

# Dallas-Fort Worth-Arlington Housing Affordability Outlook



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Texas Real Estate Research Center

TECHNICAL REPORT
2 3 4 7
4TH QUARTER 2022

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# Dallas-Fort Worth-Arlington 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 *Dallas-Fort Worth-Arlington Housing Affordability Outlook* summarizes significant housing activity and trends as related to affordability in Dallas-Fort-Worth-Arlington. 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 Dallas-Fort Worth-Arlington. We hope you find them as useful as we do. Your feedback is always appreciated. Send comments and suggestions to [info@recenter.tamu.edu](mailto:info@recenter.tamu.edu).

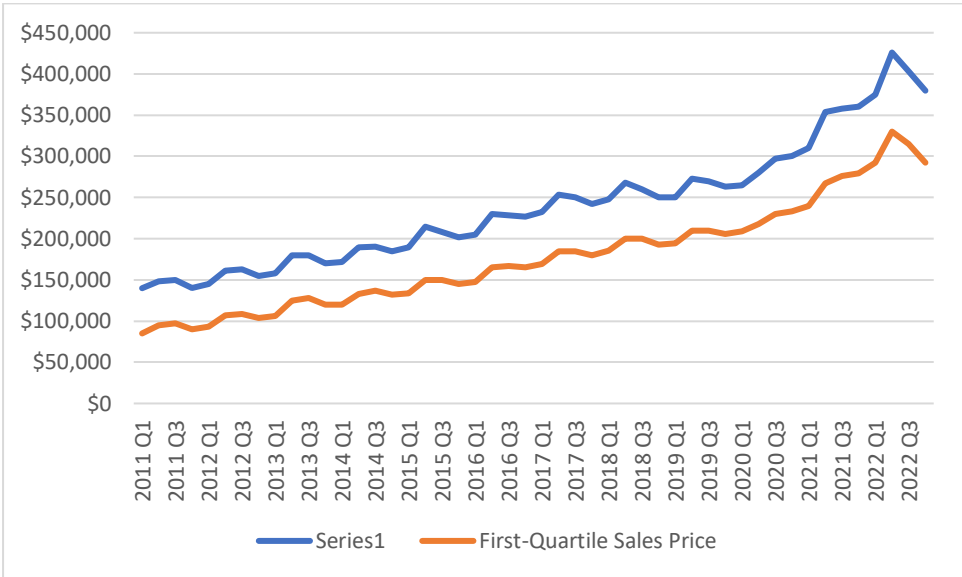
Dr. Clare Losey, Dr. Harold D. Hunt, and Reece Neathery

**Purchase Affordability**

Affordability remained low in 4Q2022 amid higher mortgage interest rates and still-elevated home prices. Year-over-year (YOY) growth in both the median and first-quartile sales price continued, at 5.6 percent and 4.7 percent, respectively (Figure 1 and Table 1).<sup>1</sup> The significant YOY increase in family income followed years of modest rises (Table 2). This was outpaced by the rise in family income at 9.4 percent.

The rapid rise in mortgage interest rates continued to diminish home-purchasing potential. 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 to decrease 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, Dallas-Fort Worth-Arlington**



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

<sup>1</sup> 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**

<b>Year</b>	<b>Median Home Price</b>	<b>YOY Change</b>	<b>First-Quartile Home Price</b>	<b>YOY Change</b>
4Q2011	\$140,500		\$90,000	
4Q2012	\$155,000	10.3%	\$103,626	15.1%
4Q2013	\$170,000	9.7%	\$120,000	15.8%
4Q2014	\$185,000	8.8%	\$132,000	10.0%
4Q2015	\$202,000	9.2%	\$145,000	9.8%
4Q2016	\$227,000	12.4%	\$165,000	13.8%
4Q2017	\$242,000	6.6%	\$180,000	9.1%
4Q2018	\$249,900	3.3%	\$193,000	7.2%
4Q2019	\$263,000	5.2%	\$206,000	6.7%
4Q2020	\$300,000	14.1%	\$233,000	13.1%
4Q2021	\$360,000	20.0%	\$279,000	19.7%
4Q2022	\$380,000	5.6%	\$292,000	4.7%

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

**Table 2. Median Family Income by Year**

<b>Year</b>	<b>Income for First-Time Homebuyers</b>	<b>YOY Change</b>	<b>Median Family Income</b>	<b>YOY Change</b>
2011	\$55,300		\$69,100	
2012	\$56,100	1.4%	\$70,100	1.4%
2013	\$54,000	-3.7%	\$67,500	-3.7%
2014	\$54,300	0.6%	\$67,900	0.6%
2015	\$56,300	3.7%	\$70,400	3.7%
2016	\$57,350	1.9%	\$71,700	1.8%
2017	\$58,700	2.4%	\$73,400	2.4%
2018	\$61,750	5.2%	\$77,200	5.2%
2019	\$66,500	7.7%	\$83,100	7.6%
2020	\$68,950	3.7%	\$86,200	3.7%
2021	\$71,200	3.3%	\$89,000	3.15%
2022	\$77,900	9.4%	\$97,400	9.4%

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

Purchase affordability continued to decline in 4Q2022 as the gap between median sales price and family income continued to rise. For households earning the median family income for Dallas-Fort Worth in 2022 (\$97,400), the median sales price for 4Q2022 was not affordable to them unless the home price-to-income multiplier exceeded 4 (Table 3). Only 25.1 percent of homes sold in 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 \$130,000 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**

	Family Income	Home Purchasing Power							
		2	2.5	3	3.5	4	4.5	5	5.5
	<b>\$85,000</b>	\$170,000	\$212,500	\$255,000	\$297,500	\$340,000	<b>\$382,500</b>	<b>\$425,000</b>	<b>\$467,500</b>
	<b>\$90,000</b>	\$180,000	\$225,000	\$270,000	\$315,000	\$360,000	<b>\$405,000</b>	<b>\$450,000</b>	<b>\$495,000</b>
	<b>\$95,000</b>	\$190,000	\$237,500	\$285,000	\$332,500	<b>\$380,000</b>	<b>\$427,500</b>	<b>\$475,000</b>	<b>\$522,500</b>
	<b>\$97,400</b>	\$194,800	\$243,500	\$292,200	\$340,900	<b>\$389,600</b>	<b>\$438,300</b>	<b>\$487,000</b>	<b>\$535,700</b>
<b>Median Family Income</b>	<b>\$100,000</b>	\$200,000	\$250,000	\$300,000	\$350,000	<b>\$400,000</b>	<b>\$450,000</b>	<b>\$500,000</b>	<b>\$550,000</b>
	<b>\$105,000</b>	\$210,000	\$262,500	\$315,000	\$367,500	<b>\$420,000</b>	<b>\$472,500</b>	<b>\$525,000</b>	<b>\$577,500</b>
	<b>\$110,000</b>	\$220,000	\$275,000	\$330,000	<b>\$385,000</b>	<b>\$440,000</b>	<b>\$495,000</b>	<b>\$550,000</b>	<b>\$605,000</b>
	<b>\$115,000</b>	\$230,000	\$287,500	\$345,000	<b>\$402,500</b>	<b>\$460,000</b>	<b>\$517,500</b>	<b>\$575,000</b>	<b>\$632,500</b>
	<b>\$116,900</b>	\$233,800	\$292,250	\$350,700	<b>\$409,150</b>	<b>\$467,600</b>	<b>\$526,050</b>	<b>\$584,500</b>	<b>\$642,950</b>
<b>Workforce Households (120%)</b>	<b>\$120,000</b>	\$240,000	\$300,000	\$360,000	<b>\$420,000</b>	<b>\$480,000</b>	<b>\$540,000</b>	<b>\$600,000</b>	<b>\$660,000</b>
	<b>\$125,000</b>	\$250,000	\$312,500	\$375,000	<b>\$437,500</b>	<b>\$500,000</b>	<b>\$562,500</b>	<b>\$625,000</b>	<b>\$687,500</b>
	<b>\$130,000</b>	\$260,000	\$325,000	<b>\$390,000</b>	<b>\$455,000</b>	<b>\$520,000</b>	<b>\$585,000</b>	<b>\$650,000</b>	<b>\$715,000</b>
	<b>\$135,000</b>	\$270,000	\$337,500	<b>\$405,000</b>	<b>\$472,500</b>	<b>\$540,000</b>	<b>\$607,500</b>	<b>\$675,000</b>	<b>\$742,500</b>
	<b>\$140,000</b>	\$280,000	\$350,000	<b>\$420,000</b>	<b>\$490,000</b>	<b>\$560,000</b>	<b>\$630,000</b>	<b>\$700,000</b>	<b>\$770,000</b>
	<b>\$145,000</b>	\$290,000	\$362,500	<b>\$435,000</b>	<b>\$507,500</b>	<b>\$580,000</b>	<b>\$652,500</b>	<b>\$725,000</b>	<b>\$797,500</b>
	<b>\$150,000</b>	\$300,000	\$375,000	<b>\$450,000</b>	<b>\$525,000</b>	<b>\$600,000</b>	<b>\$675,000</b>	<b>\$750,000</b>	<b>\$825,000</b>
	<b>\$155,000</b>	\$310,000	<b>\$387,500</b>	<b>\$465,000</b>	<b>\$542,500</b>	<b>\$620,000</b>	<b>\$697,500</b>	<b>\$775,000</b>	<b>\$852,500</b>
	<b>\$160,000</b>	\$320,000	<b>\$400,000</b>	<b>\$480,000</b>	<b>\$560,000</b>	<b>\$640,000</b>	<b>\$720,000</b>	<b>\$800,000</b>	<b>\$880,000</b>

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 4Q2021 Affordable by Family Income and Home Price-to-Income Multiplier**

	Family Income	Home Purchasing Power							
		2	2.5	3	3.5	4	4.5	5	5.5
	<b>\$85,000</b>	3.4%	7.5%	15.6%	26.5%	39.8%	51.1%	60.9%	67.8%
	<b>\$90,000</b>	4.2%	9.5%	19.3%	32.5%	45.7%	56.7%	65.4%	71.9%
	<b>\$95,000</b>	5.2%	11.3%	23.3%	37.4%	50.8%	61.0%	69.2%	74.9%
<b>Median Family Income</b>	<b>\$97,400</b>	5.4%	12.4%	25.1%	39.8%	52.5%	62.9%	70.7%	76.5%
	<b>\$100,000</b>	6.2%	14.6%	28.4%	43.2%	56.0%	65.4%	72.9%	78.0%
	<b>\$105,000</b>	7.4%	17.2%	32.5%	47.2%	59.8%	68.5%	75.6%	80.1%
	<b>\$110,000</b>	8.7%	20.7%	37.2%	52.0%	63.6%	71.9%	78.0%	82.7%
	<b>\$115,000</b>	10.4%	23.6%	41.0%	56.1%	66.9%	74.3%	80.0%	84.3%
<b>Workforce Households (120%)</b>	<b>\$116,900</b>	10.6%	25.1%	43.2%	57.1%	67.8%	75.6%	80.6%	85.0%
	<b>\$120,000</b>	12.1%	28.4%	45.7%	59.8%	70.0%	76.9%	82.4%	86.2%
	<b>\$125,000</b>	14.6%	31.4%	49.5%	62.8%	72.9%	78.9%	84.0%	87.5%
	<b>\$130,000</b>	16.9%	35.6%	53.2%	66.0%	74.8%	80.9%	85.7%	88.9%
	<b>\$135,000</b>	19.3%	38.6%	56.7%	68.5%	76.9%	82.7%	87.0%	89.9%
	<b>\$140,000</b>	22.0%	43.2%	59.8%	71.3%	78.8%	84.3%	88.4%	90.9%
	<b>\$145,000</b>	24.9%	46.0%	62.6%	73.3%	80.5%	85.8%	89.3%	91.8%
	<b>\$150,000</b>	28.4%	49.5%	65.4%	75.6%	82.4%	87.0%	90.4%	92.7%
	<b>\$155,000</b>	31.2%	52.3%	67.6%	77.0%	83.5%	87.9%	91.1%	93.4%
	<b>\$160,000</b>	34.1%	56.0%	70.0%	78.8%	85.0%	89.1%	92.2%	93.8%

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 \$3,220 for the median sales price in 4Q2022, nearly 3 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,<sup>2</sup> 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 \$128,810 for the median sales price in 4Q2022 (Table 7). An estimated 39.2 percent of homeowners in Dallas-Fort Worth-Arlington could afford the median sales price in 4Q2022 with a 6.66 percent interest rate (Table 8), a decline of over 33 percentage points from 4Q2011.

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

**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	\$140,500	\$942	\$1,005	\$1,072	\$1,142	\$1,179	<b>\$1,191</b>	\$1,216
4Q2012	\$155,000	\$1,039	\$1,109	\$1,182	\$1,260	\$1,300	<b>\$1,314</b>	\$1,342
4Q2013	\$170,000	\$1,140	\$1,216	\$1,297	\$1,382	\$1,426	<b>\$1,441</b>	\$1,471
4Q2014	\$185,000	\$1,241	\$1,323	\$1,411	\$1,504	\$1,552	<b>\$1,568</b>	\$1,601
4Q2015	\$202,000	\$1,355	\$1,445	\$1,541	\$1,642	\$1,695	<b>\$1,712</b>	\$1,748
4Q2016	\$227,000	\$1,522	\$1,624	\$1,732	\$1,845	\$1,905	<b>\$1,924</b>	\$1,965
4Q2017	\$242,000	\$1,623	\$1,731	\$1,846	\$1,967	\$2,030	<b>\$2,051</b>	\$2,095
4Q2018	\$249,900	\$1,676	\$1,787	\$1,906	\$2,032	\$2,097	<b>\$2,118</b>	\$2,163
4Q2019	\$263,000	\$1,764	\$1,881	\$2,006	\$2,138	\$2,207	<b>\$2,229</b>	\$2,276
4Q2020	\$300,000	\$2,012	\$2,146	\$2,288	\$2,439	\$2,517	<b>\$2,542</b>	\$2,597
4Q2021	\$360,000	\$2,414	\$2,575	\$2,746	\$2,927	\$3,020	<b>\$3,051</b>	\$3,116
<b>4Q2022</b>	<b>\$380,000</b>	<b>\$2,548</b>	<b>\$2,718</b>	<b>\$2,899</b>	<b>\$3,089</b>	<b>\$3,188</b>	<b>\$3,220</b>	<b>\$3,289</b>

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

<sup>2</sup> 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
<b>6.66%</b>	<b>2.95</b>
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%	<b>6.66%</b>	7%
4Q2011	\$140,500	\$37,689	\$40,198	\$42,869	\$45,689	\$47,151	<b>\$47,626</b>	\$48,645
4Q2012	\$155,000	\$41,578	\$44,346	\$47,293	\$50,404	\$52,017	<b>\$52,541</b>	\$53,666
4Q2013	\$170,000	\$45,602	\$48,638	\$51,870	\$55,282	\$57,051	<b>\$57,626</b>	\$58,859
4Q2014	\$185,000	\$49,626	\$52,930	\$56,447	\$60,160	\$62,085	<b>\$62,710</b>	\$64,053
4Q2015	\$202,000	\$54,186	\$57,793	\$61,633	\$65,688	\$67,790	<b>\$68,473</b>	\$69,938
4Q2016	\$227,000	\$60,892	\$64,946	\$69,261	\$73,818	\$76,180	<b>\$76,947</b>	\$78,594
4Q2017	\$242,000	\$64,916	\$69,238	\$73,838	\$78,696	\$81,214	<b>\$82,032</b>	\$83,788
4Q2018	\$249,900	\$67,035	\$71,498	\$76,249	\$81,265	\$83,865	<b>\$84,710</b>	\$86,523
4Q2019	\$263,000	\$70,549	\$75,246	\$80,246	\$85,525	\$88,262	<b>\$89,150</b>	\$91,059
4Q2020	\$300,000	\$80,474	\$85,832	\$91,535	\$97,557	\$100,679	<b>\$101,692</b>	\$103,869
4Q2021	\$360,000	\$96,569	\$102,998	\$109,842	\$117,068	\$120,814	<b>\$122,031</b>	\$124,643
<b>4Q2022</b>	<b>\$380,000</b>	<b>\$101,934</b>	<b>\$108,720</b>	<b>\$115,944</b>	<b>\$123,572</b>	<b>\$127,526</b>	<b>\$128,810</b>	<b>\$131,567</b>

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**

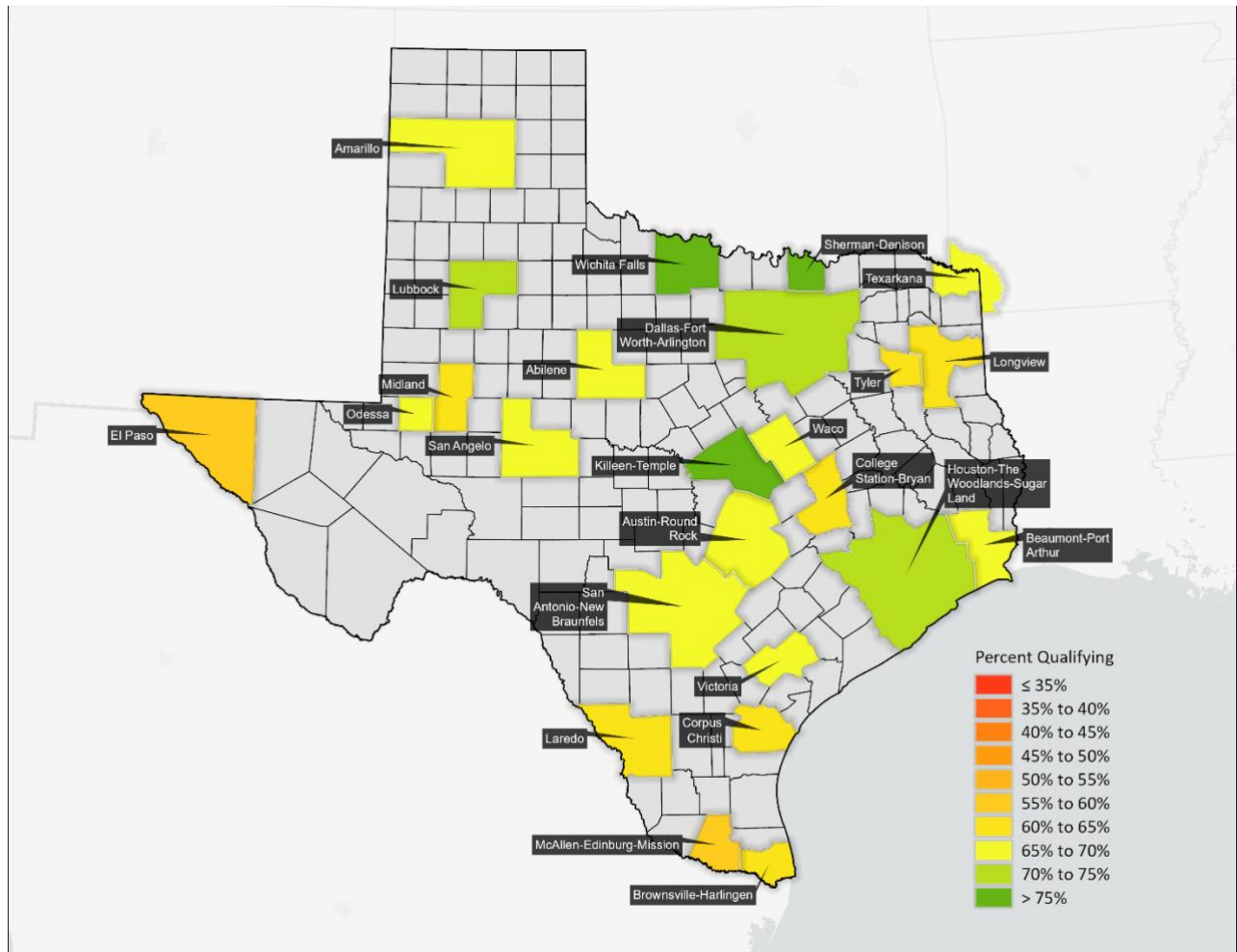
Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.5%	6.6%	7%
4Q2011	\$140,500	80.0%	78.1%	76.1%	73.9%	72.8%	<b>72.5%</b>	71.7%
4Q2012	\$155,000	77.0%	74.9%	72.7%	70.4%	69.2%	<b>68.8%</b>	68.0%
4Q2013	\$170,000	73.9%	71.6%	69.2%	66.7%	65.4%	<b>65.0%</b>	64.1%
4Q2014	\$185,000	71.3%	68.9%	66.3%	63.6%	62.2%	<b>61.7%</b>	60.7%
4Q2015	\$202,000	68.2%	65.6%	62.8%	59.9%	58.4%	<b>57.9%</b>	56.8%
4Q2016	\$227,000	64.4%	61.5%	58.4%	55.2%	53.7%	<b>53.2%</b>	52.3%
4Q2017	\$242,000	63.2%	60.2%	57.1%	54.2%	52.7%	<b>52.3%</b>	51.3%
4Q2018	\$249,900	63.7%	60.8%	57.7%	54.9%	53.5%	<b>53.0%</b>	52.0%
4Q2019	\$263,000	63.4%	60.4%	57.6%	54.6%	53.1%	<b>52.6%</b>	51.5%
4Q2020	\$300,000	59.0%	56.0%	52.9%	49.5%	47.9%	<b>47.4%</b>	46.5%
4Q2021*	\$360,000	51.9%	48.7%	45.8%	42.7%	41.0%	<b>40.5%</b>	39.4%
<b>4Q2022*</b>	<b>\$380,000</b>	<b>50.9%</b>	<b>48.0%</b>	<b>44.8%</b>	<b>41.5%</b>	<b>39.8%</b>	<b>39.2%</b>	<b>38.0%</b>

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.

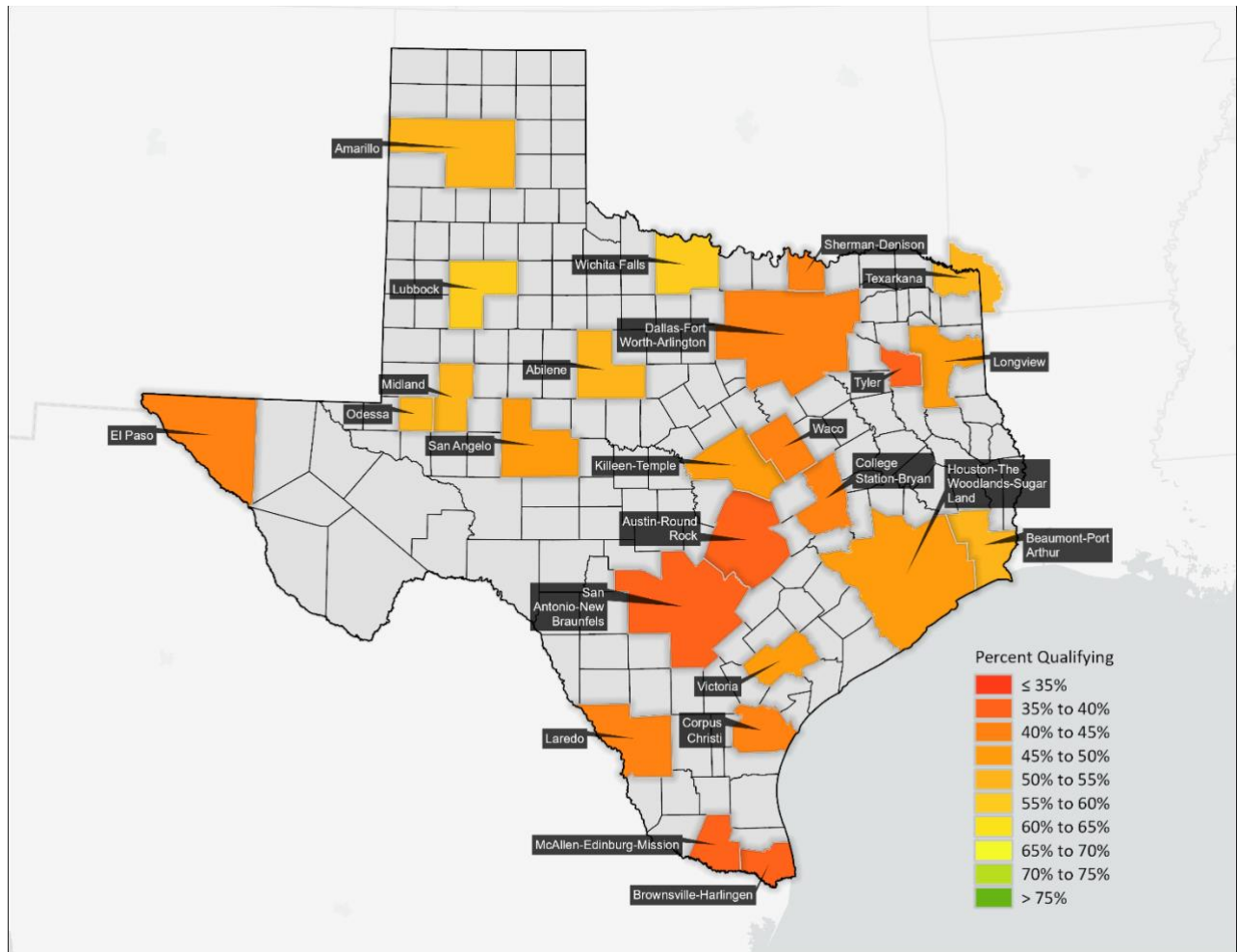
Sources: American Community Survey, U.S. Census Bureau, and Texas Real Estate Research Center at Texas A&M University

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



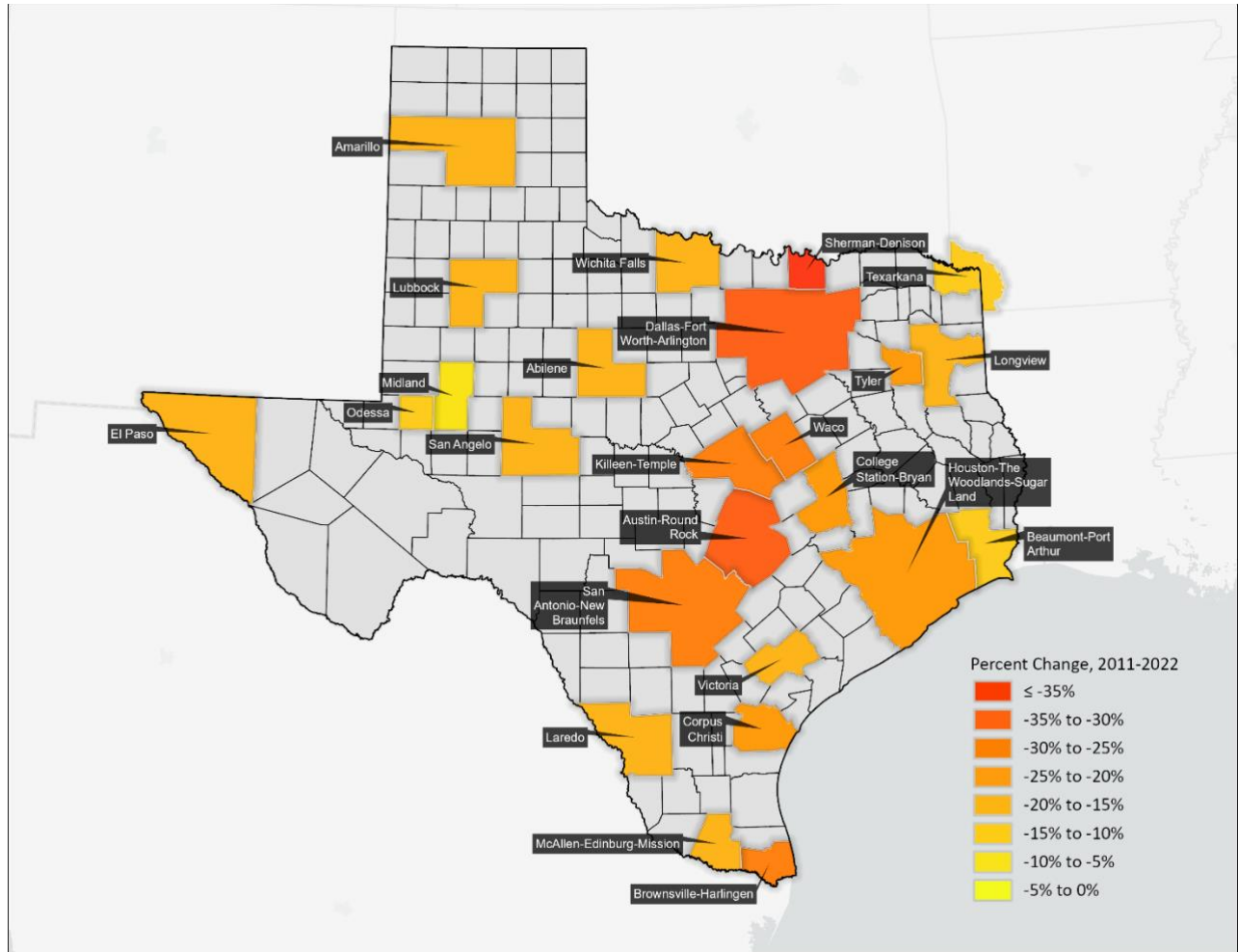
Sources: Texas Real Estate Research Center at Texas A&M University, U.S. Census Bureau, Texas Parks & Wildlife, CONANP, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA

**Map 2. Percentage of Repeat Buyers Qualifying for Mortgage Loan with 6% Rate, 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 Mortgage Loan with 6% Rate, 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 \$3,220 for the median sales price in 4Q2022, nearly 3 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,<sup>3</sup> 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 \$128,810 for the median sales price in 4Q2022 (Table 11). An estimated 39.2 percent of homeowners in Dallas-Fort Worth-Arlington could afford the median sales price in 4Q2022 with an 80 percent LTV ratio (Table 12), a decline of over 33 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	\$140,500	<b>\$1,191</b>	\$1,236	\$1,281	\$1,326	\$1,371
4Q2012	\$155,000	<b>\$1,314</b>	\$1,363	\$1,413	\$1,463	\$1,513
4Q2013	\$170,000	<b>\$1,441</b>	\$1,495	\$1,550	\$1,605	\$1,659
4Q2014	\$185,000	<b>\$1,568</b>	\$1,627	\$1,687	\$1,746	\$1,806
4Q2015	\$202,000	<b>\$1,712</b>	\$1,777	\$1,842	\$1,907	\$1,971
4Q2016	\$227,000	<b>\$1,924</b>	\$1,997	\$2,070	\$2,142	\$2,215
4Q2017	\$242,000	<b>\$2,051</b>	\$2,129	\$2,206	\$2,284	\$2,362
4Q2018	\$249,900	<b>\$2,118</b>	\$2,198	\$2,278	\$2,359	\$2,439
4Q2019	\$263,000	<b>\$2,229</b>	\$2,313	\$2,398	\$2,482	\$2,567
4Q2020	\$300,000	<b>\$2,542</b>	\$2,639	\$2,735	\$2,831	\$2,928
4Q2021	\$360,000	<b>\$3,051</b>	\$3,166	\$3,282	\$3,398	\$3,513
<b>4Q2022</b>	<b>\$380,000</b>	<b>\$3,220</b>	<b>\$3,342</b>	<b>\$3,464</b>	<b>\$3,587</b>	<b>\$3,709</b>

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

<sup>3</sup> 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, 6.66percent 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 11. Required Qualifying Income for Repeat Buyers by LTV Ratio**

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
4Q2011	\$140,500	<b>\$47,626</b>	\$49,432	\$51,237	\$53,043	\$54,849
4Q2012	\$155,000	<b>\$52,541</b>	\$54,533	\$56,525	\$58,517	\$60,510
4Q2013	\$170,000	<b>\$57,626</b>	\$59,811	\$61,995	\$64,180	\$66,365
4Q2014	\$185,000	<b>\$62,710</b>	\$65,088	\$67,466	\$69,843	\$72,221
4Q2015	\$202,000	<b>\$68,473</b>	\$71,069	\$73,665	\$76,261	\$78,858
4Q2016	\$227,000	<b>\$76,947</b>	\$79,865	\$82,782	\$85,700	\$88,617
4Q2017	\$242,000	<b>\$82,032</b>	\$85,142	\$88,252	\$91,363	\$94,473
4Q2018	\$249,900	<b>\$84,710</b>	\$87,921	\$91,133	\$94,345	\$97,557
4Q2019	\$263,000	<b>\$89,150</b>	\$92,530	\$95,911	\$99,291	\$102,671
4Q2020	\$300,000	<b>\$101,692</b>	\$105,548	\$109,404	\$113,259	\$117,115
4Q2021	\$360,000	<b>\$122,031</b>	\$126,658	\$131,284	\$135,911	\$140,538
4Q2022	<b>\$380,000</b>	<b>\$128,810</b>	<b>\$133,694</b>	<b>\$138,578</b>	<b>\$143,462</b>	<b>\$148,346</b>

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	\$140,500	<b>72.5%</b>	71.1%	69.8%	68.4%	67.0%
4Q2012	\$155,000	<b>68.8%</b>	67.3%	65.9%	64.4%	62.9%
4Q2013	\$170,000	<b>65.0%</b>	63.4%	61.8%	60.1%	58.5%
4Q2014	\$185,000	<b>61.7%</b>	60.0%	58.2%	56.5%	54.7%
4Q2015	\$202,000	<b>57.9%</b>	56.0%	54.1%	52.4%	50.9%
4Q2016	\$227,000	<b>53.2%</b>	51.6%	49.9%	48.3%	46.6%
4Q2017	\$242,000	<b>52.3%</b>	50.5%	48.7%	47.0%	45.2%
4Q2018	\$249,900	<b>53.0%</b>	51.2%	49.4%	47.6%	45.8%
4Q2019	\$263,000	<b>52.6%</b>	50.7%	48.8%	46.9%	45.4%
4Q2020	\$300,000	<b>47.4%</b>	45.8%	44.1%	42.5%	40.8%
4Q2021*	\$360,000	<b>40.5%</b>	38.5%	36.5%	34.5%	32.5%
<b>4Q2022*</b>	<b>\$380,000</b>	<b>39.2%</b>	<b>37.1%</b>	<b>35.0%</b>	<b>32.9%</b>	<b>30.7%</b>

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 2.95<sup>4</sup> (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 \$128,810 for the median sales price in 4Q2022 (Table 14). An estimated 39.2 percent of homeowners in Dallas-Fort Worth-Arlington could afford the median sales price in 4Q2022 with a 30 percent DTI ratio (Table 15), a decline of over 33 percentage points from 4Q2011.

<sup>4</sup> 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
<b>30%</b>	<b>2.95</b>
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%	<b>30%</b>	35%	40%	45%	50%
4Q2011	\$140,500	\$71,439	\$57,151	<b>\$47,626</b>	\$40,822	\$35,719	\$31,751	\$28,576
4Q2012	\$155,000	\$78,811	\$63,049	<b>\$52,541</b>	\$45,035	\$39,406	\$35,027	\$31,525
4Q2013	\$170,000	\$86,438	\$69,151	<b>\$57,626</b>	\$49,393	\$43,219	\$38,417	\$34,575
4Q2014	\$185,000	\$94,065	\$75,252	<b>\$62,710</b>	\$53,752	\$47,033	\$41,807	\$37,626
4Q2015	\$202,000	\$102,709	\$82,167	<b>\$68,473</b>	\$58,691	\$51,355	\$45,648	\$41,084
4Q2016	\$227,000	\$115,421	\$92,337	<b>\$76,947</b>	\$65,955	\$57,710	\$51,298	\$46,168
4Q2017	\$242,000	\$123,048	\$98,438	<b>\$82,032</b>	\$70,313	\$61,524	\$54,688	\$49,219
4Q2018	\$249,900	\$127,064	\$101,652	<b>\$84,710</b>	\$72,608	\$63,532	\$56,473	\$50,826
4Q2019	\$263,000	\$133,725	\$106,980	<b>\$89,150</b>	\$76,414	\$66,863	\$59,433	\$53,490
4Q2020	\$300,000	\$152,538	\$122,031	<b>\$101,692</b>	\$87,165	\$76,269	\$67,795	\$61,015
4Q2021	\$360,000	\$183,046	\$146,437	<b>\$122,031</b>	\$104,598	\$91,523	\$81,354	\$73,218
<b>4Q2022</b>	<b>\$380,000</b>	<b>\$193,215</b>	<b>\$154,572</b>	<b>\$128,810</b>	<b>\$110,409</b>	<b>\$96,608</b>	<b>\$85,873</b>	<b>\$77,286</b>

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	\$140,500	54.4%	65.3%	<b>72.5%</b>	77.6%	81.5%	84.3%	86.6%
4Q2012	\$155,000	49.7%	61.0%	<b>68.8%</b>	74.4%	78.6%	81.8%	84.3%
4Q2013	\$170,000	45.3%	56.5%	<b>65.0%</b>	71.1%	75.7%	79.3%	82.1%
4Q2014	\$185,000	41.6%	52.6%	<b>61.7%</b>	68.3%	73.2%	77.0%	80.0%
4Q2015	\$202,000	37.6%	49.0%	<b>57.9%</b>	65.0%	70.3%	74.4%	77.8%
4Q2016	\$227,000	33.9%	44.5%	<b>53.2%</b>	60.8%	66.7%	71.2%	74.9%
4Q2017	\$242,000	32.6%	43.0%	<b>52.3%</b>	59.5%	65.6%	70.3%	74.0%
4Q2018	\$249,900	33.1%	43.8%	<b>53.0%</b>	60.0%	66.1%	70.8%	74.5%
4Q2019	\$263,000	32.2%	43.5%	<b>52.6%</b>	59.8%	65.8%	70.5%	74.4%
4Q2020	\$300,000	26.7%	38.7%	<b>47.4%</b>	55.3%	61.3%	66.5%	70.8%
4Q2021*	\$360,000	27.3%	30.0%	<b>40.5%</b>	48.0%	54.7%	60.3%	64.9%
<b>4Q2022*</b>	<b>\$380,000</b>	<b>28.5%</b>	<b>29.8%</b>	<b>39.2%</b>	<b>47.2%</b>	<b>53.6%</b>	<b>59.5%</b>	<b>64.2%</b>

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, a monthly mortgage payment was \$3,220 for the median sales price in 4Q2022, nearly 3 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,<sup>5</sup> 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 costs of property taxes and insurance increase.

<sup>5</sup> 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 \$128,810 for the median sales price in 4Q2022 (Table 18). An estimated 39.2 percent of homeowners in Dallas-Fort Worth-Arlington could afford the median sales price in 4Q2022 with property taxes and insurance at percent of home price (Table 19), a decline of over 33 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	\$140,500	\$956	\$1,074	<b>\$1,191</b>	\$1,308	\$1,425
4Q2012	\$155,000	\$1,055	\$1,184	<b>\$1,314</b>	\$1,443	\$1,572
4Q2013	\$170,000	\$1,157	\$1,299	<b>\$1,441</b>	\$1,582	\$1,724
4Q2014	\$185,000	\$1,259	\$1,414	<b>\$1,568</b>	\$1,722	\$1,876
4Q2015	\$202,000	\$1,375	\$1,543	<b>\$1,712</b>	\$1,880	\$2,048
4Q2016	\$227,000	\$1,545	\$1,735	<b>\$1,924</b>	\$2,113	\$2,302
4Q2017	\$242,000	\$1,647	\$1,849	<b>\$2,051</b>	\$2,252	\$2,454
4Q2018	\$249,900	\$1,701	\$1,909	<b>\$2,118</b>	\$2,326	\$2,534
4Q2019	\$263,000	\$1,790	\$2,010	<b>\$2,229</b>	\$2,448	\$2,667
4Q2020	\$300,000	\$2,042	\$2,292	<b>\$2,542</b>	\$2,792	\$3,042
4Q2021	\$360,000	\$2,451	\$2,751	<b>\$3,051</b>	\$3,351	\$3,651
<b>4Q2022</b>	<b>\$380,000</b>	<b>\$2,587</b>	<b>\$2,904</b>	<b>\$3,220</b>	<b>\$3,537</b>	<b>\$3,854</b>

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
<b>4%</b>	<b>2.95</b>
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	\$140,500	\$38,259	\$42,943	<b>\$47,626</b>	\$52,309	\$56,993
4Q2012	\$155,000	\$42,208	\$47,374	<b>\$52,541</b>	\$57,708	\$62,874
4Q2013	\$170,000	\$46,292	\$51,959	<b>\$57,626</b>	\$63,292	\$68,959
4Q2014	\$185,000	\$50,377	\$56,544	<b>\$62,710</b>	\$68,877	\$75,044
4Q2015	\$202,000	\$55,006	\$61,739	<b>\$68,473</b>	\$75,206	\$81,939
4Q2016	\$227,000	\$61,814	\$69,380	<b>\$76,947</b>	\$84,514	\$92,080
4Q2017	\$242,000	\$65,898	\$73,965	<b>\$82,032</b>	\$90,098	\$98,165
4Q2018	\$249,900	\$68,050	\$76,380	<b>\$84,710</b>	\$93,040	\$101,370
4Q2019	\$263,000	\$71,617	\$80,383	<b>\$89,150</b>	\$97,917	\$106,683
4Q2020	\$300,000	\$81,692	\$91,692	<b>\$101,692</b>	\$111,692	\$121,692
4Q2021	\$360,000	\$98,031	\$110,031	<b>\$122,031</b>	\$134,031	\$146,031
<b>4Q2022</b>	<b>\$380,000</b>	<b>\$103,477</b>	<b>\$116,143</b>	<b>\$128,810</b>	<b>\$141,477</b>	<b>\$154,143</b>

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	\$140,500	79.5%	76.0%	<b>72.5%</b>	68.9%	65.4%
4Q2012	\$155,000	76.5%	72.7%	<b>68.8%</b>	65.0%	61.1%
4Q2013	\$170,000	73.4%	69.2%	<b>65.0%</b>	60.8%	56.6%
4Q2014	\$185,000	70.7%	66.2%	<b>61.7%</b>	57.2%	52.7%
4Q2015	\$202,000	67.6%	62.8%	<b>57.9%</b>	53.0%	49.2%
4Q2016	\$227,000	63.8%	58.4%	<b>53.2%</b>	48.9%	44.6%
4Q2017	\$242,000	62.5%	57.0%	<b>52.3%</b>	47.7%	43.1%
4Q2018	\$249,900	63.1%	57.7%	<b>53.0%</b>	48.3%	43.9%
4Q2019	\$263,000	62.7%	57.5%	<b>52.6%</b>	47.7%	43.7%
4Q2020	\$300,000	58.3%	52.8%	<b>47.4%</b>	43.2%	38.9%
4Q2021*	\$360,000	51.1%	45.7%	<b>40.5%</b>	35.3%	30.1%
<b>4Q2022*</b>	<b>\$380,000</b>	<b>50.3%</b>	<b>44.7%</b>	<b>39.2%</b>	<b>33.7%</b>	<b>29.9%</b>

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 DFW's 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 \$29,200 and \$48,700 annually (i.e., between 31 and 50 percent of median family income) could afford a maximum home price between \$87,600 and \$146,100 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 \$116,800 and \$194,800 should the home price-to-income multiplier measure 4.

Depending on the home price-to-income multiplier, only households earning approximately \$55,000 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 10.6 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
	<b>\$15,000</b>	\$30,000	\$37,500	\$45,000	\$52,500	\$60,000	\$67,500	\$75,000	\$82,500
	<b>\$20,000</b>	\$40,000	\$50,000	\$60,000	\$70,000	\$80,000	\$90,000	\$100,000	\$110,000
	<b>\$25,000</b>	\$50,000	\$62,500	\$75,000	\$87,500	\$100,000	\$112,500	\$125,000	\$137,500
<b>Extremely Low-Income (30%)</b>	<b>\$29,200</b>	\$58,400	\$73,000	\$87,600	\$102,200	\$116,800	\$131,400	\$146,000	\$160,600
	<b>\$30,000</b>	\$60,000	\$75,000	\$90,000	\$105,000	\$120,000	\$135,000	\$150,000	\$165,000
	<b>\$35,000</b>	\$70,000	\$87,500	\$105,000	\$122,500	\$140,000	\$157,500	\$175,000	\$192,500
	<b>\$40,000</b>	\$80,000	\$100,000	\$120,000	\$140,000	\$160,000	\$180,000	\$200,000	\$220,000
	<b>\$45,000</b>	\$90,000	\$112,500	\$135,000	\$157,500	\$180,000	\$202,500	\$225,000	\$247,500
<b>Very Low-Income (50%)</b>	<b>\$48,700</b>	\$97,400	\$121,750	\$146,100	\$170,450	\$194,800	\$219,150	\$243,500	\$267,850
	<b>\$50,000</b>	\$100,000	\$125,000	\$150,000	\$175,000	\$200,000	\$225,000	\$250,000	\$275,000
	<b>\$55,000</b>	\$110,000	\$137,500	\$165,000	\$192,500	\$220,000	\$247,500	\$275,000	<b>\$302,500</b>
	<b>\$60,000</b>	\$120,000	\$150,000	\$180,000	\$210,000	\$240,000	\$270,000	<b>\$300,000</b>	<b>\$330,000</b>
	<b>\$65,000</b>	\$130,000	\$162,500	\$195,000	\$227,500	\$260,000	<b>\$292,500</b>	<b>\$325,000</b>	<b>\$357,500</b>
	<b>\$70,000</b>	\$140,000	\$175,000	\$210,000	\$245,000	\$280,000	<b>\$315,000</b>	<b>\$350,000</b>	<b>\$385,000</b>
	<b>\$75,000</b>	\$150,000	\$187,500	\$225,000	\$262,500	<b>\$300,000</b>	<b>\$337,500</b>	<b>\$375,000</b>	<b>\$412,500</b>
<b>Low-Income (80%)</b>	<b>\$77,900</b>	\$155,800	\$194,750	\$233,700	\$272,650	<b>\$311,600</b>	<b>\$350,550</b>	<b>\$389,500</b>	<b>\$428,450</b>
	<b>\$80,000</b>	\$160,000	\$200,000	\$240,000	\$280,000	<b>\$320,000</b>	<b>\$360,000</b>	<b>\$400,000</b>	<b>\$440,000</b>

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
	<b>\$15,000</b>	0.1%	0.1%	0.1%	0.2%	0.2%	0.3%	0.3%	0.4%
	<b>\$20,000</b>	0.1%	0.2%	0.2%	0.3%	0.4%	0.5%	0.7%	0.9%
	<b>\$25,000</b>	0.2%	0.2%	0.3%	0.4%	0.7%	1.0%	1.3%	1.7%
<b>Extremely Low-Income (30%)</b>	<b>\$29,200</b>	0.2%	0.3%	0.4%	0.7%	1.0%	1.6%	2.0%	2.8%
	<b>\$30,000</b>	0.2%	0.3%	0.5%	0.8%	1.1%	1.7%	2.3%	3.1%
	<b>\$35,000</b>	0.3%	0.4%	0.8%	1.2%	1.8%	2.6%	3.8%	5.3%
	<b>\$40,000</b>	0.4%	0.7%	1.1%	1.8%	2.8%	4.2%	6.2%	8.7%
	<b>\$45,000</b>	0.5%	1.0%	1.7%	2.6%	4.2%	6.2%	9.5%	13.3%
<b>Very Low-Income (50%)</b>	<b>\$48,700</b>	0.6%	1.2%	2.0%	3.4%	5.4%	8.2%	12.4%	18.3%
	<b>\$50,000</b>	0.7%	1.3%	2.3%	3.8%	6.2%	9.5%	14.6%	20.7%
	<b>\$55,000</b>	0.9%	1.7%	3.1%	5.3%	8.7%	13.3%	20.7%	28.8%
	<b>\$60,000</b>	1.1%	2.3%	4.2%	7.4%	12.1%	19.3%	28.4%	37.2%
	<b>\$65,000</b>	1.6%	2.9%	5.6%	9.6%	16.9%	25.1%	35.6%	44.6%
	<b>\$70,000</b>	1.8%	3.8%	7.4%	13.1%	22.0%	32.5%	43.2%	52.0%
	<b>\$75,000</b>	2.3%	4.7%	9.5%	17.2%	28.4%	38.6%	49.5%	58.0%
<b>Low-Income (80%)</b>	<b>\$77,900</b>	2.5%	5.4%	10.6%	19.5%	31.2%	43.2%	52.5%	61.1%
	<b>\$80,000</b>	2.8%	6.2%	12.1%	22.0%	34.1%	45.7%	56.0%	63.6%

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 \$2,854 for the first-quartile sales price in 4Q2022, over 3 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,<sup>6</sup> meaning a

<sup>6</sup> 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 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 \$97,840 for the first-quartile sales price in 4Q2022 (Table 24). An estimated 20.6 percent of renters in Dallas-Fort Worth-Arlington could afford the first-quartile sales price in 4Q2022 with a 6.66 percent interest rate (Table 25), a decline of 38 percentage points from 4Q2011.

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

**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	\$90,000	\$684	\$733	\$785	\$840	\$869	<b>\$878</b>	\$898
4Q2012	\$103,626	\$787	\$844	\$904	\$968	\$1,000	<b>\$1,011</b>	\$1,034
4Q2013	\$120,000	\$912	\$978	\$1,047	\$1,121	\$1,158	<b>\$1,171</b>	\$1,197
4Q2014	\$132,000	\$1,003	\$1,075	\$1,152	\$1,233	\$1,274	<b>\$1,288</b>	\$1,317
4Q2015	\$145,000	\$1,102	\$1,181	\$1,265	\$1,354	\$1,400	<b>\$1,415</b>	\$1,447
4Q2016	\$165,000	\$1,254	\$1,344	\$1,440	\$1,541	\$1,593	<b>\$1,610</b>	\$1,646
4Q2017	\$180,000	\$1,368	\$1,466	\$1,571	\$1,681	\$1,738	<b>\$1,756</b>	\$1,796
4Q2018	\$193,000	\$1,467	\$1,572	\$1,684	\$1,802	\$1,863	<b>\$1,883</b>	\$1,925
4Q2019	\$206,000	\$1,565	\$1,678	\$1,798	\$1,924	\$1,989	<b>\$2,010</b>	\$2,055
4Q2020	\$233,000	\$1,771	\$1,898	\$2,033	\$2,176	\$2,249	<b>\$2,273</b>	\$2,324
4Q2021	\$279,000	\$2,120	\$2,273	\$2,435	\$2,605	\$2,693	<b>\$2,722</b>	\$2,783
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$2,223</b>	<b>\$2,383</b>	<b>\$2,553</b>	<b>\$2,731</b>	<b>\$2,824</b>	<b>\$2,854</b>	<b>\$2,918</b>

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
<b>6.66%</b>	<b>2.99</b>
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%	5.0%	6%	6.5%	<b>6.66%</b>	7%
4Q2011	\$90,000	\$23,449	\$25,139	\$26,930	\$28,814	\$29,789	<b>\$30,105</b>	\$30,783
4Q2012	\$103,626	\$26,999	\$28,945	\$31,007	\$33,177	\$34,299	<b>\$34,662</b>	\$35,443
4Q2013	\$120,000	\$31,266	\$33,518	\$35,907	\$38,419	\$39,718	<b>\$40,139</b>	\$41,044
4Q2014	\$132,000	\$34,392	\$36,870	\$39,497	\$42,261	\$43,690	<b>\$44,153</b>	\$45,148
4Q2015	\$145,000	\$37,779	\$40,501	\$43,387	\$46,423	\$47,993	<b>\$48,502</b>	\$49,594
4Q2016	\$165,000	\$42,990	\$46,088	\$49,372	\$52,826	\$54,612	<b>\$55,192</b>	\$56,435
4Q2017	\$180,000	\$46,898	\$50,278	\$53,860	\$57,629	\$59,577	<b>\$60,209</b>	\$61,565
4Q2018	\$193,000	\$50,285	\$53,909	\$57,750	\$61,791	\$63,880	<b>\$64,558</b>	\$66,012
4Q2019	\$206,000	\$53,672	\$57,540	\$61,640	\$65,953	\$68,183	<b>\$68,906</b>	\$70,458
4Q2020	\$233,000	\$60,707	\$65,082	\$69,719	\$74,597	\$77,119	<b>\$77,937</b>	\$79,693
4Q2021	\$279,000	\$72,692	\$77,930	\$83,483	\$89,324	\$92,345	<b>\$93,324</b>	\$95,426
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$76,210</b>	<b>\$81,701</b>	<b>\$87,523</b>	<b>\$93,647</b>	<b>\$96,813</b>	<b>\$97,840</b>	<b>\$100,044</b>

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%	<b>6.66%</b>	7%
4Q2011	\$90,000	68.9%	66.2%	63.5%	60.6%	59.1%	<b>58.6%</b>	57.6%
4Q2012	\$103,626	63.6%	60.7%	57.7%	54.4%	52.8%	<b>52.2%</b>	51.2%
4Q2013	\$120,000	58.0%	54.7%	51.5%	48.6%	47.2%	<b>46.7%</b>	45.7%
4Q2014	\$132,000	54.5%	51.5%	48.5%	45.4%	43.8%	<b>43.2%</b>	42.1%
4Q2015	\$145,000	51.5%	48.5%	45.3%	41.8%	40.1%	<b>39.5%</b>	38.3%
4Q2016	\$165,000	47.6%	44.1%	40.5%	37.7%	36.3%	<b>35.9%</b>	35.0%
4Q2017	\$180,000	45.8%	42.1%	39.3%	36.4%	34.9%	<b>34.4%</b>	33.3%
4Q2018	\$193,000	44.8%	41.9%	38.8%	35.6%	33.9%	<b>33.4%</b>	32.2%
4Q2019	\$206,000	44.7%	41.5%	38.2%	34.7%	32.9%	<b>32.3%</b>	31.0%
4Q2020	\$233,000	41.0%	37.4%	33.5%	29.5%	28.1%	<b>27.7%</b>	26.8%
4Q2021*	\$279,000	33.0%	29.5%	26.7%	23.7%	22.1%	<b>21.6%</b>	20.5%
<b>4Q2022*</b>	<b>\$292,500</b>	<b>32.2%</b>	<b>29.3%</b>	<b>26.2%</b>	<b>22.9%</b>	<b>21.2%</b>	<b>20.6%</b>	<b>19.5%</b>

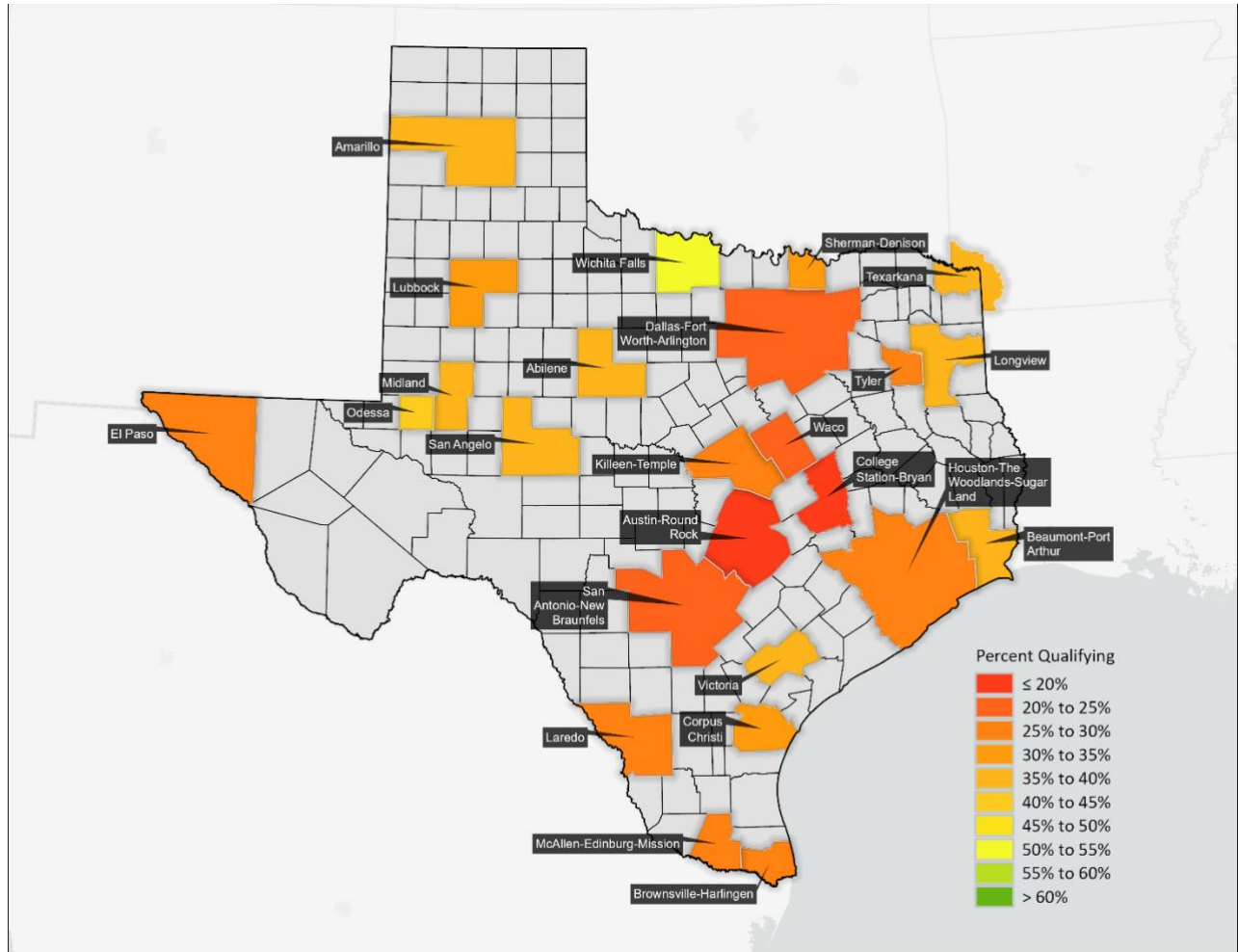
Note: Assumes a 30-year loan term, 95 percent LTV ratio, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

\*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

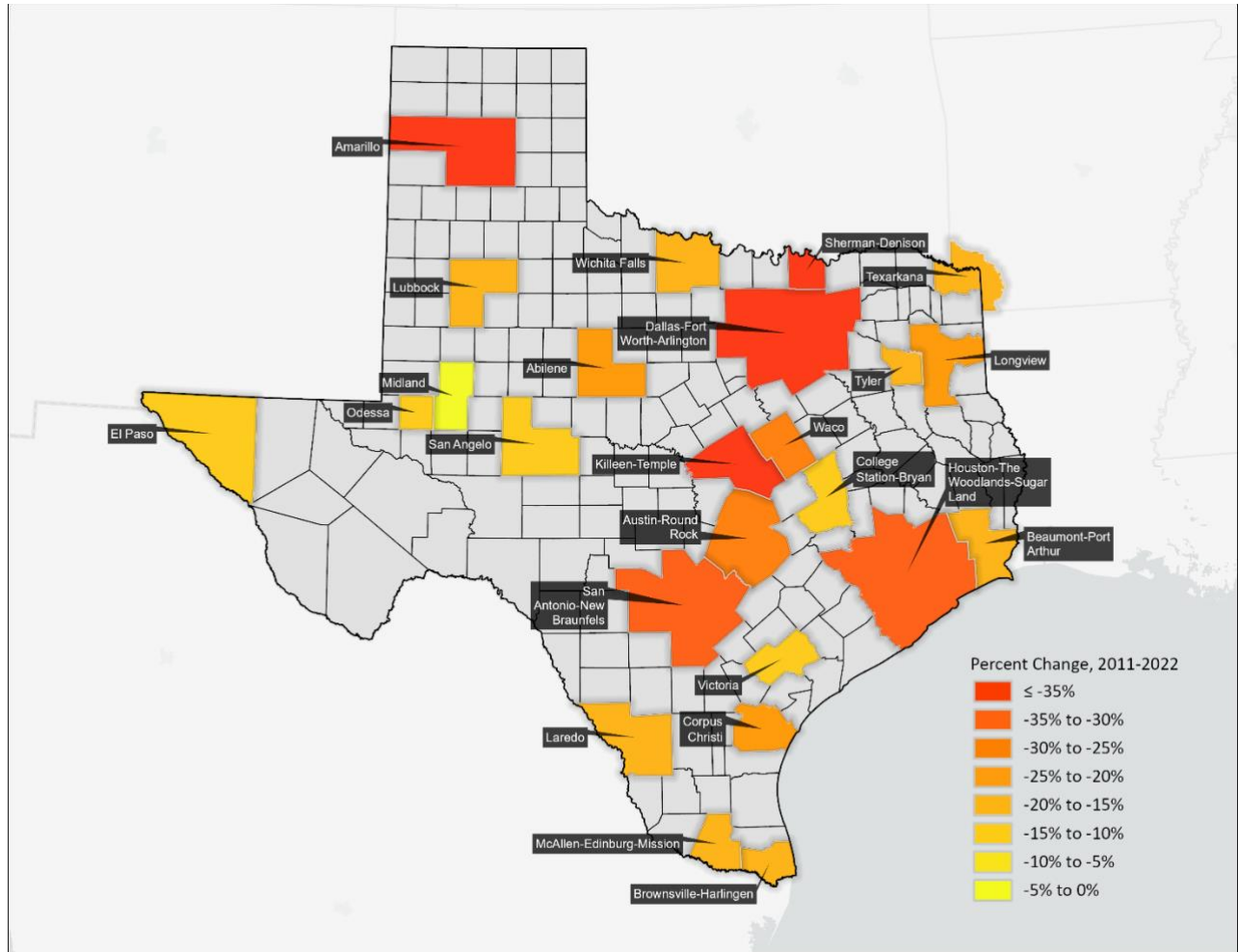


**Map 5. Percentage of First-Time Buyers Qualifying for Mortgage Loan with 6% Rate, 2022**



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 Mortgage Loan with 6% Rate, 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 2,854 for the first-quartile sales price in 4Q2022, over 3 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,<sup>7</sup> 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 \$97,840 for the first-quartile sales price in 4Q2022 (Table 28). An estimated 20.6 percent of renters in Dallas-Fort Worth-Arlington could afford the first-quartile sales price in 4Q2022 with a 95 percent LTV ratio (Table 29), a decline of 38 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	\$90,000	<b>\$878</b>	\$887	\$890	\$896	\$908
4Q2012	\$103,626	<b>\$1,011</b>	\$1,021	\$1,025	\$1,032	\$1,046
4Q2013	\$120,000	<b>\$1,171</b>	\$1,183	\$1,187	\$1,195	\$1,211
4Q2014	\$132,000	<b>\$1,288</b>	\$1,301	\$1,306	\$1,315	\$1,332
4Q2015	\$145,000	<b>\$1,415</b>	\$1,429	\$1,434	\$1,444	\$1,464
4Q2016	\$165,000	<b>\$1,610</b>	\$1,626	\$1,632	\$1,643	\$1,666
4Q2017	\$180,000	<b>\$1,756</b>	\$1,774	\$1,780	\$1,793	\$1,817
4Q2018	\$193,000	<b>\$1,883</b>	\$1,903	\$1,909	\$1,922	\$1,948
4Q2019	\$206,000	<b>\$2,010</b>	\$2,031	\$2,038	\$2,052	\$2,079
4Q2020	\$233,000	<b>\$2,273</b>	\$2,297	\$2,305	\$2,320	\$2,352
4Q2021	\$279,000	<b>\$2,722</b>	\$2,750	\$2,760	\$2,779	\$2,816
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$2,854</b>	<b>\$2,883</b>	<b>\$2,893</b>	<b>\$2,913</b>	<b>\$2,953</b>

Note: Assumes a 30-year loan term, 6.66percent 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

<sup>7</sup> 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	\$90,000	<b>\$30,105</b>	\$30,418	\$30,522	\$30,730	\$31,148
4Q2012	\$103,626	<b>\$34,662</b>	\$35,023	\$35,143	\$35,383	\$35,863
4Q2013	\$120,000	<b>\$40,139</b>	\$40,557	\$40,696	\$40,974	\$41,530
4Q2014	\$132,000	<b>\$44,153</b>	\$44,612	\$44,765	\$45,071	\$45,683
4Q2015	\$145,000	<b>\$48,502</b>	\$49,006	\$49,174	\$49,510	\$50,182
4Q2016	\$165,000	<b>\$55,192</b>	\$55,765	\$55,957	\$56,339	\$57,104
4Q2017	\$180,000	<b>\$60,209</b>	\$60,835	\$61,044	\$61,461	\$62,295
4Q2018	\$193,000	<b>\$64,558</b>	\$65,229	\$65,452	\$65,900	\$66,794
4Q2019	\$206,000	<b>\$68,906</b>	\$69,622	\$69,861	\$70,339	\$71,294
4Q2020	\$233,000	<b>\$77,937</b>	\$78,748	\$79,018	\$79,558	\$80,638
4Q2021	\$279,000	<b>\$93,324</b>	\$94,294	\$94,618	\$95,264	\$96,558
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$97,840</b>	<b>\$98,857</b>	<b>\$99,196</b>	<b>\$99,874</b>	<b>\$101,230</b>

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	\$90,000	<b>58.6%</b>	58.2%	58.0%	57.7%	57.0%
4Q2012	\$103,626	<b>52.2%</b>	51.7%	51.5%	51.3%	50.7%
4Q2013	\$120,000	<b>46.7%</b>	46.2%	46.0%	45.7%	45.1%
4Q2014	\$132,000	<b>43.2%</b>	42.7%	42.5%	42.2%	41.5%
4Q2015	\$145,000	<b>39.5%</b>	39.0%	38.8%	38.4%	37.7%
4Q2016	\$165,000	<b>35.9%</b>	35.5%	35.3%	35.0%	34.5%
4Q2017	\$180,000	<b>34.4%</b>	33.9%	33.7%	33.4%	32.7%
4Q2018	\$193,000	<b>33.4%</b>	32.8%	32.6%	32.3%	31.6%
4Q2019	\$206,000	<b>32.3%</b>	31.7%	31.5%	31.1%	30.3%
4Q2020	\$233,000	<b>27.7%</b>	27.3%	27.2%	26.9%	26.4%
4Q2021*	\$279,000	<b>21.6%</b>	21.1%	20.9%	20.6%	19.9%
<b>4Q2022*</b>	<b>\$292,500</b>	<b>20.6%</b>	<b>20.1%</b>	<b>19.9%</b>	<b>19.5%</b>	<b>19.2%</b>

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 2.99<sup>8</sup> (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 \$97,840 for the first-quartile sales price in 4Q2022 (Table 31). An estimated 20.6 percent of renters in Dallas-Fort Worth-Arlington could afford the first-quartile sales price in 4Q2022 with a 35 percent DTI ratio (Table 32), a decline of 38 percentage points from 4Q2011.

<sup>8</sup> 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
<b>35%</b>	<b>2.99</b>
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%	<b>35%</b>	40%	45%	50%
4Q2011	\$90,000	\$52,683	\$42,146	\$35,122	<b>\$30,105</b>	\$26,342	\$23,415	\$21,073
4Q2012	\$103,626	\$60,659	\$48,527	\$40,439	<b>\$34,662</b>	\$30,330	\$26,960	\$24,264
4Q2013	\$120,000	\$70,244	\$56,195	\$46,829	<b>\$40,139</b>	\$35,122	\$31,220	\$28,098
4Q2014	\$132,000	\$77,268	\$61,815	\$51,512	<b>\$44,153</b>	\$38,634	\$34,342	\$30,907
4Q2015	\$145,000	\$84,878	\$67,903	\$56,585	<b>\$48,502</b>	\$42,439	\$37,724	\$33,951
4Q2016	\$165,000	\$96,586	\$77,268	\$64,390	<b>\$55,192</b>	\$48,293	\$42,927	\$38,634
4Q2017	\$180,000	\$105,366	\$84,293	\$70,244	<b>\$60,209</b>	\$52,683	\$46,829	\$42,146
4Q2018	\$193,000	\$112,976	\$90,381	\$75,317	<b>\$64,558</b>	\$56,488	\$50,211	\$45,190
4Q2019	\$206,000	\$120,586	\$96,468	\$80,390	<b>\$68,906</b>	\$60,293	\$53,594	\$48,234
4Q2020	\$233,000	\$136,391	\$109,112	\$90,927	<b>\$77,937</b>	\$68,195	\$60,618	\$54,556
4Q2021	\$279,000	\$163,317	\$130,654	\$108,878	<b>\$93,324</b>	\$81,659	\$72,586	\$65,327
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$171,220</b>	<b>\$136,976</b>	<b>\$114,147</b>	<b>\$97,840</b>	<b>\$85,610</b>	<b>\$76,098</b>	<b>\$68,488</b>

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%	<b>35%</b>	40%	45%	50%
4Q2011	\$90,000	31.4%	42.7%	51.0%	<b>58.6%</b>	64.4%	68.9%	72.6%
4Q2012	\$103,626	26.7%	36.1%	45.4%	<b>52.2%</b>	58.7%	63.7%	67.8%
4Q2013	\$120,000	20.8%	31.0%	39.1%	<b>46.7%</b>	52.4%	58.1%	62.6%
4Q2014	\$132,000	17.7%	28.0%	35.5%	<b>43.2%</b>	49.5%	54.5%	59.4%
4Q2015	\$145,000	15.8%	24.6%	33.0%	<b>39.5%</b>	46.3%	51.6%	56.1%
4Q2016	\$165,000	12.5%	20.1%	29.0%	<b>35.9%</b>	41.7%	47.6%	52.4%
4Q2017	\$180,000	11.6%	18.9%	26.5%	<b>34.4%</b>	40.2%	45.8%	51.0%
4Q2018	\$193,000	11.5%	18.2%	24.8%	<b>33.4%</b>	39.8%	44.9%	50.3%
4Q2019	\$206,000	11.2%	17.1%	24.7%	<b>32.3%</b>	39.3%	44.8%	49.6%
4Q2020	\$233,000	8.7%	14.8%	21.3%	<b>27.7%</b>	34.8%	41.1%	46.2%
4Q2021*	\$279,000	6.0%	10.8%	16.0%	<b>21.6%</b>	27.6%	33.1%	39.2%
<b>4Q2022*</b>	<b>\$292,500</b>	<b>6.4%</b>	<b>9.9%</b>	<b>15.8%</b>	<b>20.6%</b>	<b>27.2%</b>	<b>32.3%</b>	<b>38.5%</b>

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 \$2,854 for the first-quartile sales price in 4Q2022, more than 3 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,<sup>9</sup> meaning a household could afford a maximum home price 2.99 times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

<sup>9</sup> 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 \$97,840 for the first-quartile sales price in 4Q2022 (Table 35). An estimated 20.6 percent of renters in Dallas-Fort Worth-Arlington 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 38 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	\$90,000	\$728	\$803	<b>\$878</b>	\$953	\$1,028
4Q2012	\$103,626	\$838	\$925	<b>\$1,011</b>	\$1,097	\$1,184
4Q2013	\$120,000	\$971	\$1,071	<b>\$1,171</b>	\$1,271	\$1,371
4Q2014	\$132,000	\$1,068	\$1,178	<b>\$1,288</b>	\$1,398	\$1,508
4Q2015	\$145,000	\$1,173	\$1,294	<b>\$1,415</b>	\$1,535	\$1,656
4Q2016	\$165,000	\$1,335	\$1,472	<b>\$1,610</b>	\$1,747	\$1,885
4Q2017	\$180,000	\$1,456	\$1,606	<b>\$1,756</b>	\$1,906	\$2,056
4Q2018	\$193,000	\$1,561	\$1,722	<b>\$1,883</b>	\$2,044	\$2,205
4Q2019	\$206,000	\$1,666	\$1,838	<b>\$2,010</b>	\$2,181	\$2,353
4Q2020	\$233,000	\$1,885	\$2,079	<b>\$2,273</b>	\$2,467	\$2,662
4Q2021	\$279,000	\$2,257	\$2,489	<b>\$2,722</b>	\$2,954	\$3,187
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$2,366</b>	<b>\$2,610</b>	<b>\$2,854</b>	<b>\$3,097</b>	<b>\$3,341</b>

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
<b>4%</b>	<b>2.99</b>
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	\$90,000	\$24,962	\$27,533	<b>\$30,105</b>	\$32,676	\$35,247
4Q2012	\$103,626	\$28,741	\$31,702	<b>\$34,662</b>	\$37,623	\$40,584
4Q2013	\$120,000	\$33,282	\$36,711	<b>\$40,139</b>	\$43,568	\$46,997
4Q2014	\$132,000	\$36,611	\$40,382	<b>\$44,153</b>	\$47,925	\$51,696
4Q2015	\$145,000	\$40,216	\$44,359	<b>\$48,502</b>	\$52,645	\$56,788
4Q2016	\$165,000	\$45,763	\$50,477	<b>\$55,192</b>	\$59,906	\$64,620
4Q2017	\$180,000	\$49,923	\$55,066	<b>\$60,209</b>	\$65,352	\$70,495
4Q2018	\$193,000	\$53,529	\$59,043	<b>\$64,558</b>	\$70,072	\$75,586
4Q2019	\$206,000	\$57,135	\$63,020	<b>\$68,906</b>	\$74,792	\$80,677
4Q2020	\$233,000	\$64,623	\$71,280	<b>\$77,937</b>	\$84,595	\$91,252
4Q2021	\$279,000	\$77,381	\$85,353	<b>\$93,324</b>	\$101,296	\$109,267
<b>4Q2022</b>	<b>\$292,500</b>	<b>\$81,126</b>	<b>\$89,483</b>	<b>\$97,840</b>	<b>\$106,197</b>	<b>\$114,554</b>

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	\$90,000	66.5%	62.6%	<b>58.6%</b>	54.7%	50.9%
4Q2012	\$103,626	61.0%	56.6%	<b>52.2%</b>	48.7%	45.3%
4Q2013	\$120,000	55.0%	50.6%	<b>46.7%</b>	42.8%	38.9%
4Q2014	\$132,000	51.8%	47.5%	<b>43.2%</b>	39.0%	35.4%
4Q2015	\$145,000	48.8%	44.2%	<b>39.5%</b>	35.9%	32.8%
4Q2016	\$165,000	44.5%	39.4%	<b>35.9%</b>	32.4%	28.8%
4Q2017	\$180,000	42.4%	38.4%	<b>34.4%</b>	30.3%	26.3%
4Q2018	\$193,000	42.2%	37.8%	<b>33.4%</b>	28.9%	24.7%
4Q2019	\$206,000	41.9%	37.1%	<b>32.3%</b>	27.5%	24.6%
4Q2020	\$233,000	37.8%	32.2%	<b>27.7%</b>	24.4%	21.1%
4Q2021*	\$279,000	29.8%	25.7%	<b>21.6%</b>	17.9%	15.9%
<b>4Q2022*</b>	<b>\$292,500</b>	<b>29.6%</b>	<b>25.1%</b>	<b>20.6%</b>	<b>17.9%</b>	<b>15.7%</b>

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.<sup>10</sup> 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.<sup>11</sup>

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.

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<sup>10</sup> 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.

<sup>11</sup> 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**

<b>Loan or Applicant Characteristics</b>	<b>Effect on Purchase Affordability</b>
Mortgage interest rate	An increase in the mortgage interest rate <b>diminishes</b> purchase affordability
Loan term	An increase in the loan term <b>increases</b> purchase affordability
LTV ratio	An increase in the loan-to-value ratio <b>diminishes</b> purchase affordability
DTI ratio	An increase in the debt-to-income ratio <b>increases</b> purchase affordability
Additional costs of homeownership (property taxes and insurance)	An increase in the additional costs of homeownership <b>diminishes</b> purchase affordability
Additional costs of borrowing mortgage capital (such as the mortgage insurance premium)	An increase in the additional costs of borrowing mortgage capital <b>diminishes</b> 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),<sup>12</sup> 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.

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



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