

Austin-Round Rock-Georgetown Housing Affordability Outlook



Dr. Clare Losey
Assistant Research Economist

Dr. Harold D. Hunt
Research Economist

Reece Neathery
Research Intern



TEXAS A&M UNIVERSITY

Texas Real Estate Research Center

TECHNICAL REPORT
2 3 4 6
4TH QUARTER 2022

TR

Austin-Round Rock-Georgetown MSA 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 *Austin-Round Rock-Georgetown Housing Affordability Outlook* summarizes significant housing activity and trends as related to affordability in Austin-Round Rock-Georgetown. 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 Austin-Round Rock-Georgetown. We hope you find them as useful as we do. Your feedback is always appreciated. Send comments and suggestions to info@recenter.tamu.edu.

Dr. Clare Losey, Dr. Harold D. Hunt, and Reece Neathery

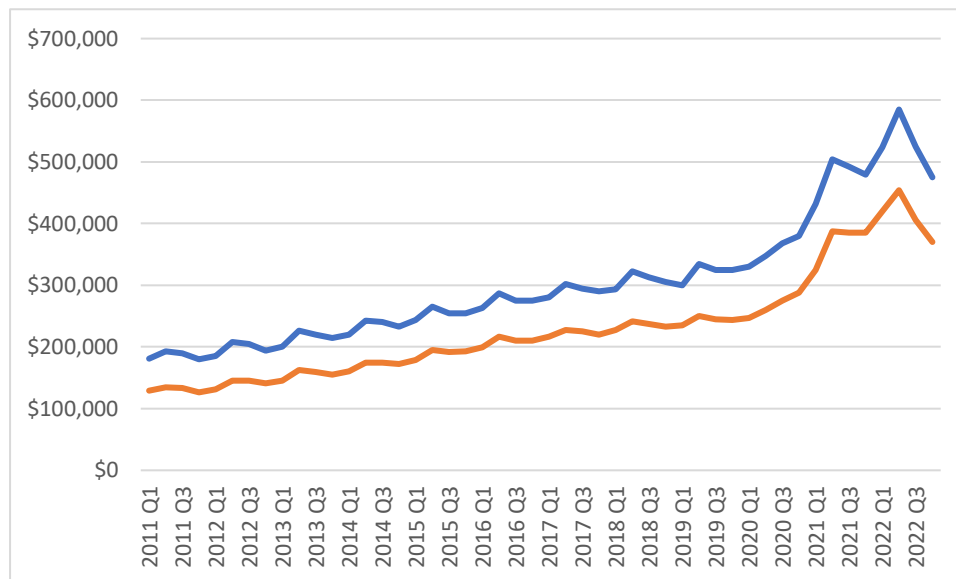


Purchase Affordability

Year over year (YOY), affordability moderated in 4Q2022 despite higher mortgage interest rates. YOY growth in both the median and first-quartile sales price was slightly negative, at -0.8 percent and -3.9 percent, respectively (Figure 1 and Table 1).¹ The significant YOY increase in family income followed years of modest rises (Table 2).

The rapid rise in mortgage interest rates in the second and third quarters continued into the fourth. 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 mortgage rates will continue to dissipate 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. Median and First-Quartile Sales Prices,
Austin-Round Rock-Georgetown**



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	\$180,000		\$126,400	
4Q2012	\$193,650	7.6%	\$141,000	11.6%
4Q2013	\$215,000	11.0%	\$155,000	9.9%
4Q2014	\$233,000	8.4%	\$172,500	11.3%
4Q2015	\$254,200	9.1%	\$192,400	11.5%
4Q2016	\$275,000	8.2%	\$210,000	9.1%
4Q2017	\$289,900	5.4%	\$220,000	4.8%
4Q2018	\$305,000	5.2%	\$233,100	6.0%
4Q2019	\$324,900	6.5%	\$243,350	4.4%
4Q2020	\$380,000	17.0%	\$287,550	18.2%
4Q2021	\$479,000	26.1%	\$385,000	33.9%
4Q2022	\$475,000	-0.8%	\$370,000	-3.9%

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
2011	\$59,900		\$74,900	
2012	\$60,700	1.3%	\$75,900	1.3%
2013	\$58,550	-3.5%	\$73,200	-3.6%
2014	\$60,300	3.0%	\$75,400	3.0%
2015	\$61,450	1.9%	\$76,800	1.9%
2016	\$62,250	1.3%	\$77,800	1.3%
2017	\$65,100	4.6%	\$81,400	4.6%
2018	\$68,800	5.7%	\$86,000	5.7%
2019	\$75,500	9.7%	\$95,900	11.5%
2020	\$78,100	3.4%	\$97,600	1.8%
2021	\$79,100	1.3%	\$98,900	1.3%
2022	\$88,250	11.6%	\$110,300	11.5%

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 significant YOY growth in family income and slightly negative home price growth, the gap between home price and family income remained wide. For households earning the median family income for Austin-Round Rock-Georgetown in 2022 (\$110,300), the median sales price for 4Q2022 was not affordable unless the home price-to-income multiplier approached 4.5 (Table 3). Only 14.1 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 nearly \$160,000 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
	\$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
	\$105,000	\$210,000	\$262,500	\$315,000	\$367,500	\$420,000	\$472,500	\$525,000	\$577,500
Median Family Income	\$110,300	\$220,600	\$275,750	\$330,900	\$386,050	\$441,200	\$496,350	\$551,500	\$606,650
	\$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
Workforce Households (120%)	\$132,400	\$264,800	\$331,000	\$397,200	\$463,400	\$529,600	\$595,800	\$662,000	\$728,200
	\$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
	\$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
	\$160,000	\$320,000	\$400,000	\$480,000	\$560,000	\$640,000	\$720,000	\$800,000	\$880,000
	\$165,000	\$330,000	\$412,500	\$495,000	\$577,500	\$660,000	\$742,500	\$825,000	\$907,500
	\$170,000	\$340,000	\$425,000	\$510,000	\$595,000	\$680,000	\$765,000	\$850,000	\$935,000

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
	\$90,000	0.7%	1.8%	4.3%	10.3%	22.8%	35.6%	46.0%	54.2%
	\$95,000	0.9%	2.3%	5.6%	14.3%	28.5%	40.7%	50.8%	58.2%
	\$100,000	1.1%	3.0%	8.2%	20.1%	34.7%	46.0%	55.6%	62.6%
	\$105,000	1.4%	3.7%	10.3%	24.5%	39.2%	49.7%	58.9%	65.9%
Median Family Income	\$110,300	1.6%	4.6%	14.1%	29.8%	43.7%	54.2%	62.6%	70.0%
	\$115,000	2.2%	5.8%	17.8%	34.8%	47.7%	57.6%	65.8%	72.4%
	\$120,000	2.5%	8.2%	22.8%	39.2%	51.8%	60.6%	69.5%	74.5%
	\$125,000	3.0%	9.6%	27.1%	42.6%	55.6%	63.9%	71.9%	76.5%
	\$130,000	3.6%	12.6%	31.2%	46.7%	58.1%	67.2%	74.0%	78.2%
Workforce Households (120%)	\$132,400	3.8%	14.1%	32.5%	47.9%	59.1%	68.4%	74.6%	79.2%
	\$135,000	4.3%	15.2%	35.6%	49.7%	60.6%	70.0%	75.7%	80.3%
	\$140,000	5.2%	20.1%	39.2%	53.5%	63.7%	72.3%	77.6%	82.4%
	\$150,000	8.2%	27.1%	46.0%	58.9%	69.5%	75.7%	81.4%	85.4%
	\$155,000	9.5%	29.9%	48.7%	60.7%	71.4%	76.8%	82.9%	86.6%
	\$160,000	11.4%	34.7%	51.8%	63.7%	72.8%	78.6%	84.4%	87.6%
	\$165,000	14.1%	37.3%	54.2%	65.9%	74.5%	80.3%	85.4%	88.4%
	\$170,000	16.5%	40.4%	56.8%	68.4%	75.9%	82.3%	86.5%	89.2%

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 5). At a 6.66 percent rate, this payment was \$4,025 for the median sales price in 4Q2022, more than 2.5 times 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 \$161,013 for the median sales price in 4Q2022 (Table 7). An estimated 35.4 percent of homeowners in Austin-Round Rock-Georgetown could afford the median sales price in 4Q2022 with a 6.66 percent interest rate (Table 8), a decline of over 30 percentage points from 4Q2011.

Map 1 and 2 shows 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	\$180,000	\$1,207	\$1,287	\$1,373	\$1,463	\$1,510	\$1,525	\$1,558
4Q2012	\$193,650	\$1,299	\$1,385	\$1,477	\$1,574	\$1,625	\$1,641	\$1,676
4Q2013	\$215,000	\$1,442	\$1,538	\$1,640	\$1,748	\$1,804	\$1,822	\$1,861
4Q2014	\$233,000	\$1,563	\$1,667	\$1,777	\$1,894	\$1,955	\$1,975	\$2,017
4Q2015	\$254,200	\$1,705	\$1,818	\$1,939	\$2,067	\$2,133	\$2,154	\$2,200
4Q2016	\$275,000	\$1,844	\$1,967	\$2,098	\$2,236	\$2,307	\$2,330	\$2,380
4Q2017	\$289,900	\$1,944	\$2,074	\$2,211	\$2,357	\$2,432	\$2,457	\$2,509
4Q2018	\$305,000	\$2,045	\$2,182	\$2,327	\$2,480	\$2,559	\$2,585	\$2,640
4Q2019	\$324,900	\$2,179	\$2,324	\$2,478	\$2,641	\$2,726	\$2,753	\$2,812
4Q2020	\$380,000	\$2,548	\$2,718	\$2,899	\$3,089	\$3,188	\$3,220	\$3,289
4Q2021	\$479,000	\$3,212	\$3,426	\$3,654	\$3,894	\$4,019	\$4,059	\$4,146
4Q2022	\$475,000	\$3,185	\$3,398	\$3,623	\$4,025	\$3,985	\$4,025	\$4,111

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	\$180,000	\$48,284	\$51,499	\$54,921	\$58,534	\$60,407	\$61,015	\$62,321
4Q2012	\$193,650	\$51,946	\$55,404	\$59,086	\$62,973	\$64,988	\$65,642	\$67,047
4Q2013	\$215,000	\$57,673	\$61,513	\$65,600	\$69,916	\$72,153	\$72,879	\$74,439
4Q2014	\$233,000	\$62,501	\$66,663	\$71,092	\$75,769	\$78,194	\$78,981	\$80,672
4Q2015	\$254,200	\$68,188	\$72,728	\$77,561	\$82,663	\$85,308	\$86,167	\$88,012
4Q2016	\$275,000	\$73,768	\$78,679	\$83,907	\$89,427	\$92,289	\$93,218	\$95,213
4Q2017	\$289,900	\$77,765	\$82,942	\$88,453	\$94,272	\$97,289	\$98,269	\$100,372
4Q2018	\$305,000	\$81,815	\$87,262	\$93,060	\$99,183	\$102,357	\$103,387	\$105,600
4Q2019	\$324,900	\$87,153	\$92,956	\$99,132	\$105,654	\$109,035	\$110,133	\$112,490
4Q2020	\$380,000	\$101,934	\$108,720	\$115,944	\$123,572	\$127,526	\$128,810	\$131,567
4Q2021	\$479,000	\$128,490	\$137,045	\$146,151	\$155,766	\$160,750	\$162,369	\$165,844
4Q2022	\$475,000	\$127,417	\$135,900	\$144,930	\$154,465	\$159,408	\$161,013	\$164,459

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**

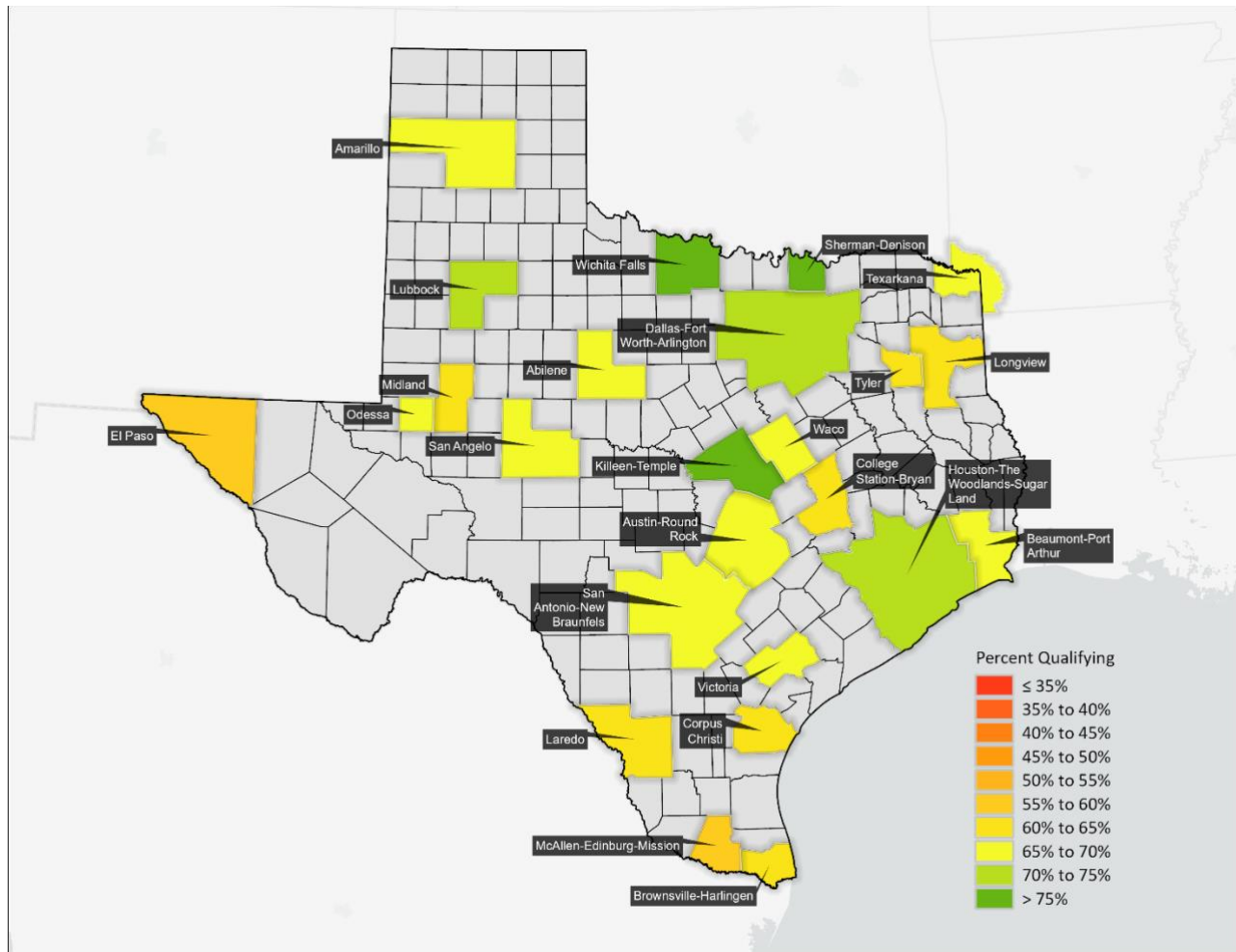
Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$180,000	75.2%	72.9%	70.3%	67.5%	66.1%	65.6%	64.6%
4Q2012	\$193,650	72.2%	69.6%	66.9%	64.0%	62.5%	62.0%	60.9%
4Q2013	\$215,000	68.5%	65.6%	62.6%	59.4%	57.8%	57.3%	56.1%
4Q2014	\$233,000	65.5%	62.6%	59.4%	56.1%	54.6%	54.1%	53.1%
4Q2015	\$254,200	62.2%	59.0%	55.8%	52.6%	50.9%	50.4%	49.2%
4Q2016	\$275,000	59.8%	56.7%	53.5%	50.1%	48.3%	47.7%	46.5%
4Q2017	\$289,900	59.5%	56.4%	53.1%	49.6%	47.8%	47.2%	46.0%
4Q2018	\$305,000	59.7%	56.5%	53.1%	49.6%	48.0%	47.6%	46.6%
4Q2019	\$324,900	58.8%	55.5%	52.0%	49.0%	47.5%	47.0%	45.9%
4Q2020	\$380,000	52.8%	49.6%	46.3%	42.7%	40.9%	40.3%	39.0%
4Q2021*	\$479,000	43.4%	39.4%	35.2%	33.2%	33.0%	33.0%	32.8%
4Q2022*	\$475,000	46.3%	42.3%	38.1%	35.6%	35.4%	35.4%	35.2%

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.

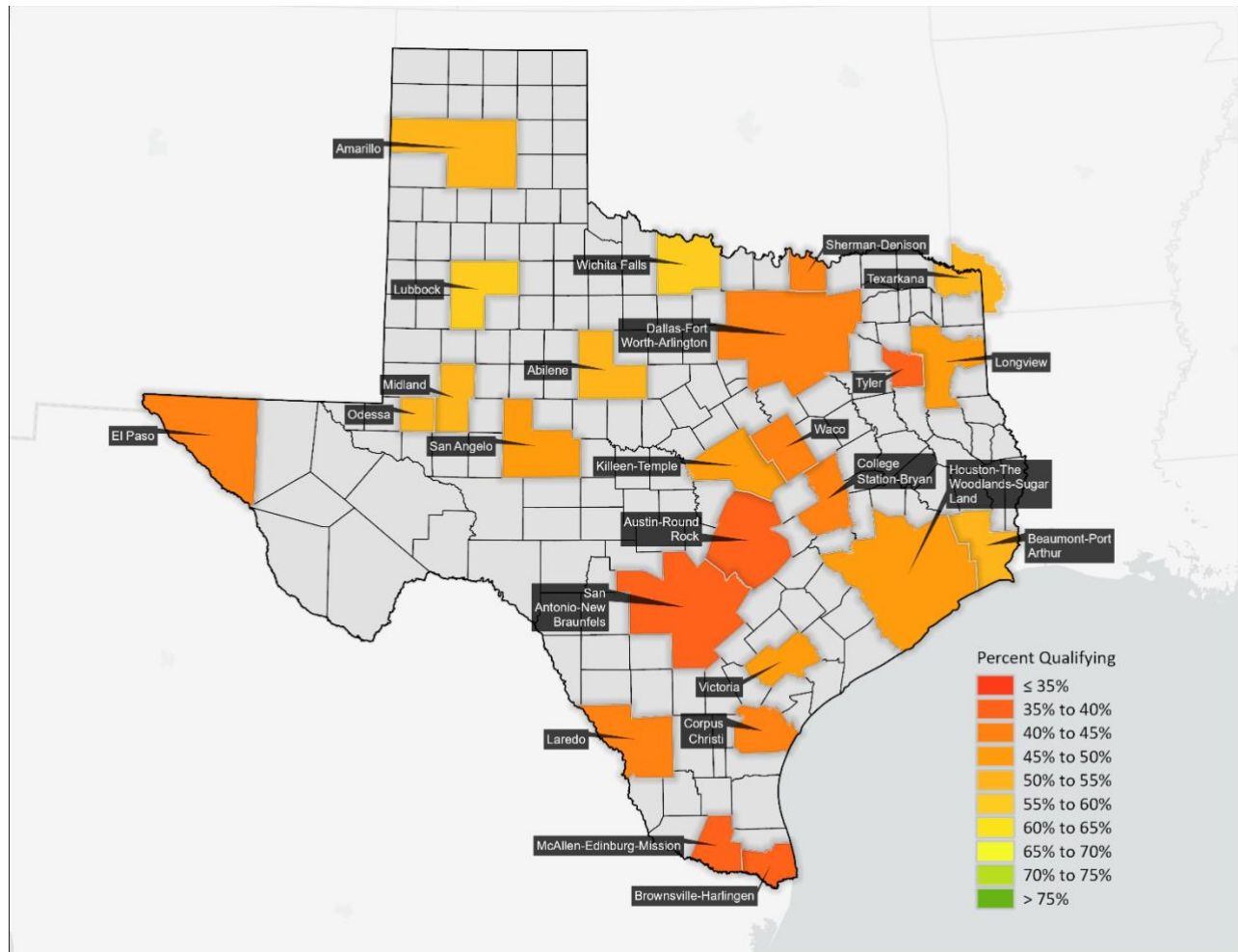
Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

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



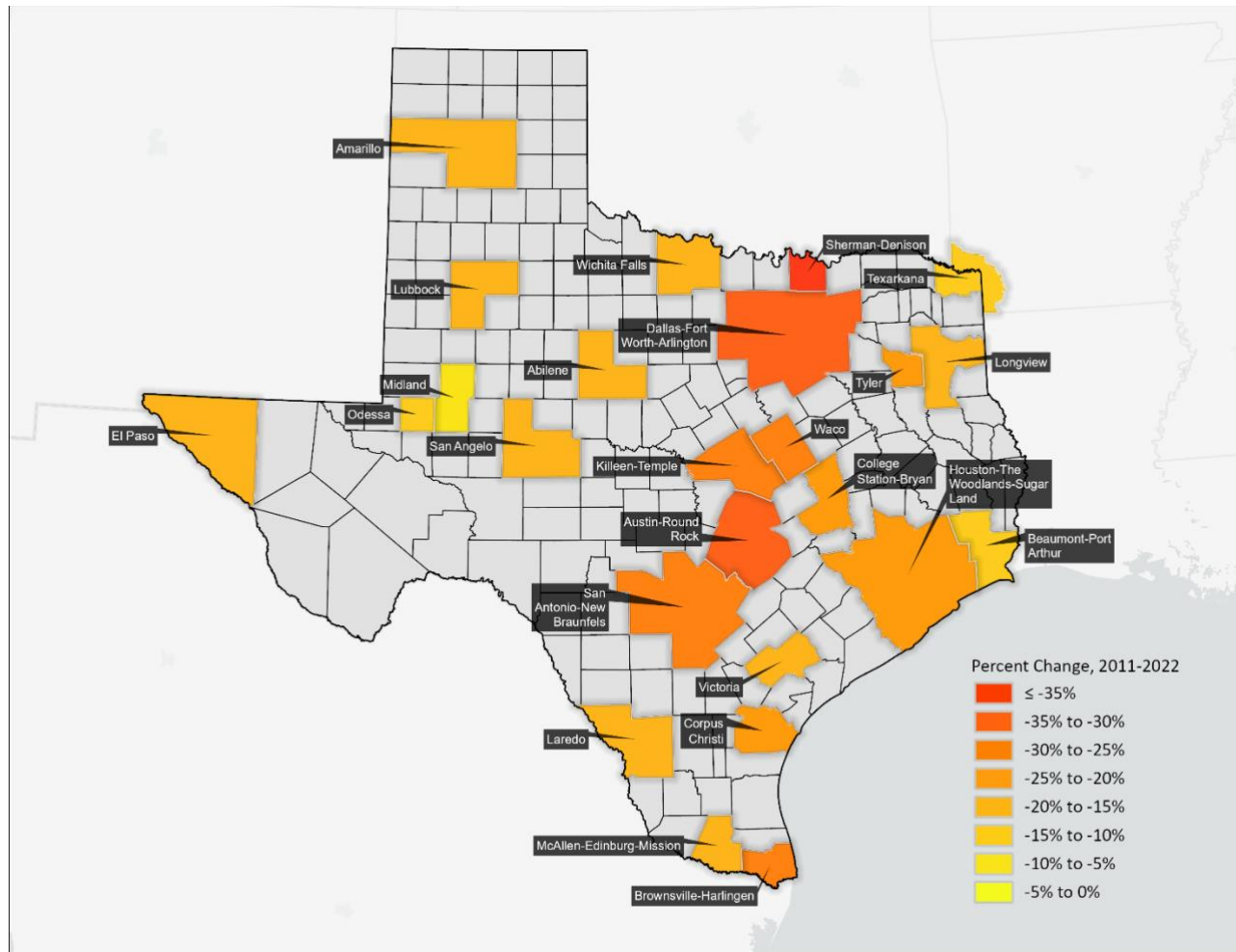
Sources: Texas Real Estate Research Center, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

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



Sources: Texas Real Estate Research Center, 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 Mortgage Loan with 6% Rate, 2011-22**



Sources: Texas Real Estate Research Center, 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 \$4,025 for the median sales price in 4Q2022, more than 2.5 times 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 \$161,013 for the median sales price in 4Q2022 (Table 11). An estimated 35.4 percent of homeowners in Austin-Round Rock-Georgetown could afford the median sales price in 4Q2022 with an 80 percent LTV ratio (Table 12), a decline of over 30 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	\$180,000	\$1,525	\$1,583	\$1,641	\$1,699	\$1,757
4Q2012	\$193,650	\$1,641	\$1,703	\$1,766	\$1,828	\$1,890
4Q2013	\$215,000	\$1,822	\$1,891	\$1,960	\$2,029	\$2,098
4Q2014	\$233,000	\$1,975	\$2,049	\$2,124	\$2,199	\$2,274
4Q2015	\$254,200	\$2,154	\$2,236	\$2,318	\$2,399	\$2,481
4Q2016	\$275,000	\$2,330	\$2,419	\$2,507	\$2,596	\$2,684
4Q2017	\$289,900	\$2,457	\$2,550	\$2,643	\$2,736	\$2,829
4Q2018	\$305,000	\$2,585	\$2,683	\$2,781	\$2,879	\$2,977
4Q2019	\$324,900	\$2,753	\$2,858	\$2,962	\$3,067	\$3,171
4Q2020	\$380,000	\$3,220	\$3,342	\$3,464	\$3,587	\$3,709
4Q2021	\$479,000	\$4,059	\$4,213	\$4,367	\$4,521	\$4,675
4Q2022	\$475,000	\$4,025	\$4,178	\$4,331	\$4,483	\$4,636

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	\$180,000	\$61,015	\$63,329	\$65,642	\$67,956	\$70,269
4Q2012	\$193,650	\$65,642	\$68,131	\$70,620	\$73,109	\$75,598
4Q2013	\$215,000	\$72,879	\$75,643	\$78,406	\$81,169	\$83,933
4Q2014	\$233,000	\$78,981	\$81,976	\$84,970	\$87,965	\$90,959
4Q2015	\$254,200	\$86,167	\$89,434	\$92,701	\$95,969	\$99,236
4Q2016	\$275,000	\$93,218	\$96,752	\$100,287	\$103,821	\$107,356
4Q2017	\$289,900	\$98,269	\$101,994	\$105,720	\$109,446	\$113,172
4Q2018	\$305,000	\$103,387	\$107,307	\$111,227	\$115,147	\$119,067
4Q2019	\$324,900	\$110,133	\$114,308	\$118,484	\$122,660	\$126,836
4Q2020	\$380,000	\$128,810	\$133,694	\$138,578	\$143,462	\$148,346
4Q2021	\$479,000	\$162,369	\$168,525	\$174,681	\$180,838	\$186,994
4Q2022	\$475,000	\$161,013	\$167,118	\$173,223	\$179,327	\$185,432

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, 6.66percent 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	\$180,000	65.6%	63.9%	62.1%	60.4%	58.6%
4Q2012	\$193,650	62.0%	60.1%	58.3%	56.4%	54.6%
4Q2013	\$215,000	57.3%	55.3%	53.6%	51.8%	50.1%
4Q2014	\$233,000	54.1%	52.3%	50.4%	48.6%	46.7%
4Q2015	\$254,200	50.4%	48.3%	46.3%	44.2%	42.2%
4Q2016	\$275,000	47.7%	45.6%	43.4%	41.9%	40.4%
4Q2017	\$289,900	47.2%	45.3%	43.6%	42.0%	40.3%
4Q2018	\$305,000	47.6%	45.8%	44.0%	42.2%	40.4%
4Q2019	\$324,900	47.0%	45.1%	43.2%	41.3%	39.5%
4Q2020	\$380,000	40.3%	38.0%	35.7%	33.4%	31.2%
4Q2021*	\$479,000	33.0%	32.7%	32.5%	32.3%	32.0%
4Q2022*	\$475,000	35.4%	35.1%	34.9%	34.7%	34.4%

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 \$161,013 for the median sales price in 4Q2022 (Table 14). An estimated 35.4 percent of homeowners in Austin-Round Rock-Georgetown could afford the median sales price in 4Q2022 with a 30 percent DTI ratio (Table 15), a decline of over 30 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	\$180,000	\$91,523	\$73,218	\$61,015	\$52,299	\$45,761	\$40,677	\$36,609
4Q2012	\$193,650	\$98,463	\$78,771	\$65,642	\$56,265	\$49,232	\$43,762	\$39,385
4Q2013	\$215,000	\$109,319	\$87,455	\$72,879	\$62,468	\$54,660	\$48,586	\$43,728
4Q2014	\$233,000	\$118,471	\$94,777	\$78,981	\$67,698	\$59,236	\$52,654	\$47,389
4Q2015	\$254,200	\$129,251	\$103,401	\$86,167	\$73,858	\$64,625	\$57,445	\$51,700
4Q2016	\$275,000	\$139,827	\$111,861	\$93,218	\$79,901	\$69,913	\$62,145	\$55,931
4Q2017	\$289,900	\$147,403	\$117,922	\$98,269	\$84,230	\$73,701	\$65,512	\$58,961
4Q2018	\$305,000	\$155,081	\$124,064	\$103,387	\$88,617	\$77,540	\$68,925	\$62,032
4Q2019	\$324,900	\$165,199	\$132,159	\$110,133	\$94,399	\$82,599	\$73,422	\$66,080
4Q2020	\$380,000	\$193,215	\$154,572	\$128,810	\$110,409	\$96,608	\$85,873	\$77,286
4Q2021	\$479,000	\$243,553	\$194,842	\$162,369	\$139,173	\$121,776	\$108,246	\$97,421
4Q2022	\$475,000	\$241,519	\$193,215	\$161,013	\$138,011	\$120,759	\$107,342	\$96,608

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	\$180,000	44.3%	56.4%	65.6%	72.3%	77.1%	80.8%	83.7%
4Q2012	\$193,650	40.2%	52.6%	62.0%	69.0%	74.2%	78.2%	81.4%
4Q2013	\$215,000	36.1%	47.9%	57.3%	64.9%	70.7%	75.1%	78.6%
4Q2014	\$233,000	33.2%	44.3%	54.1%	61.8%	67.9%	72.6%	76.3%
4Q2015	\$254,200	29.3%	40.3%	50.4%	58.2%	64.7%	69.7%	73.7%
4Q2016	\$275,000	26.2%	38.4%	47.7%	55.9%	62.4%	67.7%	71.9%
4Q2017	\$289,900	25.2%	38.2%	47.2%	55.6%	62.0%	67.4%	71.6%
4Q2018	\$305,000	26.2%	38.2%	47.6%	55.7%	62.1%	67.4%	71.6%
4Q2019	\$324,900	28.5%	37.1%	47.0%	54.7%	61.4%	66.6%	70.9%
4Q2020	\$380,000	28.9%	30.2%	40.3%	48.8%	55.6%	61.5%	66.3%
4Q2021*	\$479,000	29.9%	31.7%	33.0%	38.4%	46.5%	52.7%	57.9%
4Q2022*	\$475,000	32.3%	34.1%	35.4%	41.4%	49.3%	55.6%	60.7%

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 \$4,025 for the median sales price in 4Q2022, more than 2.5 times 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 \$161,013 for the median sales price in 4Q2022 (Table 18). An estimated 35.4 percent of homeowners in Austin-Round Rock-Georgetown could afford the median sales price in 4Q2022 with property taxes and insurance at 4 percent of home price (Table 19), a decline of over 30 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	\$180,000	\$1,225	\$1,375	\$1,525	\$1,675	\$1,825
4Q2012	\$193,650	\$1,318	\$1,480	\$1,641	\$1,802	\$1,964
4Q2013	\$215,000	\$1,464	\$1,643	\$1,822	\$2,001	\$2,180
4Q2014	\$233,000	\$1,586	\$1,780	\$1,975	\$2,169	\$2,363
4Q2015	\$254,200	\$1,731	\$1,942	\$2,154	\$2,366	\$2,578
4Q2016	\$275,000	\$1,872	\$2,101	\$2,330	\$2,560	\$2,789
4Q2017	\$289,900	\$1,974	\$2,215	\$2,457	\$2,698	\$2,940
4Q2018	\$305,000	\$2,076	\$2,331	\$2,585	\$2,839	\$3,093
4Q2019	\$324,900	\$2,212	\$2,483	\$2,753	\$3,024	\$3,295
4Q2020	\$380,000	\$2,587	\$2,904	\$3,220	\$3,537	\$3,854
4Q2021	\$479,000	\$3,261	\$3,660	\$4,059	\$4,458	\$4,858
4Q2022	\$475,000	\$3,234	\$3,629	\$4,025	\$4,421	\$4,817

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	\$180,000	\$49,015	\$55,015	\$61,015	\$67,015	\$73,015
4Q2012	\$193,650	\$52,732	\$59,187	\$65,642	\$72,097	\$78,552
4Q2013	\$215,000	\$58,546	\$65,713	\$72,879	\$80,046	\$87,213
4Q2014	\$233,000	\$63,448	\$71,214	\$78,981	\$86,748	\$94,514
4Q2015	\$254,200	\$69,221	\$77,694	\$86,167	\$94,641	\$103,114
4Q2016	\$275,000	\$74,885	\$84,051	\$93,218	\$102,385	\$111,551
4Q2017	\$289,900	\$78,942	\$88,605	\$98,269	\$107,932	\$117,595
4Q2018	\$305,000	\$83,054	\$93,220	\$103,387	\$113,554	\$123,720
4Q2019	\$324,900	\$88,473	\$99,303	\$110,133	\$120,963	\$131,793
4Q2020	\$380,000	\$103,477	\$116,143	\$128,810	\$141,477	\$154,143
4Q2021	\$479,000	\$130,435	\$146,402	\$162,369	\$178,335	\$194,302
4Q2022	\$475,000	\$129,346	\$145,179	\$161,013	\$176,846	\$192,679

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	\$180,000	74.7%	70.2%	65.6%	61.1%	56.5%
4Q2012	\$193,650	71.6%	66.8%	62.0%	57.2%	52.8%
4Q2013	\$215,000	67.8%	62.5%	57.3%	52.5%	48.0%
4Q2014	\$233,000	64.9%	59.3%	54.1%	49.3%	44.5%
4Q2015	\$254,200	61.4%	55.7%	50.4%	45.1%	40.4%
4Q2016	\$275,000	59.0%	53.4%	47.7%	42.5%	38.5%
4Q2017	\$289,900	58.8%	53.0%	47.2%	42.7%	38.4%
4Q2018	\$305,000	58.9%	53.0%	47.6%	42.9%	38.3%
4Q2019	\$324,900	58.0%	51.9%	47.0%	42.1%	37.2%
4Q2020	\$380,000	52.1%	46.2%	40.3%	34.4%	30.3%
4Q2021*	\$479,000	42.5%	35.1%	33.0%	32.4%	31.8%
4Q2022*	\$475,000	45.4%	38.0%	35.4%	34.8%	34.1%

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 still-elevated first-quartile sales price constrained purchase affordability for Austin-Round Rock-Georgetown's first-time buyers in 4Q2022. Table 20 shows the maximum home price affordable to first-time buyers by family income and home-purchasing power. For example, households earning between \$33,100 and \$55,150 annually (i.e., between 31 and 50 percent of median family income) could afford a maximum home price between \$99,300 and \$165,450 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 \$132,400 and \$220,600 should the home price-to-income multiplier measure 4.

Depending on the home price-to-income multiplier, only households earning approximately \$70,000 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 3.7 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							
		Home Price-to-Income Multiplier							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	\$20,000	\$40,000	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000	\$100,000	\$110,000
	\$25,000	\$50,000	\$62,500	\$75,000	\$87,500	\$100,000	\$112,500	\$125,000	\$137,500
	\$30,000	\$60,000	\$75,000	\$90,000	\$105,000	\$120,000	\$135,000	\$150,000	\$165,000
Extremely Low-Income (30%)	\$33,100	\$66,200	\$82,750	\$99,300	\$115,850	\$132,400	\$148,950	\$165,500	\$182,050
	\$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
	\$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
Very Low-Income (50%)	\$55,150	\$110,300	\$137,875	\$165,450	\$193,025	\$220,600	\$248,175	\$275,750	\$303,325
	\$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
	\$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
Low-Income (80%)	\$88,250	\$176,500	\$220,625	\$264,750	\$308,875	\$353,000	\$397,125	\$441,250	\$485,375

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							
		Home Price-to-Income Multiplier							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	\$20,000	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
	\$25,000	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%
	\$30,000	0.1%	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.5%
Extremely Low-Income (30%)	\$33,100	0.1%	0.1%	0.1%	0.1%	0.2%	0.3%	0.5%	0.7%
	\$35,000	0.1%	0.1%	0.1%	0.2%	0.2%	0.4%	0.6%	0.9%
	\$40,000	0.1%	0.1%	0.2%	0.2%	0.5%	0.7%	1.1%	1.6%
	\$45,000	0.1%	0.1%	0.2%	0.4%	0.7%	1.1%	1.8%	2.6%
	\$50,000	0.1%	0.2%	0.4%	0.6%	1.1%	1.8%	3.0%	4.6%
Very Low-Income (50%)	\$55,150	0.1%	0.2%	0.5%	0.9%	1.6%	2.6%	4.6%	8.3%
	\$60,000	0.2%	0.4%	0.7%	1.4%	2.6%	4.2%	8.2%	14.0%
	\$65,000	0.2%	0.5%	1.0%	1.9%	3.6%	6.7%	12.5%	21.4%
	\$70,000	0.2%	0.6%	1.4%	2.6%	5.2%	10.2%	20.1%	29.7%
	\$75,000	0.4%	0.8%	1.8%	3.7%	8.2%	15.2%	27.1%	37.2%
	\$80,000	0.5%	1.1%	2.6%	5.2%	11.4%	22.7%	34.7%	43.5%
	\$85,000	0.6%	1.4%	3.1%	7.2%	16.5%	28.6%	40.4%	48.8%
Low-Income (80%)	\$88,250	0.6%	1.6%	3.7%	9.0%	20.4%	32.5%	43.6%	52.5%

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 \$3,610 for the first-quartile sales price in 4Q2022, nearly three 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 2.99,⁶ meaning a

⁶ The home price-to-income multiplier is based on a 30-year loan term, 95 percent LTV ratio, 35 percent DTI ratio, and property taxes and insurance of 4 percent.

household could afford a maximum home price of nearly 3 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 \$123,763 for the first-quartile sales price in 4Q2022 (Table 24). An estimated 15.6 percent of renters in Austin-Round Rock-Georgetown could afford the first-quartile sales price in 4Q2022 with a 6.66 percent interest rate (Table 25), a decline of more than 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	\$126,400	\$961	\$1,030	\$1,103	\$1,180	\$1,220	\$1,233	\$1,261
4Q2012	\$141,000	\$1,071	\$1,149	\$1,231	\$1,317	\$1,361	\$1,376	\$1,407
4Q2013	\$155,000	\$1,178	\$1,263	\$1,353	\$1,447	\$1,496	\$1,512	\$1,546
4Q2014	\$172,500	\$1,311	\$1,405	\$1,505	\$1,611	\$1,665	\$1,683	\$1,721
4Q2015	\$192,400	\$1,462	\$1,567	\$1,679	\$1,797	\$1,857	\$1,877	\$1,919
4Q2016	\$210,000	\$1,596	\$1,711	\$1,833	\$1,961	\$2,027	\$2,049	\$2,095
4Q2017	\$220,000	\$1,672	\$1,792	\$1,920	\$2,054	\$2,124	\$2,146	\$2,195
4Q2018	\$233,100	\$1,771	\$1,899	\$2,034	\$2,177	\$2,250	\$2,274	\$2,325
4Q2019	\$243,350	\$1,849	\$1,983	\$2,124	\$2,272	\$2,349	\$2,374	\$2,428
4Q2020	\$287,550	\$2,185	\$2,343	\$2,510	\$2,685	\$2,776	\$2,805	\$2,869
4Q2021	\$385,000	\$2,926	\$3,137	\$3,360	\$3,595	\$3,717	\$3,756	\$3,841
4Q2022	\$370,000	\$2,812	\$3,014	\$3,229	\$3,455	\$3,572	\$3,610	\$3,691

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	\$126,400	\$32,933	\$35,306	\$37,822	\$40,468	\$41,836	\$42,280	\$43,233
4Q2012	\$141,000	\$36,737	\$39,384	\$42,190	\$45,142	\$46,669	\$47,164	\$48,226
4Q2013	\$155,000	\$40,385	\$43,295	\$46,380	\$49,625	\$51,303	\$51,847	\$53,015
4Q2014	\$172,500	\$44,944	\$48,183	\$51,616	\$55,227	\$57,095	\$57,700	\$59,000
4Q2015	\$192,400	\$50,129	\$53,741	\$57,570	\$61,599	\$63,681	\$64,357	\$65,807
4Q2016	\$210,000	\$54,715	\$58,657	\$62,837	\$67,233	\$69,507	\$70,244	\$71,826
4Q2017	\$220,000	\$57,320	\$61,450	\$65,829	\$70,435	\$72,817	\$73,589	\$75,247
4Q2018	\$233,100	\$60,733	\$65,110	\$69,749	\$74,629	\$77,152	\$77,971	\$79,727
4Q2019	\$243,350	\$63,404	\$67,973	\$72,816	\$77,911	\$80,545	\$81,399	\$83,233
4Q2020	\$287,550	\$74,920	\$80,319	\$86,041	\$92,062	\$95,175	\$96,184	\$98,351
4Q2021	\$385,000	\$100,310	\$107,538	\$115,201	\$123,261	\$127,429	\$128,781	\$131,681
4Q2022	\$370,000	\$96,402	\$103,349	\$110,712	\$118,459	\$122,464	\$123,763	\$126,551

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**

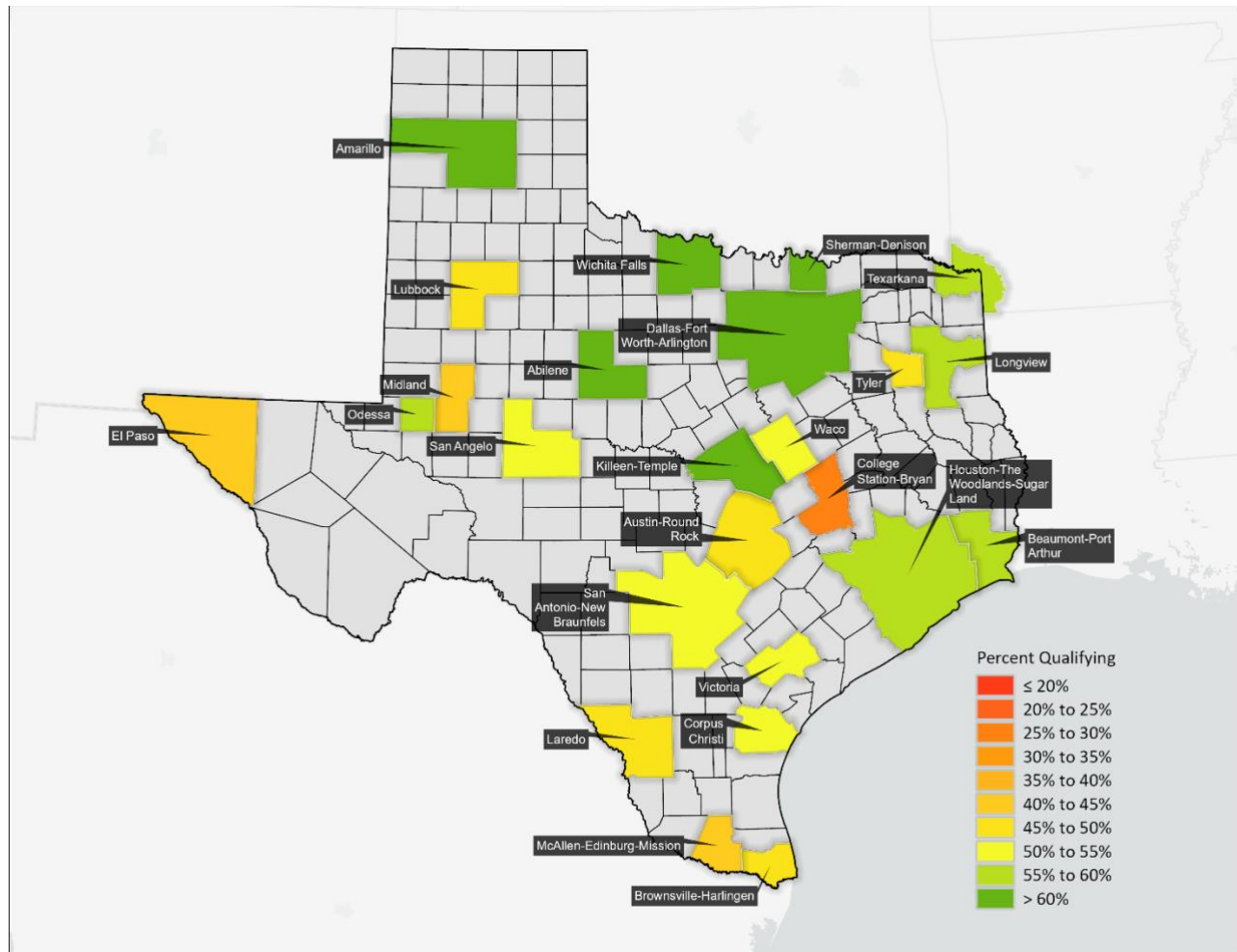
Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.66%	7%
4Q2011	\$126,400	55.4%	52.0%	49.1%	46.0%	44.4%	43.9%	42.7%
4Q2012	\$141,000	51.4%	48.3%	45.0%	41.5%	39.7%	39.1%	37.9%
4Q2013	\$155,000	47.8%	44.4%	40.8%	37.1%	35.7%	35.3%	34.5%
4Q2014	\$172,500	44.0%	40.3%	37.0%	34.4%	33.0%	32.6%	31.6%
4Q2015	\$192,400	40.2%	37.5%	34.6%	31.6%	30.0%	29.5%	28.4%
4Q2016	\$210,000	39.6%	36.4%	33.1%	29.6%	27.8%	27.2%	26.0%
4Q2017	\$220,000	40.2%	36.8%	33.2%	29.5%	27.5%	26.9%	25.6%
4Q2018	\$233,100	40.2%	36.6%	32.7%	28.5%	27.2%	26.9%	26.1%
4Q2019	\$243,350	40.9%	37.0%	33.0%	29.7%	28.5%	28.0%	27.1%
4Q2020	\$287,550	34.1%	31.3%	28.3%	25.2%	23.5%	23.0%	21.9%
4Q2021*	\$385,000	22.0%	19.8%	17.5%	15.1%	13.9%	13.5%	12.6%
4Q2022*	\$370,000	25.4%	22.2%	19.9%	17.3%	16.0%	15.6%	14.7%

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.

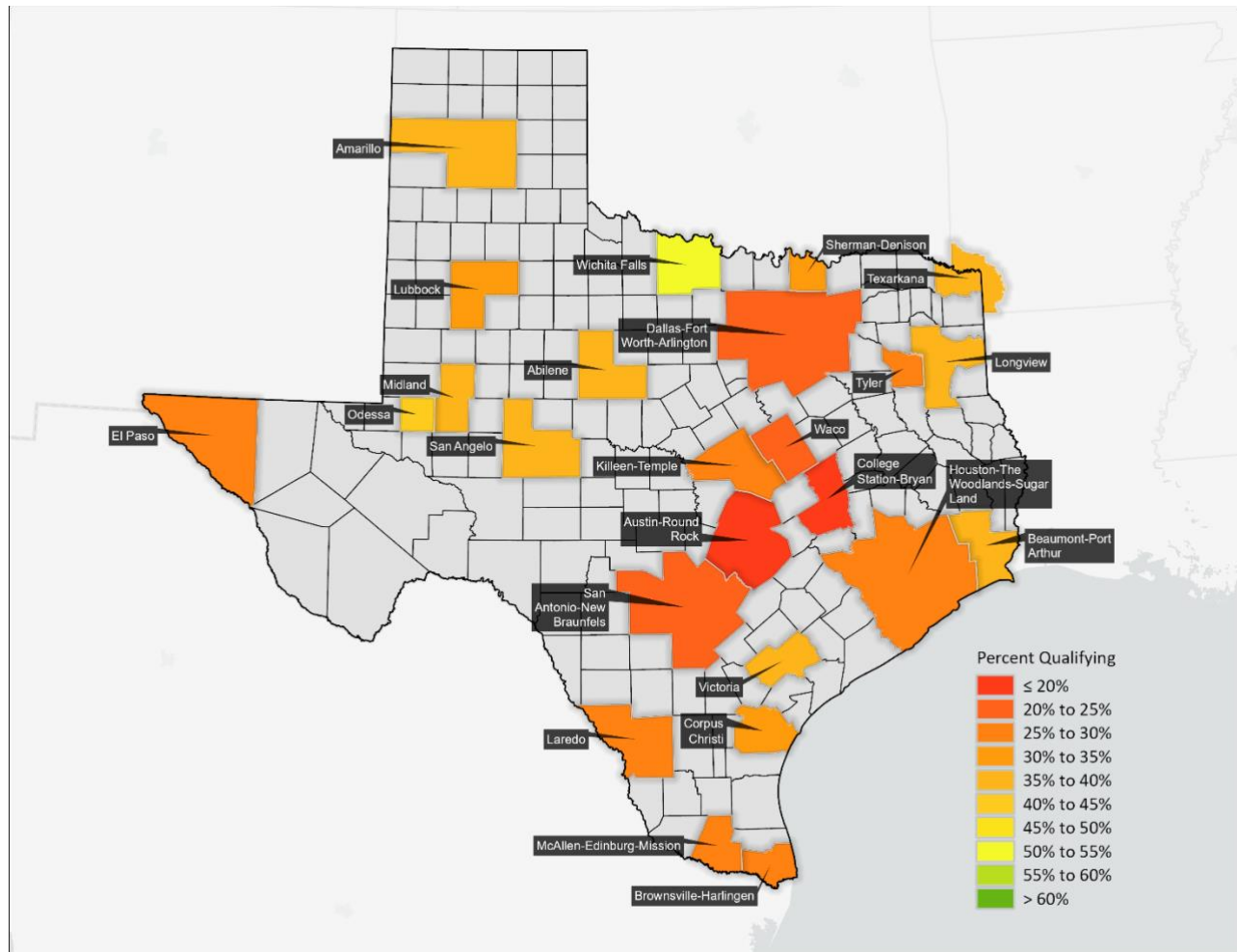
Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

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



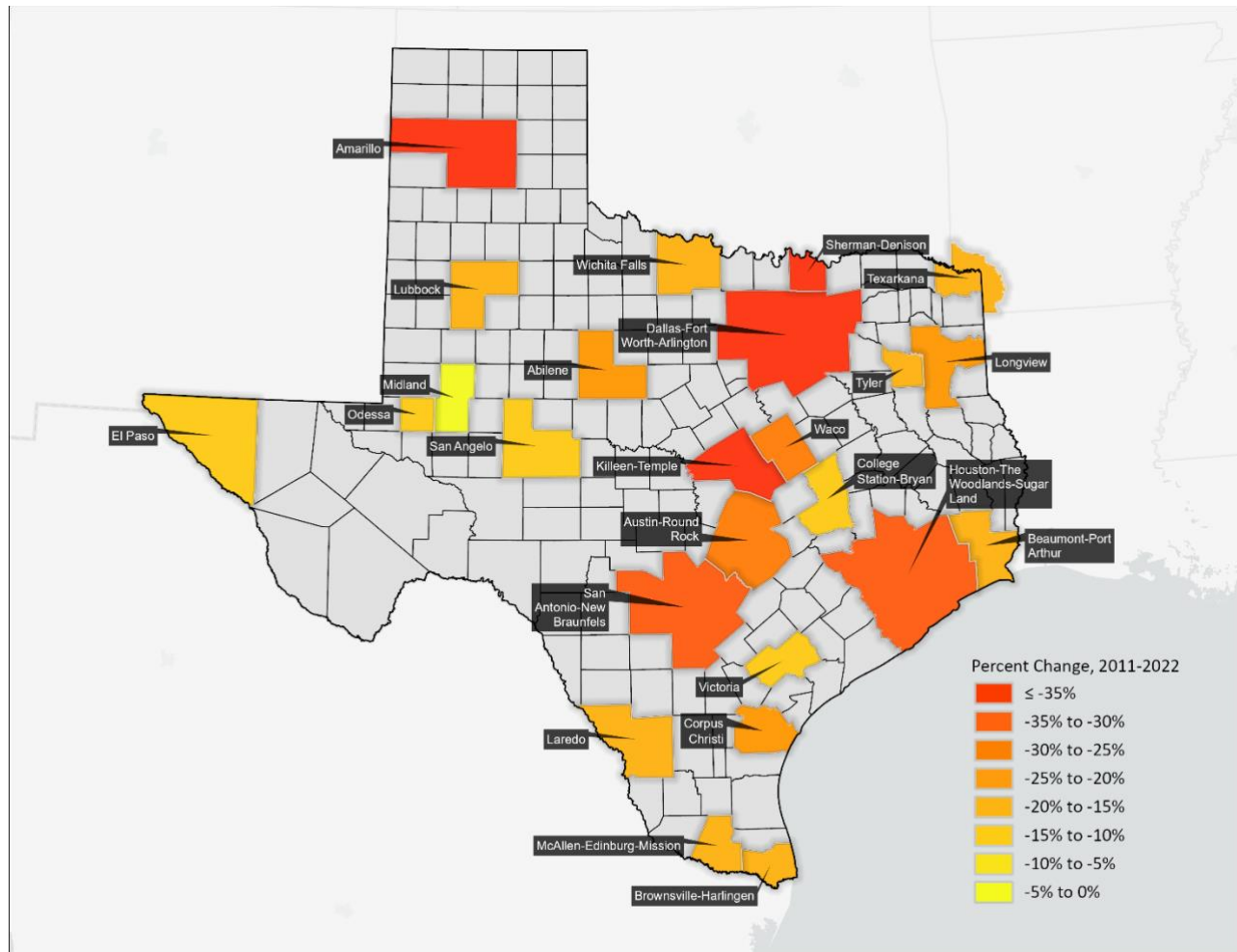
Sources: Texas Real Estate Research Center, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

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



Sources: Texas Real Estate Research Center, 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 Mortgage Loan with 6% Rate, 2011-22



Sources: Texas Real Estate Research Center, 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 \$3,610 for the first-quartile sales price in 4Q2022, nearly three 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 2.99,⁷ meaning a household could afford a maximum home price of nearly three 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 \$123,763 for the first-quartile sales price in 4Q2022 (Table 28). An estimated 15.6 percent of renters in Austin-Round Rock-Georgetown could afford the first-quartile sales price in 4Q2022 with a 95 percent LTV ratio (Table 29), a decline of over 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	\$126,400	\$1,233	\$1,246	\$1,250	\$1,259	\$1,276
4Q2012	\$141,000	\$1,376	\$1,390	\$1,395	\$1,404	\$1,423
4Q2013	\$155,000	\$1,512	\$1,528	\$1,533	\$1,544	\$1,565
4Q2014	\$172,500	\$1,683	\$1,700	\$1,706	\$1,718	\$1,741
4Q2015	\$192,400	\$1,877	\$1,897	\$1,903	\$1,916	\$1,942
4Q2016	\$210,000	\$2,049	\$2,070	\$2,077	\$2,091	\$2,120
4Q2017	\$220,000	\$2,146	\$2,169	\$2,176	\$2,191	\$2,221
4Q2018	\$233,100	\$2,274	\$2,298	\$2,306	\$2,321	\$2,353
4Q2019	\$243,350	\$2,374	\$2,399	\$2,407	\$2,424	\$2,456
4Q2020	\$287,550	\$2,805	\$2,835	\$2,844	\$2,864	\$2,903
4Q2021	\$385,000	\$3,756	\$3,795	\$3,808	\$3,834	\$3,886
4Q2022	\$370,000	\$3,610	\$3,647	\$3,660	\$3,685	\$3,735

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

⁷ The home price-to-income multiplier is based on a 30-year loan term, 6.66percent 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	\$126,400	\$42,280	\$42,720	\$42,866	\$43,159	\$43,745
4Q2012	\$141,000	\$47,164	\$47,654	\$47,818	\$48,144	\$48,798
4Q2013	\$155,000	\$51,847	\$52,386	\$52,565	\$52,925	\$53,643
4Q2014	\$172,500	\$57,700	\$58,300	\$58,500	\$58,900	\$59,700
4Q2015	\$192,400	\$64,357	\$65,026	\$65,249	\$65,695	\$66,587
4Q2016	\$210,000	\$70,244	\$70,974	\$71,218	\$71,704	\$72,678
4Q2017	\$220,000	\$73,589	\$74,354	\$74,609	\$75,119	\$76,139
4Q2018	\$233,100	\$77,971	\$78,781	\$79,052	\$79,592	\$80,673
4Q2019	\$243,350	\$81,399	\$82,246	\$82,528	\$83,092	\$84,220
4Q2020	\$287,550	\$96,184	\$97,184	\$97,517	\$98,184	\$99,517
4Q2021	\$385,000	\$128,781	\$130,119	\$130,566	\$131,458	\$133,243
4Q2022	\$370,000	\$123,763	\$125,050	\$125,479	\$126,336	\$128,052

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	\$126,400	43.9%	43.3%	43.2%	42.8%	42.1%
4Q2012	\$141,000	39.1%	38.5%	38.3%	38.0%	37.2%
4Q2013	\$155,000	35.3%	34.9%	34.8%	34.6%	34.1%
4Q2014	\$172,500	32.6%	32.1%	32.0%	31.7%	31.1%
4Q2015	\$192,400	29.5%	29.0%	28.9%	28.5%	27.9%
4Q2016	\$210,000	27.2%	26.6%	26.4%	26.0%	25.3%
4Q2017	\$220,000	26.9%	26.2%	26.0%	25.7%	25.2%
4Q2018	\$233,100	26.9%	26.5%	26.4%	26.1%	25.6%
4Q2019	\$243,350	28.0%	27.6%	27.5%	27.2%	26.7%
4Q2020	\$287,550	23.0%	22.5%	22.3%	22.0%	21.3%
4Q2021*	\$385,000	13.5%	13.1%	12.9%	12.7%	12.1%
4Q2022*	\$370,000	15.6%	15.2%	15.1%	14.8%	14.2%

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 2.99⁸ (Table 30), meaning a household could afford a maximum home price of nearly 3 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 \$123,763 for the first-quartile sales price in 4Q2022 (Table 31). An estimated 15.6 percent of renters in Austin-Round Rock-Georgetown could afford the first-quartile sales price in 4Q2022 with a 35 percent DTI ratio (Table 32), a decline of over 28 percentage points from 4Q2011.

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 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	\$126,400	\$73,990	\$59,192	\$49,327	\$42,280	\$36,995	\$32,885	\$29,596
4Q2012	\$141,000	\$82,537	\$66,029	\$55,025	\$47,164	\$41,268	\$36,683	\$33,015
4Q2013	\$155,000	\$90,732	\$72,586	\$60,488	\$51,847	\$45,366	\$40,325	\$36,293
4Q2014	\$172,500	\$100,976	\$80,781	\$67,317	\$57,700	\$50,488	\$44,878	\$40,390
4Q2015	\$192,400	\$112,625	\$90,100	\$75,083	\$64,357	\$56,312	\$50,055	\$45,050
4Q2016	\$210,000	\$122,927	\$98,342	\$81,951	\$70,244	\$61,464	\$54,634	\$49,171
4Q2017	\$220,000	\$128,781	\$103,025	\$85,854	\$73,589	\$64,390	\$57,236	\$51,512
4Q2018	\$233,100	\$136,449	\$109,159	\$90,966	\$77,971	\$68,225	\$60,644	\$54,580
4Q2019	\$243,350	\$142,449	\$113,959	\$94,966	\$81,399	\$71,225	\$63,311	\$56,980
4Q2020	\$287,550	\$168,322	\$134,658	\$112,215	\$96,184	\$84,161	\$74,810	\$67,329
4Q2021	\$385,000	\$225,366	\$180,293	\$150,244	\$128,781	\$112,683	\$100,163	\$90,147
4Q2022	\$370,000	\$216,586	\$173,269	\$144,391	\$123,763	\$108,293	\$96,260	\$86,634

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, 6.66percent 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	\$126,400	17.1%	28.0%	35.6%	43.9%	50.1%	55.4%	60.2%
4Q2012	\$141,000	15.3%	24.4%	32.2%	39.1%	46.1%	51.5%	56.2%
4Q2013	\$155,000	13.1%	20.7%	29.2%	35.3%	42.0%	47.9%	52.6%
4Q2014	\$172,500	10.2%	17.6%	25.5%	32.6%	37.9%	44.1%	49.2%
4Q2015	\$192,400	9.6%	15.5%	21.5%	29.5%	35.5%	40.2%	46.0%
4Q2016	\$210,000	9.0%	13.6%	20.5%	27.2%	34.2%	39.7%	44.3%
4Q2017	\$220,000	9.0%	14.0%	20.9%	26.9%	34.4%	40.3%	45.0%
4Q2018	\$233,100	8.9%	14.8%	20.9%	26.9%	33.9%	40.3%	45.4%
4Q2019	\$243,350	8.8%	15.6%	21.4%	28.0%	34.3%	40.9%	46.2%
4Q2020	\$287,550	7.4%	11.7%	17.7%	23.0%	29.3%	34.2%	40.3%
4Q2021*	\$385,000	6.4%	6.9%	7.1%	13.5%	18.3%	22.0%	27.5%
4Q2022*	\$370,000	6.4%	6.9%	8.9%	15.6%	20.6%	25.5%	31.1%

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 \$3,610 for the first-quartile sales price in 4Q2022, nearly three 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 2.99,⁹ meaning a household could afford a maximum home price of nearly three times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

⁹ 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 \$123,763 for the first-quartile sales price in 4Q2022 (Table 35). An estimated 15.6 percent of renters in Austin-Round Rock-Georgetown 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 over 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	\$126,400	\$1,023	\$1,128	\$1,233	\$1,339	\$1,444
4Q2012	\$141,000	\$1,141	\$1,258	\$1,376	\$1,493	\$1,611
4Q2013	\$155,000	\$1,254	\$1,383	\$1,512	\$1,641	\$1,771
4Q2014	\$172,500	\$1,395	\$1,539	\$1,683	\$1,827	\$1,970
4Q2015	\$192,400	\$1,556	\$1,717	\$1,877	\$2,037	\$2,198
4Q2016	\$210,000	\$1,699	\$1,874	\$2,049	\$2,224	\$2,399
4Q2017	\$220,000	\$1,780	\$1,963	\$2,146	\$2,330	\$2,513
4Q2018	\$233,100	\$1,886	\$2,080	\$2,274	\$2,468	\$2,663
4Q2019	\$243,350	\$1,969	\$2,171	\$2,374	\$2,577	\$2,780
4Q2020	\$287,550	\$2,326	\$2,566	\$2,805	\$3,045	\$3,285
4Q2021	\$385,000	\$3,114	\$3,435	\$3,756	\$4,077	\$4,398
4Q2022	\$370,000	\$2,993	\$3,301	\$3,610	\$3,918	\$4,226

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	\$126,400	\$35,057	\$38,669	\$42,280	\$45,892	\$49,503
4Q2012	\$141,000	\$39,107	\$43,135	\$47,164	\$51,192	\$55,221
4Q2013	\$155,000	\$42,990	\$47,418	\$51,847	\$56,275	\$60,704
4Q2014	\$172,500	\$47,843	\$52,772	\$57,700	\$62,629	\$67,558
4Q2015	\$192,400	\$53,363	\$58,860	\$64,357	\$69,854	\$75,351
4Q2016	\$210,000	\$58,244	\$64,244	\$70,244	\$76,244	\$82,244
4Q2017	\$220,000	\$61,018	\$67,303	\$73,589	\$79,875	\$86,160
4Q2018	\$233,100	\$64,651	\$71,311	\$77,971	\$84,631	\$91,291
4Q2019	\$243,350	\$67,494	\$74,447	\$81,399	\$88,352	\$95,305
4Q2020	\$287,550	\$79,753	\$87,968	\$96,184	\$104,400	\$112,616
4Q2021	\$385,000	\$106,781	\$117,781	\$128,781	\$139,781	\$150,781
4Q2022	\$370,000	\$102,620	\$113,192	\$123,763	\$134,335	\$144,906

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	\$126,400	52.3%	48.1%	43.9%	39.6%	35.4%
4Q2012	\$141,000	48.6%	43.9%	39.1%	34.9%	32.1%
4Q2013	\$155,000	44.8%	39.6%	35.3%	32.2%	29.1%
4Q2014	\$172,500	40.7%	36.2%	32.6%	28.9%	25.3%
4Q2015	\$192,400	37.7%	33.6%	29.5%	25.4%	21.4%
4Q2016	\$210,000	36.8%	32.0%	27.2%	22.9%	20.4%
4Q2017	\$220,000	37.2%	32.0%	26.9%	23.5%	20.8%
4Q2018	\$233,100	36.9%	31.3%	26.9%	23.8%	20.8%
4Q2019	\$243,350	37.4%	31.6%	28.0%	24.6%	21.2%
4Q2020	\$287,550	31.6%	27.3%	23.0%	19.8%	17.6%
4Q2021*	\$385,000	20.0%	16.7%	13.5%	10.2%	7.1%
4Q2022*	\$370,000	22.5%	19.0%	15.6%	12.2%	8.7%

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.¹⁰ 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.¹¹

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.

¹⁰ 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.

¹¹ 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),¹² 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.

¹² The source for the prevailing mortgage interest rate is FRED/Freddie Mac.





TEXAS A&M UNIVERSITY

Texas Real Estate Research Center

DIVISION OF ACADEMIC AND STRATEGIC COLLABORATIONS

Texas A&M University
2115 TAMU
College Station, TX 77843-2115

<http://recenter.tamu.edu>
979-845-2031

EXECUTIVE DIRECTOR

GARY W. MALER

ADVISORY COMMITTEE

DOUG JENNINGS, CHAIRMAN Fort Worth	DOUG FOSTER, VICE CHAIRMAN Lockhart
TROY ALLEY, JR. DeSoto	BESA MARTIN Boerne
RUSSELL CAIN Port Lavaca	TED NELSON Houston
VICKI FULLERTON The Woodlands	BECKY VAJDAK Temple
PATRICK GEDDES Dallas	BARBARA RUSSELL, EX-OFFICIO Denton



LinkedIn
[linkedin.com/company/recentertx](https://www.linkedin.com/company/recentertx)



Instagram
[instagram.com/recentertx](https://www.instagram.com/recentertx)



YouTube
[youtube.com/@recentertx](https://www.youtube.com/@recentertx)



Facebook
[facebook.com/recentertx](https://www.facebook.com/recentertx)



Twitter
twitter.com/recentertx