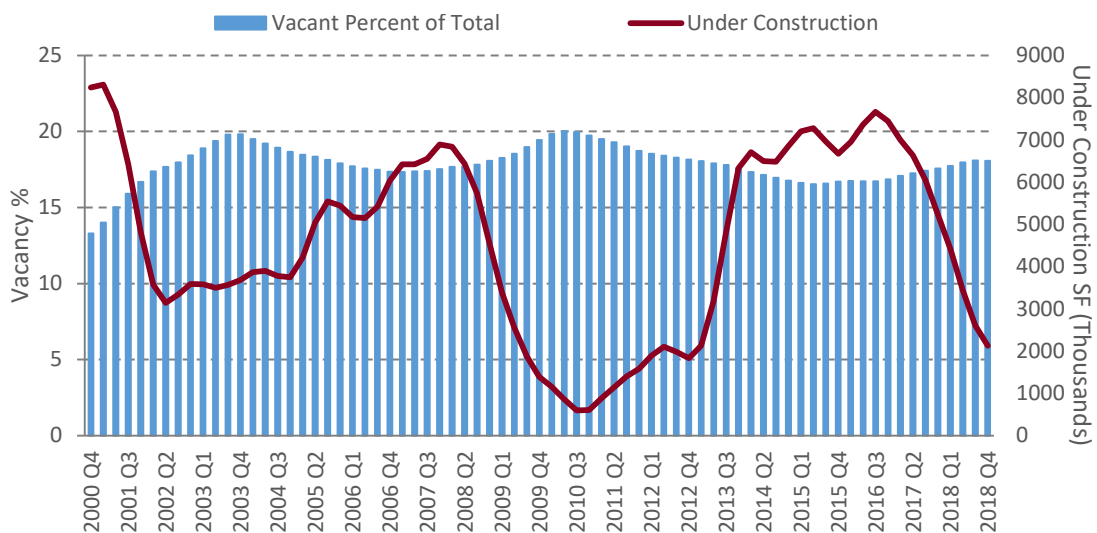
**Figure 22. DFW Office Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

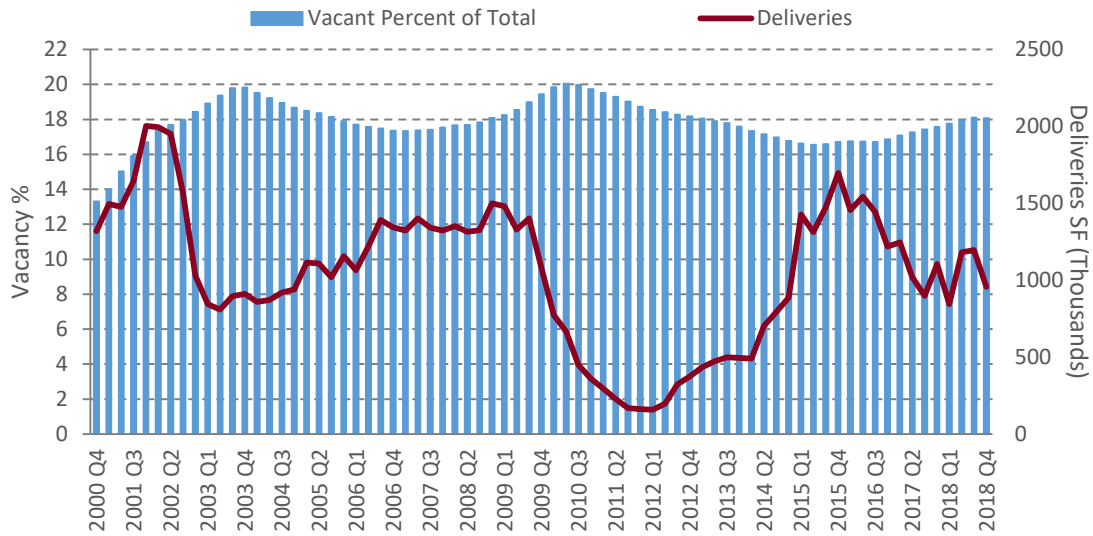
**Figure 23. DFW Office Vacancy and Under Construction**



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**

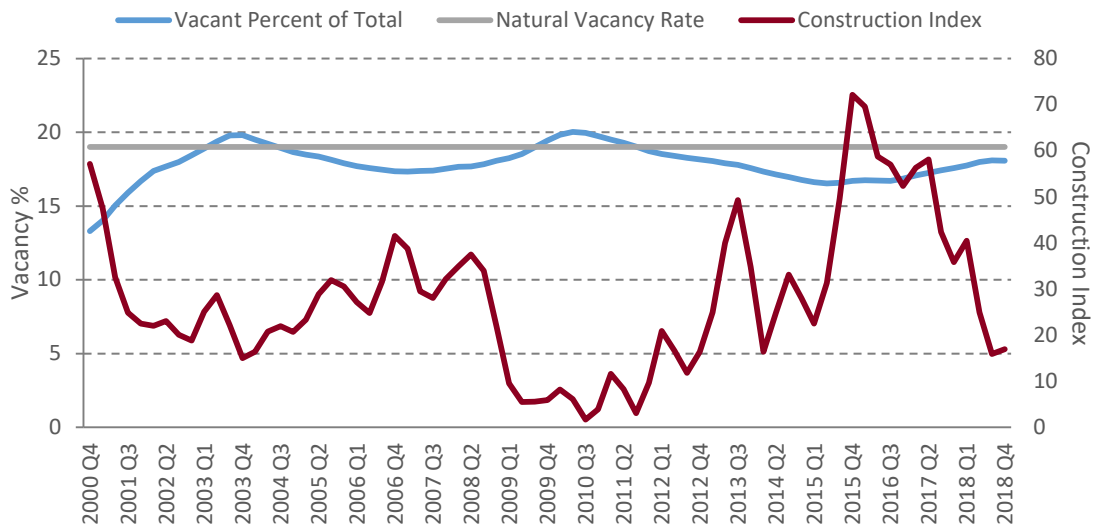


Note: Four quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.

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

**Figure 25. DFW Office Vacancy and Construction Index**

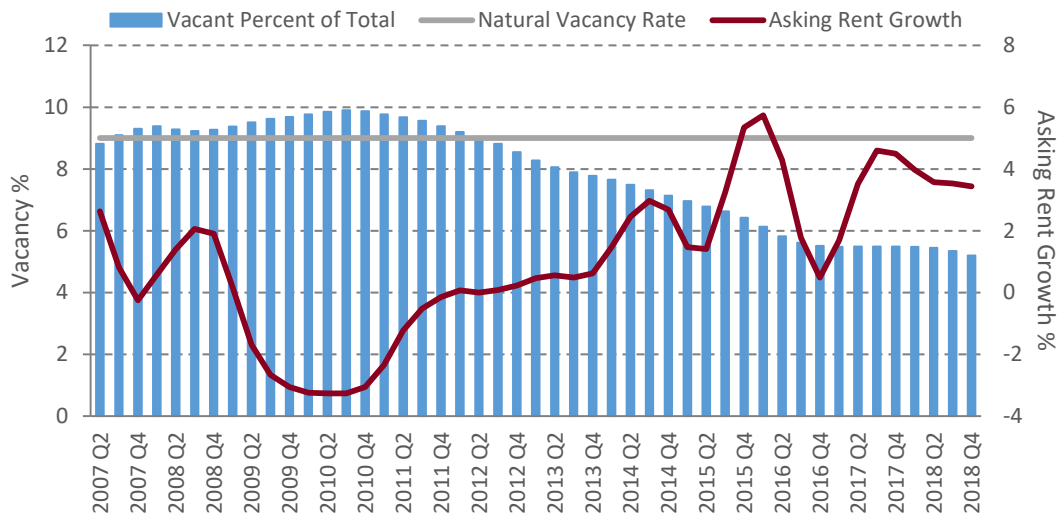
(Index 1982 Q1 = 100)



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

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

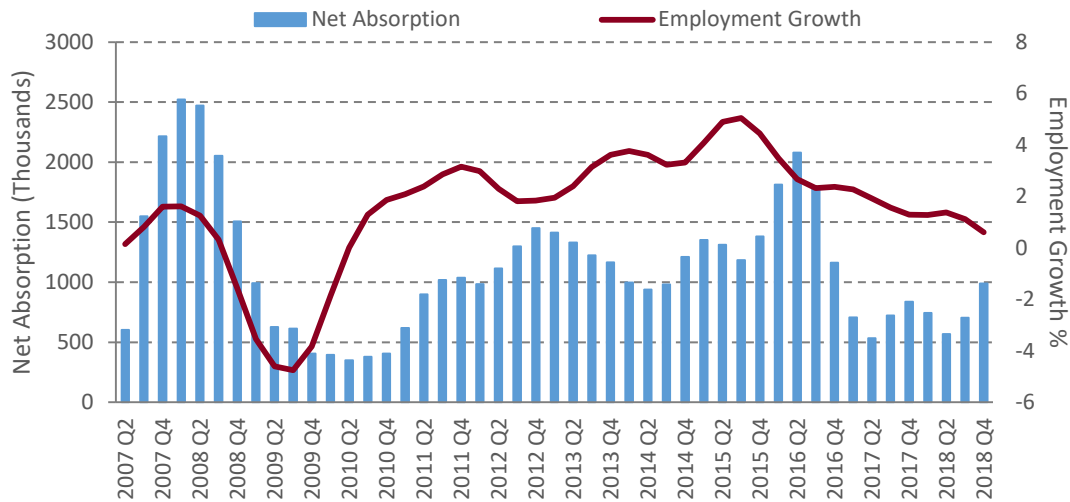
**Figure 26. DFW Retail Vacancy and Asking Rent Growth**



Note: Seasonally adjusted and trend-cycle component.

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

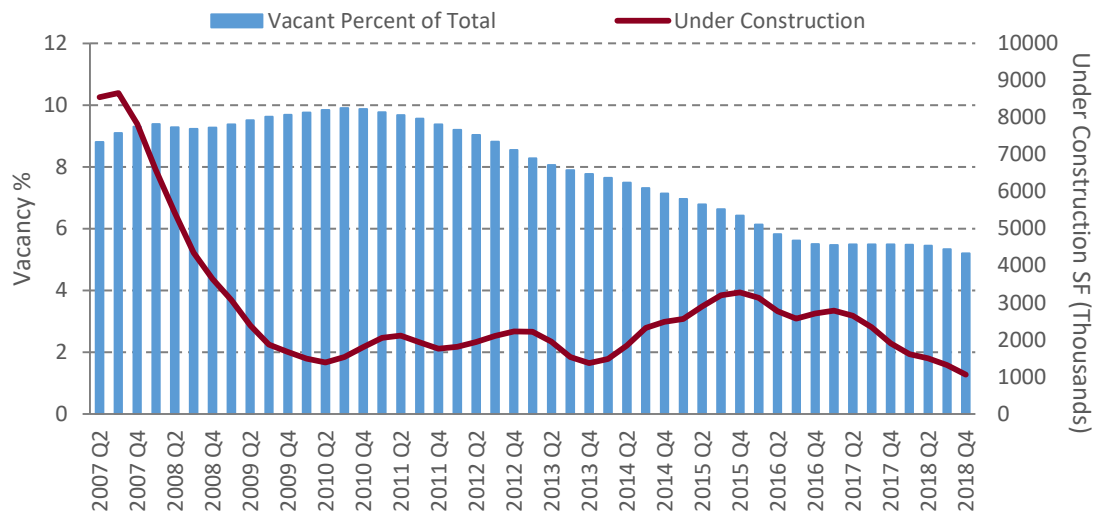
**Figure 27. DFW Retail Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

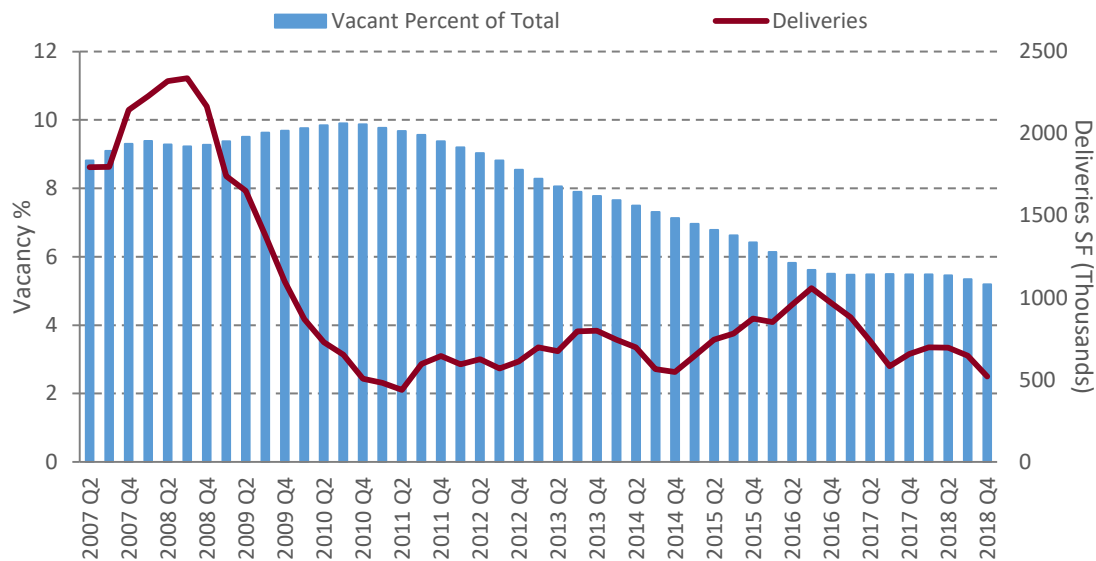
**Figure 28. DFW Retail Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

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

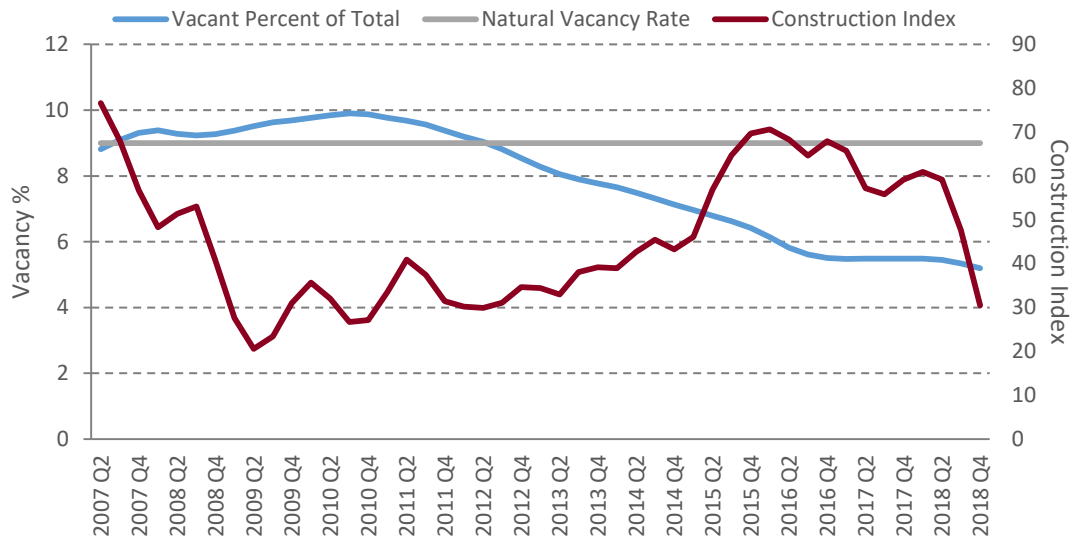
**Figure 29. DFW Retail Vacancy and Deliveries**



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

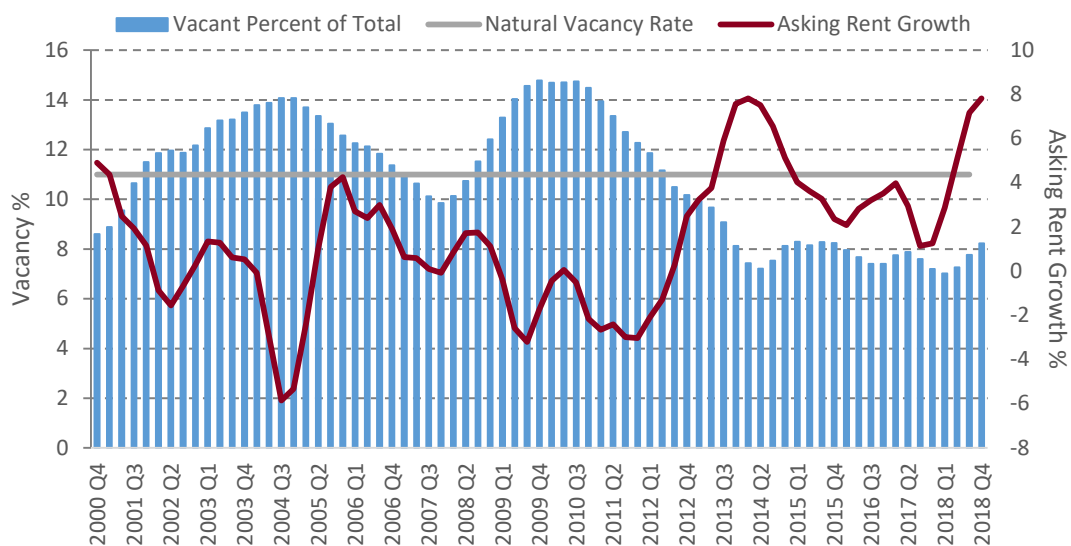
Sources: CoStar and Real Estate Center at Texas A&M University

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



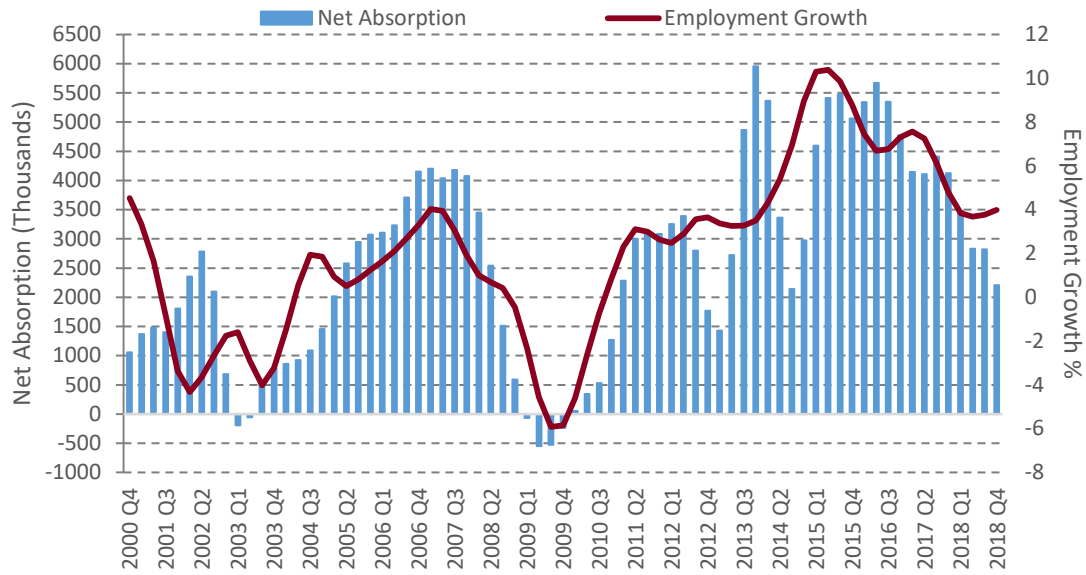
Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 31. DFW Warehouse Vacancy and Asking Rent Growth**



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

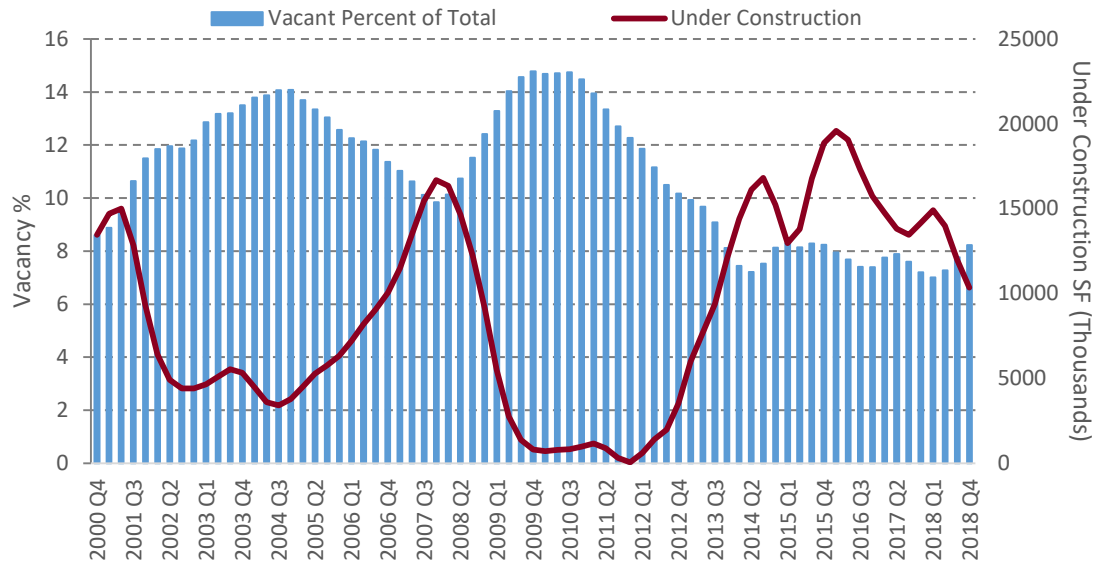
**Figure 32. DFW Warehouse Net Absorption and Employment Growth**



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**

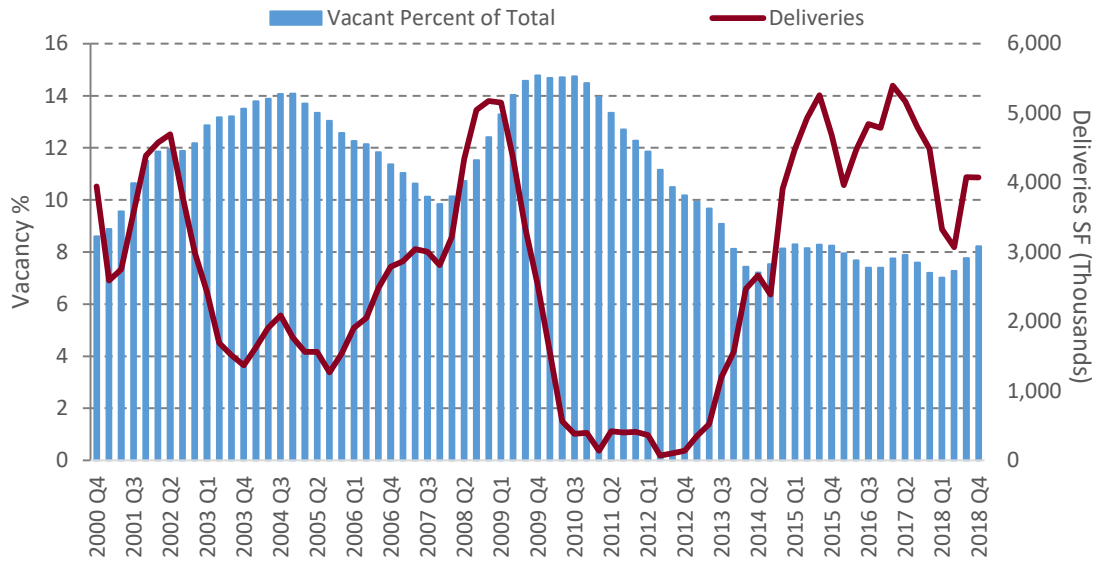


Note: Seasonally adjusted and trend-cycle component.

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

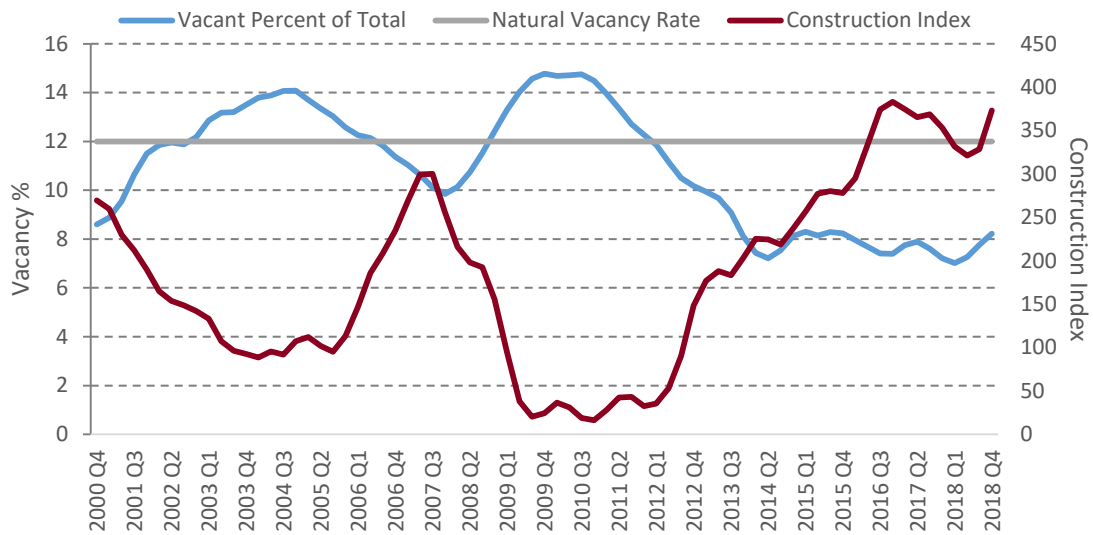


**Figure 34. DFW Warehouse Vacancy and Deliveries**



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

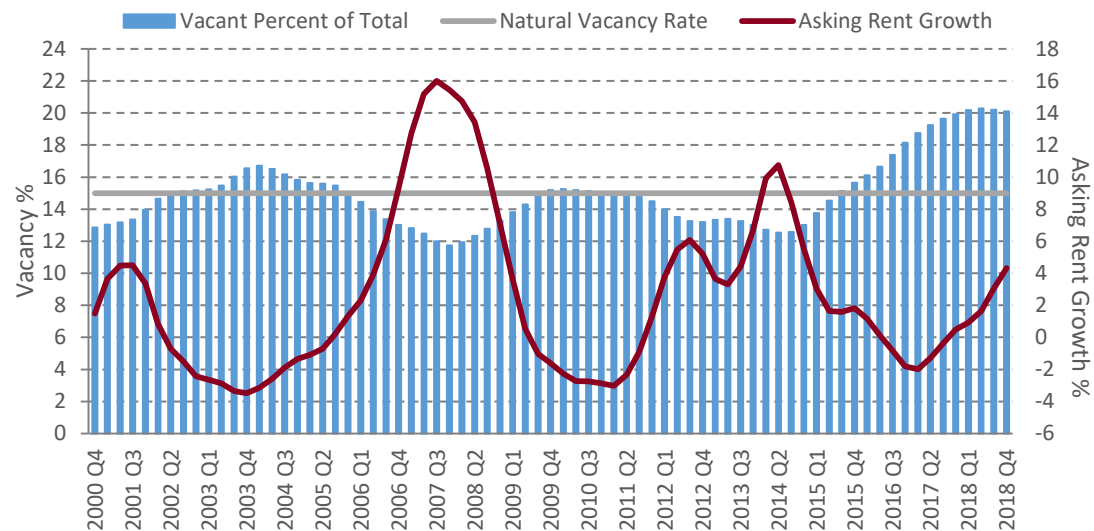
**Figure 35. DFW Warehouse Vacancy and Construction Index**  
(Index 1995 Q1 = 100)



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

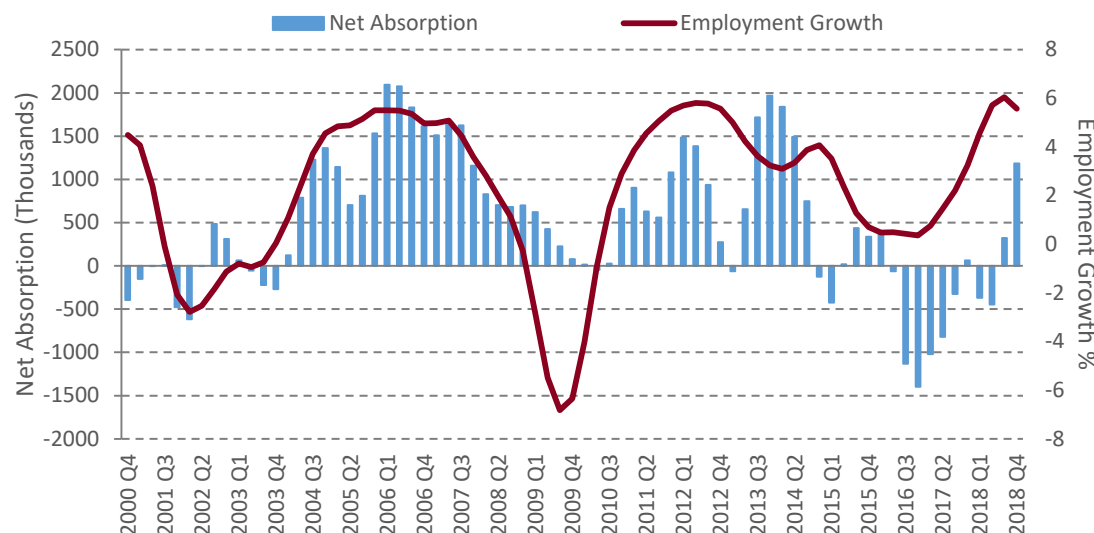
Houston

Figure 36. Houston Office Vacancy and Asking Rent Growth



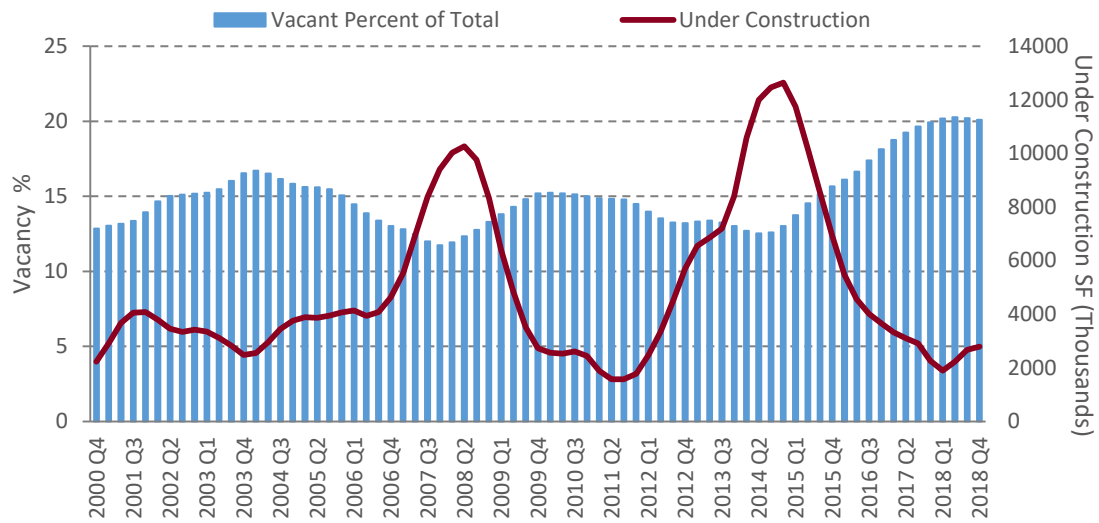
Note: Seasonally adjusted and trend-cycle component.  
Sources: CoStar and Real Estate Center at Texas A&M University

Figure 37. Houston Office Net Absorption and Employment Growth



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

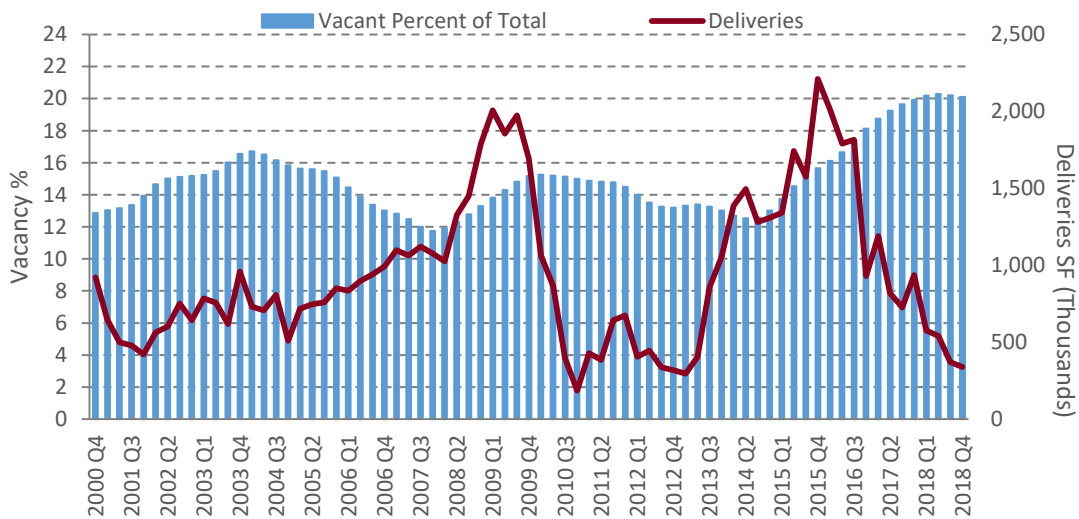
**Figure 38. Houston Office Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

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

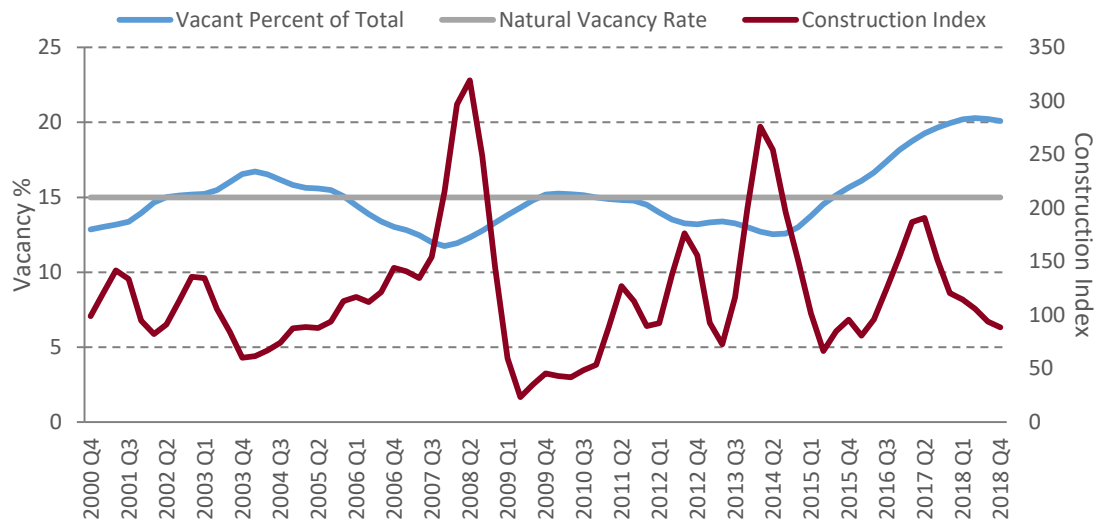
**Figure 39. Houston Office Vacancy and Deliveries**



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

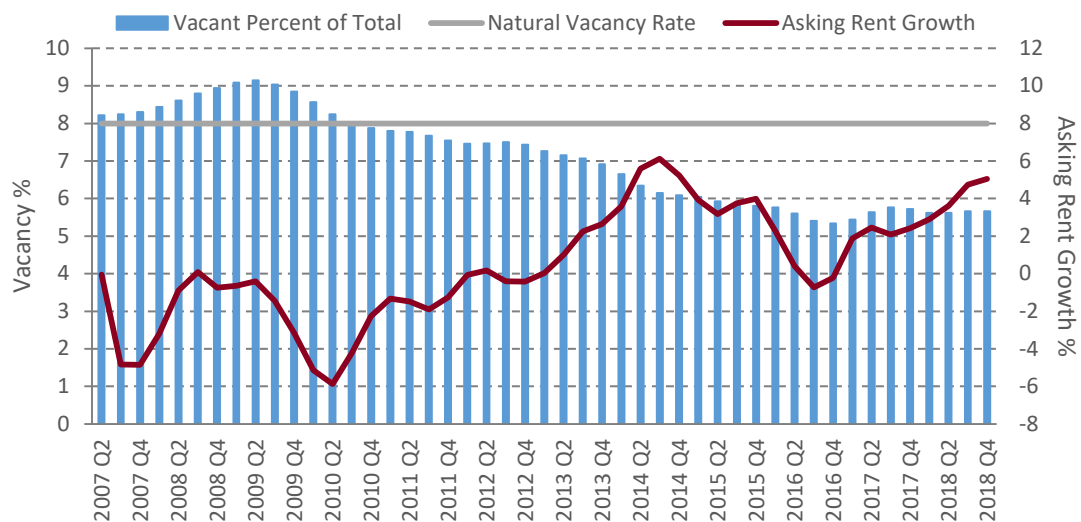
Sources: CoStar and Real Estate Center at Texas A&M University

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



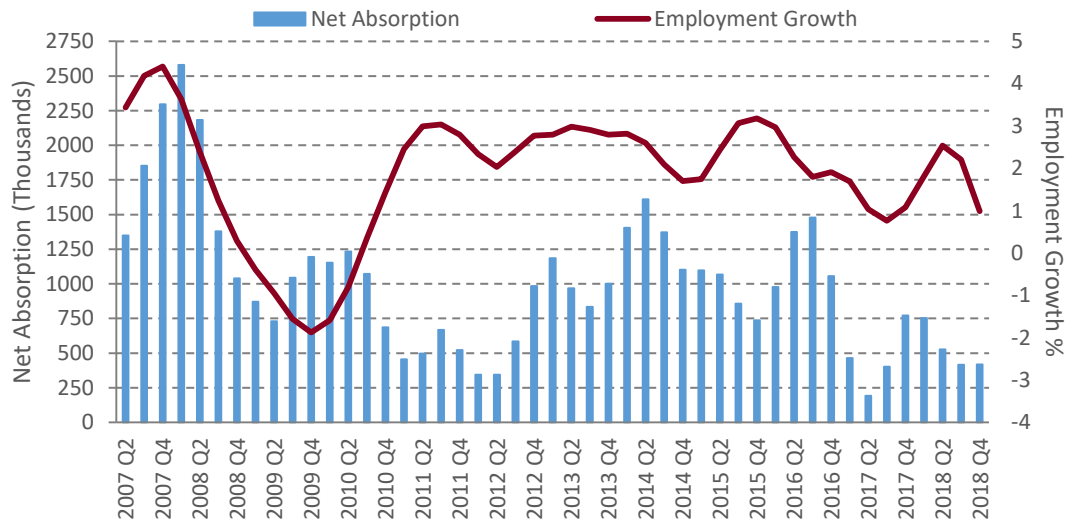
Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 41. Houston Retail Vacancy and Asking Rent Growth**



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

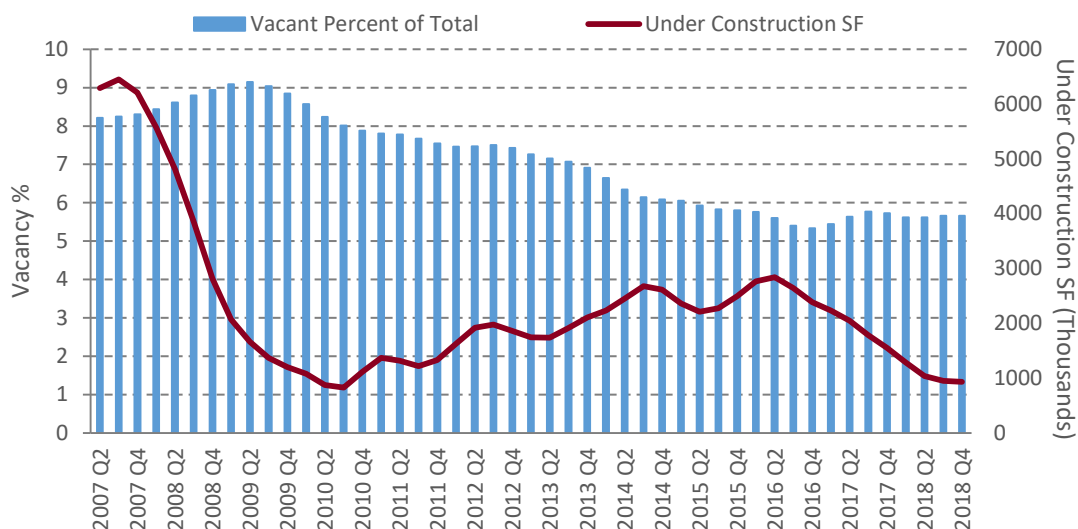
**Figure 42. Houston Retail Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

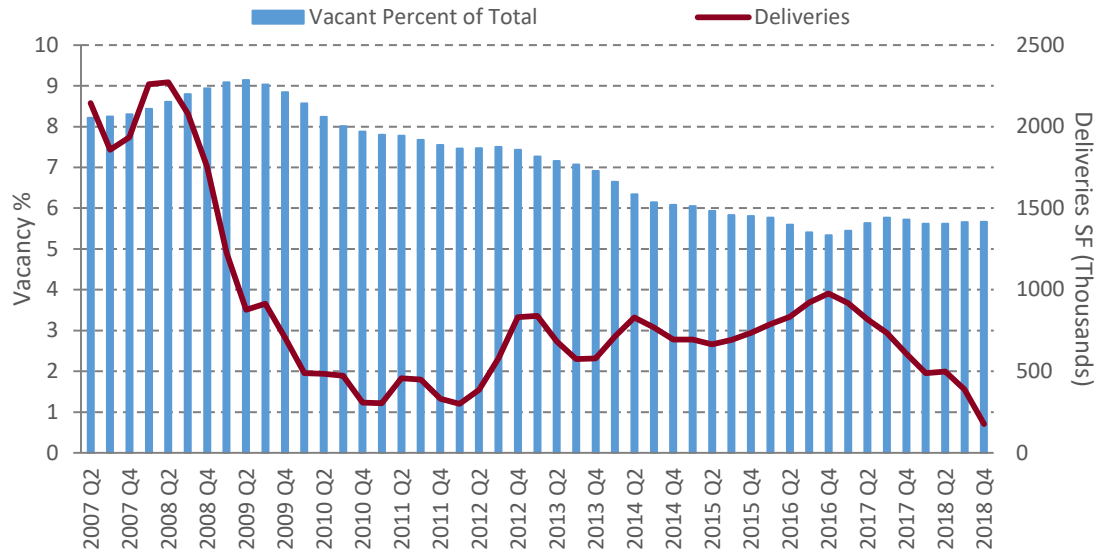
**Figure 43. Houston Retail Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

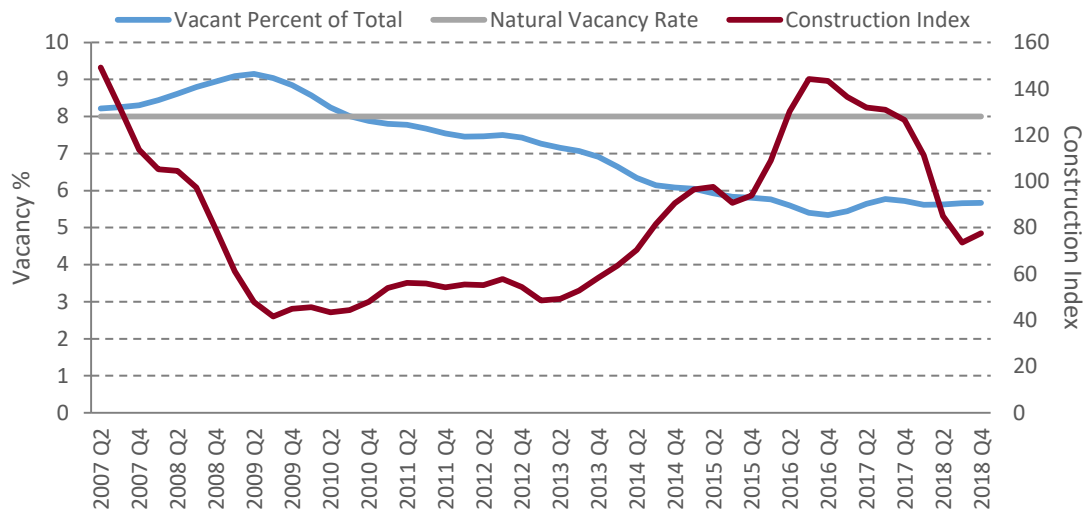
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 44. Houston Retail Vacancy and Deliveries**



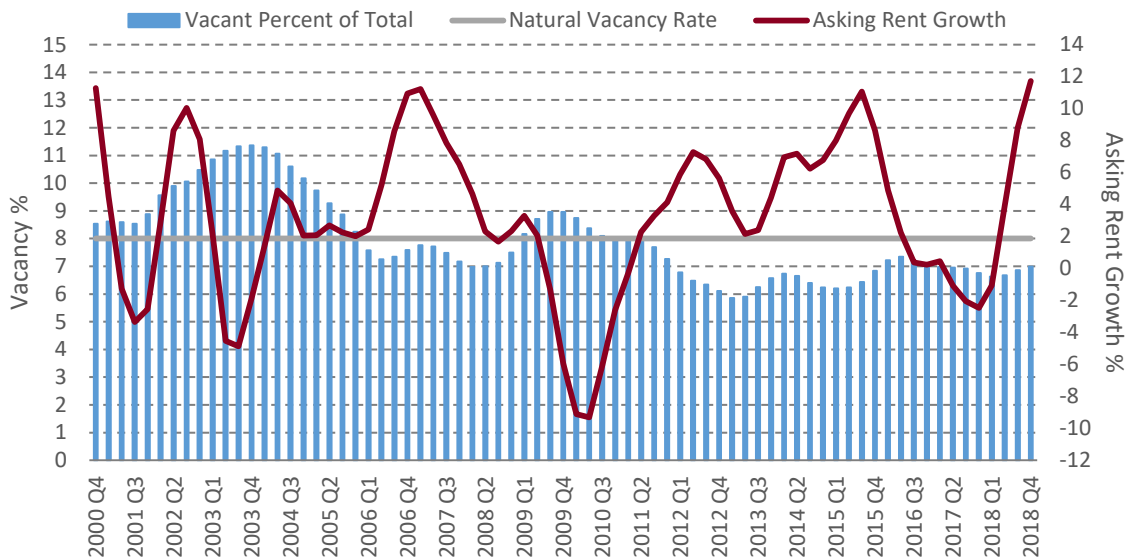
Note: Four-quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.  
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 45. Houston Retail Vacancy and Construction Index**  
(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

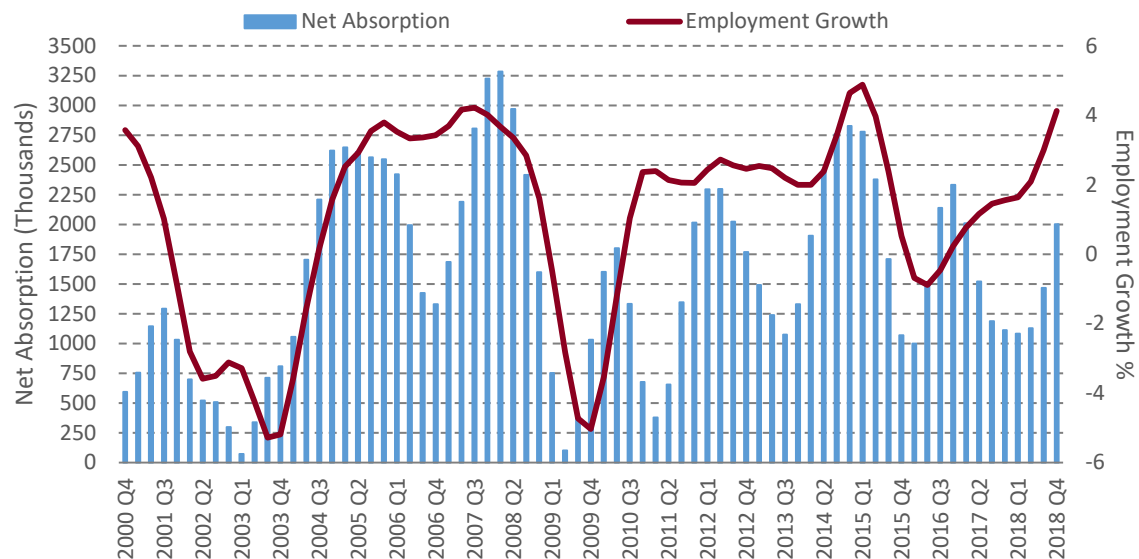
**Figure 46. Houston Warehouse Vacancy and Asking Rent Growth**



Note: Seasonally adjusted and trend-cycle component.

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

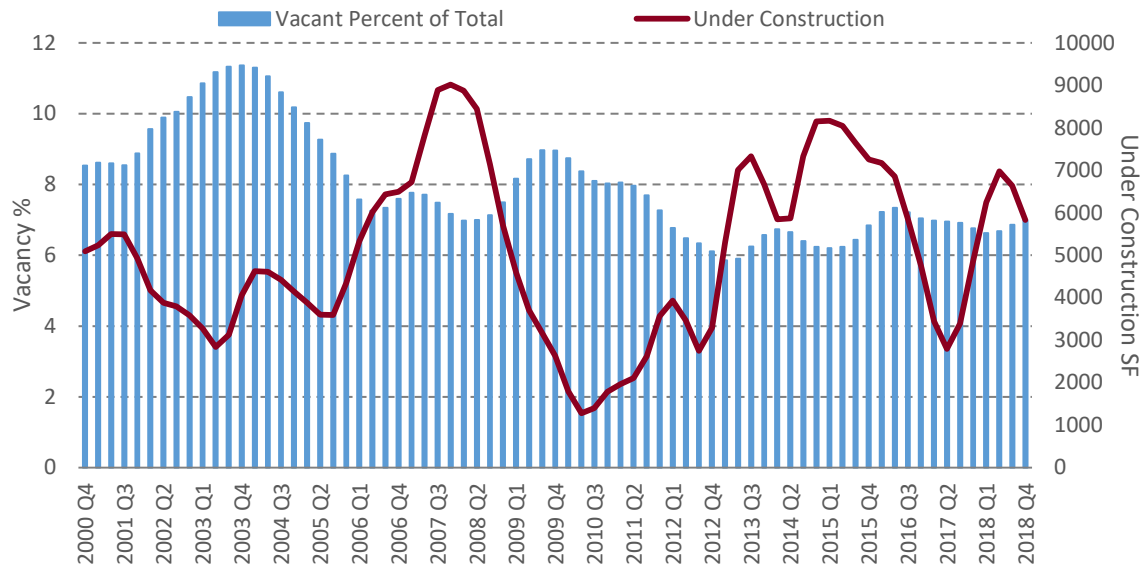
**Figure 47. Houston Warehouse Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

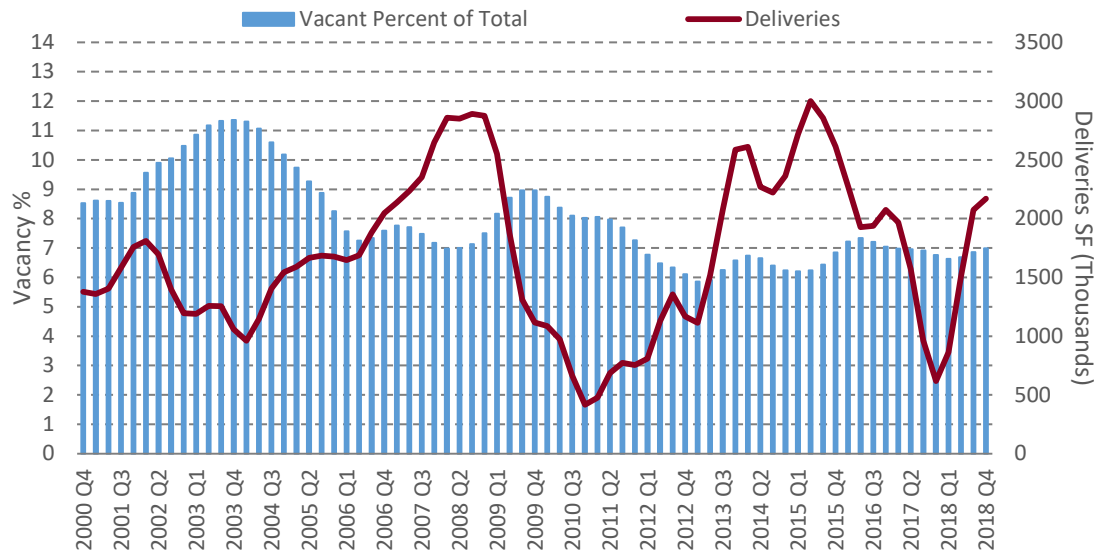
**Figure 48. Houston Warehouse Vacancy and Under Construction**



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**

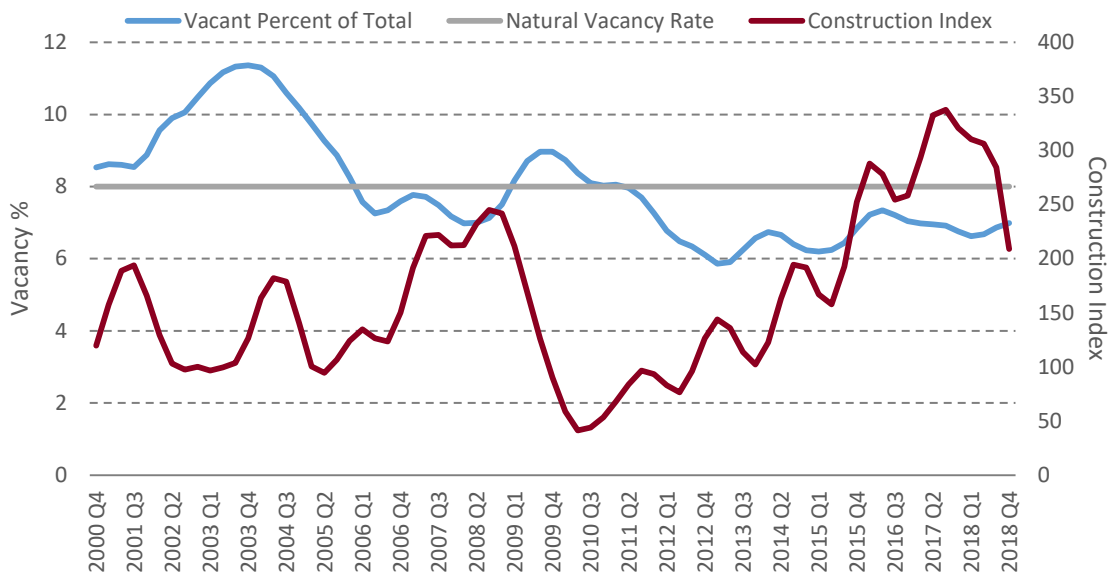


Note: Four-quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.

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

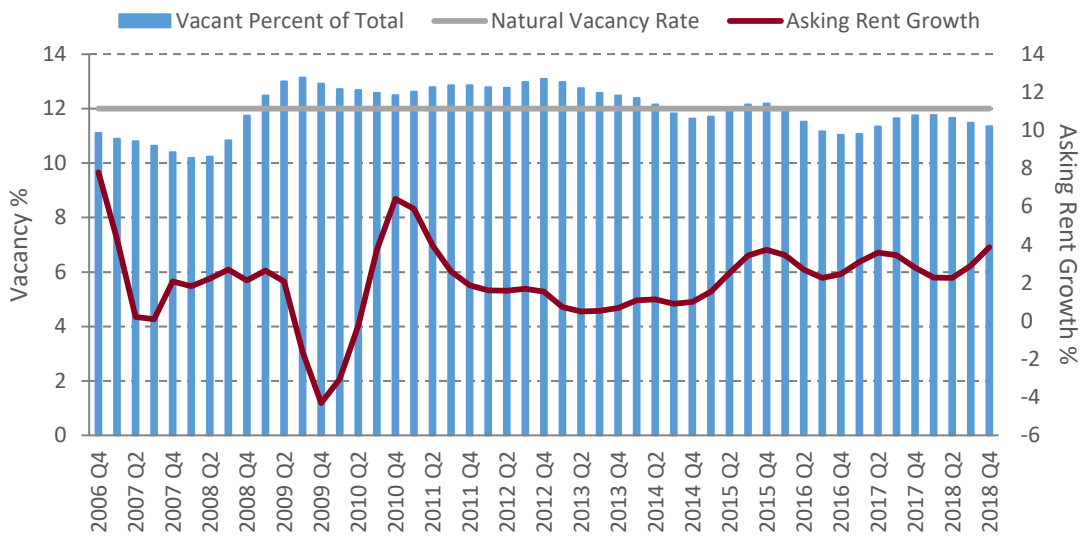


**Figure 50. Houston Warehouse Vacancy and Construction Index**  
(Index 1999 Q1 = 100)

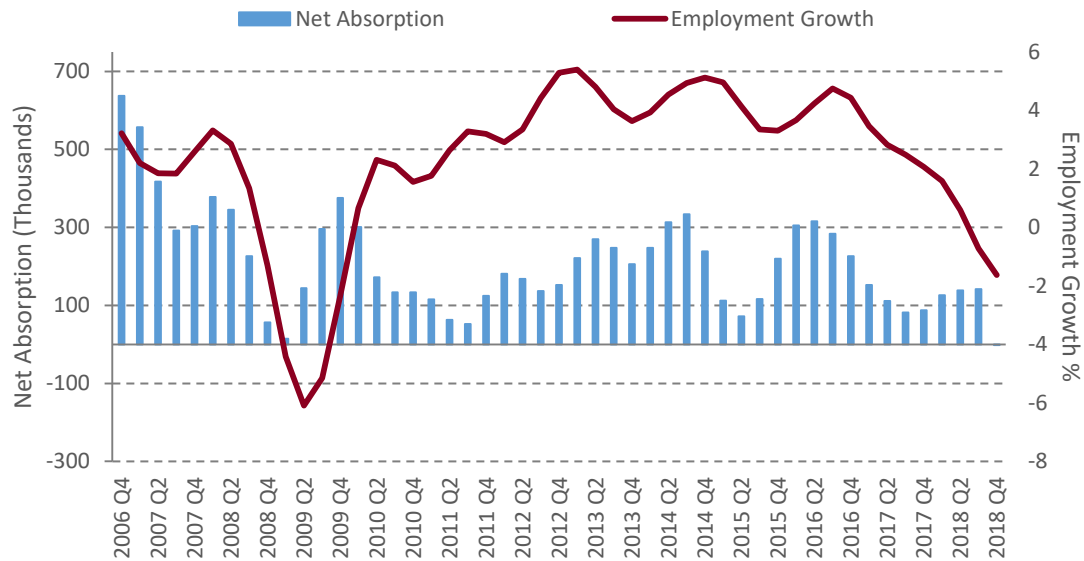


## San Antonio

**Figure 51. San Antonio Office Vacancy and Asking Rent Growth**



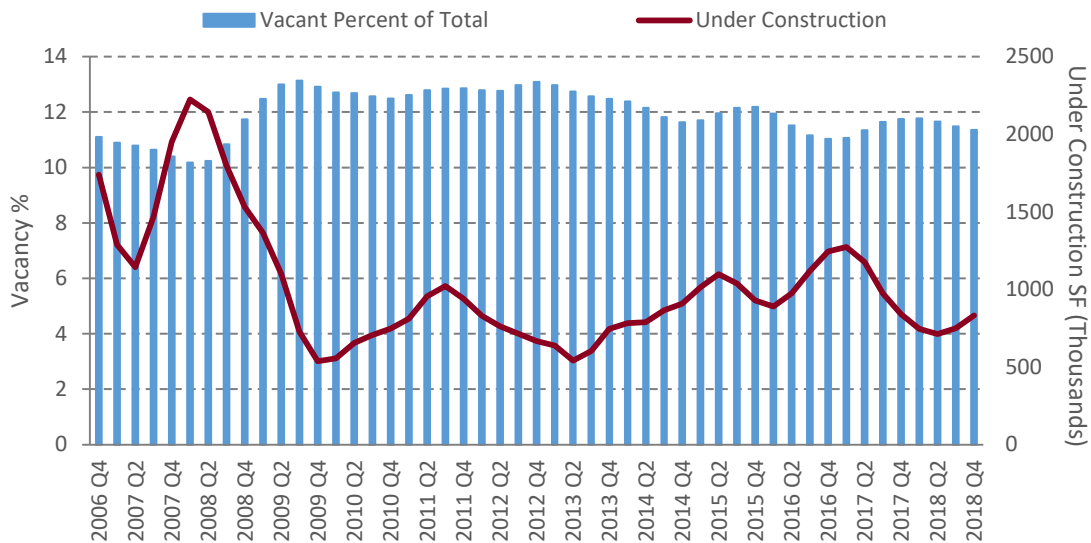
**Figure 52. San Antonio Office Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

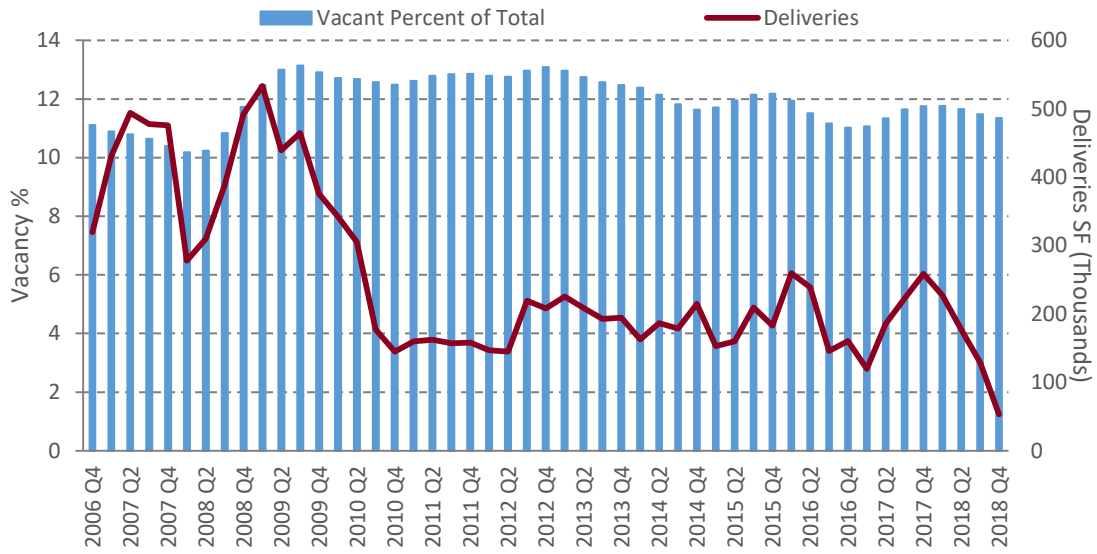
**Figure 53. San Antonio Office Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

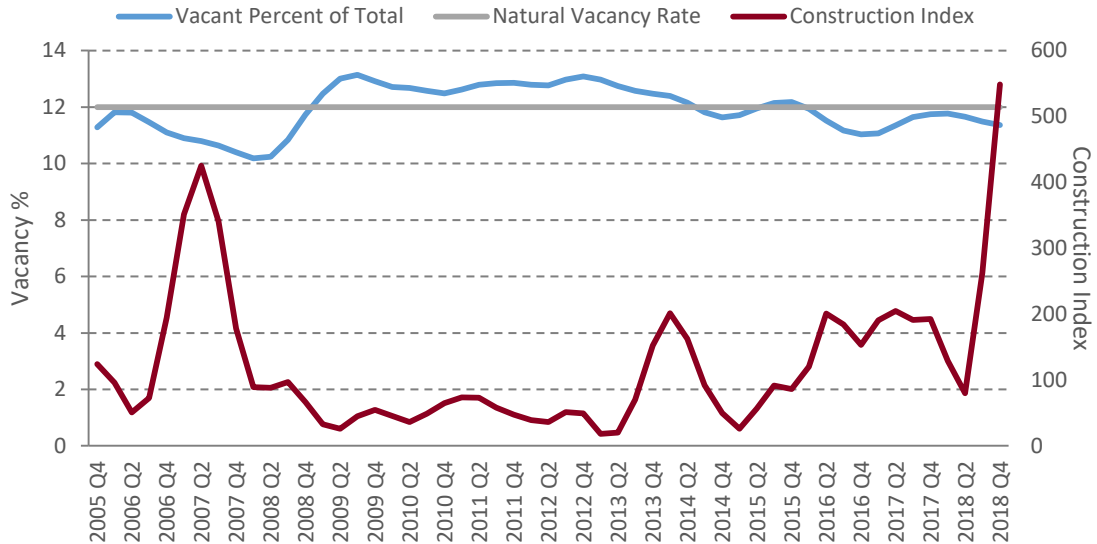
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 54. San Antonio Office Vacancy and Deliveries**



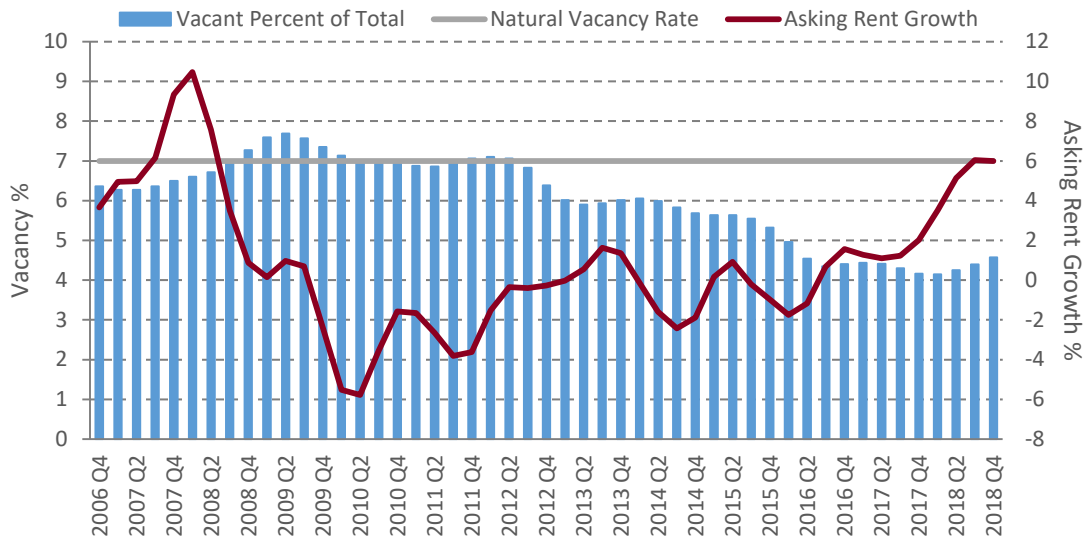
Note: Four-quarter moving average used for deliveries, seasonal adjustment and trend cycling used for vacant percent of total.  
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 55. San Antonio Office Vacancy and Construction Index**  
(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

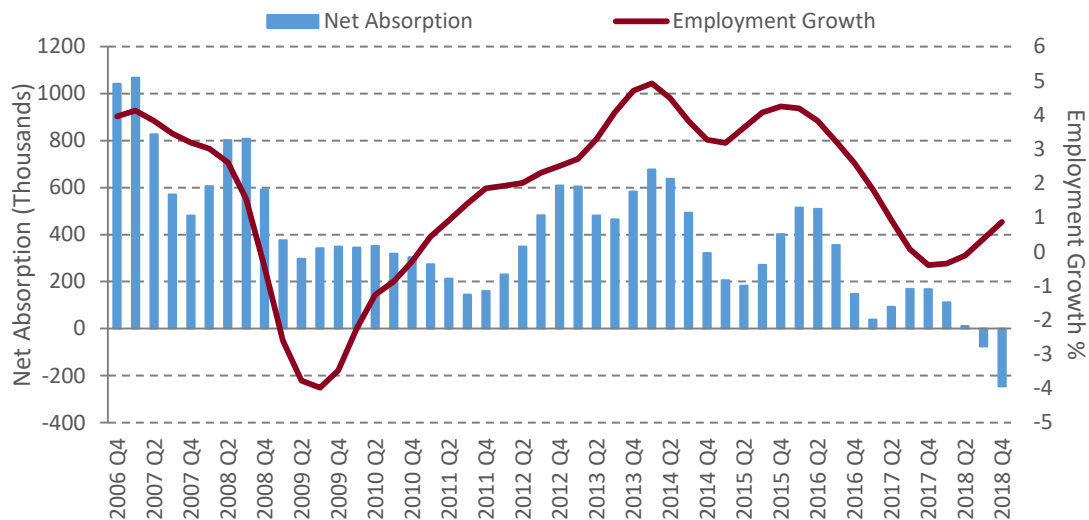
**Figure 56. San Antonio Retail Vacancy and Asking Rent Growth**



Note: Seasonally adjusted and trend-cycle component.

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

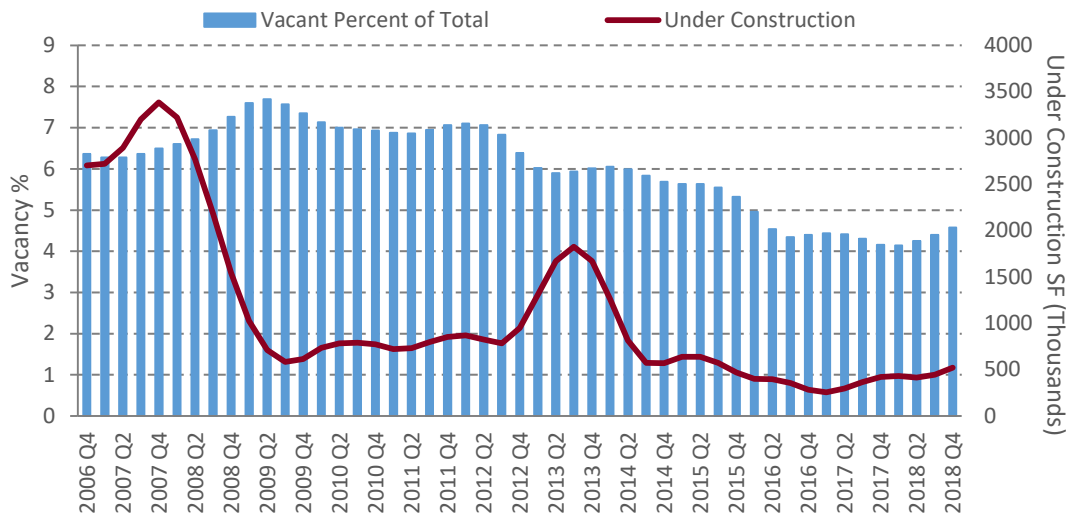
**Figure 57. San Antonio Retail Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

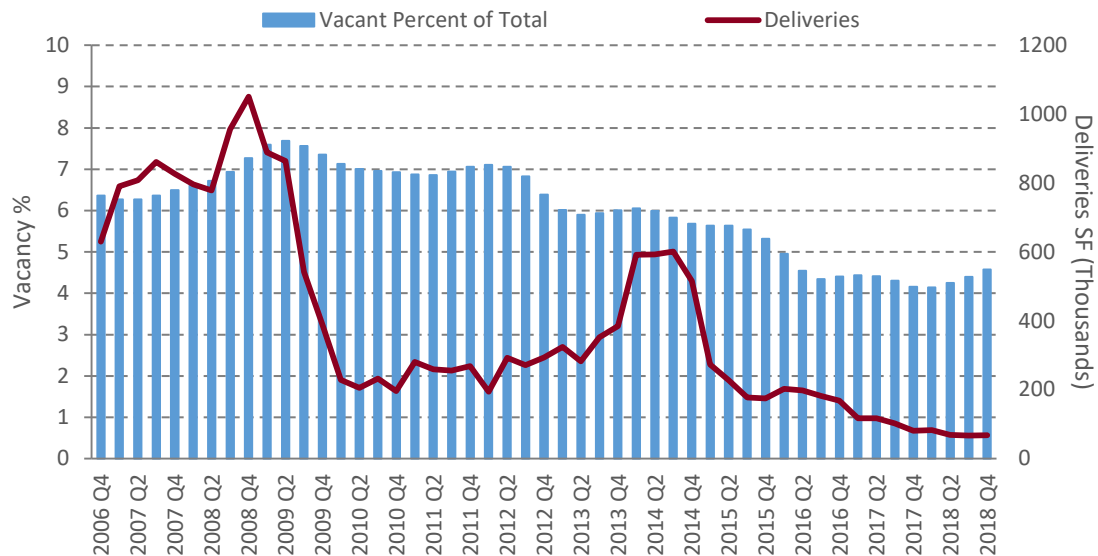
**Figure 58. San Antonio Retail Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

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

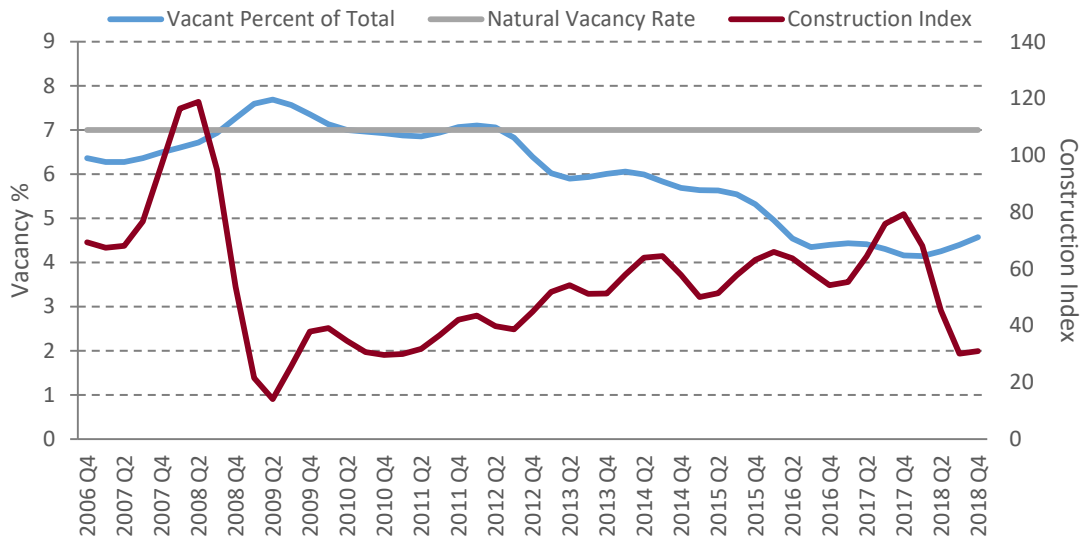
**Figure 59. San Antonio Retail Vacancy and Deliveries**



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

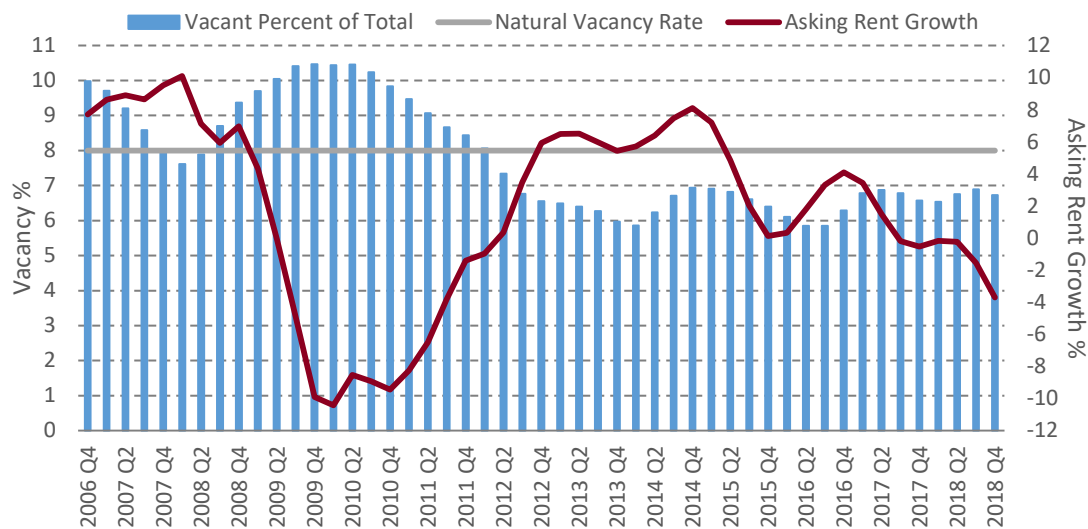
Sources: CoStar and Real Estate Center at Texas A&M University

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



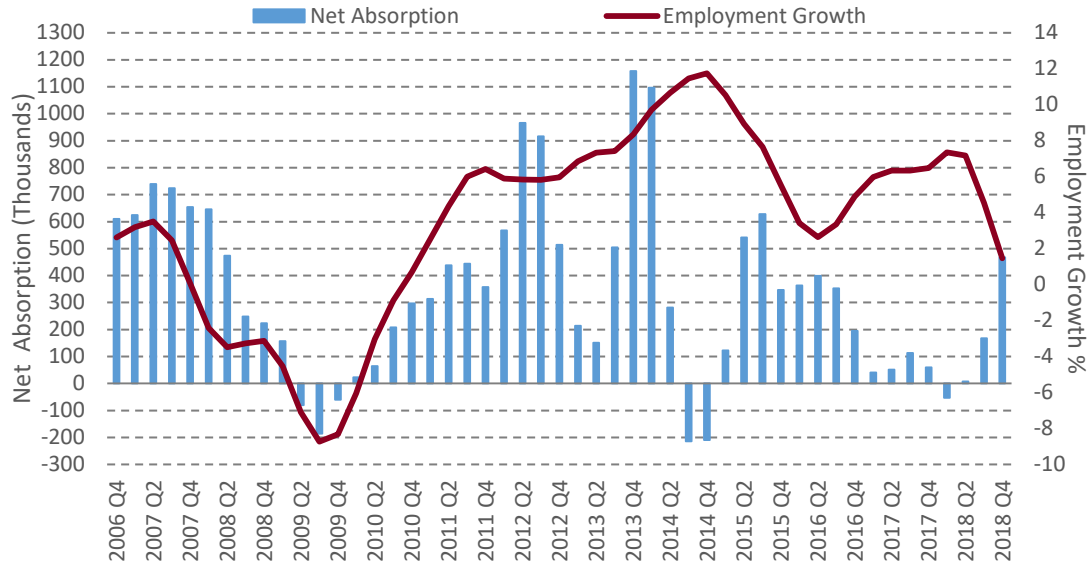
Note: Inflation adjusted, seasonally adjusted, and trend-cycle component.  
Sources: CoStar, Dodge Analytics, and Real Estate Center at Texas A&M University

**Figure 61. San Antonio Warehouse Vacancy and Asking Rent Growth**



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

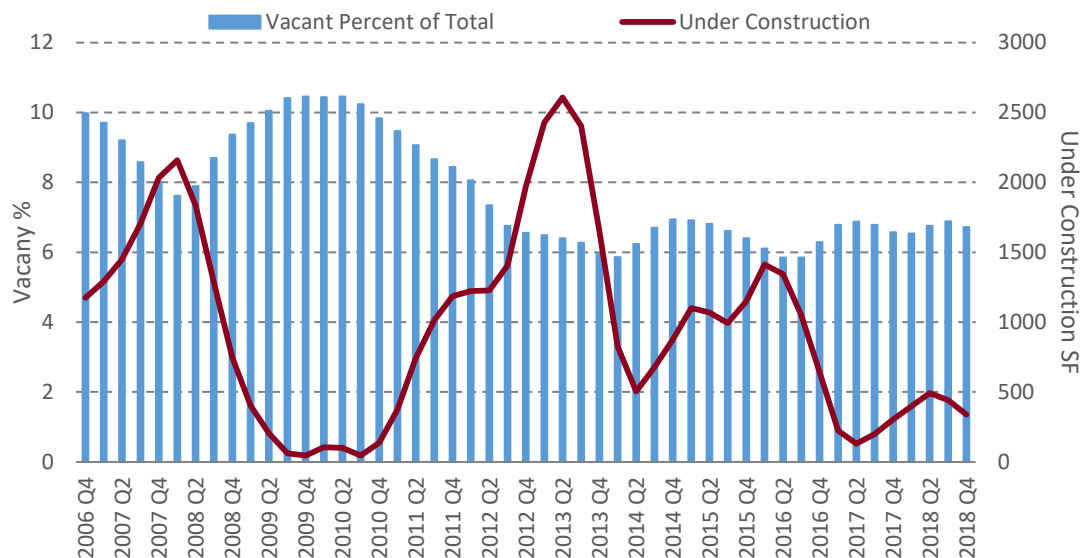
**Figure 62. San Antonio Warehouse Net Absorption and Employment Growth**



Note: Seasonally adjusted and trend-cycle component.

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

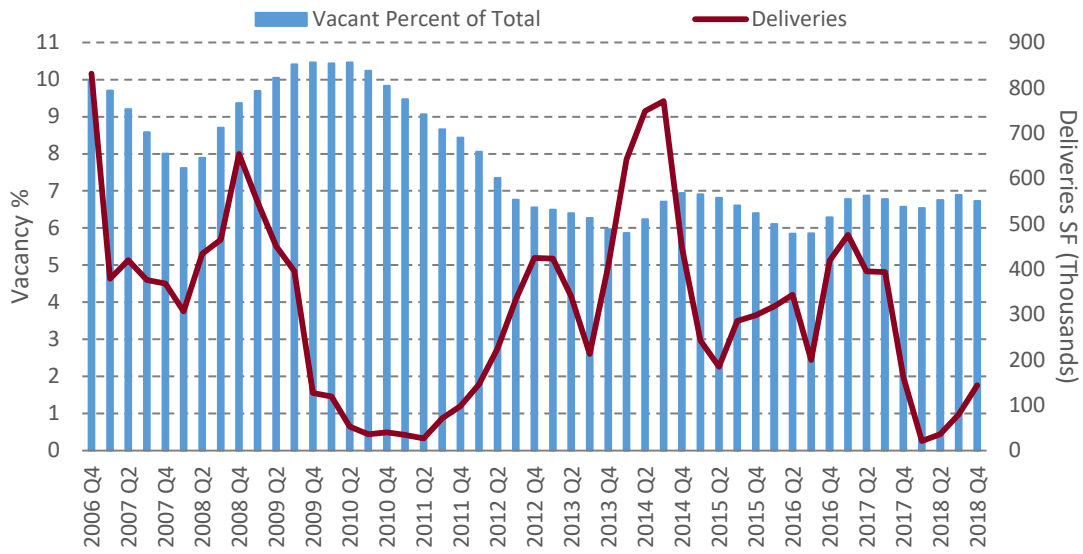
**Figure 63. San Antonio Warehouse Vacancy and Under Construction**



Note: Seasonally adjusted and trend-cycle component.

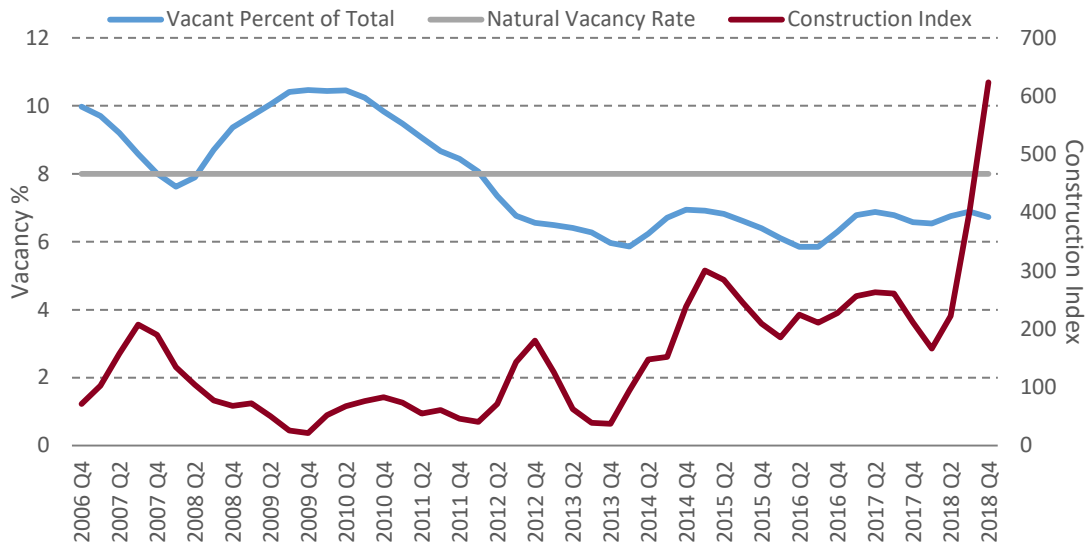
Sources: CoStar and Real Estate Center at Texas A&M University

**Figure 64. San Antonio Warehouse Vacancy and Deliveries**



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**  
(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





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