

Texas Housing Affordability Outlook



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Texas Housing Affordability Outlook 4Q2022

About this Report

Texas Real Estate Research Center economists continuously monitor many facets of both state and local housing markets. The *Texas Housing Affordability Outlook* summarizes significant state housing activity and trends as related to affordability. Home prices reflect single-family existing homes unless otherwise stated. This report does not seasonally adjust home prices.

This publication is designed to be a one-stop resource for information on housing affordability for potential homebuyers in Texas. We hope you find them as useful as we do. Your feedback is always appreciated. Send comments and suggestions to info@recenter.tamu.edu.

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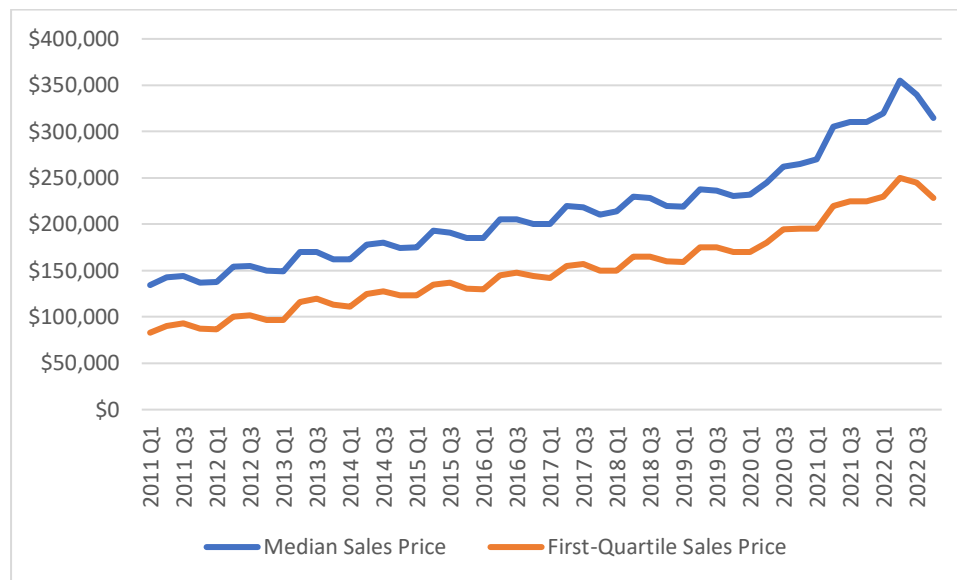


Purchase Affordability

Affordability continued to decline in 4Q2022 amid higher mortgage interest rates and still-elevated home prices. Although home price appreciation declined substantially from record highs observed in the first two years of the COVID-19 pandemic, year-over-year (YOY) growth in both the median and first-quartile sales price remained positive at 1.6 percent and 1.3 percent, respectively (Figure 1 and Table 1).¹ The significant YOY increase in family income followed years of modest rises (Table 2). While the rise in median family income (13.6 percent) outpaced the growth in median home price, the substantial uptick in mortgage rates essentially offset the effect of higher median family income.

Rates averaged 6.66 percent in 4Q2022, up considerably from 2Q2022 and 3Q2022, which averaged 5.27 and 5.62 percent, respectively (Figure 2). All other things being equal, lower (higher) mortgage interest rates translate into lower (higher) monthly mortgage payments and ease (diminish) purchase affordability. The Federal Reserve is widely anticipated to raise the federal funds rate an additional 75 basis points in 2023 to reduce inflationary pressures. Expectations dictate that mortgage rates will continue decreasing slightly before settling in the 5 percent range. For more information on the effect of mortgage interest rates on purchase affordability, see “[How Higher Interest rates Affect Homebuying](https://www.recenter.tamu.edu/articles/tierra-grande/How-Higher-Interest-Rates-Affect-Homebuying-2339)” at <https://www.recenter.tamu.edu/articles/tierra-grande/How-Higher-Interest-Rates-Affect-Homebuying-2339>.

Figure 1. Texas’ Median and First-Quartile Sales Prices



Source: Texas Real Estate Research Center at Texas A&M University

¹ The first quartile reflects the lowest-priced 25 percent of homes sold in a particular geography. The first-quartile sales price represents the highest home price among those lowest-priced 25 percent of homes sold. If the price of the lowest 25 percent of homes sold ranges from \$100,000 to \$150,000, then the first-quartile sales price would be \$150,000.

Table 1. Median Sales Price and First-Quartile Sales Price by Quarter

Year	Median Home Price	YOY Change	First-Quartile Home Price	YOY Change
4Q2011	\$137,000		\$87,000	
4Q2012	\$149,900	9.4%	\$97,000	11.5%
4Q2013	\$162,500	8.4%	\$113,000	16.5%
4Q2014	\$174,500	7.4%	\$123,500	9.3%
4Q2015	\$185,000	6.0%	\$130,400	5.6%
4Q2016	\$200,000	8.1%	\$144,500	10.8%
4Q2017	\$210,000	5.0%	\$150,000	3.8%
4Q2018	\$219,900	4.7%	\$160,000	6.7%
4Q2019	\$230,700	4.9%	\$170,000	6.3%
4Q2020	\$265,000	14.9%	\$195,000	14.7%
4Q2021	\$310,000	17.0%	\$225,000	15.4%
4Q2022	\$315,000	1.6%	\$228,000	1.3%

Source: Texas Real Estate Research Center at Texas A&M University

Table 2. Median Family Income by Year

Year	Income for First-Time Homebuyers	YOY Change	Median Family Income	YOY Change	Ratio of Median Home Price to Median Family Income
2011	\$47,600		\$59,500		2.42
2012	\$48,250	1.4%	\$60,300	1.3%	2.57
2013	\$48,100	-0.3%	\$60,100	-0.3%	2.83
2014	\$48,250	0.3%	\$60,300	0.3%	2.99
2015	\$50,300	4.2%	\$62,900	4.3%	3.04
2016	\$50,250	-0.1%	\$62,800	-0.2%	3.26
2017	\$51,850	3.2%	\$64,800	3.2%	3.36
2018	\$55,050	6.2%	\$68,800	6.2%	3.31
2019	\$56,950	3.5%	\$71,200	3.5%	3.31
2020	\$59,600	4.7%	\$74,500	4.6%	3.52
2021	\$60,100	0.8%	\$75,100	0.8%	4.13
2022	\$67,250	11.9%	\$85,300	13.6%	3.99

Note: The income for first-time homebuyers reflects the income limit for low-income families, who earn no more than 80 percent of the median family income. This table reflects income figures for a four-person family.

Source: United States Department of Housing and Urban Development

Figure 2. 30-Year Fixed Rate Mortgage Average in the United States



Sources: Federal Reserve Economic Data and Freddie Mac

Repeat Homebuyer

Despite the substantial YOY growth in family income, still-elevated home prices suppressed purchase affordability. For households earning the median family income for Texas in 2022 (\$85,300), the median sales price for 4Q2022 was not affordable to them unless the home price-to-income multiplier approached 4 (Table 3). Less than one-third (33.2 percent) of homes sold in 4Q2022 were affordable to households earning the median family income with a home price-to-income multiplier of 3 (Table 4). Households would have to earn \$105,000 annually to be able to afford the median sales price with a home price-to-income multiplier of 3.

**Table 3. Maximum Home Price Affordable by Family Income
and Home Price-to-Income Multiplier**

		Home Purchasing Power							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
Median Family Income	\$85,300	\$170,600	\$213,250	\$255,900	\$298,550	\$341,200	\$383,850	\$426,500	\$469,150
	\$90,000	\$180,000	\$225,000	\$270,000	\$315,000	\$360,000	\$405,000	\$450,000	\$495,000
	\$95,000	\$190,000	\$237,500	\$285,000	\$332,500	\$380,000	\$427,500	\$475,000	\$522,500
	\$100,000	\$200,000	\$250,000	\$300,000	\$350,000	\$400,000	\$450,000	\$500,000	\$550,000
Workforce Households (120%)	\$102,400	\$204,800	\$256,000	\$307,200	\$358,400	\$409,600	\$460,800	\$512,000	\$563,200
	\$105,000	\$210,000	\$262,500	\$315,000	\$367,500	\$420,000	\$472,500	\$525,000	\$577,500
	\$110,000	\$220,000	\$275,000	\$330,000	\$385,000	\$440,000	\$495,000	\$550,000	\$605,000
	\$115,000	\$230,000	\$287,500	\$345,000	\$402,500	\$460,000	\$517,500	\$575,000	\$632,500
	\$120,000	\$240,000	\$300,000	\$360,000	\$420,000	\$480,000	\$540,000	\$600,000	\$660,000
	\$125,000	\$250,000	\$312,500	\$375,000	\$437,500	\$500,000	\$562,500	\$625,000	\$687,500
	\$130,000	\$260,000	\$325,000	\$390,000	\$455,000	\$520,000	\$585,000	\$650,000	\$715,000
	\$135,000	\$270,000	\$337,500	\$405,000	\$472,500	\$540,000	\$607,500	\$675,000	\$742,500
	\$140,000	\$280,000	\$350,000	\$420,000	\$490,000	\$560,000	\$630,000	\$700,000	\$770,000
	\$145,000	\$290,000	\$362,500	\$435,000	\$507,500	\$580,000	\$652,500	\$725,000	\$797,500
	\$150,000	\$300,000	\$375,000	\$450,000	\$525,000	\$600,000	\$675,000	\$750,000	\$825,000
	\$155,000	\$310,000	\$387,500	\$465,000	\$542,500	\$620,000	\$697,500	\$775,000	\$852,500

Note: Figures in red indicate the maximum affordable home price meets or exceeds the current median sales price.

Source: Texas Real Estate Research Center at Texas A&M University



**Table 4. Percentage of Homes Sold in 4Q2022 Affordable by Family Income
and Home Price-to-Income Multiplier**

		Home Purchasing Power							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
Median Family Income	\$85,300	12.7%	21.3%	33.2%	44.9%	56.1%	64.8%	72.0%	77.2%
	\$90,000	14.6%	24.7%	37.6%	50.1%	60.6%	69.0%	75.4%	79.9%
	\$95,000	16.7%	27.7%	41.8%	54.1%	64.6%	72.1%	78.0%	82.0%
	\$100,000	18.8%	32.1%	46.6%	58.7%	68.5%	75.4%	80.6%	84.2%
Workforce Households (120%)	\$102,400	19.2%	33.3%	47.8%	59.8%	69.3%	76.4%	81.3%	84.8%
	\$105,000	21.0%	35.1%	50.1%	61.8%	71.2%	77.5%	82.4%	85.7%
	\$110,000	23.4%	39.1%	53.9%	65.4%	74.0%	79.9%	84.2%	87.5%
	\$115,000	26.1%	42.1%	57.0%	68.5%	76.4%	81.7%	85.6%	88.6%
	\$120,000	28.9%	46.6%	60.6%	71.2%	78.6%	83.4%	87.3%	89.8%
	\$125,000	32.1%	49.2%	63.6%	73.4%	80.6%	84.8%	88.4%	90.7%
	\$130,000	34.8%	52.7%	66.4%	75.8%	81.9%	86.2%	89.5%	91.7%
	\$135,000	37.6%	55.1%	69.0%	77.5%	83.4%	87.5%	90.4%	92.5%
	\$140,000	40.5%	58.7%	71.2%	79.5%	84.8%	88.6%	91.3%	93.2%
	\$145,000	43.3%	60.8%	73.3%	80.9%	86.0%	89.6%	92.0%	93.7%
	\$150,000	46.6%	63.6%	75.4%	82.4%	87.3%	90.4%	92.8%	94.4%
	\$155,000	48.9%	65.6%	77.0%	83.4%	88.1%	91.0%	93.3%	94.9%

Source: Texas Real Estate Research Center at Texas A&M University

Mortgage Interest Rate

Holding home price constant, the total monthly mortgage payment increases as the mortgage interest rate increases (Table 5). At a 6.66 percent rate, this payment was \$2,669 for the median-priced home in 4Q2022, more than twice the total monthly mortgage payment for the median-priced home in 4Q2011.

Table 6 shows the home price-to-income multiplier by mortgage interest rate. A 6.66 percent interest rate translates into a home price-to-income multiplier of 2.95,² meaning a household could afford a maximum home price of 2.95 times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

The income required to qualify for a loan with a 6.66 percent mortgage interest rate was \$106,777 for the median sales price in 4Q2022, more than 25 percent higher than the median family income (\$85,300) (Table 7). An estimated 40.7 percent of households in Texas could afford the median sales price in 4Q2022 with a 6.66 percent interest rate (Table 8), a decline of 25 percentage points from 4Q2011.

Maps 1 and 2 show the percentage of repeat buyers who qualified for a mortgage loan with an interest rate of 6 percent in 2011 and 2022, respectively, while Map 3 shows the percent change from 2011 to 2022. The most substantial declines were in Austin-Round Rock-Georgetown, Dallas-Fort Worth-Arlington, and Sherman-Denison.

Table 5. Total Monthly Mortgage Payment for Repeat Buyers by Mortgage Interest Rate

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$137,000	\$919	\$980	\$1,045	\$1,114	\$1,149	\$1,161	\$1,186
4Q2012	\$149,900	\$1,005	\$1,072	\$1,143	\$1,219	\$1,258	\$1,270	\$1,297
4Q2013	\$162,500	\$1,090	\$1,162	\$1,240	\$1,321	\$1,363	\$1,377	\$1,407
4Q2014	\$174,500	\$1,170	\$1,248	\$1,331	\$1,419	\$1,464	\$1,479	\$1,510
4Q2015	\$185,000	\$1,241	\$1,323	\$1,411	\$1,504	\$1,552	\$1,568	\$1,601
4Q2016	\$200,000	\$1,341	\$1,431	\$1,526	\$1,626	\$1,678	\$1,695	\$1,731
4Q2017	\$210,000	\$1,408	\$1,502	\$1,602	\$1,707	\$1,762	\$1,780	\$1,818
4Q2018	\$219,900	\$1,475	\$1,573	\$1,677	\$1,788	\$1,845	\$1,864	\$1,903
4Q2019	\$230,700	\$1,547	\$1,650	\$1,760	\$1,876	\$1,936	\$1,955	\$1,997
4Q2020	\$265,000	\$1,777	\$1,895	\$2,021	\$2,154	\$2,223	\$2,246	\$2,294
4Q2021	\$310,000	\$2,079	\$2,217	\$2,365	\$2,520	\$2,601	\$2,627	\$2,683
4Q2022	\$315,000	\$2,112	\$2,253	\$2,403	\$2,561	\$2,643	\$2,669	\$2,727

Note: Assumes a 30-year loan term, 80 percent loan-to-value (LTV) ratio, 30 percent debt-to-income (DTI) ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

² The home price-to-income multiplier assumes a 30-year loan term, 80 percent LTV ratio, 30 percent DTI ratio, and property taxes and insurance of 4 percent.



**Table 6. Home Price-to-Income Multiplier
for Repeat Buyers by Mortgage Interest Rate**

Mortgage Interest Rate	Home Purchasing Power
3%	3.73
4%	3.50
5%	3.28
6%	3.08
6.5%	2.98
6.66%	2.95
7%	2.89

Note: Assumes a 30-year loan term, 80 percent LTV ratio, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 7. Required Qualifying Income for Repeat Buyers by Mortgage Interest Rate

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$137,000	\$36,750	\$39,197	\$41,801	\$44,551	\$45,977	\$46,439	\$47,434
4Q2012	\$149,900	\$40,210	\$42,887	\$45,737	\$48,746	\$50,306	\$50,812	\$51,900
4Q2013	\$162,500	\$43,590	\$46,492	\$49,581	\$52,843	\$54,534	\$55,083	\$56,262
4Q2014	\$174,500	\$46,809	\$49,926	\$53,243	\$56,746	\$58,561	\$59,151	\$60,417
4Q2015	\$185,000	\$49,626	\$52,930	\$56,447	\$60,160	\$62,085	\$62,710	\$64,053
4Q2016	\$200,000	\$53,649	\$57,221	\$61,023	\$65,038	\$67,119	\$67,795	\$69,246
4Q2017	\$210,000	\$56,332	\$60,082	\$64,074	\$68,290	\$70,475	\$71,185	\$72,708
4Q2018	\$219,900	\$58,987	\$62,915	\$67,095	\$71,509	\$73,797	\$74,540	\$76,136
4Q2019	\$230,700	\$61,884	\$66,005	\$70,390	\$75,021	\$77,422	\$78,201	\$79,875
4Q2020	\$265,000	\$71,085	\$75,818	\$80,856	\$86,175	\$88,933	\$89,828	\$91,751
4Q2021	\$310,000	\$83,156	\$88,693	\$94,586	\$100,809	\$104,034	\$105,082	\$107,331
4Q2022	\$315,000	\$84,498	\$90,123	\$96,112	\$102,435	\$105,712	\$106,777	\$109,062

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 80 percent LTV ratio, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

**Table 8. Percentage of Repeat Buyers Who Earned
Required Qualifying Income by Mortgage Interest Rate**

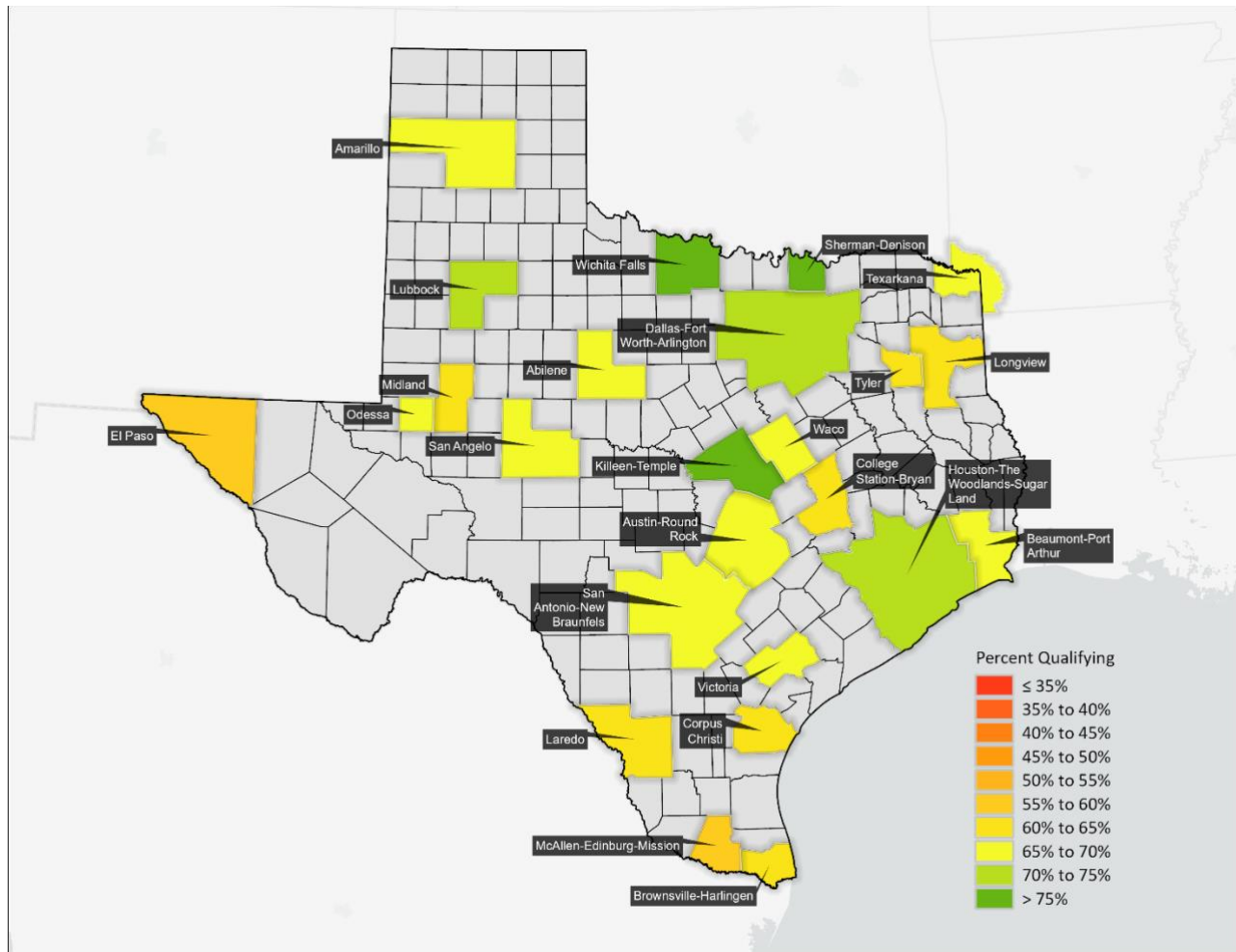
Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$137,000	74.0%	71.9%	69.7%	67.3%	66.1%	65.7%	64.9%
4Q2012	\$149,900	71.3%	69.0%	66.6%	64.1%	62.8%	62.4%	61.6%
4Q2013	\$162,500	68.8%	66.4%	63.8%	61.3%	60.1%	59.6%	58.7%
4Q2014	\$174,500	66.6%	64.0%	61.5%	58.9%	57.6%	57.1%	56.2%
4Q2015	\$185,000	64.6%	62.2%	59.6%	56.9%	55.4%	55.0%	54.0%
4Q2016	\$200,000	62.9%	60.3%	57.5%	54.6%	53.1%	52.6%	51.5%
4Q2017	\$210,000	62.5%	59.8%	56.9%	53.9%	52.3%	51.8%	50.7%
4Q2018	\$219,900	62.2%	59.4%	56.5%	53.5%	51.9%	51.3%	50.4%
4Q2019	\$230,700	61.8%	59.0%	56.0%	52.8%	51.5%	51.1%	50.1%
4Q2020	\$265,000	56.8%	53.8%	51.0%	48.0%	46.5%	46.0%	44.9%
4Q2021*	\$310,000	51.3%	48.3%	45.0%	41.7%	40.4%	40.0%	39.1%
4Q2022*	\$315,000	52.1%	49.0%	45.7%	42.5%	41.2%	40.7%	39.8%

Note: Assumes a 30-year loan term, 80 percent LTV ratio, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

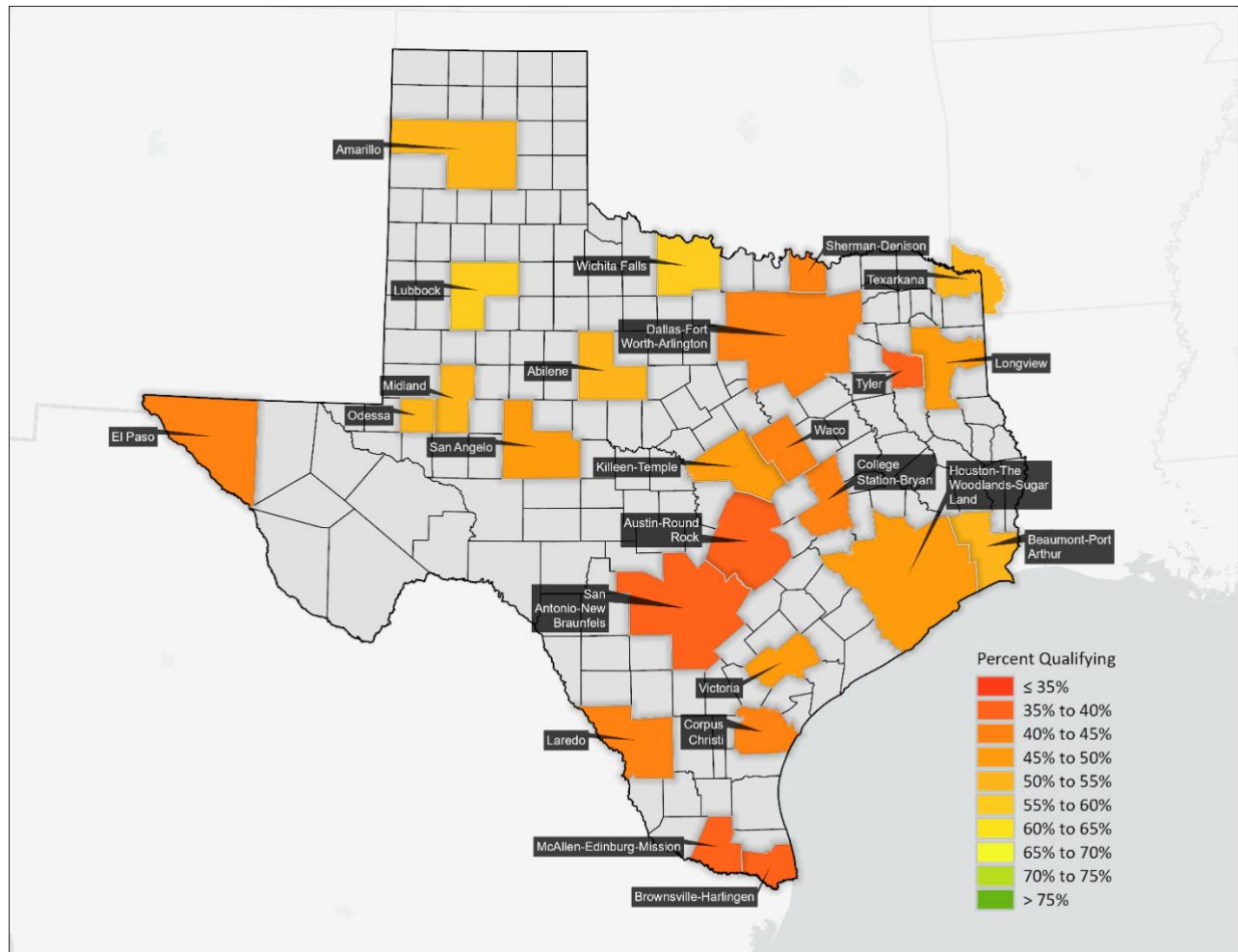
Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

**Map 1. Percentage of Repeat Buyers Qualifying
for 6% Interest Rate Mortgage Loan, 2011**



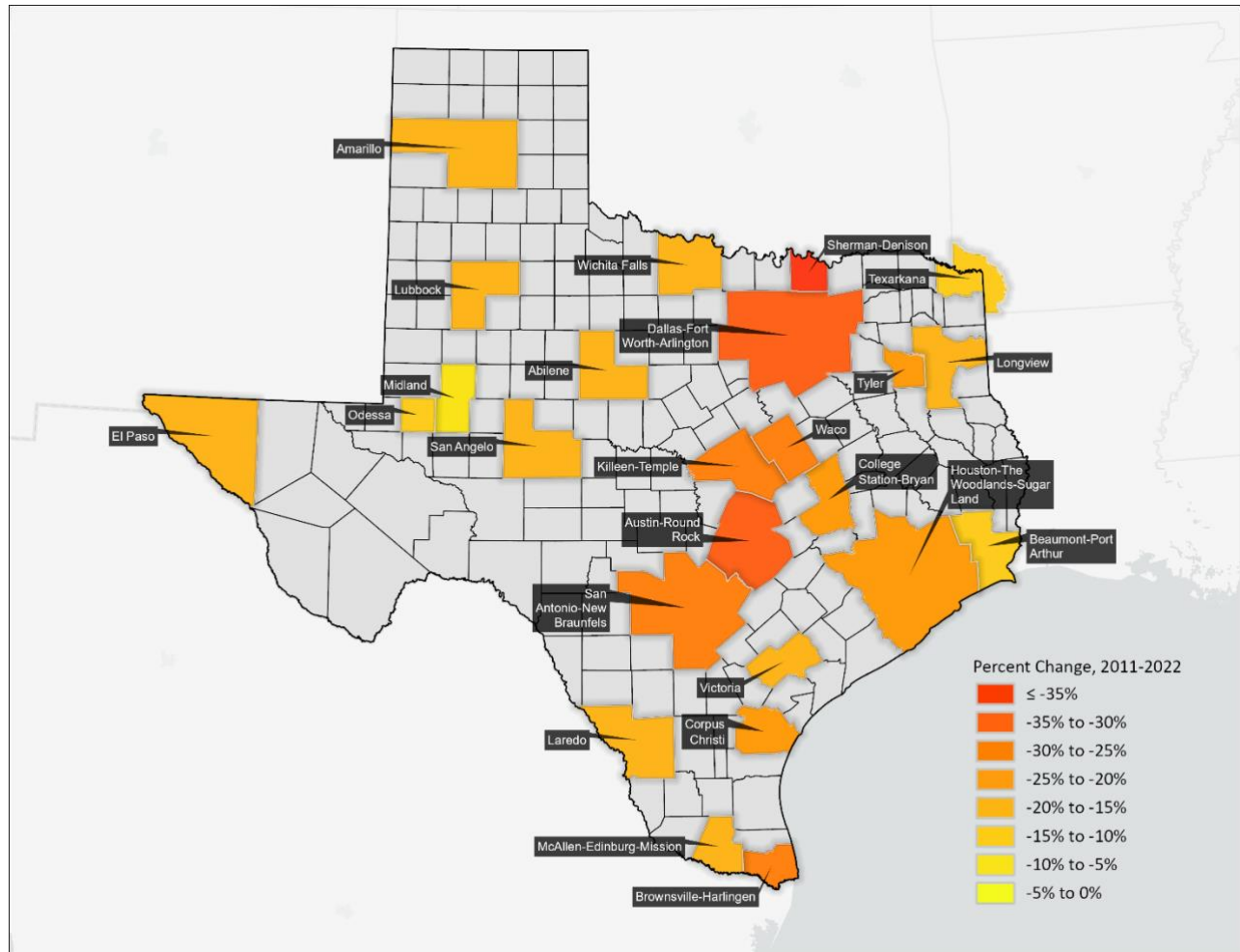
Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

**Map 2. Percentage of Repeat Buyers Qualifying
for 6% Interest Rate Mortgage Loan, 2022**



Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

**Map 3. Change in Percentage of Repeat Buyers Qualifying
for 6% Interest Rate Mortgage Loan, 2011-22**



Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

Loan-to-Value Ratio

Holding home price constant, the total monthly mortgage payment increases as the loan-to-value (LTV) ratio increases (Table 9). For an 80 percent LTV ratio, the mortgage payment was \$2,669 for the median-priced home in 4Q2022, more than twice the total monthly mortgage payment for the median-priced home in 4Q2011.

Table 10 shows the home price-to-income multiplier by LTV ratio. An 80 percent LTV ratio translates into a home price-to-income multiplier of 2.95,³ meaning a household could afford a maximum home price of 2.95 times its annual income. The home price-to-income multiplier declines as the LTV ratio increases.

The income required to qualify for a loan with an 80 percent LTV ratio was \$106,777 for the median sales price in 4Q2022 (Table 11). An estimated 40.7 percent of Texas households could afford the median sales price in 4Q2022 with an 80 percent LTV ratio (Table 12), a decline of 25 percentage points from 4Q2011.

Table 9. Total Monthly Mortgage Payment for Repeat Buyers by LTV Ratio

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
4Q2011	\$137,000	\$1,161	\$1,205	\$1,249	\$1,293	\$1,337
4Q2012	\$149,900	\$1,270	\$1,318	\$1,367	\$1,415	\$1,463
4Q2013	\$162,500	\$1,377	\$1,429	\$1,482	\$1,534	\$1,586
4Q2014	\$174,500	\$1,479	\$1,535	\$1,591	\$1,647	\$1,703
4Q2015	\$185,000	\$1,568	\$1,627	\$1,687	\$1,746	\$1,806
4Q2016	\$200,000	\$1,695	\$1,759	\$1,823	\$1,888	\$1,952
4Q2017	\$210,000	\$1,780	\$1,847	\$1,915	\$1,982	\$2,050
4Q2018	\$219,900	\$1,864	\$1,934	\$2,005	\$2,075	\$2,146
4Q2019	\$230,700	\$1,955	\$2,029	\$2,103	\$2,177	\$2,252
4Q2020	\$265,000	\$2,246	\$2,331	\$2,416	\$2,501	\$2,586
4Q2021	\$310,000	\$2,627	\$2,727	\$2,826	\$2,926	\$3,025
4Q2022	\$315,000	\$2,669	\$2,771	\$2,872	\$2,973	\$3,074

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. A mortgage insurance premium of 0.5 percent is added to loans with an LTV ratio of 90 percent or more.

Source: Texas Real Estate Research Center at Texas A&M University

³ The home price-to-income multiplier is based on a 30-year loan term, 6.66 percent mortgage interest rate, 30 percent DTI ratio, and property taxes and insurance of 4 percent. A 0.5 percent mortgage insurance premium is added to loans with a 90 percent or more LTV ratio.



**Table 10. Home Price-to-Income Multiplier
for Repeat Buyers by LTV Ratio**

LTV Ratio	Home Purchasing Power
80%	2.95
85%	2.84
90%	2.74
95%	2.65
100%	2.56

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. A mortgage insurance premium of 0.5 percent is added to loans with an LTV ratio of 90 percent or more.

Source: Texas Real Estate Research Center at Texas A&M University

Table 11. Required Qualifying Income for Repeat Buyers by LTV Ratio

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
4Q2011	\$137,000	\$46,439	\$48,200	\$49,961	\$51,722	\$53,483
4Q2012	\$149,900	\$50,812	\$52,739	\$54,665	\$56,592	\$58,519
4Q2013	\$162,500	\$55,083	\$57,172	\$59,260	\$61,349	\$63,437
4Q2014	\$174,500	\$59,151	\$61,394	\$63,636	\$65,879	\$68,122
4Q2015	\$185,000	\$62,710	\$65,088	\$67,466	\$69,843	\$72,221
4Q2016	\$200,000	\$67,795	\$70,365	\$72,936	\$75,506	\$78,077
4Q2017	\$210,000	\$71,185	\$73,884	\$76,583	\$79,282	\$81,981
4Q2018	\$219,900	\$74,540	\$77,367	\$80,193	\$83,019	\$85,845
4Q2019	\$230,700	\$78,201	\$81,166	\$84,131	\$87,097	\$90,062
4Q2020	\$265,000	\$89,828	\$93,234	\$96,640	\$100,046	\$103,452
4Q2021	\$310,000	\$105,082	\$109,066	\$113,050	\$117,035	\$121,019
4Q2022	\$315,000	\$106,777	\$110,825	\$114,874	\$118,922	\$122,971

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. A mortgage insurance premium of 0.5 percent is added to loans with an LTV ratio of 90 percent or more.

Source: Texas Real Estate Research Center at Texas A&M University

Table 12. Percentage of Repeat Buyers Who Earned Required Qualifying Income by LTV Ratio

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
4Q2011	\$137,000	65.7%	64.2%	62.7%	61.4%	60.0%
4Q2012	\$149,900	62.4%	61.0%	59.5%	58.0%	56.6%
4Q2013	\$162,500	59.6%	58.1%	56.5%	54.9%	53.3%
4Q2014	\$174,500	57.1%	55.5%	53.8%	52.1%	50.5%
4Q2015	\$185,000	55.0%	53.2%	51.5%	49.7%	48.0%
4Q2016	\$200,000	52.6%	50.7%	48.9%	47.1%	45.6%
4Q2017	\$210,000	51.8%	49.9%	48.2%	46.7%	45.2%
4Q2018	\$219,900	51.3%	49.7%	48.1%	46.6%	45.0%
4Q2019	\$230,700	51.1%	49.4%	47.8%	46.1%	44.5%
4Q2020	\$265,000	46.0%	44.1%	42.2%	40.4%	39.0%
4Q2021*	\$310,000	40.0%	38.4%	36.8%	35.2%	33.6%
4Q2022*	\$315,000	40.7%	39.1%	37.4%	35.8%	34.1%

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 30 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. A mortgage insurance premium of 0.5 percent is added to loans with an LTV ratio of 90 percent or more. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

Sources: American Community Survey, U.S. Census Bureau, Texas Real Estate Research Center at Texas A&M University

Debt-to-Income Ratio

A 30 percent debt-to-income (DTI) ratio translates into a home price-to-income multiplier of 2.95⁴ (Table 13), meaning a household could afford a maximum home price of 2.95 times its annual income at that interest rate. The home price-to-income multiplier increases as the DTI ratio increases.

The income required to qualify for a loan with a 30 percent DTI ratio was \$106,777 for the median sales price in 4Q2022 (Table 14). An estimated 40.7 percent of households in Texas could afford the median sales price in 4Q2022 with a 30 percent DTI ratio (Table 15), a decline of 25 percentage points from 4Q2011.

⁴ The home price-to-income multiplier is based on a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and property taxes and insurance of 4 percent.

**Table 13. Home Price-to-Income Multiplier
for Repeat Buyers by DTI Ratio**

DTI Ratio	Home Purchasing Power
20%	1.97
25%	2.46
30%	2.95
35%	3.44
40%	3.93
45%	4.43
50%	4.92

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 14. Required Qualifying Income for Repeat Buyers by DTI Ratio

Year	Home Price	DTI Ratio						
		20%	25%	30%	35%	40%	45%	50%
4Q2011	\$137,000	\$69,659	\$55,727	\$46,439	\$39,805	\$34,830	\$30,960	\$27,864
4Q2012	\$149,900	\$76,218	\$60,975	\$50,812	\$43,553	\$38,109	\$33,875	\$30,487
4Q2013	\$162,500	\$82,625	\$66,100	\$55,083	\$47,214	\$41,312	\$36,722	\$33,050
4Q2014	\$174,500	\$88,726	\$70,981	\$59,151	\$50,701	\$44,363	\$39,434	\$35,491
4Q2015	\$185,000	\$94,065	\$75,252	\$62,710	\$53,752	\$47,033	\$41,807	\$37,626
4Q2016	\$200,000	\$101,692	\$81,354	\$67,795	\$58,110	\$50,846	\$45,197	\$40,677
4Q2017	\$210,000	\$106,777	\$85,421	\$71,185	\$61,015	\$53,388	\$47,456	\$42,711
4Q2018	\$219,900	\$111,811	\$89,448	\$74,540	\$63,892	\$55,905	\$49,694	\$44,724
4Q2019	\$230,700	\$117,302	\$93,842	\$78,201	\$67,030	\$58,651	\$52,134	\$46,921
4Q2020	\$265,000	\$134,742	\$107,794	\$89,828	\$76,996	\$67,371	\$59,885	\$53,897
4Q2021	\$310,000	\$157,623	\$126,098	\$105,082	\$90,070	\$78,811	\$70,055	\$63,049
4Q2022	\$315,000	\$160,165	\$128,132	\$106,777	\$91,523	\$80,083	\$71,185	\$64,066

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University



Table 15. Percentage of Repeat Buyers Who Earned Required Qualifying Income by DTI Ratio

Year	Home Price	DTI Ratio						
		20%	25%	30%	35%	40%	45%	50%
4Q2011	\$137,000	47.5%	58.3%	65.7%	71.4%	75.6%	79.1%	81.8%
4Q2012	\$149,900	43.3%	54.7%	62.4%	68.5%	73.1%	76.7%	79.6%
4Q2013	\$162,500	40.3%	51.3%	59.6%	65.8%	70.7%	74.5%	77.7%
4Q2014	\$174,500	37.7%	48.3%	57.1%	63.4%	68.6%	72.6%	75.8%
4Q2015	\$185,000	35.4%	45.8%	55.0%	61.6%	66.7%	71.0%	74.4%
4Q2016	\$200,000	32.8%	43.8%	52.6%	59.7%	64.9%	69.4%	73.0%
4Q2017	\$210,000	32.8%	43.3%	51.8%	59.1%	64.6%	68.9%	72.6%
4Q2018	\$219,900	32.8%	43.0%	51.3%	58.8%	64.3%	68.7%	72.3%
4Q2019	\$230,700	32.3%	42.3%	51.1%	58.3%	64.0%	68.4%	72.0%
4Q2020	\$265,000	26.8%	37.3%	46.0%	53.1%	59.3%	64.3%	68.3%
4Q2021*	\$310,000	21.8%	31.6%	40.0%	47.5%	53.8%	59.1%	63.6%
4Q2022*	\$315,000	22.8%	32.0%	40.7%	48.2%	54.6%	59.8%	64.3%

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and additional costs of homeownership at 4 percent of home price. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

Property Taxes and Insurance

Holding home price constant, the total monthly mortgage payment increases as the annual costs of property taxes and insurance increase (Table 16). Assuming the cost of property taxes and insurance is 4 percent of the home price, the monthly mortgage payment was \$2,669 for the median sales price in 4Q2022, more than twice the total monthly mortgage payment for the median-priced home in 4Q2011.

Table 17 shows the home price-to-income multiplier by the costs of property taxes and insurance. A 4 percent property tax and insurance rate translates into a home price-to-income multiplier of 2.95,⁵ meaning a household could afford a maximum home price of 2.95 times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

⁵ The home price-to-income multiplier is based on a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.

The income required to qualify for a loan with property taxes and insurance at 4 percent of home price was \$106,777 for the median sales price in 4Q2022 (Table 18). An estimated 40.7 percent of Texas households could afford the median sales price in 4Q2022 with property taxes and insurance at 4 percent of home price (Table 19), a decline of 25 percentage points from 4Q2011.

**Table 16. Total Monthly Mortgage Payment for Repeat Buyers
by Additional Homeownership Costs**

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
4Q2011	\$137,000	\$933	\$1,047	\$1,161	\$1,275	\$1,389
4Q2012	\$149,900	\$1,020	\$1,145	\$1,270	\$1,395	\$1,520
4Q2013	\$162,500	\$1,106	\$1,242	\$1,377	\$1,512	\$1,648
4Q2014	\$174,500	\$1,188	\$1,333	\$1,479	\$1,624	\$1,770
4Q2015	\$185,000	\$1,259	\$1,414	\$1,568	\$1,722	\$1,876
4Q2016	\$200,000	\$1,362	\$1,528	\$1,695	\$1,862	\$2,028
4Q2017	\$210,000	\$1,430	\$1,605	\$1,780	\$1,955	\$2,130
4Q2018	\$219,900	\$1,497	\$1,680	\$1,864	\$2,047	\$2,230
4Q2019	\$230,700	\$1,571	\$1,763	\$1,955	\$2,147	\$2,340
4Q2020	\$265,000	\$1,804	\$2,025	\$2,246	\$2,467	\$2,687
4Q2021	\$310,000	\$2,110	\$2,369	\$2,627	\$2,885	\$3,144
4Q2022	\$315,000	\$2,144	\$2,407	\$2,669	\$2,932	\$3,194

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.

Source: Texas Real Estate Research Center at Texas A&M University

**Table 17. Home Price-to-Income Multiplier
for Repeat Buyers by Additional Homeownership Costs**

Property Taxes and Insurance	Home Purchasing Power
2%	3.67
3%	3.27
4%	2.95
5%	2.69
6%	2.47

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.

Source: Texas Real Estate Research Center at Texas A&M University



**Table 18. Required Qualifying Income for Repeat Homebuyers
by Additional Homeownership Costs**

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
4Q2011	\$137,000	\$37,306	\$41,873	\$46,439	\$51,006	\$55,573
4Q2012	\$149,900	\$40,819	\$45,816	\$50,812	\$55,809	\$60,806
4Q2013	\$162,500	\$44,250	\$49,667	\$55,083	\$60,500	\$65,917
4Q2014	\$174,500	\$47,518	\$53,334	\$59,151	\$64,968	\$70,784
4Q2015	\$185,000	\$50,377	\$56,544	\$62,710	\$68,877	\$75,044
4Q2016	\$200,000	\$54,461	\$61,128	\$67,795	\$74,461	\$81,128
4Q2017	\$210,000	\$57,185	\$64,185	\$71,185	\$78,185	\$85,185
4Q2018	\$219,900	\$59,880	\$67,210	\$74,540	\$81,870	\$89,200
4Q2019	\$230,700	\$62,821	\$70,511	\$78,201	\$85,891	\$93,581
4Q2020	\$265,000	\$72,161	\$80,995	\$89,828	\$98,661	\$107,495
4Q2021	\$310,000	\$84,415	\$94,749	\$105,082	\$115,415	\$125,749
4Q2022	\$315,000	\$85,777	\$96,277	\$106,777	\$117,277	\$127,777

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.

Source: Texas Real Estate Research Center at Texas A&M University

**Table 19. Percentage of Repeat Homeowners Who Earned
Required Qualifying Income by Additional Homeownership Costs**

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
4Q2011	\$137,000	73.5%	69.6%	65.7%	61.9%	58.4%
4Q2012	\$149,900	70.8%	66.6%	62.4%	58.6%	54.8%
4Q2013	\$162,500	68.3%	63.7%	59.6%	55.6%	51.5%
4Q2014	\$174,500	66.0%	61.5%	57.1%	52.8%	48.5%
4Q2015	\$185,000	64.1%	59.5%	55.0%	50.5%	45.9%
4Q2016	\$200,000	62.3%	57.5%	52.6%	47.7%	43.9%
4Q2017	\$210,000	61.9%	56.8%	51.8%	47.3%	43.5%
4Q2018	\$219,900	61.5%	56.4%	51.3%	47.2%	43.2%
4Q2019	\$230,700	61.1%	55.9%	51.1%	46.8%	42.5%
4Q2020	\$265,000	56.1%	50.9%	46.0%	41.1%	37.5%
4Q2021*	\$310,000	50.6%	44.9%	40.0%	35.8%	31.7%
4Q2022*	\$315,000	51.4%	45.6%	40.7%	36.4%	32.1%

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center



First-Time Homebuyer

Higher mortgage interest rates and a sustained high first-quartile sales price diminished purchase affordability for Texas' first-time buyers in 4Q2022. Table 20 shows the maximum home price affordable by family income and home-purchasing power. For example, households earning between \$25,250 and \$42,000 annually (i.e., between 31 and 50 percent of median family income) could afford a maximum home price between \$75,750 and \$126,000 with a home price-to-income multiplier of 3. Meanwhile, the range in the maximum home price affordable to that range in household income rises to between \$101,000 and \$168,000 should the home price-to-income multiplier measure 4.

Depending on the home price-to-income multiplier, only households earning at least \$42,000 annually could afford the first-quartile sales price in 4Q2022. Homeownership is largely not feasible to households earning no more than 50 percent of Texas' median family income. In fact, homeownership really only becomes viable for households earning at least 80 percent of area median income. Even at that point it largely depends on whether mortgage lenders are willing to offer loans with high home price-to-income multipliers. Moreover, few homes are available for sale at these income thresholds. For instance, with a home price-to-income multiplier of 3, only 18.9 percent of homes for sale were affordable to households earning no more than 80 percent of area median income in 4Q2022 (Table 21).



Table 20. Maximum Home Price Affordable by Family Income and Home Price-to-Income Multiplier

		Home Purchasing Power							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	\$25,000	\$50,000	\$62,500	\$75,000	\$87,500	\$100,000	\$112,500	\$125,000	\$137,500
Extremely Low-Income (30%)	\$25,250	\$50,500	\$63,125	\$75,750	\$88,375	\$101,000	\$113,625	\$126,250	\$138,875
	\$30,000	\$60,000	\$75,000	\$90,000	\$105,000	\$120,000	\$135,000	\$150,000	\$165,000
	\$35,000	\$70,000	\$87,500	\$105,000	\$122,500	\$140,000	\$157,500	\$175,000	\$192,500
	\$40,000	\$80,000	\$100,000	\$120,000	\$140,000	\$160,000	\$180,000	\$200,000	\$220,000
Very Low-Income (50%)	\$42,000	\$84,000	\$105,000	\$126,000	\$147,000	\$168,000	\$189,000	\$210,000	\$231,000
	\$45,000	\$90,000	\$112,500	\$135,000	\$157,500	\$180,000	\$202,500	\$225,000	\$247,500
	\$50,000	\$100,000	\$125,000	\$150,000	\$175,000	\$200,000	\$225,000	\$250,000	\$275,000
	\$55,000	\$110,000	\$137,500	\$165,000	\$192,500	\$220,000	\$247,500	\$275,000	\$302,500
	\$60,000	\$120,000	\$150,000	\$180,000	\$210,000	\$240,000	\$270,000	\$300,000	\$330,000
	\$65,000	\$130,000	\$162,500	\$195,000	\$227,500	\$260,000	\$292,500	\$325,000	\$357,500
Low-Income (80%)	\$67,250	\$134,500	\$168,125	\$201,750	\$235,375	\$269,000	\$302,625	\$336,250	\$369,875
	\$70,000	\$140,000	\$175,000	\$210,000	\$245,000	\$280,000	\$315,000	\$350,000	\$385,000
	\$75,000	\$150,000	\$187,500	\$225,000	\$262,500	\$300,000	\$337,500	\$375,000	\$412,500
	\$80,000	\$160,000	\$200,000	\$240,000	\$280,000	\$320,000	\$360,000	\$400,000	\$440,000
	\$85,000	\$170,000	\$212,500	\$255,000	\$297,500	\$340,000	\$382,500	\$425,000	\$467,500
Median Family Income	\$85,300	\$170,600	\$213,250	\$255,900	\$298,550	\$341,200	\$383,850	\$426,500	\$469,150

Note: Figures in red indicate the maximum affordable home price meets or exceeds the first-quartile home sales price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 21. Percentage of Homes Sold in 4Q2022 Affordable by Family Income and Home Price-to-Income Multiplier

		Home Purchasing Power							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	\$25,000	1.0%	1.5%	2.3%	3.0%	4.1%	4.9%	6.1%	7.4%
Extremely Low-Income (30%)	\$25,250	1.0%	1.5%	2.3%	3.0%	4.1%	4.9%	6.2%	7.5%
	\$30,000	1.5%	2.3%	3.3%	4.4%	5.7%	7.3%	9.5%	11.8%
	\$35,000	2.0%	3.0%	4.4%	5.8%	7.9%	10.4%	13.7%	16.9%
	\$40,000	2.6%	4.1%	5.7%	7.9%	11.0%	14.6%	18.8%	23.4%
Very Low-Income (50%)	\$42,000	2.7%	4.4%	6.2%	8.7%	12.1%	16.1%	21.0%	26.2%
	\$45,000	3.3%	4.9%	7.3%	10.4%	14.6%	19.0%	24.7%	30.5%
	\$50,000	4.1%	6.1%	9.5%	13.7%	18.8%	24.7%	32.1%	39.1%
	\$55,000	4.8%	7.4%	11.8%	16.9%	23.4%	30.5%	39.1%	46.8%
	\$60,000	5.7%	9.5%	14.6%	21.0%	28.9%	37.6%	46.6%	53.9%
	\$65,000	6.8%	11.2%	17.5%	25.0%	34.8%	43.5%	52.7%	59.8%
Low-Income (80%)	\$67,250	7.0%	12.1%	18.9%	27.4%	36.8%	46.8%	55.0%	62.0%
	\$70,000	7.9%	13.7%	21.0%	30.2%	40.5%	50.1%	58.7%	65.4%
	\$75,000	9.5%	15.9%	24.7%	35.1%	46.6%	55.1%	63.6%	69.9%
	\$80,000	11.0%	18.8%	28.9%	40.5%	51.4%	60.6%	68.5%	74.0%
	\$85,000	12.7%	21.2%	33.2%	44.8%	56.0%	64.7%	72.0%	77.0%
Median Family Income	\$85,300	12.7%	21.3%	33.2%	44.9%	56.1%	64.8%	72.0%	77.2%

Source: Texas Real Estate Research Center at Texas A&M University

Mortgage Interest Rate

Holding home price constant, the total monthly mortgage payment increases as the mortgage interest rate increases (Table 22). A 6.66 percent rate brought the mortgage payment to \$2,224 for the first-quartile sales price in 4Q2022, over 2.5 times the total monthly mortgage payment for the same home in 4Q2011.

Table 23 shows the home price-to-income multiplier by mortgage interest rate. A 6.66 percent interest rate translates into a home price-to-income multiplier of 2.99, meaning a household could afford a maximum home price of 2.99 times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

The income required to qualify for a loan with a 6.66 percent mortgage interest rate was \$76,265 for the first-quartile sales price in 4Q2022 (Table 24). An estimated 26.4 percent of Texas renters could afford the first-quartile sales price in 4Q2022 with a 6.66 percent interest rate (Table 25), a decline of over 28 percentage points from 4Q2011.

Maps 4 and 5 show the percentage of first-time buyers who qualified for a mortgage loan with an interest rate of 6 percent in 2011 and 2022, respectively, while Map 6 shows the percent change from 2011 to 2022. The most substantial declines were in Amarillo, Killeen-Temple, Dallas-Fort Worth-Arlington, and Sherman-Denison.

Table 22. Total Monthly Mortgage Payment for First-Time Buyers by Mortgage Interest Rate

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$87,000	\$661	\$709	\$759	\$812	\$840	\$849	\$868
4Q2012	\$97,000	\$737	\$790	\$847	\$906	\$936	\$946	\$968
4Q2013	\$113,000	\$859	\$921	\$986	\$1,055	\$1,091	\$1,102	\$1,127
4Q2014	\$123,500	\$939	\$1,006	\$1,078	\$1,153	\$1,192	\$1,205	\$1,232
4Q2015	\$130,400	\$991	\$1,062	\$1,138	\$1,218	\$1,259	\$1,272	\$1,301
4Q2016	\$144,500	\$1,098	\$1,177	\$1,261	\$1,349	\$1,395	\$1,410	\$1,442
4Q2017	\$150,000	\$1,140	\$1,222	\$1,309	\$1,401	\$1,448	\$1,463	\$1,496
4Q2018	\$160,000	\$1,216	\$1,303	\$1,396	\$1,494	\$1,545	\$1,561	\$1,596
4Q2019	\$170,000	\$1,292	\$1,385	\$1,484	\$1,587	\$1,641	\$1,659	\$1,696
4Q2020	\$195,000	\$1,482	\$1,589	\$1,702	\$1,821	\$1,882	\$1,902	\$1,945
4Q2021	\$225,000	\$1,710	\$1,833	\$1,964	\$2,101	\$2,172	\$2,195	\$2,245
4Q2022	\$228,000	\$1,733	\$1,857	\$1,990	\$2,129	\$2,201	\$2,224	\$2,274

Note: Assumes a 30-year loan term, 95 percent LTV ratio, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

**Table 23. Home Price-to-Income Multiplier
for First-Time Buyers by Mortgage Interest Rate**

Mortgage Interest Rate	Home Purchasing Power
3%	3.84
4%	3.58
5%	3.34
6%	3.12
6.5%	3.02
6.66%	2.99
7%	2.92

Note: Assumes a 30-year loan term, 95 percent LTV ratio, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 24. Required Qualifying Income by Mortgage Interest Rate

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$87,000	\$22,668	\$24,301	\$26,032	\$27,854	\$28,796	\$29,101	\$29,757
4Q2012	\$97,000	\$25,273	\$27,094	\$29,025	\$31,055	\$32,105	\$32,446	\$33,177
4Q2013	\$113,000	\$29,442	\$31,563	\$33,812	\$36,178	\$37,401	\$37,798	\$38,649
4Q2014	\$123,500	\$32,177	\$34,496	\$36,954	\$39,540	\$40,877	\$41,310	\$42,241
4Q2015	\$130,400	\$33,975	\$36,423	\$39,019	\$41,749	\$43,160	\$43,618	\$44,601
4Q2016	\$144,500	\$37,649	\$40,362	\$43,238	\$46,263	\$47,827	\$48,335	\$49,423
4Q2017	\$150,000	\$39,082	\$41,898	\$44,883	\$48,024	\$49,648	\$50,174	\$51,304
4Q2018	\$160,000	\$41,687	\$44,691	\$47,876	\$51,225	\$52,957	\$53,519	\$54,725
4Q2019	\$170,000	\$44,293	\$47,484	\$50,868	\$54,427	\$56,267	\$56,864	\$58,145
4Q2020	\$195,000	\$50,806	\$54,467	\$58,348	\$62,431	\$64,542	\$65,227	\$66,696
4Q2021	\$225,000	\$58,623	\$62,847	\$67,325	\$72,036	\$74,471	\$75,261	\$76,957
4Q2022	\$228,000	\$59,404	\$63,685	\$68,223	\$72,996	\$75,464	\$76,265	\$77,983

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 95 percent LTV ratio, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University



**Table 25. Percentage of Renter-Occupied Households That Earned
Required Qualifying Income by Mortgage Interest Rate**

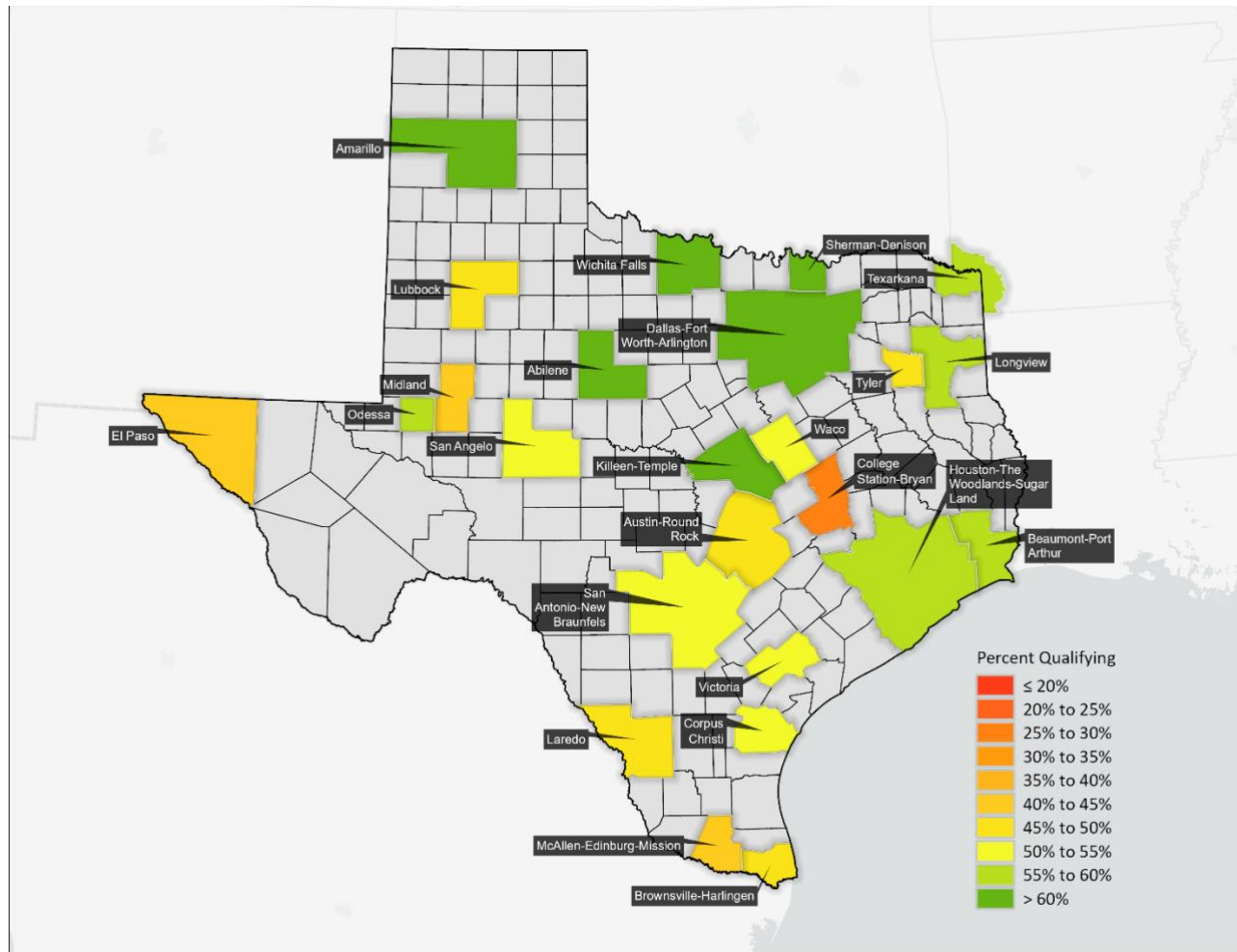
Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$87,000	64.5%	61.8%	59.2%	56.4%	55.0%	54.6%	53.6%
4Q2012	\$97,000	60.9%	58.2%	55.4%	52.5%	50.9%	50.4%	49.4%
4Q2013	\$113,000	55.7%	52.7%	49.4%	46.5%	45.2%	44.7%	43.8%
4Q2014	\$123,500	52.8%	49.6%	46.8%	44.0%	42.6%	42.1%	41.1%
4Q2015	\$130,400	51.5%	48.6%	45.8%	42.9%	41.4%	40.9%	39.9%
4Q2016	\$144,500	48.9%	46.0%	43.0%	39.7%	38.1%	37.5%	36.4%
4Q2017	\$150,000	49.5%	46.5%	43.3%	39.9%	38.2%	37.7%	36.9%
4Q2018	\$160,000	48.7%	45.5%	42.2%	39.0%	37.8%	37.4%	36.5%
4Q2019	\$170,000	47.9%	44.5%	41.2%	38.6%	37.2%	36.8%	35.8%
4Q2020	\$195,000	42.9%	40.1%	37.1%	34.0%	32.4%	31.9%	30.7%
4Q2021*	\$225,000	38.5%	35.2%	31.7%	28.0%	26.1%	25.6%	24.9%
4Q2022*	\$228,000	39.4%	36.0%	32.4%	28.6%	26.8%	26.4%	25.6%

Note: Assumes a 30-year loan term, 95 percent LTV ratio, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

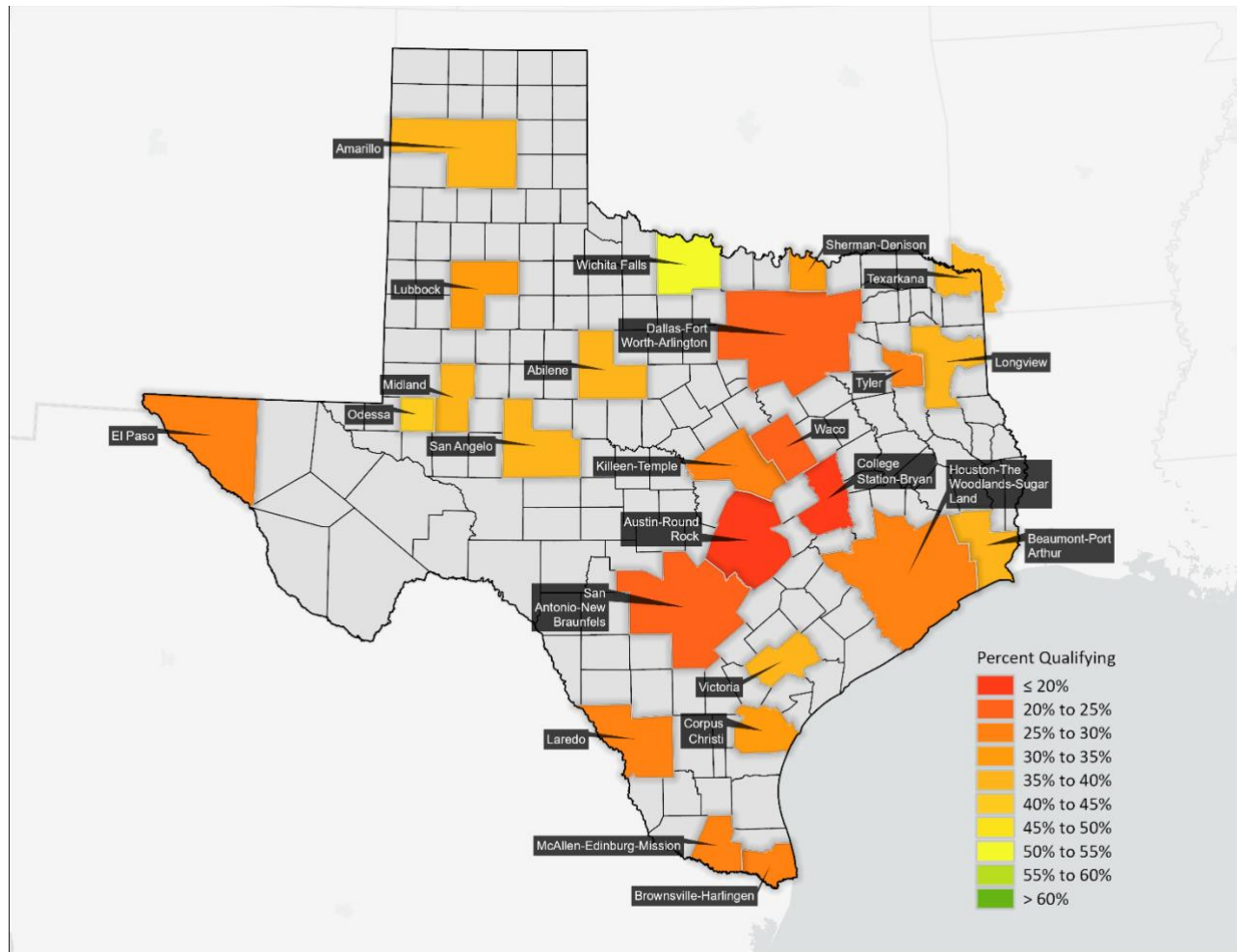
Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

**Map 4. Percentage of First-Time Buyers Qualifying
for 6% Interest Rate Mortgage Loan, 2011**



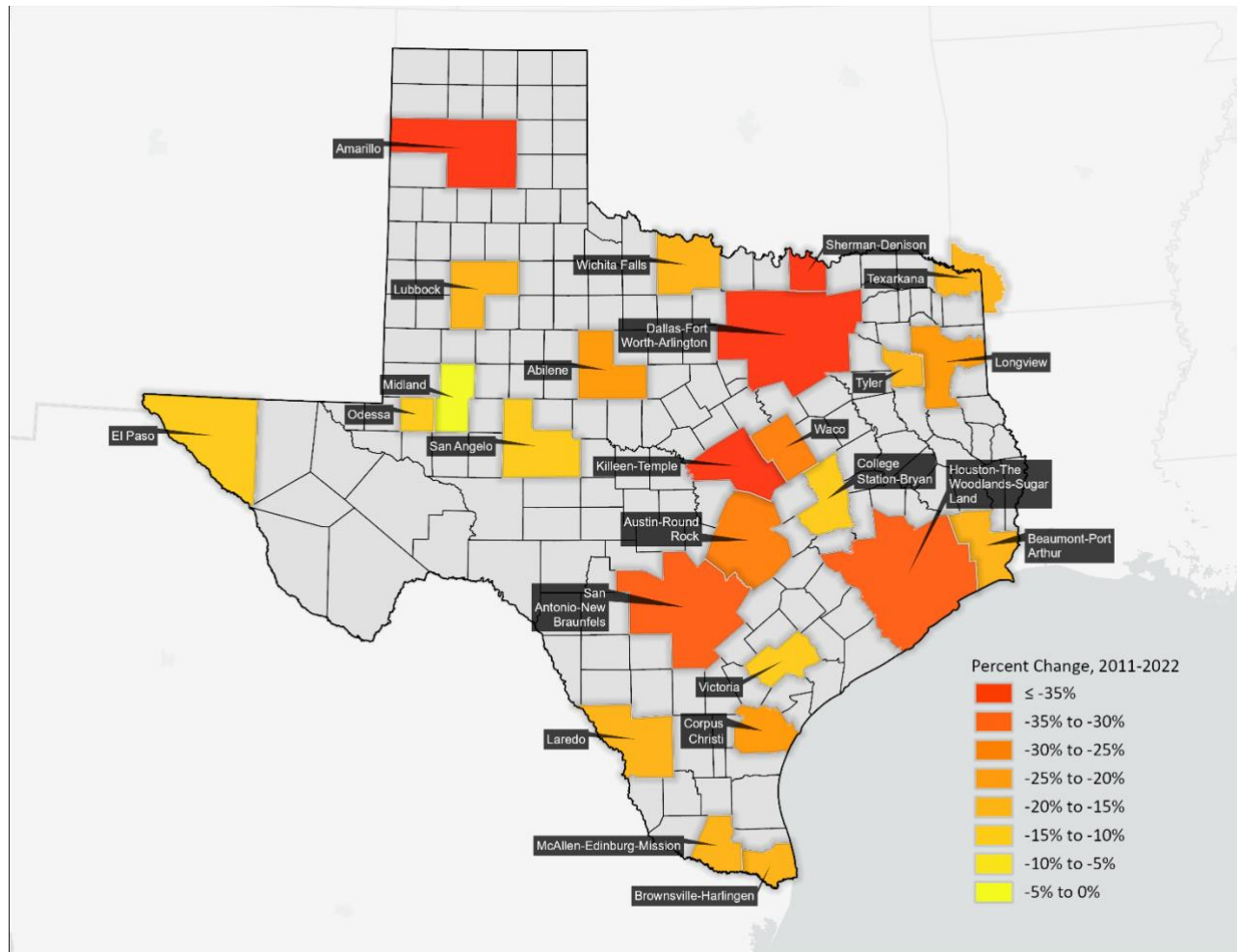
Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

**Map 5. Percentage of First-Time Buyers Qualifying
for 6% Interest Rate Mortgage Loan, 2022**



Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

**Map 6. Change in Percentage of First-Time Buyers Qualifying
for 6% Interest Rate Mortgage Loan, 2011-22**



Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

Loan-to-Value Ratio

Holding home price constant, the total monthly mortgage payment increases as the loan-to-value (LTV) ratio increases (Table 26). For a 95 percent LTV ratio, this payment amounted to \$2,224 for the first-quartile sales price in 4Q2022, over 2.5 times the total monthly mortgage payment for the same home in 4Q2011.

Table 27 shows the home price-to-income multiplier by LTV ratio. A 95 percent LTV ratio translates into a home price-to-income multiplier of 2.99,⁶ meaning a household could afford a maximum home price of 2.99 times its annual income. The home price-to-income multiplier declines as the LTV ratio increases.

The income required to qualify for a loan with a 95 percent LTV ratio was \$76,265 for the first-quartile sales price in 4Q2022 (Table 28). An estimated 26.4 percent of Texas renters could afford the first-quartile sales price in 4Q2022 with a 95 percent LTV ratio (Table 29), a decline of more than 28 percentage points from 4Q2011.

Table 26. Total Monthly Mortgage Payment by LTV Ratio

Year	Home Price	LTV Ratio				
		95%	96.5%	97%	98%	100%
4Q2011	\$87,000	\$849	\$858	\$861	\$866	\$878
4Q2012	\$97,000	\$946	\$956	\$959	\$966	\$979
4Q2013	\$113,000	\$1,102	\$1,114	\$1,118	\$1,125	\$1,141
4Q2014	\$123,500	\$1,205	\$1,217	\$1,222	\$1,230	\$1,247
4Q2015	\$130,400	\$1,272	\$1,285	\$1,290	\$1,299	\$1,316
4Q2016	\$144,500	\$1,410	\$1,424	\$1,429	\$1,439	\$1,459
4Q2017	\$150,000	\$1,463	\$1,479	\$1,484	\$1,494	\$1,514
4Q2018	\$160,000	\$1,561	\$1,577	\$1,583	\$1,593	\$1,615
4Q2019	\$170,000	\$1,659	\$1,676	\$1,682	\$1,693	\$1,716
4Q2020	\$195,000	\$1,902	\$1,922	\$1,929	\$1,942	\$1,968
4Q2021	\$225,000	\$2,195	\$2,218	\$2,226	\$2,241	\$2,271
4Q2022	\$228,000	\$2,224	\$2,248	\$2,255	\$2,271	\$2,301

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

⁶ The home price-to-income multiplier is based on a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and property taxes and insurance of 4 percent.

**Table 27. Home Price-to-Income Multiplier
for First-Time Buyers by LTV Ratio**

LTV Ratio	Home Purchasing Power
95%	2.99
96.5%	2.96
97%	2.95
98%	2.93
100%	2.89

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 28. Required Qualifying Income by LTV Ratio

Year	Home Price	LTV Ratio				
		95%	96.5%	97%	98%	100%
4Q2011	\$87,000	\$29,101	\$29,404	\$29,504	\$29,706	\$30,109
4Q2012	\$97,000	\$32,446	\$32,783	\$32,896	\$33,121	\$33,570
4Q2013	\$113,000	\$37,798	\$38,191	\$38,322	\$38,584	\$39,108
4Q2014	\$123,500	\$41,310	\$41,740	\$41,883	\$42,169	\$42,742
4Q2015	\$130,400	\$43,618	\$44,072	\$44,223	\$44,525	\$45,130
4Q2016	\$144,500	\$48,335	\$48,837	\$49,004	\$49,339	\$50,009
4Q2017	\$150,000	\$50,174	\$50,696	\$50,870	\$51,217	\$51,913
4Q2018	\$160,000	\$53,519	\$54,076	\$54,261	\$54,632	\$55,374
4Q2019	\$170,000	\$56,864	\$57,455	\$57,652	\$58,046	\$58,835
4Q2020	\$195,000	\$65,227	\$65,905	\$66,131	\$66,583	\$67,487
4Q2021	\$225,000	\$75,261	\$76,044	\$76,305	\$76,826	\$77,869
4Q2022	\$228,000	\$76,265	\$77,058	\$77,322	\$77,850	\$78,907

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 29. Percentage of Renter-Occupied Households That Earned Required Qualifying Income by LTV Ratio

Year	Home Price	LTV Ratio				
		95%	96.5%	97%	98%	100%
4Q2011	\$87,000	54.6%	54.1%	54.0%	53.7%	53.1%
4Q2012	\$97,000	50.4%	49.9%	49.8%	49.4%	48.8%
4Q2013	\$113,000	44.7%	44.3%	44.2%	43.9%	43.3%
4Q2014	\$123,500	42.1%	41.7%	41.5%	41.2%	40.6%
4Q2015	\$130,400	40.9%	40.4%	40.3%	39.9%	39.3%
4Q2016	\$144,500	37.5%	37.0%	36.8%	36.5%	35.8%
4Q2017	\$150,000	37.7%	37.3%	37.2%	36.9%	36.5%
4Q2018	\$160,000	37.4%	37.0%	36.8%	36.5%	36.0%
4Q2019	\$170,000	36.8%	36.3%	36.2%	35.9%	35.3%
4Q2020	\$195,000	31.9%	31.3%	31.2%	30.8%	30.1%
4Q2021*	\$225,000	25.6%	25.3%	25.2%	24.9%	24.5%
4Q2022*	\$228,000	26.4%	26.0%	25.9%	25.7%	25.2%

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

Debt-to-Income Ratio

A 35 percent debt-to-income (DTI) ratio translates into a home price-to-income multiplier of 2.99⁷ (Table 30), meaning a household could afford a maximum home price of 2.99 times its annual income. The home price-to-income multiplier increases as the DTI ratio increases.

The income required to qualify for a loan with a 35 percent DTI ratio was \$76,265 for the first-quartile sales price in 4Q2022 (Table 31). An estimated 26.4 percent of Texas households could afford the first-quartile sales price in 4Q2022 with a 35 percent DTI ratio (Table 32), a decline of more than 28 percentage points from 4Q2011.

⁷ The home price-to-income multiplier is based on a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and property taxes and insurance of 4 percent.

**Table 30. Home Price-to-Income Multiplier
for First-Time Buyers by DTI Ratio**

DTI Ratio	Home Purchasing Power
20%	1.71
25%	2.14
30%	2.56
35%	2.99
40%	3.42
45%	3.84
50%	4.27

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University

Table 31. Required Qualifying Income for First-Time Buyers by DTI Ratio

Year	Home Price	DTI Ratio						
		20%	25%	30%	35%	40%	45%	50%
4Q2011	\$87,000	\$50,927	\$40,742	\$33,951	\$29,101	\$25,463	\$22,634	\$20,371
4Q2012	\$97,000	\$56,781	\$45,424	\$37,854	\$32,446	\$28,390	\$25,236	\$22,712
4Q2013	\$113,000	\$66,146	\$52,917	\$44,098	\$37,798	\$33,073	\$29,398	\$26,459
4Q2014	\$123,500	\$72,293	\$57,834	\$48,195	\$41,310	\$36,146	\$32,130	\$28,917
4Q2015	\$130,400	\$76,332	\$61,065	\$50,888	\$43,618	\$38,166	\$33,925	\$30,533
4Q2016	\$144,500	\$84,586	\$67,668	\$56,390	\$48,335	\$42,293	\$37,594	\$33,834
4Q2017	\$150,000	\$87,805	\$70,244	\$58,537	\$50,174	\$43,903	\$39,024	\$35,122
4Q2018	\$160,000	\$93,659	\$74,927	\$62,439	\$53,519	\$46,829	\$41,626	\$37,463
4Q2019	\$170,000	\$99,512	\$79,610	\$66,342	\$56,864	\$49,756	\$44,228	\$39,805
4Q2020	\$195,000	\$114,147	\$91,317	\$76,098	\$65,227	\$57,073	\$50,732	\$45,659
4Q2021	\$225,000	\$131,708	\$105,366	\$87,805	\$75,261	\$65,854	\$58,537	\$52,683
4Q2022	\$228,000	\$133,464	\$106,771	\$88,976	\$76,265	\$66,732	\$59,317	\$53,385

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and additional costs of homeownership at 4 percent of home price.

Source: Texas Real Estate Research Center at Texas A&M University



Table 32. Percentage of Households That Earned Required Qualifying Income by DTI Ratio

Year	Home Price	DTI Ratio						
		20%	25%	30%	35%	40%	45%	50%
4Q2011	\$87,000	28.8%	39.5%	47.4%	54.6%	60.0%	64.5%	68.2%
4Q2012	\$97,000	26.2%	35.5%	43.6%	50.4%	56.4%	61.0%	65.0%
4Q2013	\$113,000	21.2%	29.7%	38.0%	44.7%	50.5%	55.8%	60.0%
4Q2014	\$123,500	18.2%	27.7%	34.8%	42.1%	47.6%	52.9%	57.4%
4Q2015	\$130,400	16.9%	26.7%	33.5%	40.9%	46.7%	51.6%	56.3%
4Q2016	\$144,500	15.2%	23.5%	31.3%	37.5%	44.0%	49.0%	53.3%
4Q2017	\$150,000	15.3%	23.4%	31.7%	37.7%	44.3%	49.5%	53.7%
4Q2018	\$160,000	14.5%	21.7%	30.8%	37.4%	43.3%	48.7%	53.1%
4Q2019	\$170,000	13.3%	21.4%	29.7%	36.8%	42.1%	47.9%	52.6%
4Q2020	\$195,000	11.4%	17.6%	23.9%	31.9%	38.1%	42.9%	48.0%
4Q2021*	\$225,000	8.7%	13.8%	20.2%	25.6%	32.8%	38.5%	43.1%
4Q2022*	\$228,000	8.9%	14.4%	20.7%	26.4%	33.5%	39.4%	44.1%

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

Property Taxes and Insurance

Holding home price constant, the total monthly mortgage payment increases as additional annual homeownership costs (property taxes and insurance) increase (Table 33). With a rate of 4 percent of home price, this payment amounted to \$2,224 for the first-quartile sales price in 4Q2022, more than 2.5 times the total monthly mortgage payment for the same home in 4Q2011.

Table 34 shows the home price-to-income multiplier by the costs of property taxes and insurance. A 4 percent property tax and insurance rate translates into a home price-to-income multiplier of 2.99,⁸ meaning a household could afford a maximum home price of 2.99 times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

⁸ The home price-to-income multiplier is based on a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

The income required to qualify for a loan with property taxes and insurance at 4 percent of home price was \$76,265 for the first-quartile sales price in 4Q2022 (Table 35). An estimated 26.4 percent of Texas households could afford the first-quartile sales price in 4Q2022 with property taxes and insurance at 4 percent of home price (Table 36), a decline of more than 28 percentage points from 4Q2011.

**Table 33. Total Monthly Mortgage Payment
by Additional Homeownership Costs**

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
4Q2011	\$87,000	\$704	\$776	\$849	\$921	\$994
4Q2012	\$97,000	\$785	\$866	\$946	\$1,027	\$1,108
4Q2013	\$113,000	\$914	\$1,008	\$1,102	\$1,197	\$1,291
4Q2014	\$123,500	\$999	\$1,102	\$1,205	\$1,308	\$1,411
4Q2015	\$130,400	\$1,055	\$1,164	\$1,272	\$1,381	\$1,490
4Q2016	\$144,500	\$1,169	\$1,289	\$1,410	\$1,530	\$1,651
4Q2017	\$150,000	\$1,213	\$1,338	\$1,463	\$1,588	\$1,713
4Q2018	\$160,000	\$1,294	\$1,428	\$1,561	\$1,694	\$1,828
4Q2019	\$170,000	\$1,375	\$1,517	\$1,659	\$1,800	\$1,942
4Q2020	\$195,000	\$1,577	\$1,740	\$1,902	\$2,065	\$2,227
4Q2021	\$225,000	\$1,820	\$2,008	\$2,195	\$2,383	\$2,570
4Q2022	\$228,000	\$1,844	\$2,034	\$2,224	\$2,414	\$2,604

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

Source: Texas Real Estate Research Center at Texas A&M University

**Table 34. Home Price-to-Income Multiplier for First-Time
Buyers by Additional Homeownership Costs**

Property Taxes and Insurance	Home Purchasing Power
2%	3.61
3%	3.27
4%	2.99
5%	2.75
6%	2.55

Note: Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

Source: Texas Real Estate Research Center at Texas A&M University

Table 35. Required Qualifying Income by Additional Homeownership Costs

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
4Q2011	\$87,000	\$24,130	\$26,615	\$29,101	\$31,587	\$34,073
4Q2012	\$97,000	\$26,903	\$29,675	\$32,446	\$35,217	\$37,989
4Q2013	\$113,000	\$31,341	\$34,569	\$37,798	\$41,027	\$44,255
4Q2014	\$123,500	\$34,253	\$37,782	\$41,310	\$44,839	\$48,367
4Q2015	\$130,400	\$36,167	\$39,892	\$43,618	\$47,344	\$51,070
4Q2016	\$144,500	\$40,077	\$44,206	\$48,335	\$52,463	\$56,592
4Q2017	\$150,000	\$41,603	\$45,889	\$50,174	\$54,460	\$58,746
4Q2018	\$160,000	\$44,376	\$48,948	\$53,519	\$58,091	\$62,662
4Q2019	\$170,000	\$47,150	\$52,007	\$56,864	\$61,721	\$66,579
4Q2020	\$195,000	\$54,084	\$59,655	\$65,227	\$70,798	\$76,369
4Q2021	\$225,000	\$62,404	\$68,833	\$75,261	\$81,690	\$88,119
4Q2021	\$228,000	\$63,236	\$69,751	\$76,265	\$82,779	\$89,294

Note: The required qualifying income reflects the minimum income a household must earn to qualify for a mortgage loan for a particular home price. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

Source: Texas Real Estate Research Center at Texas A&M University

Table 36. Percentage of Households That Earned the Required Qualifying Income by Additional Homeownership Costs

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
4Q2011	\$87,000	62.1%	58.3%	54.6%	50.9%	47.2%
4Q2012	\$97,000	58.5%	54.5%	50.4%	46.5%	43.5%
4Q2013	\$113,000	53.0%	48.4%	44.7%	41.3%	37.8%
4Q2014	\$123,500	49.9%	45.9%	42.1%	38.3%	34.6%
4Q2015	\$130,400	48.9%	44.9%	40.9%	36.9%	33.4%
4Q2016	\$144,500	46.3%	41.9%	37.5%	34.1%	31.2%
4Q2017	\$150,000	46.8%	42.2%	37.7%	34.6%	31.6%
4Q2018	\$160,000	45.9%	41.0%	37.4%	34.0%	30.7%
4Q2019	\$170,000	44.9%	40.4%	36.8%	33.1%	29.5%
4Q2020	\$195,000	40.4%	36.1%	31.9%	27.6%	23.8%
4Q2021*	\$225,000	35.5%	30.5%	25.6%	22.8%	20.0%
4Q2021*	\$228,000	36.3%	31.1%	26.4%	23.5%	20.6%

Note: Because first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households. Assumes a 30-year loan term, 6.66 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

*Represents estimates using 2020 ACS 1-Year Experimental Data.

Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University



Overview of Housing Affordability

Housing affordability persistently proves one of the most salient topics in housing markets across the state. Although definitions vary, housing affordability broadly denotes the relationship between home price (or rent) and household (or family) income.⁹ As such, housing affordability generally reflects the two housing tenures: owner- and renter-occupied housing. However, Center economists further classify owner-occupied housing affordability into two distinct categories: purchase and repayment affordability.

This report focuses only on purchase affordability. Purchase affordability measures the ability of a household to buy a home. In other words, it reflects home-purchasing potential. Repayment affordability, on the other hand, measures an existing homeowner's ability to make timely monthly mortgage payments. While purchase affordability involves all potential homebuyers, regardless of whether a household already owns a home, repayment affordability solely involves current homeowners (i.e., only owner-occupied households).

Measuring Purchase Affordability

The vast majority of homebuyers—86 percent in Texas in 2020—rely on mortgage financing to purchase a home. As such, purchase affordability largely acts as a function of income, wealth, and credit. These three factors typically constitute the primary determinants of a mortgage applicant's creditworthiness, or the applicant's ability to repay the mortgage loan, a factor heavily weighed by the mortgage lender in the decision to extend mortgage financing to an applicant. In mortgage financing, income, wealth, and credit materialize through the DTI ratio, LTV ratio, and credit score.¹⁰

Other factors that affect purchase affordability include the mortgage interest rate, any additional costs of borrowing mortgage capital (such as the mortgage insurance premium, which is generally charged if the LTV ratio is 80 percent or higher), and the additional costs of homeownership—property taxes and insurance.

⁹ Household income reflects all households in the income distribution, including both family and nonfamily households, which consist of a householder living alone or a householder who shares his/her home with individual(s) of no relation to him/her. Meanwhile, family income includes only households in which the householder lives with at least one other related family member.

¹⁰ There are two types of DTI ratios: “front-end” and “back-end” ratios. The front-end DTI ratio measures mortgage debt as a percentage of household income, while the back-end ratio reflects total household debt—mortgage loans, car loans, credit card loans, student loans, etc.—as a percentage of household income. Should mortgage debt equal \$800 per month and the monthly household income equal \$2,400, then the front-end DTI ratio is 30 percent. Should total household debt equal \$1,200 per month, then the back-end DTI ratio is 50 percent. This report uses the front-end DTI ratio. The LTV ratio measures the household's down payment as a percentage of the home price. A 5 percent down payment translates into a 95 percent LTV ratio.

Table 37 shows how characteristics of a mortgage loan or applicant affect the maximum home price affordable to a particular household. Holding all else equal, an increase in the loan term decreases the total monthly mortgage payment, which increases the maximum affordable home price. Meanwhile, an increase in the DTI ratio also raises the maximum affordable home price. However, an increase in the mortgage interest rate, LTV ratio, additional costs of homeownership, and additional costs of borrowing mortgage capital increase the total monthly mortgage payment, which decreases the maximum affordable home price and reduces home-purchasing potential.

Table 37. How Loan, Applicant Characteristics Affect Purchase Affordability

Loan or Applicant Characteristics	Effect on Purchase Affordability
Mortgage interest rate	An increase in the mortgage interest rate diminishes purchase affordability
Loan term	An increase in the loan term increases purchase affordability
LTV ratio	An increase in the loan-to-value ratio diminishes purchase affordability
DTI ratio	An increase in the debt-to-income ratio increases purchase affordability
Additional costs of homeownership (property taxes and insurance)	An increase in the additional costs of homeownership diminishes purchase affordability
Additional costs of borrowing mortgage capital (such as the mortgage insurance premium)	An increase in the additional costs of borrowing mortgage capital diminishes purchase affordability

Source: Texas Real Estate Research Center at Texas A&M University

The Center uses the home price-to-income multiplier (also known as “home-purchasing power”) to find the ratio between home price and household income, or the maximum home price affordable to a household of a particular income. For example, a multiplier of 3 indicates a household could afford a home priced at three times the household’s income (so, a household earning \$50,000 annually could afford a maximum home price of \$150,000).

The multiplier generally measures lower for conventional borrowers, a function of the lower DTI ratios that such borrowers tend to present, and higher for first-time borrowers, who depict higher DTI ratios. The home price-to-income multiplier typically measures around 3 for the repeat homebuyer, and between 3 and 4 for first-time homebuyers.

This report computes purchase affordability for both repeat and first-time homebuyers. For the repeat buyer, calculations in this report assume the prevailing mortgage interest rate

(6.66 percent in 4Q2022),¹¹ 80 percent LTV ratio, 30 percent DTI ratio, and property taxes and insurance of 4 percent of home value. First-time homebuyers, who tend to be younger and therefore have not accumulated as much wealth or achieved peak earnings, tend to have higher LTV and DTI ratios. The lower income, wealth, and credit of first-time homebuyers generally reduces the maximum home price affordable to them. The calculations of purchase affordability for first-time homebuyers reflect the prevailing mortgage interest rate (6.66 percent in 4Q2022), 0.5 percent mortgage insurance premium, 95 percent LTV ratio, 35 percent DTI ratio, and property taxes and insurance of 4 percent of home value.

¹¹ The source for the prevailing mortgage interest rate is CoreLogic.





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