

# Still Affordable

James P. Gaines and Clare Losey  
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The widening gap between home price and household income has recently sparked concerns over housing affordability. The majority of homebuyers depend on mortgage debt financing to purchase a home and must earn sufficient incomes to qualify for a loan. While affordability has decreased for both the nation and the state since the end of the housing crash, Texas and its major metro areas remain affordable to most homebuyers.

## Calculating Affordability

Housing affordability indexes measure the ability of a family (or household) earning the median family (or household) income to qualify for the median-priced home, given a set of financing assumptions. The Real Estate Center's Texas Housing Affordability Index (THAI) calculates housing affordability for families, as opposed to households, using income figures from the Department of Housing and Urban Development and the Federal Financial Institutions Examination Council. The index covers the nation, the state, each MSA, and selected counties.

## The Takeaway

Housing affordability for both Texas and the U.S. has declined since the end of 2012. Texas remains more affordable than the nation; however, affordability in some of the state's major metros is weakening.

The THAI is the ratio of median family income to the required income to qualify for a mortgage loan. Required qualifying income is a function of the required monthly mortgage payment and the lender-stipulated qualifying ratio (required qualifying income = required monthly payment/qualifying ratio × 12). The required monthly payment is based on an 80 percent, 30-year mortgage for the median-priced home at the effective mortgage interest rate obtained from the Federal Housing Finance Agency. The qualifying ratio is the lender's stipulated ratio of the monthly mortgage payment to monthly income.

The THAI qualifying ratio of 25 percent indicates the monthly mortgage payment cannot exceed 25 percent of the borrower's monthly income. Because the index does not account for homeownership costs other than mortgage principal and interest, it uses a lower qualifying ratio than might be applied to monthly housing costs. If additional costs of homeownership, such as taxes, insurance, and utilities were included, the lender-stipulated qualifying ratio would increase, typically to around 35 or 40 percent or more.

A THAI index value of 1.00 means the required income to qualify for the median-priced home is equal to the median family income. When the required qualifying income exceeds median family income, the index value falls below 1.00. This indicates that a family earning the median income would not qualify for the median-priced home. When the required qualifying income falls below median family income, the index value exceeds 1.00. This means that a family earning the median income would qualify for the median-priced home (Table 1).

By assuming a 20 percent down payment, the index likely overestimates actual affordability. Government-created home finance programs allow homebuyers, particularly first-time homebuyers, to purchase a home with a reduced down payment. For example, the minimum down payment for a Federal Housing Administration (FHA) loan is 3.5 percent. A lower down payment increases the required monthly payment, which consequently results in a higher required qualifying income.

For example, to purchase a \$150,000 home with an 80 percent, 30-year loan at 4.25 percent, the monthly mortgage payment would be \$590.33, and the required qualifying income would be \$28,336. To purchase the same home with a 96.5 percent loan, the monthly mortgage payment and required qualifying income would increase to \$712.08 and \$34,180. In other words, a higher required qualifying income relative to median family income decreases housing affordability.

Table 2 demonstrates the increase in the required qualifying income as the down payment decreases. In 2016, a family needed to earn \$50,406 to qualify for an 80 percent loan, \$56,707 to qualify for a 90 percent loan, \$59,857 to qualify for a 95 percent loan, and \$60,803 to qualify for a 96.5 percent loan in the Austin-Round Rock MSA. The median family income is \$77,800. The lower the down payment, the closer the required qualifying income to the median family income. All calculations assume a 30-year loan at the effective mortgage interest rate and a 25 percent qualifying ratio.

A 10 percentage point decline in the down payment (from 20 to 10 percent) results in a 12.5 percent increase in the required qualifying income. A 5 percentage point decline in the down payment (from 10 to 5 percent) results in a 5.6 percent increase in the required qualifying income, while a 1.5 percentage point decline in the down payment (from 5 to 3.5 percent) results in a 1.6 percent increase in the required qualifying income. As the down payment decreases, the required income to qualify for the same median-priced home increases.

The THAI for each down payment is shown in Table 3. Affordability declines as the down payment declines. In 2016, for the Austin-Round Rock MSA, the THAI measured 1.54 for a 20 percent down payment, 1.37 for a 10 percent down payment, 1.30 for a 5 percent down payment, and 1.28 for a 3.5 percent down payment.

Furthermore, a lower down payment may result in additional charges and fees to the homebuyer, such as private mortgage insurance. Lenders may also raise mortgage interest rates to compensate for the risks associated with lower down payments. This would increase the required qualifying income and reduce housing affordability.

Changes in the qualifying ratio, or front-end debt-to-income (DTI) ratio, also affect the required income to qualify for a mortgage loan. (The front-end DTI ratio considers debts arising solely from homeownership, such as the monthly mortgage payment, whereas the back-end DTI considers other household debts, such as credit cards and student loans.) As the qualifying ratio increases, the required qualifying income decreases (Table 4). This is because the family can spend a higher percentage of monthly income on the mortgage payment. Currently, the front-end DTI ratio for FHA loans is 31 percent; however, the lender can authorize a higher ratio subject to approval from the FHA. Table 5 shows the increase in affordability as the qualifying ratio increases.

## Historical Perspective

In 2016, the statewide THAI was 1.66. Given the financing assumptions, a family that earned the median income in 2016 made 66 percent more than was necessary to qualify for the median-priced home. In contrast, the index for the U.S. was 1.51, making Texas slightly more affordable than the nation.

The THAI indicates Texas has routinely outperformed the U.S. in terms of housing affordability (Figure 1). However, the gap between the two indexes has narrowed since the recovery from the housing crash.

**Table 1. Texas Housing Affordability Index, 2016**

<b>Geography</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>
Abilene	1.71	1.60	1.83	2.02	2.08	2.14	2.37	2.32	2.03	2.13	2.11
Amarillo	1.76	1.65	1.78	2.07	2.17	2.23	2.39	2.38	2.27	2.11	2.20
Austin-Round Rock	1.65	1.55	1.58	1.90	1.93	1.99	2.09	1.82	1.66	1.61	1.54
Beaumont-Port Arthur	1.80	1.69	1.74	2.03	2.13	2.40	2.60	2.30	2.20	2.38	2.29
Bexar County						2.11	2.34	2.15	1.90	1.97	1.90
Brazoria County						2.34	2.80	2.52	2.29	2.23	2.06
Brownsville-Harlingen	1.17	1.03	1.28	1.53	1.56	1.68	1.80	1.84	1.63	1.58	1.63
College Station-Bryan	1.58	1.52	1.68	1.81	1.85	1.93	2.13	1.88	1.82	1.84	1.60
Collin County						2.67	2.78	2.36	2.11	2.03	1.92
Corpus Christi	1.45	1.33	1.42	1.73	1.84	1.94	2.09	1.86	1.63	1.79	1.74
Dallas-Plano-Irving						2.19	2.30	1.92	1.72	1.67	1.58
Dallas County						2.68	2.63	2.13	1.98	1.90	1.77
Denton County						2.41	2.74	2.37	2.13	2.01	1.92
El Paso	1.28	1.14	1.19	1.46	1.54	1.57	1.70	1.64	1.69	1.83	1.74
El Paso County						1.67	1.83	1.76	1.78	1.92	1.87
Fort Bend County						2.28	2.55	2.17	1.95	1.99	2.00
Fort Worth-Arlington						2.61	2.79	2.35	2.15	2.18	1.99
Galveston County						2.17	2.60	2.36	2.23	2.22	2.05
Harris County						2.49	2.57	2.23	2.06	2.07	1.91
Houston-The Woodlands-Sugar Land	1.66	1.54	1.72	2.00	2.11	2.17	2.28	2.00	1.77	1.81	1.77
Kerrville (Kerr County)						1.84	1.93	1.89	1.82	1.82	1.61
Killeen-Temple	1.65	1.63	1.76	2.05	2.12	2.24	2.35	2.51	2.35	2.30	2.31
Laredo	1.05	1.01	1.27	1.48	1.60	1.56	1.62	1.59	1.41	1.50	1.52
Longview	1.66	1.53	1.68	1.96	2.09	2.09	2.34	2.13	2.08	2.15	2.16
Lubbock	1.89	1.88	1.91	2.23	2.34	2.35	2.60	2.48	2.35	2.22	2.24
Lufkin (Angelina County)						2.58	2.23	2.19	2.06	2.12	2.05
McAllen-Edinburg-Mission	1.12	1.01	1.32	1.52	1.57	1.58	1.80	1.86	1.56	1.63	1.63
Midland		1.39	1.39	1.68	1.78	1.81	1.82	1.61	1.51	1.65	2.07
Montgomery County						2.20	2.43	2.13	1.95	2.01	1.93
Nacogdoches County						2.07	1.84	1.98	1.76	1.94	1.98
Tarrant County						2.75	2.96	2.50	2.39	2.32	2.11
Odessa	2.06	1.60	1.68	1.82	2.08	2.08	2.11	1.79	1.83	2.04	2.04
Palestine (Anderson County)						3.21	3.12	3.28	3.13	2.90	2.85
Paris (Lamar County)						2.97	2.97	2.96	2.75	2.68	2.51
San Angelo	1.83	1.82	1.79	2.12	2.11	2.22	2.39	2.08	1.87	2.07	2.03
San Antonio-New Braunfels	1.53	1.48	1.60	1.87	1.92	1.98	2.12	1.96	1.73	1.78	1.70
San Marcos (Hays County)						2.11	2.45	2.13	1.98	1.88	1.85
Sherman-Denison	2.19	2.19	2.57	3.07	3.19	3.36	3.51	3.07	2.66	2.65	2.17
Texarkana	1.85	1.60	2.04	2.06	2.13	2.35	2.68	2.61	2.44	2.25	2.39
Travis County						1.76	1.89	1.64	1.50	1.46	1.40
Tyler	1.51	1.45	1.57	1.86	1.92	2.04	2.18	2.30	1.77	1.93	2.03
Victoria	1.79	1.61	1.68	1.93	2.13	2.12	2.10	1.99	1.72	1.98	1.90
Waco	1.75	1.74	1.79	2.17	2.14	2.20	2.36	2.13	2.02	2.08	1.81
Wichita Falls	2.06	2.05	2.16	2.43	2.63	2.77	3.00	2.83	2.64	3.15	2.78
Texas	1.55	1.48	1.62	1.91	1.98	2.04	2.15	1.93	1.74	1.76	1.66
United States	1.09	1.11	1.33	1.77	1.81	1.91	1.99	1.73	1.56	1.56	1.51

Sources: Real Estate Center at Texas A&M University and National Association of Realtors

**Table 2. Required Qualifying Income for Median-Priced Home  
Based on Down Payment, 2016**

Geography	Down Payment (\$)				Median-Priced Home
	20%	10%	5%	3.5%	2016
Abilene	27,453	30,885	32,601	33,116	152,500
Amarillo	28,786	32,384	34,183	34,723	159,900
Austin-Round Rock	50,406	56,707	59,857	60,803	280,000
Beaumont-Port Arthur	25,464	28,647	30,239	30,716	141,450
Bexar County	34,365	38,660	40,808	41,452	190,601
Brazoria County	40,673	45,757	48,299	49,062	228,500
Brownsville-Harlingen	23,439	26,368	27,833	28,273	130,000
College Station-Bryan	36,887	41,497	43,803	44,494	204,900
Collin County	53,872	60,606	63,973	64,983	300,991
Corpus Christi	33,304	37,467	39,549	40,173	185,000
Dallas-Plano-Irving	45,406	51,082	53,920	54,771	253,690
Dallas County	37,160	41,805	44,128	44,824	207,619
Denton County	48,325	54,366	57,386	58,292	270,000
El Paso	26,085	29,346	30,976	31,465	144,900
El Paso County	26,085	29,346	30,976	31,465	144,900
Fort Bend County	48,950	55,069	58,128	59,046	275,000
Fort Worth-Arlington	34,902	39,264	41,446	42,100	195,000
Galveston County	37,749	42,468	44,827	45,535	212,075
Harris County	36,472	41,031	43,311	43,995	204,900
Houston-The Woodlands-Sugar Land	39,160	44,055	46,502	47,237	220,000
Kerrville (Kerr County)	35,995	40,495	42,745	43,420	199,950
Killeen-Temple	25,616	28,818	30,419	30,900	142,295
Laredo	28,847	32,453	34,256	34,797	160,000
Longview	26,103	29,366	30,998	31,487	145,000
Lubbock	26,985	30,359	32,045	32,551	149,900
Lufkin (Angelina County)	25,653	28,860	30,463	30,944	142,500
McAllen-Edinburg-Mission	23,799	26,774	28,261	28,708	132,000
Midland	42,305	47,593	50,237	51,031	235,000
Montgomery County	43,610	49,061	51,787	52,605	245,000
Nacogdoches County	24,843	27,948	29,501	29,967	138,000
Tarrant County	35,081	39,466	41,658	42,316	196,000
Odessa	29,884	33,619	35,487	36,047	166,000
Palestine (Anderson County)	20,986	23,609	24,920	25,314	117,250
Paris (Lamar County)	21,370	24,042	25,377	25,778	119,400
San Angelo	29,524	33,214	35,059	35,613	164,000
San Antonio-New Braunfels	36,600	41,175	43,463	44,149	203,000
San Marcos (Hays County)	43,142	48,535	51,232	52,040	239,650
Sherman-Denison	25,943	29,186	30,808	31,294	144,950
Texarkana	22,683	25,518	26,936	27,361	126,000
Travis County	57,607	64,808	68,408	69,489	320,000
Tyler	31,486	35,422	37,390	37,980	174,900
Victoria	30,604	34,429	36,342	36,916	170,000
Waco	28,201	31,726	33,488	34,017	156,650
Wichita Falls	20,649	23,230	24,520	24,907	114,700
Texas	37,805	42,530	44,893	45,602	210,000
United States	43,496	48,933	51,651	52,467	235,500

Sources: Real Estate Center at Texas A&M University and National Association of Realtors

**Table 3. THAI Based on Down Payment, 2016**

Geography	Down Payment			
	20%	10%	5%	3.5%
Abilene	2.11	1.88	1.78	1.75
Amarillo	2.20	1.95	1.85	1.82
Austin-Round Rock	1.54	1.37	1.30	1.28
Beaumont-Port Arthur	2.29	2.04	1.93	1.90
Bexar County	1.90	1.68	1.60	1.57
Brazoria County	2.06	1.83	1.74	1.71
Brownsville-Harlingen	1.63	1.45	1.37	1.35
College Station-Bryan	1.60	1.42	1.34	1.32
Collin County	1.92	1.71	1.62	1.59
Corpus Christi	1.74	1.55	1.46	1.44
Dallas-Plano-Irving	1.58	1.40	1.33	1.31
Dallas County	1.77	1.57	1.49	1.47
Denton County	1.92	1.71	1.62	1.59
El Paso	1.74	1.55	1.47	1.44
El Paso County	1.87	1.66	1.57	1.55
Fort Bend County	2.00	1.78	1.69	1.66
Fort Worth-Arlington	1.99	1.77	1.67	1.65
Galveston County	2.05	1.82	1.72	1.70
Harris County	1.91	1.70	1.61	1.59
Houston-The Woodlands-Sugar Land	1.77	1.57	1.49	1.46
Kerrville (Kerr County)	1.61	1.43	1.35	1.33
Killeen-Temple	2.31	2.06	1.95	1.92
Laredo	1.52	1.35	1.28	1.26
Longview	2.16	1.92	1.82	1.79
Lubbock	2.24	1.99	1.89	1.86
Lufkin (Angelina County)	2.05	1.82	1.72	1.70
McAllen-Edinburg-Mission	1.63	1.45	1.37	1.35
Midland	2.07	1.84	1.74	1.71
Montgomery County	1.93	1.72	1.63	1.60
Nacogdoches County	1.98	1.76	1.67	1.64
Tarrant County	2.11	1.87	1.78	1.75
Odessa	2.04	1.81	1.72	1.69
Palestine (Anderson County)	2.85	2.53	2.40	2.36
Paris (Lamar County)	2.51	2.23	2.11	2.08
San Angelo	2.03	1.80	1.71	1.68
San Antonio-New Braunfels	1.70	1.51	1.43	1.41
San Marcos (Hays County)	1.85	1.65	1.56	1.54
Sherman-Denison	2.17	1.93	1.82	1.80
Texarkana	2.39	2.12	2.01	1.98
Travis County	1.40	1.25	1.18	1.16
Tyler	2.03	1.81	1.71	1.69
Victoria	1.90	1.69	1.60	1.58
Waco	1.81	1.61	1.52	1.50
Wichita Falls	2.78	2.47	2.34	2.30
Texas	1.66	1.48	1.40	1.38
United States	1.51	1.34	1.27	1.25

Sources: Real Estate Center at Texas A&M University and National Association of Realtors

After peaking at the end of 2012, housing affordability for both Texas and the U.S. diminished. By the end of 2012, the index for Texas was 22 percent above its 2006–12 average, while the index for the U.S. was 30 percent above its average. By the end of 2016, the indexes for Texas and the U.S. were 8 and 16 percent below their respective 2013–16 averages.

The nationwide increase in affordability from 2008 to 2012 can be attributed to the decline in home prices and mortgage interest rates (Figures 2 and 3). In Texas, home prices remained fairly stagnant until an uptick in 2012. Falling mortgage interest rates and growth in median family income contributed to higher affordability from 2008 to 2012 (Figure 4).

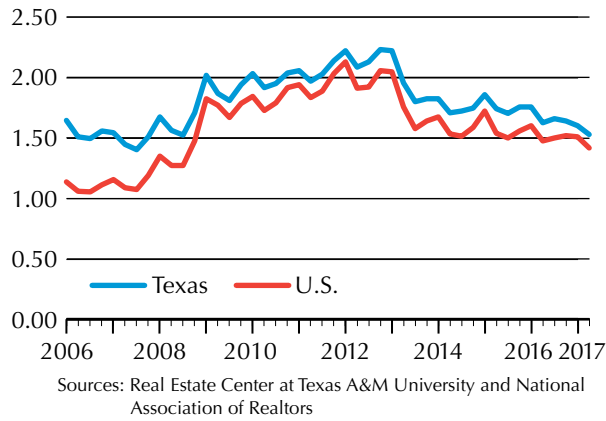
The decline in statewide housing affordability since 2013 stems from the rise in median home prices and slower growth in median family income. Meanwhile, interest rates have not fluctuated significantly since 2012. The median home price in Texas increased dramatically—nearly 34 percent—from 2012 to 2016. The national median home price increased slightly less—nearly 33 percent.

All Texas MSAs were more affordable than the United States in 2016. Wichita Falls had the highest level of affordability due to a low median home price (\$114,700) relative to median family income (\$57,400). Laredo exhibited the lowest level of affordability as a result of the low median family income (\$43,900). Of the five major markets, Fort Worth-Arlington was the most affordable with an index of 1.99 (the DFW metro area is separated into two markets, Dallas-Plano-Irving and Fort Worth-Arlington).

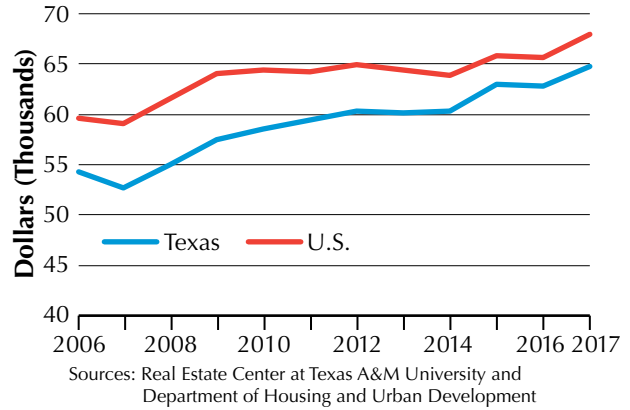
Austin was the least affordable of the five major markets with an index of 1.54 in 2016. The median home price for the Austin MSA (\$280,000) was the highest among all the MSAs in 2016. The index



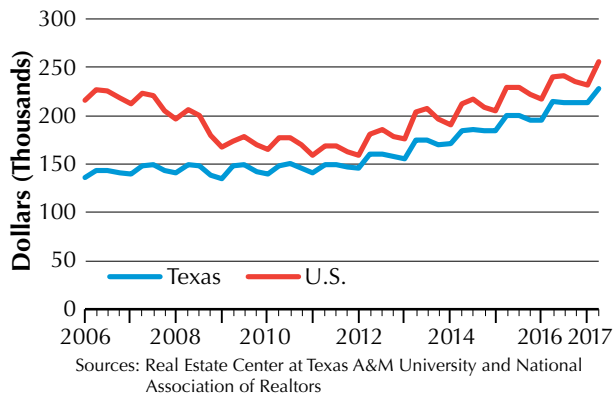
**Figure 1. Texas Housing Affordability Index**



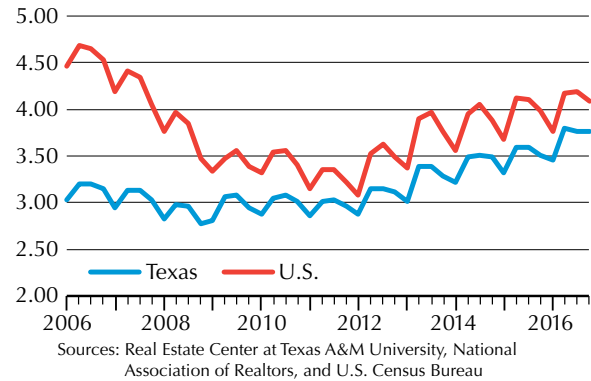
**Figure 4. Median Family Income**



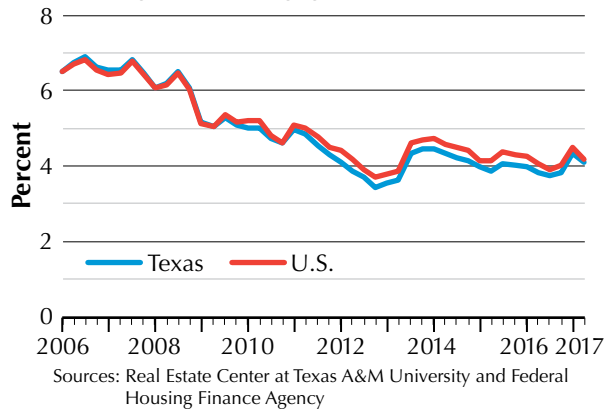
**Figure 2. Median Home Price**



**Figure 5. Median Home Price as a Multiple of Median Household Income**



**Figure 3. Mortgage Interest Rate**



for Travis County measured 1.40 in 2016, indicating lower housing affordability compared with the nation. Travis County was the only area with an index lower than that of the U.S. in 2016.

### Mortgage Interest Rates Implications

Affordability may continue to decline in the near future. An anticipated rise in mortgage interest rates will

increase the required monthly payment, and, as a result, the required qualifying income. Goldman Sachs has predicted mortgage interest rates will rise to 5.5 percent by 2019.

A \$200,000 home with an 80 percent, 30-year loan at 6.69 percent (the annual rate for Texas in 2006) requires a monthly mortgage payment of \$1,031.65. The homebuyer needs to earn an annual income of \$49,519 to qualify for a loan.

In this scenario, the price-to-income ratio is 4.04 (\$200,000 / \$49,519). As the price-to-income ratio increases, the gap between median home price and required qualifying income also widens. Affordability increases as required qualifying income decreases relative to the home price. In essence, a higher ratio implies that buyers can purchase more housing relative to income.

The monthly mortgage payment to purchase the same \$200,000 home at a rate of 5.5 percent decreases to \$908.46. The homebuyer would need to earn an annual income of \$43,606 to qualify for a loan, setting the price-to-income ratio at 4.59.

**Table 4. Required Qualifying Income Based on Down Payment (DP) Qualifying Ratio (QR), 2016**

<b>Geography</b>	<b>20% DP 25% QR</b>	<b>20% DP 30% QR</b>	<b>20% DP 35% QR</b>	<b>10% DP 25% QR</b>	<b>10% DP 30% QR</b>	<b>10% DP 35% QR</b>
Abilene	\$27,453	\$22,878	\$19,610	\$30,885	\$25,738	\$22,061
Amarillo	\$28,786	\$23,988	\$20,561	\$32,384	\$26,986	\$23,131
Austin-Round Rock	\$50,406	\$42,005	\$36,004	\$56,707	\$47,256	\$40,505
Beaumont-Port Arthur	\$25,464	\$21,220	\$18,189	\$28,647	\$23,873	\$20,462
Bexar County	\$34,365	\$28,637	\$24,546	\$38,660	\$32,217	\$27,614
Brazoria County	\$40,673	\$33,894	\$29,052	\$45,757	\$38,131	\$32,684
Brownsville-Harlingen	\$23,439	\$19,532	\$16,742	\$26,368	\$21,974	\$18,835
College Station-Bryan	\$36,887	\$30,739	\$26,348	\$41,497	\$34,581	\$29,641
Collin County	\$53,872	\$44,893	\$38,480	\$60,606	\$50,505	\$43,290
Corpus Christi	\$33,304	\$27,753	\$23,789	\$37,467	\$31,223	\$26,762
Dallas-Plano-Irving	\$45,406	\$37,838	\$32,433	\$51,082	\$42,568	\$36,487
Dallas County	\$37,160	\$30,967	\$26,543	\$41,805	\$34,838	\$29,861
Denton County	\$48,325	\$40,271	\$34,518	\$54,366	\$45,305	\$38,833
El Paso	\$26,085	\$21,738	\$18,632	\$29,346	\$24,455	\$20,961
El Paso County	\$26,085	\$21,738	\$18,632	\$29,346	\$24,455	\$20,961
Fort Bend County	\$48,950	\$40,792	\$34,964	\$55,069	\$45,891	\$39,335
Fort Worth-Arlington	\$34,902	\$29,085	\$24,930	\$39,264	\$32,720	\$28,046
Galveston County	\$37,749	\$31,458	\$26,964	\$42,468	\$35,390	\$30,334
Harris County	\$36,472	\$30,393	\$26,052	\$41,031	\$34,193	\$29,308
Houston-The Woodlands-Sugar Land	\$39,160	\$32,633	\$27,971	\$44,055	\$36,712	\$31,468
Kerrville (Kerr County)	\$35,995	\$29,996	\$25,711	\$40,495	\$33,746	\$28,925
Killeen-Temple	\$25,616	\$21,347	\$18,297	\$28,818	\$24,015	\$20,585
Laredo	\$28,847	\$24,040	\$20,605	\$32,453	\$27,044	\$23,181
Longview	\$26,103	\$21,753	\$18,645	\$29,366	\$24,472	\$20,976
Lubbock	\$26,985	\$22,488	\$19,275	\$30,359	\$25,299	\$21,685
Lufkin (Angelina County)	\$25,653	\$21,378	\$18,324	\$28,860	\$24,050	\$20,614
McAllen-Edinburg-Mission	\$23,799	\$19,833	\$16,999	\$26,774	\$22,312	\$19,124
Midland	\$42,305	\$35,254	\$30,218	\$47,593	\$39,661	\$33,995
Montgomery County	\$43,610	\$36,342	\$31,150	\$49,061	\$40,884	\$35,044
Nacogdoches County	\$24,843	\$20,703	\$17,745	\$27,948	\$23,290	\$19,963
Tarrant County	\$35,081	\$29,234	\$25,058	\$39,466	\$32,888	\$28,190
Odessa	\$29,884	\$24,903	\$21,346	\$33,619	\$28,016	\$24,014
Palestine (Anderson County)	\$20,986	\$17,488	\$14,990	\$23,609	\$19,674	\$16,863
Paris (Lamar County)	\$21,370	\$17,809	\$15,265	\$24,042	\$20,035	\$17,173
San Angelo	\$29,524	\$24,603	\$21,088	\$33,214	\$27,678	\$23,724
San Antonio-New Braunfels	\$36,600	\$30,500	\$26,143	\$41,175	\$34,313	\$29,411
San Marcos (Hays County)	\$43,142	\$35,952	\$30,816	\$48,535	\$40,446	\$34,668
Sherman-Denison	\$25,943	\$21,620	\$18,531	\$29,186	\$24,322	\$20,847
Texarkana	\$22,683	\$18,902	\$16,202	\$25,518	\$21,265	\$18,227
Travis County	\$57,607	\$48,006	\$41,148	\$64,808	\$54,007	\$46,291
Tyler	\$31,486	\$26,238	\$22,490	\$35,422	\$29,518	\$25,301
Victoria	\$30,604	\$25,503	\$21,860	\$34,429	\$28,691	\$24,592
Waco	\$28,201	\$23,500	\$20,143	\$31,726	\$26,438	\$22,661
Wichita Falls	\$20,649	\$17,207	\$14,749	\$23,230	\$19,358	\$16,593
Texas	\$37,805	\$31,504	\$27,003	\$42,530	\$35,442	\$30,379
United States	\$43,496	\$36,246	\$31,068	\$48,933	\$40,777	\$34,952

Sources: Real Estate Center at Texas A&amp;M University and National Association of Realtors

**Table 5. Texas Housing Affordability Index Based on Qualifying Ratio (QR) and Down Payment (DP), 2016**

<b>Geography</b>	<b>20% DP 25% QR</b>	<b>20% DP 30% QR</b>	<b>20% DP 35% QR</b>	<b>10% DP 25% QR</b>	<b>10% DP 30% QR</b>	<b>10% DP 35% QR</b>
Abilene	2.11	2.54	2.96	1.88	2.25	2.63
Amarillo	2.20	2.63	3.07	1.95	2.34	2.73
Austin-Round Rock	1.54	1.85	2.16	1.37	1.65	1.92
Beaumont-Port Arthur	2.29	2.75	3.21	2.04	2.45	2.85
Bexar County	1.90	2.27	2.65	1.68	2.02	2.36
Brazoria County	2.06	2.47	2.88	1.83	2.20	2.56
Brownsville-Harlingen	1.63	1.96	2.28	1.45	1.74	2.03
College Station-Bryan	1.60	1.92	2.24	1.42	1.70	1.99
Collin County	1.92	2.31	2.69	1.71	2.05	2.39
Corpus Christi	1.74	2.09	2.43	1.55	1.85	2.16
Dallas-Plano-Irving	1.58	1.89	2.21	1.40	1.68	1.97
Dallas County	1.77	2.13	2.48	1.57	1.89	2.20
Denton County	1.92	2.31	2.69	1.71	2.05	2.39
El Paso	1.74	2.09	2.44	1.55	1.86	2.17
El Paso County	1.87	2.24	2.62	1.66	1.99	2.33
Fort Bend County	2.00	2.40	2.80	1.78	2.13	2.49
Fort Worth-Arlington	1.99	2.39	2.78	1.77	2.12	2.47
Galveston County	2.05	2.46	2.87	1.82	2.18	2.55
Harris County	1.91	2.30	2.68	1.70	2.04	2.38
Houston-The Woodlands-Sugar Land	1.77	2.12	2.47	1.57	1.88	2.20
Kerrville (Kerr County)	1.61	1.93	2.25	1.43	1.71	2.00
Killeen-Temple	2.31	2.78	3.24	2.06	2.47	2.88
Laredo	1.52	1.83	2.13	1.35	1.62	1.89
Longview	2.16	2.59	3.02	1.92	2.30	2.69
Lubbock	2.24	2.69	3.14	1.99	2.39	2.79
Lufkin (Angelina County)	2.05	2.45	2.86	1.82	2.18	2.55
McAllen-Edinburg-Mission	1.63	1.96	2.28	1.45	1.74	2.03
Midland	2.07	2.48	2.90	1.84	2.21	2.57
Montgomery County	1.93	2.32	2.71	1.72	2.06	2.41
Nacogdoches County	1.98	2.38	2.77	1.76	2.11	2.46
Tarrant County	2.11	2.53	2.95	1.87	2.25	2.62
Odessa	2.04	2.45	2.86	1.81	2.18	2.54
Palestine (Anderson County)	2.85	3.42	3.98	2.53	3.04	3.54
Paris (Lamar County)	2.51	3.01	3.51	2.23	2.68	3.12
San Angelo	2.03	2.43	2.84	1.80	2.16	2.52
San Antonio-New Braunfels	1.70	2.04	2.38	1.51	1.81	2.11
San Marcos (Hays County)	1.85	2.22	2.59	1.65	1.98	2.30
Sherman-Denison	2.17	2.60	3.03	1.93	2.31	2.70
Texarkana	2.39	2.86	3.34	2.12	2.54	2.97
Travis County	1.40	1.68	1.96	1.25	1.50	1.75
Tyler	2.03	2.44	2.85	1.81	2.17	2.53
Victoria	1.90	2.28	2.66	1.69	2.03	2.37
Waco	1.81	2.17	2.53	1.61	1.93	2.25
Wichita Falls	2.78	3.34	3.89	2.47	2.97	3.46
Texas	1.66	1.99	2.33	1.48	1.77	2.07
United States	1.51	1.81	2.11	1.34	1.61	1.88

Sources: Real Estate Center at Texas A&M University and National Association of Realtors



To purchase the same \$200,000 home at the statewide 3.85 percent rate for 2016, the monthly mortgage payment is \$750.09, while the required qualifying income is \$36,004. The price-to-income ratio measures 5.55. A nearly 3 percent drop in the interest rate resulted in a 27 percent decline in the required qualifying income for an 80 percent loan.

## Price-to-Income Ratio

The price-to-income ratio can also be computed using median household income rather than required qualifying income. Median household income captures housing affordability for all households, as opposed to only families.

In this instance, a lower price-to-income ratio is favorable, as it indicates a household earning the median income should have sufficient income to qualify for the median-priced home. Households should generally be able to qualify for a home priced between 3.0 and 3.5 times their annual income. A ratio above 4.0 suggests that home prices are teetering toward a level that cannot be supported by the median household income.

Prior to the housing crash, the price-to-income ratio for the U.S. hovered above 4.5, before dropping precipitously during the height of the crash (Figure 5). After rebounding in 2013, the ratio has crept upward. By the end of 2016, the ratio for the U.S. was 4.09. Significant growth in median home price coupled with slow growth in median household income contribute to the larger ratio. From 2006 to 2016, the national median household income grew, on average, nearly 2 percent per year.

The average price-to-income ratio from the beginning of 2006 to the end of 2016 measures 3.80 for the U.S. and significantly less for Texas at 3.18. Since 2006, the ratio for Texas has remained below that of the U.S. but the gap between the two has narrowed in recent years.

The price-to-income ratio for Texas hovered around 3.0 prior to the recession as well as in the years immediately following. Since mid-2012, the ratio has exceeded 3.0 and has hovered around 3.5 since mid-2014. By the end of 2016, the ratio measured 3.77. 📌

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*Dr. Gaines (jgaines@tamu.edu) is a chief economist and Losey a research assistant with the Real Estate Center at Texas A&M University.*

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