

# Texas Housing Affordability Outlook



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Texas Real Estate Research Center

TECHNICAL REPORT

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# Texas Housing Affordability Outlook

## 3Q2022

### About this Report

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

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

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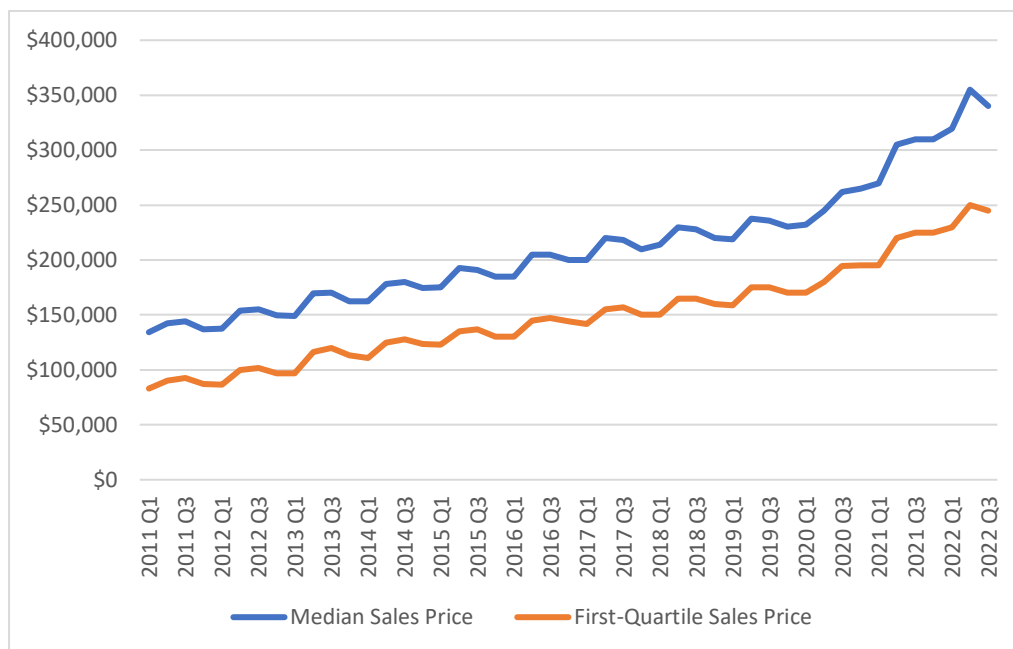


## Purchase Affordability

Affordability continued to decline in 3Q2022 amid higher mortgage interest rates and still-elevated home prices. Although home price appreciation declined from record highs observed in the first two years of the COVID-19 pandemic, year-over-year (YOY) growth in both the median and first-quartile sales prices remained higher than average at 9.7 and 8.9 percent, respectively (Figure 1 and Table 1).<sup>1</sup> The significant YOY increase in family income followed years of modest rises (Table 2). While the rise in median family income (13.6 percent) outpaced the growth in median home price, the substantial uptick in mortgage rates essentially offset the effect of higher median family income.

The rapid rise in mortgage interest rates continued to diminish home-purchasing potential. Rates averaged 5.62 percent in 3Q2022, up considerably from 1Q2022 and slightly from 2Q2022, which averaged 3.82 and 5.27 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 continue to raise interest rates over the near-term to reduce inflationary pressures, which will likely prompt additional increases in mortgage interest rates. For more information on the effect of mortgage interest rates on purchase affordability, read “How Higher Interest Rates Affect Homebuying” (<https://www.recenter.tamu.edu/articles/tierra-grande/How-Higher-Interest-Rates-Affect-Homebuying-2339>).

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



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

<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**

Year	Median Home Price	YOY Change	First-Quartile	YOY Change
3Q2011	\$144,150		\$92,765	
3Q2012	\$154,900	7.5%	\$101,900	9.8%
3Q2013	\$170,000	9.7%	\$119,900	17.7%
3Q2014	\$180,000	5.9%	\$127,900	6.7%
3Q2015	\$191,000	6.1%	\$137,000	7.1%
3Q2016	\$205,000	7.3%	\$147,500	7.7%
3Q2017	\$218,000	6.3%	\$157,000	6.4%
3Q2018	\$228,000	4.6%	\$165,000	5.1%
3Q2019	\$235,800	3.4%	\$175,000	6.1%
3Q2020	\$262,000	11.1%	\$194,500	11.1%
3Q2021	\$310,000	18.3%	\$225,000	15.7%
<b>3Q2022</b>	<b>\$340,000</b>	<b>9.7%</b>	<b>\$245,000</b>	<b>8.9%</b>

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

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

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

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

Source: United States Department of Housing and Urban Development



**Figure 2. U.S. 30-Year Fixed Rate Mortgage Average**



Sources: Federal Reserve Economic Data and Freddie Mac

## Repeat Homebuyer

Despite the substantial YOY growth in family income, still-elevated home prices suppressed purchase affordability. For households earning the median family income for Texas in 2022 (\$85,300), the median sales price for 3Q2022 was not affordable unless the home price-to-income multiplier approached 4 (Table 3). Less than one-third (28.3 percent) of homes sold in 3Q2022 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 upward of \$110,000 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 Price-to-Income Multiplier							
		2	2.5	3	3.5	4	4.5	5	5.5
<b>Median Family Income</b>	<b>\$85,300</b>	\$170,600	\$213,250	\$255,900	\$298,550	<b>\$341,200</b>	<b>\$383,850</b>	<b>\$426,500</b>	<b>\$469,150</b>
	<b>\$90,000</b>	\$180,000	\$225,000	\$270,000	\$315,000	<b>\$360,000</b>	<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>\$100,000</b>	\$200,000	\$250,000	\$300,000	<b>\$350,000</b>	<b>\$400,000</b>	<b>\$450,000</b>	<b>\$500,000</b>	<b>\$550,000</b>
<b>Workforce Households (120%)</b>	<b>\$102,400</b>	\$204,800	\$256,000	\$307,200	<b>\$358,400</b>	<b>\$409,600</b>	<b>\$460,800</b>	<b>\$512,000</b>	<b>\$563,200</b>
	<b>\$105,000</b>	\$210,000	\$262,500	\$315,000	<b>\$367,500</b>	<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	<b>\$345,000</b>	<b>\$402,500</b>	<b>\$460,000</b>	<b>\$517,500</b>	<b>\$575,000</b>	<b>\$632,500</b>
	<b>\$120,000</b>	\$240,000	\$300,000	<b>\$360,000</b>	<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	<b>\$375,000</b>	<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	<b>\$350,000</b>	<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	<b>\$362,500</b>	<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	<b>\$375,000</b>	<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>

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 3Q2022 Affordable by Family Income and Home Price-to-Income Multiplier**

	Family Income	Home Price-to-Income Multiplier							
		2	2.5	3	3.5	4	4.5	5	5.5
<b>Median Family Income</b>	<b>\$85,300</b>	10.2%	17.7%	28.3%	39.4%	50.7%	59.6%	67.7%	73.4%
	<b>\$90,000</b>	11.9%	20.7%	32.3%	44.4%	55.3%	64.3%	71.4%	76.5%
	<b>\$95,000</b>	13.7%	23.3%	36.5%	48.5%	59.4%	67.8%	74.4%	79.0%
	<b>\$100,000</b>	15.6%	27.1%	40.9%	53.3%	63.6%	71.4%	77.4%	81.6%
<b>Workforce Households (120%)</b>	<b>\$102,400</b>	15.9%	28.4%	42.2%	54.5%	64.6%	72.7%	78.2%	82.3%
	<b>\$105,000</b>	17.4%	29.9%	44.4%	56.5%	66.7%	73.9%	79.5%	83.3%
	<b>\$110,000</b>	19.6%	33.8%	48.3%	60.3%	69.9%	76.5%	81.6%	85.2%
	<b>\$115,000</b>	21.9%	36.8%	51.6%	63.8%	72.6%	78.6%	83.3%	86.6%
	<b>\$120,000</b>	24.4%	40.9%	55.3%	66.7%	75.0%	80.6%	85.0%	88.1%
	<b>\$125,000</b>	27.1%	43.5%	58.4%	69.3%	77.4%	82.3%	86.3%	89.2%
	<b>\$130,000</b>	29.7%	47.0%	61.3%	71.9%	79.0%	83.8%	87.7%	90.4%
	<b>\$135,000</b>	32.3%	49.6%	64.3%	73.9%	80.6%	85.2%	88.8%	91.2%
	<b>\$140,000</b>	35.2%	53.3%	66.7%	76.0%	82.2%	86.6%	89.9%	92.1%
	<b>\$145,000</b>	37.8%	55.5%	69.1%	77.7%	83.6%	87.8%	90.8%	92.7%
	<b>\$150,000</b>	40.9%	58.4%	71.4%	79.5%	85.0%	88.8%	91.7%	93.4%
	<b>\$155,000</b>	43.2%	60.5%	73.2%	80.7%	86.0%	89.6%	92.2%	94.0%

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 5.62 percent rate, this payment was \$2,698 for the median-priced home in 3Q2022, nearly 2.5 times the total monthly mortgage payment for the median-priced home in 3Q2011.

Table 6 shows the home price-to-income multiplier by mortgage interest rate. A 5.62 percent interest rate translates into a home price-to-income multiplier of 3.15<sup>2</sup>, meaning a household could afford a maximum home price of 3.15 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 5.62 percent mortgage interest rate was \$107,930 for the median sales price in 3Q2022, more than 25 percent higher than the median family income (\$85,300) (Table 7). An estimated 40.3 percent of Texas homeowners could afford the median sales price in 3Q2022 with a 5.62 percent interest rate (Table 8), a decline of over 26 percentage points from 3Q2011.

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

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	5.62%	6%	6.5%	7%
3Q2011	\$144,150	\$967	\$1,031	\$1,100	<b>\$1,144</b>	\$1,172	\$1,209	\$1,248
3Q2012	\$154,900	\$1,039	\$1,108	\$1,182	<b>\$1,229</b>	\$1,259	\$1,300	\$1,341
3Q2013	\$170,000	\$1,140	\$1,216	\$1,297	<b>\$1,349</b>	\$1,382	\$1,426	\$1,471
3Q2014	\$180,000	\$1,207	\$1,287	\$1,373	<b>\$1,428</b>	\$1,463	\$1,510	\$1,558
3Q2015	\$191,000	\$1,281	\$1,366	\$1,457	<b>\$1,516</b>	\$1,553	\$1,602	\$1,653
3Q2016	\$205,000	\$1,375	\$1,466	\$1,564	<b>\$1,627</b>	\$1,667	\$1,720	\$1,774
3Q2017	\$218,000	\$1,462	\$1,559	\$1,663	<b>\$1,730</b>	\$1,772	\$1,829	\$1,887
3Q2018	\$228,000	\$1,529	\$1,631	\$1,739	<b>\$1,809</b>	\$1,854	\$1,913	\$1,974
3Q2019	\$235,800	\$1,581	\$1,687	\$1,799	<b>\$1,871</b>	\$1,917	\$1,978	\$2,041
3Q2020	\$262,000	\$1,757	\$1,874	\$1,999	<b>\$2,079</b>	\$2,130	\$2,198	\$2,268
3Q2021	\$310,000	\$2,079	\$2,217	\$2,365	<b>\$2,460</b>	\$2,520	\$2,601	\$2,683
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$2,280</b>	<b>\$2,432</b>	<b>\$2,593</b>	<b>\$2,698</b>	<b>\$2,764</b>	<b>\$2,853</b>	<b>\$2,943</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.

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 loan-to-value 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 Price-to-Income Multiplier
3%	3.73
4%	3.50
5%	3.28
<b>5.62%</b>	<b>3.15</b>
6%	3.08
6.5%	2.98
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%	<b>5.62%</b>	6%	6.5%	7%
3Q2011	\$144,150	\$38,668	\$41,242	\$43,982	<b>\$45,759</b>	\$46,876	\$48,376	\$49,909
3Q2012	\$154,900	\$41,551	\$44,318	\$47,263	<b>\$49,172</b>	\$50,372	\$51,984	\$53,631
3Q2013	\$170,000	\$45,602	\$48,638	\$51,870	<b>\$53,965</b>	\$55,282	\$57,051	\$58,859
3Q2014	\$180,000	\$48,284	\$51,499	\$54,921	<b>\$57,140</b>	\$58,534	\$60,407	\$62,321
3Q2015	\$191,000	\$51,235	\$54,646	\$58,277	<b>\$60,631</b>	\$62,111	\$64,099	\$66,130
3Q2016	\$205,000	\$54,991	\$58,652	\$62,549	<b>\$65,076</b>	\$66,664	\$68,797	\$70,977
3Q2017	\$218,000	\$58,478	\$62,371	\$66,515	<b>\$69,202</b>	\$70,891	\$73,160	\$75,478
3Q2018	\$228,000	\$61,160	\$65,232	\$69,567	<b>\$72,377</b>	\$74,143	\$76,516	\$78,940
3Q2019	\$235,800	\$63,253	\$67,464	\$71,946	<b>\$74,853</b>	\$76,680	\$79,133	\$81,641
3Q2020	\$262,000	\$70,281	\$74,960	\$79,940	<b>\$83,170</b>	\$85,200	\$87,926	\$90,712
3Q2021	\$310,000	\$83,156	\$88,693	\$94,586	<b>\$98,407</b>	\$100,809	\$104,034	\$107,331
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$91,204</b>	<b>\$97,276</b>	<b>\$103,740</b>	<b>\$107,930</b>	<b>\$110,564</b>	<b>\$114,102</b>	<b>\$117,718</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%	5.62%	6%	6.5%	7%
3Q2011	\$144,150	72.4%	70.2%	67.8%	<b>66.3%</b>	65.4%	64.1%	62.8%
3Q2012	\$154,900	70.2%	67.8%	65.4%	<b>63.8%</b>	62.8%	61.6%	60.3%
3Q2013	\$170,000	67.1%	64.6%	62.1%	<b>60.5%</b>	59.5%	58.2%	56.8%
3Q2014	\$180,000	65.3%	62.8%	60.3%	<b>58.6%</b>	57.6%	56.2%	54.8%
3Q2015	\$191,000	63.4%	60.9%	58.2%	<b>56.5%</b>	55.4%	54.0%	52.5%
3Q2016	\$205,000	61.9%	59.3%	56.4%	<b>54.6%</b>	53.4%	51.9%	50.3%
3Q2017	\$218,000	60.9%	58.1%	55.2%	<b>53.3%</b>	52.0%	50.4%	48.8%
3Q2018	\$228,000	60.7%	57.8%	54.8%	<b>52.8%</b>	51.6%	50.2%	48.8%
3Q2019	\$235,800	60.8%	58.0%	54.9%	<b>53.0%</b>	51.9%	50.6%	49.2%
3Q2020	\$262,000	57.4%	54.2%	51.5%	<b>49.7%</b>	48.6%	47.1%	45.5%
3Q2021	\$310,000	51.3%	48.3%	45.0%	<b>42.9%</b>	41.7%	40.4%	39.1%
<b>3Q2022</b>	<b>\$340,000</b>	<b>48.4%</b>	<b>45.0%</b>	<b>42.0%</b>	<b>40.3%</b>	<b>39.2%</b>	<b>37.7%</b>	<b>36.3%</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.

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

### LTV Ratio

Holding home price constant, the total monthly mortgage payment increases as the LTV ratio increases (Table 9). For an 80 percent LTV ratio, the mortgage payment was \$2,698 for the median-priced home in 3Q2022, nearly 2.5 times the total monthly mortgage payment for the median-priced home in 3Q2011.

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 3.15<sup>3</sup>, meaning a household could afford a maximum home price of 3.15 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 \$107,930 for the median sales price in 3Q2022 (Table 11). An estimated 40.3 percent of Texas homeowners

<sup>3</sup> The home price-to-income multiplier is based on a 30-year loan term, 5.62 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.

could afford the median sales price in 3Q2022 with an 80 percent LTV ratio (Table 12), a decline of over 26 percentage points from 3Q2011.

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

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
3Q2011	\$144,150	<b>\$1,144</b>	\$1,185	\$1,227	\$1,268	\$1,310
3Q2012	\$154,900	<b>\$1,229</b>	\$1,274	\$1,318	\$1,363	\$1,408
3Q2013	\$170,000	<b>\$1,349</b>	\$1,398	\$1,447	\$1,496	\$1,545
3Q2014	\$180,000	<b>\$1,428</b>	\$1,480	\$1,532	\$1,584	\$1,636
3Q2015	\$191,000	<b>\$1,516</b>	\$1,571	\$1,626	\$1,681	\$1,736
3Q2016	\$205,000	<b>\$1,627</b>	\$1,686	\$1,745	\$1,804	\$1,863
3Q2017	\$218,000	<b>\$1,730</b>	\$1,793	\$1,855	\$1,918	\$1,981
3Q2018	\$228,000	<b>\$1,809</b>	\$1,875	\$1,941	\$2,006	\$2,072
3Q2019	\$235,800	<b>\$1,871</b>	\$1,939	\$2,007	\$2,075	\$2,143
3Q2020	\$262,000	<b>\$2,079</b>	\$2,155	\$2,230	\$2,305	\$2,381
3Q2021	\$310,000	<b>\$2,460</b>	\$2,549	\$2,639	\$2,728	\$2,817
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$2,698</b>	<b>\$2,796</b>	<b>\$2,894</b>	<b>\$2,992</b>	<b>\$3,089</b>

Note: Assumes a 30-year loan term, 5.62 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 10. Home Price-to-Income Multiplier for Repeat Buyers by LTV Ratio**

LTV Ratio	Home Price-to-Income Multiplier
<b>80%</b>	<b>3.15</b>
85%	3.04
90%	2.94
95%	2.84
100%	2.75

Note: Assumes a 30-year loan term, 5.62 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%
3Q2011	\$144,150	<b>\$45,759</b>	\$47,418	\$49,077	\$50,735	\$52,394
3Q2012	\$154,900	<b>\$49,172</b>	\$50,954	\$52,737	\$54,519	\$56,301
3Q2013	\$170,000	<b>\$53,965</b>	\$55,921	\$57,878	\$59,834	\$61,790
3Q2014	\$180,000	<b>\$57,140</b>	\$59,211	\$61,282	\$63,353	\$65,425
3Q2015	\$191,000	<b>\$60,631</b>	\$62,829	\$65,027	\$67,225	\$69,423
3Q2016	\$205,000	<b>\$65,076</b>	\$67,435	\$69,793	\$72,152	\$74,511
3Q2017	\$218,000	<b>\$69,202</b>	\$71,711	\$74,219	\$76,728	\$79,236
3Q2018	\$228,000	<b>\$72,377</b>	\$75,000	\$77,624	\$80,248	\$82,871
3Q2019	\$235,800	<b>\$74,853</b>	\$77,566	\$80,280	\$82,993	\$85,706
3Q2020	\$262,000	<b>\$83,170</b>	\$86,185	\$89,199	\$92,214	\$95,229
3Q2021	\$310,000	<b>\$98,407</b>	\$101,974	\$105,541	\$109,108	\$112,676
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$107,930</b>	<b>\$111,843</b>	<b>\$115,755</b>	<b>\$119,667</b>	<b>\$123,580</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, 5.62 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%
3Q2011	\$144,150	<b>66.3%</b>	64.9%	63.5%	62.1%	60.9%
3Q2012	\$154,900	<b>63.8%</b>	62.3%	61.0%	59.6%	58.3%
3Q2013	\$170,000	<b>60.5%</b>	59.0%	57.5%	56.1%	54.6%
3Q2014	\$180,000	<b>58.6%</b>	57.1%	55.6%	54.0%	52.5%
3Q2015	\$191,000	<b>56.5%</b>	54.9%	53.3%	51.7%	50.1%
3Q2016	\$205,000	<b>54.6%</b>	52.9%	51.1%	49.4%	47.7%
3Q2017	\$218,000	<b>53.3%</b>	51.5%	49.7%	48.1%	46.8%
3Q2018	\$228,000	<b>52.8%</b>	51.0%	49.6%	48.1%	46.7%
3Q2019	\$235,800	<b>53.0%</b>	51.4%	49.9%	48.4%	46.9%
3Q2020	\$262,000	<b>49.7%</b>	48.0%	46.4%	44.7%	43.0%
3Q2021	\$310,000	<b>42.9%</b>	41.2%	39.8%	38.4%	36.9%
<b>3Q2022</b>	<b>\$340,000</b>	<b>40.3%</b>	<b>38.7%</b>	<b>37.1%</b>	<b>35.5%</b>	<b>33.9%</b>

Note: Assumes a 30-year loan term, 5.62 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.

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

**DTI Ratio**

A 30 percent DTI ratio translates into a home price-to-income multiplier of 3.15<sup>4</sup> (Table 13), meaning a household could afford a maximum home price of 3.15 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 \$107,930 for the median sales price in 3Q2022 (Table 14). An estimated 40.3 percent of Texas homeowners could afford the median sales price in 3Q2022 with a 30 percent DTI ratio (Table 15), a decline of over 26 percentage points from 3Q2011.

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

<b>DTI Ratio</b>	<b>Home Price-to-Income Multiplier</b>
20%	2.10
25%	2.63
<b>30%</b>	<b>3.15</b>
35%	3.68
40%	4.20
45%	4.73
50%	5.25

Note: Assumes a 30-year loan term, 5.62 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

<sup>4</sup> The home price-to-income multiplier is based on a 30-year loan term, 5.62 percent mortgage interest rate, 80 percent LTV ratio, and property taxes and insurance of 4 percent.

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

Year	Home Price	DTI Ratio						
		20%	25%	30%	35%	40%	45%	50%
3Q2011	\$144,150	\$68,639	\$54,911	<b>\$45,759</b>	\$39,222	\$34,319	\$30,506	\$27,456
3Q2012	\$154,900	\$73,758	\$59,006	<b>\$49,172</b>	\$42,147	\$36,879	\$32,781	\$29,503
3Q2013	\$170,000	\$80,948	\$64,758	<b>\$53,965</b>	\$46,256	\$40,474	\$35,977	\$32,379
3Q2014	\$180,000	\$85,709	\$68,568	<b>\$57,140</b>	\$48,977	\$42,855	\$38,093	\$34,284
3Q2015	\$191,000	\$90,947	\$72,758	<b>\$60,631</b>	\$51,970	\$45,474	\$40,421	\$36,379
3Q2016	\$205,000	\$97,614	\$78,091	<b>\$65,076</b>	\$55,779	\$48,807	\$43,384	\$39,045
3Q2017	\$218,000	\$103,804	\$83,043	<b>\$69,202</b>	\$59,316	\$51,902	\$46,135	\$41,521
3Q2018	\$228,000	\$108,565	\$86,852	<b>\$72,377</b>	\$62,037	\$54,283	\$48,251	\$43,426
3Q2019	\$235,800	\$112,279	\$89,823	<b>\$74,853</b>	\$64,160	\$56,140	\$49,902	\$44,912
3Q2020	\$262,000	\$124,755	\$99,804	<b>\$83,170</b>	\$71,288	\$62,377	\$55,447	\$49,902
3Q2021	\$310,000	\$147,611	\$118,089	<b>\$98,407</b>	\$84,349	\$73,805	\$65,605	\$59,044
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$161,896</b>	<b>\$129,516</b>	<b>\$107,930</b>	<b>\$92,512</b>	<b>\$80,948</b>	<b>\$71,954</b>	<b>\$64,758</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, 5.62 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%
3Q2011	\$144,150	48.3%	58.9%	<b>66.3%</b>	71.9%	76.1%	79.5%	82.1%
3Q2012	\$154,900	45.0%	56.2%	<b>63.8%</b>	69.7%	74.1%	77.6%	80.5%
3Q2013	\$170,000	41.3%	52.4%	<b>60.5%</b>	66.6%	71.4%	75.2%	78.2%
3Q2014	\$180,000	39.4%	50.1%	<b>58.6%</b>	64.8%	69.8%	73.7%	76.8%
3Q2015	\$191,000	37.1%	47.6%	<b>56.5%</b>	62.9%	68.0%	72.1%	75.4%
3Q2016	\$205,000	34.8%	45.6%	<b>54.6%</b>	61.4%	66.5%	70.8%	74.3%
3Q2017	\$218,000	33.9%	44.7%	<b>53.3%</b>	60.3%	65.6%	70.0%	73.5%
3Q2018	\$228,000	34.0%	44.5%	<b>52.8%</b>	60.0%	65.4%	69.7%	73.2%
3Q2019	\$235,800	34.2%	44.6%	<b>53.0%</b>	60.2%	65.7%	69.9%	73.4%
3Q2020	\$262,000	30.7%	40.5%	<b>49.7%</b>	56.7%	62.6%	67.2%	70.9%
3Q2021	\$310,000	23.0%	34.8%	<b>42.9%</b>	50.7%	56.6%	62.0%	66.2%
<b>3Q2022</b>	<b>\$340,000</b>	<b>22.7%</b>	<b>31.4%</b>	<b>40.3%</b>	<b>47.7%</b>	<b>54.1%</b>	<b>59.3%</b>	<b>63.9%</b>

Note: Assumes a 30-year loan term, 5.62 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.

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

## Property Taxes and Insurance

Holding home price constant, the total monthly mortgage payment increases as the annual costs of property taxes and insurance increase (Table 16). Assuming the cost of property taxes and insurance is 4 percent of the home price, the monthly mortgage payment was \$2,698 for the median sales price in 3Q2022, nearly 2.5 times the total monthly mortgage payment for the median-priced home in 3Q2011.

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 3.15<sup>5</sup>, meaning a household could afford a maximum home price of 3.15 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 property taxes and insurance at 4 percent of home price was \$107,930 for the median sales price in 3Q2022 (Table 18). An estimated 40.3 percent of Texas homeowners could afford the median sales price in 3Q2022 with property taxes and insurance at 4 percent of home price (Table 19), a decline of over 26 percentage points from 3Q2011.

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

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
3Q2011	\$144,150	\$904	\$1,024	<b>\$1,144</b>	\$1,264	\$1,384
3Q2012	\$154,900	\$971	\$1,100	<b>\$1,229</b>	\$1,358	\$1,487
3Q2013	\$170,000	\$1,066	\$1,207	<b>\$1,349</b>	\$1,491	\$1,632
3Q2014	\$180,000	\$1,128	\$1,278	<b>\$1,428</b>	\$1,578	\$1,728
3Q2015	\$191,000	\$1,197	\$1,357	<b>\$1,516</b>	\$1,675	\$1,834
3Q2016	\$205,000	\$1,285	\$1,456	<b>\$1,627</b>	\$2,230	\$1,969
3Q2017	\$218,000	\$1,367	\$1,548	<b>\$1,730</b>	\$1,912	\$2,093
3Q2018	\$228,000	\$1,429	\$1,619	<b>\$1,809</b>	\$1,999	\$2,189
3Q2019	\$235,800	\$1,478	\$1,675	<b>\$1,871</b>	\$2,068	\$2,264
3Q2020	\$262,000	\$1,643	\$1,861	<b>\$2,079</b>	\$2,298	\$2,516
3Q2021	\$310,000	\$1,944	\$2,202	<b>\$2,460</b>	\$2,719	\$2,977
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$2,132</b>	<b>\$2,415</b>	<b>\$2,698</b>	<b>\$2,982</b>	<b>\$3,265</b>

Note: Assumes a 30-year loan term, 5.62 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.

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

<sup>5</sup> The home price-to-income multiplier is based on a 30-year loan term, 5.62 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.



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

Property Taxes and Insurance	Home Price-to-Income Multiplier
2%	3.99
3%	3.52
<b>4%</b>	<b>3.15</b>
5%	2.85
6%	2.60

Note: Assumes a 30-year loan term, 5.62 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%
3Q2011	\$144,150	\$36,149	\$40,954	<b>\$45,759</b>	\$50,564	\$55,369
3Q2012	\$154,900	\$38,845	\$44,008	<b>\$49,172</b>	\$54,335	\$59,498
3Q2013	\$170,000	\$42,632	\$48,299	<b>\$53,965</b>	\$59,632	\$65,299
3Q2014	\$180,000	\$45,140	\$51,140	<b>\$57,140</b>	\$63,140	\$69,140
3Q2015	\$191,000	\$47,898	\$54,265	<b>\$60,631</b>	\$66,998	\$73,365
3Q2016	\$205,000	\$51,409	\$58,242	<b>\$65,076</b>	\$71,909	\$78,742
3Q2017	\$218,000	\$54,669	\$61,936	<b>\$69,202</b>	\$76,469	\$83,736
3Q2018	\$228,000	\$57,177	\$64,777	<b>\$72,377</b>	\$79,977	\$87,577
3Q2019	\$235,800	\$59,133	\$66,993	<b>\$74,853</b>	\$82,713	\$90,573
3Q2020	\$262,000	\$65,703	\$74,437	<b>\$83,170</b>	\$91,903	\$100,637
3Q2021	\$310,000	\$77,740	\$88,074	<b>\$98,407</b>	\$108,740	\$119,074
<b>3Q2022</b>	<b>\$340,000</b>	<b>\$85,264</b>	<b>\$96,597</b>	<b>\$107,930</b>	<b>\$119,264</b>	<b>\$130,597</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, 5.62 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%
3Q2011	\$144,150	74.5%	70.4%	<b>66.3%</b>	62.3%	58.6%
3Q2012	\$154,900	72.4%	68.1%	<b>63.8%</b>	59.8%	55.8%
3Q2013	\$170,000	69.6%	64.9%	<b>60.5%</b>	56.2%	51.9%
3Q2014	\$180,000	67.9%	63.1%	<b>58.6%</b>	54.2%	49.7%
3Q2015	\$191,000	66.0%	61.2%	<b>56.5%</b>	51.8%	47.2%
3Q2016	\$205,000	64.5%	59.6%	<b>54.6%</b>	49.6%	45.3%
3Q2017	\$218,000	63.7%	58.5%	<b>53.3%</b>	48.3%	44.3%
3Q2018	\$228,000	63.4%	58.1%	<b>52.8%</b>	48.3%	44.1%
3Q2019	\$235,800	63.6%	58.3%	<b>53.0%</b>	48.6%	44.2%
3Q2020	\$262,000	60.4%	54.6%	<b>49.7%</b>	44.9%	40.1%
3Q2021	\$310,000	54.3%	48.6%	<b>42.9%</b>	38.5%	34.4%
<b>3Q2022</b>	<b>\$340,000</b>	<b>51.7%</b>	<b>45.4%</b>	<b>40.3%</b>	<b>35.6%</b>	<b>31.0%</b>

Note: Assumes a 30-year loan term, 5.62 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.

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

## First-Time Homebuyer

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

Depending on the home price-to-income multiplier, only households earning approximately \$45,000 annually could afford the first-quartile sales price in 3Q2022. 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 accept 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 15.7 percent of homes for sale were affordable to households earning no more than 80 percent of area median income in 3Q2022 (Table 21).

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

	Family Income	Home Price-to-Income Multiplier							
		2	2.5	3	3.5	4	4.5	5	5.5
	<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>\$25,250</b>	\$50,500	\$63,125	\$75,750	\$88,375	\$101,000	\$113,625	\$126,250	\$138,875
	<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>Very Low-Income (50%)</b>	<b>\$42,000</b>	\$84,000	\$105,000	\$126,000	\$147,000	\$168,000	\$189,000	\$210,000	\$231,000
	<b>\$45,000</b>	\$90,000	\$112,500	\$135,000	\$157,500	\$180,000	\$202,500	\$225,000	<b>\$247,500</b>
	<b>\$50,000</b>	\$100,000	\$125,000	\$150,000	\$175,000	\$200,000	\$225,000	<b>\$250,000</b>	<b>\$275,000</b>
	<b>\$55,000</b>	\$110,000	\$137,500	\$165,000	\$192,500	\$220,000	<b>\$247,500</b>	<b>\$275,000</b>	<b>\$302,500</b>
	<b>\$60,000</b>	\$120,000	\$150,000	\$180,000	\$210,000	\$240,000	<b>\$270,000</b>	<b>\$300,000</b>	<b>\$330,000</b>
	<b>\$65,000</b>	\$130,000	\$162,500	\$195,000	\$227,500	<b>\$260,000</b>	<b>\$292,500</b>	<b>\$325,000</b>	<b>\$357,500</b>
<b>Low-Income (80%)</b>	<b>\$67,250</b>	\$134,500	\$168,125	\$201,750	\$235,375	<b>\$269,000</b>	<b>\$302,625</b>	<b>\$336,250</b>	<b>\$369,875</b>
	<b>\$70,000</b>	\$140,000	\$175,000	\$210,000	<b>\$245,000</b>	<b>\$280,000</b>	<b>\$315,000</b>	<b>\$350,000</b>	<b>\$385,000</b>
	<b>\$75,000</b>	\$150,000	\$187,500	\$225,000	<b>\$262,500</b>	<b>\$300,000</b>	<b>\$337,500</b>	<b>\$375,000</b>	<b>\$412,500</b>
	<b>\$80,000</b>	\$160,000	\$200,000	\$240,000	<b>\$280,000</b>	<b>\$320,000</b>	<b>\$360,000</b>	<b>\$400,000</b>	<b>\$440,000</b>
	<b>\$85,000</b>	\$170,000	\$212,500	<b>\$255,000</b>	<b>\$297,500</b>	<b>\$340,000</b>	<b>\$382,500</b>	<b>\$425,000</b>	<b>\$467,500</b>
<b>Median Family Income</b>	<b>\$85,300</b>	\$170,600	\$213,250	<b>\$255,900</b>	<b>\$298,550</b>	<b>\$341,200</b>	<b>\$383,850</b>	<b>\$426,500</b>	<b>\$469,150</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 3Q2022 Affordable by Family Income and Home Price-to-Income Multiplier**

	Family Income	Home Price-to-Income Multiplier							
		2	2.5	3	3.5	4	4.5	5	5.5
<b>Extremely Low-Income (0-30%)</b>	<b>\$25,000</b>	0.7%	1.1%	1.7%	2.2%	3.0%	3.7%	4.8%	5.9%
	<b>\$25,250</b>	0.7%	1.1%	1.7%	2.3%	3.0%	3.7%	4.8%	6.0%
<b>Very Low-Income (31-50%)</b>	<b>\$30,000</b>	1.1%	1.7%	2.5%	3.3%	4.4%	5.7%	7.6%	9.5%
	<b>\$35,000</b>	1.4%	2.2%	3.3%	4.4%	6.4%	8.3%	11.0%	13.9%
	<b>\$40,000</b>	1.9%	3.0%	4.4%	6.4%	8.8%	11.9%	15.6%	19.6%
	<b>\$42,000</b>	2.0%	3.3%	4.8%	6.9%	9.7%	13.1%	17.4%	22.0%
<b>Low-Income (51-80%)</b>	<b>\$45,000</b>	2.5%	3.7%	5.7%	8.3%	11.9%	15.8%	20.7%	25.7%
	<b>\$50,000</b>	3.0%	4.8%	7.6%	11.0%	15.6%	20.7%	27.1%	33.8%
	<b>\$55,000</b>	3.6%	5.9%	9.5%	13.9%	19.6%	25.7%	33.8%	41.1%
	<b>\$60,000</b>	4.4%	7.6%	11.9%	17.4%	24.4%	32.3%	40.9%	48.3%
	<b>\$65,000</b>	5.3%	9.0%	14.5%	20.9%	29.7%	38.1%	47.0%	54.4%
	<b>\$67,250</b>	5.5%	9.7%	15.7%	23.0%	31.5%	41.1%	49.5%	56.7%
	<b>\$70,000</b>	6.4%	11.0%	17.4%	25.5%	35.2%	44.4%	53.3%	60.3%
	<b>\$75,000</b>	7.6%	13.0%	20.7%	29.9%	40.9%	49.6%	58.4%	65.3%
	<b>\$80,000</b>	8.8%	15.6%	24.4%	35.2%	45.7%	55.3%	63.6%	69.9%
	<b>\$85,000</b>	10.2%	17.7%	28.3%	39.3%	50.6%	59.6%	67.6%	73.3%
<b>Median Family Income</b>	<b>\$85,300</b>	10.2%	17.7%	28.3%	39.4%	50.7%	59.6%	67.7%	73.4%

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 5.62 percent rate brought the mortgage payment to \$2,230 for the first-quartile sales price in 3Q2022, over 2.5 times the total monthly mortgage payment for the same home in 3Q2011.

Table 23 shows the home price-to-income multiplier by mortgage interest rate. A 5.62 percent interest rate translates into a home price-to-income multiplier of 3.2<sup>6</sup>, meaning a household could afford a maximum home price of 3.2 times its annual income. The home price-to-income multiplier declines as the mortgage interest rate increases.

<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.

The income required to qualify for a loan with a 5.62 percent mortgage interest rate was \$76,462 for the first-quartile sales price in 3Q2022 (Table 24). An estimated 26.3 percent of Texas renters could afford the first-quartile sales price in 3Q2022 with a 5.62 percent interest rate (Table 25), a decline of over 28 percentage points from 3Q2011.

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

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	<b>5.62%</b>	6%	6.5%	7%
3Q2011	\$92,765	\$705	\$756	\$810	<b>\$844</b>	\$866	\$896	\$925
3Q2012	\$101,900	\$774	\$830	\$889	<b>\$928</b>	\$952	\$984	\$1,017
3Q2013	\$119,900	\$911	\$977	\$1,046	<b>\$1,091</b>	\$1,120	\$1,157	\$1,196
3Q2014	\$127,900	\$972	\$1,042	\$1,116	<b>\$1,164</b>	\$1,194	\$1,235	\$1,276
3Q2015	\$137,000	\$1,041	\$1,116	\$1,196	<b>\$1,247</b>	\$1,279	\$1,323	\$1,367
3Q2016	\$147,500	\$1,121	\$1,202	\$1,287	<b>\$1,343</b>	\$1,377	\$1,424	\$1,471
3Q2017	\$157,000	\$1,193	\$1,279	\$1,370	<b>\$1,429</b>	\$1,466	\$1,516	\$1,566
3Q2018	\$165,000	\$1,254	\$1,344	\$1,440	<b>\$1,502</b>	\$1,541	\$1,593	\$1,646
3Q2019	\$175,000	\$1,330	\$1,426	\$1,527	<b>\$1,593</b>	\$1,634	\$1,689	\$1,746
3Q2020	\$194,500	\$1,478	\$1,585	\$1,697	<b>\$1,770</b>	\$1,816	\$1,878	\$1,940
3Q2021	\$225,000	\$1,710	\$1,833	\$1,964	<b>\$2,048</b>	\$2,101	\$2,172	\$2,245
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$1,862</b>	<b>\$1,996</b>	<b>\$2,138</b>	<b>\$2,230</b>	<b>\$2,288</b>	<b>\$2,365</b>	<b>\$2,444</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 Price-to-Income Multiplier
3%	3.84
4%	3.58
5%	3.34
<b>5.62%</b>	<b>3.20</b>
6%	3.12
6.5%	3.02

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%	5.62%	6%	6.5%	7%
3Q2011	\$92,765	\$24,170	\$25,911	\$27,757	<b>\$28,951</b>	\$29,700	\$30,704	\$31,728
3Q2012	\$101,900	\$26,550	\$28,463	\$30,491	<b>\$31,802</b>	\$32,624	\$33,727	\$34,853
3Q2013	\$119,900	\$31,239	\$33,491	\$35,877	<b>\$37,419</b>	\$38,387	\$39,685	\$41,009
3Q2014	\$127,900	\$33,324	\$35,725	\$38,271	<b>\$39,916</b>	\$40,948	\$42,333	\$43,746
3Q2015	\$137,000	\$35,695	\$38,267	\$40,994	<b>\$42,756</b>	\$43,862	\$45,345	\$46,858
3Q2016	\$147,500	\$38,431	\$41,200	\$44,135	<b>\$46,033</b>	\$47,223	\$48,820	\$50,449
3Q2017	\$157,000	\$40,906	\$43,853	\$46,978	<b>\$48,998</b>	\$50,265	\$51,965	\$53,699
3Q2018	\$165,000	\$42,990	\$46,088	\$49,372	<b>\$51,494</b>	\$52,826	\$54,612	\$56,435
3Q2019	\$175,000	\$45,596	\$48,881	\$52,364	<b>\$54,615</b>	\$56,028	\$57,922	\$59,855
3Q2020	\$194,500	\$50,676	\$54,328	\$58,199	<b>\$60,701</b>	\$62,271	\$64,376	\$66,525
3Q2021	\$225,000	\$58,623	\$62,847	\$67,325	<b>\$70,220</b>	\$72,036	\$74,471	\$76,957
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$63,834</b>	<b>\$68,433</b>	<b>\$73,310</b>	<b>\$76,462</b>	<b>\$78,439</b>	<b>\$81,091</b>	<b>\$83,797</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%	5.62%	6%	6.5%	7%
3Q2011	\$92,765	62.0%	59.3%	56.6%	<b>54.8%</b>	53.7%	52.2%	50.7%
3Q2012	\$101,900	59.0%	56.2%	53.3%	<b>51.4%</b>	50.2%	48.6%	46.9%
3Q2013	\$119,900	53.1%	49.9%	46.8%	<b>45.1%</b>	44.1%	42.7%	41.3%
3Q2014	\$127,900	51.2%	48.1%	45.4%	<b>43.6%</b>	42.5%	41.0%	39.5%
3Q2015	\$137,000	49.4%	46.6%	43.7%	<b>41.8%</b>	40.6%	39.1%	37.5%
3Q2016	\$147,500	48.1%	45.1%	42.0%	<b>40.0%</b>	38.7%	37.0%	35.5%
3Q2017	\$157,000	47.5%	44.4%	41.0%	<b>38.9%</b>	37.6%	36.4%	35.2%
3Q2018	\$165,000	47.3%	44.0%	40.6%	<b>38.8%</b>	37.9%	36.6%	35.2%
3Q2019	\$175,000	46.5%	43.0%	40.1%	<b>38.4%</b>	37.4%	36.0%	34.5%
3Q2020	\$194,500	43.0%	40.2%	37.2%	<b>35.3%</b>	34.1%	32.5%	30.9%
3Q2021	\$225,000	38.5%	35.2%	31.7%	<b>29.4%</b>	28.0%	26.1%	24.9%
<b>3Q2022</b>	<b>\$245,000</b>	<b>35.8%</b>	<b>32.2%</b>	<b>28.3%</b>	<b>26.3%</b>	<b>25.4%</b>	<b>24.2%</b>	<b>23.0%</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.

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



## LTV Ratio

Holding home price constant, the total monthly mortgage payment increases as the LTV ratio increases (Table 26). For a 95 percent LTV ratio, this payment amounted to \$2,230 for the first-quartile sales price in 3Q2022, over 2.5 times the total monthly mortgage payment for the same home in 3Q2011.

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 3.2<sup>7</sup>, meaning a household could afford a maximum home price of 3.2 times its annual income. The home price-to-income multiplier declines as the LTV ratio increases.

The income required to qualify for a loan with a 95 percent LTV ratio was \$76,462 for the first-quartile sales price in 3Q2022 (Table 28). An estimated 26.3 percent of Texas renters could afford the first-quartile sales price in 3Q2022 with a 95 percent LTV ratio (Table 29), a decline of over 28 percentage points from 3Q2011.

**Table 26. Total Monthly Mortgage Payment by LTV Ratio**

Year	Home Price	LTV Ratio				
		95%	96.5%	97%	98%	100%
3Q2011	\$92,765	<b>\$844</b>	\$853	\$856	\$861	\$873
3Q2012	\$101,900	<b>\$928</b>	\$937	\$940	\$946	\$958
3Q2013	\$119,900	<b>\$1,091</b>	\$1,102	\$1,106	\$1,113	\$1,128
3Q2014	\$127,900	<b>\$1,164</b>	\$1,176	\$1,180	\$1,188	\$1,203
3Q2015	\$137,000	<b>\$1,247</b>	\$1,260	\$1,264	\$1,272	\$1,289
3Q2016	\$147,500	<b>\$1,343</b>	\$1,356	\$1,361	\$1,370	\$1,387
3Q2017	\$157,000	<b>\$1,429</b>	\$1,443	\$1,448	\$1,458	\$1,477
3Q2018	\$165,000	<b>\$1,502</b>	\$1,517	\$1,522	\$1,532	\$1,552
3Q2019	\$175,000	<b>\$1,593</b>	\$1,609	\$1,614	\$1,625	\$1,646
3Q2020	\$194,500	<b>\$1,770</b>	\$1,788	\$1,794	\$1,806	\$1,830
3Q2021	\$225,000	<b>\$2,048</b>	\$2,069	\$2,075	\$2,089	\$2,116
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$2,230</b>	<b>\$2,252</b>	<b>\$2,260</b>	<b>\$2,275</b>	<b>\$2,305</b>

Note: Assumes a 30-year loan term, 5.62 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

<sup>7</sup> The home price-to-income multiplier is based on a 30-year loan term, 5.62 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%	3.20
96.5%	3.17
97%	3.16
98%	3.14
100%	3.10

Note: Assumes a 30-year loan term, 5.62 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%
3Q2011	\$92,765	<b>\$28,951</b>	\$29,241	\$29,337	\$29,530	\$29,917
3Q2012	\$101,900	<b>\$31,802</b>	\$32,120	\$32,226	\$32,438	\$32,863
3Q2013	\$119,900	<b>\$37,419</b>	\$37,794	\$37,919	\$38,168	\$38,668
3Q2014	\$127,900	<b>\$39,916</b>	\$40,315	\$40,449	\$40,715	\$41,248
3Q2015	\$137,000	<b>\$42,756</b>	\$43,184	\$43,327	\$43,612	\$44,182
3Q2016	\$147,500	<b>\$46,033</b>	\$46,494	\$46,647	\$46,954	\$47,569
3Q2017	\$157,000	<b>\$48,998</b>	\$49,488	\$49,652	\$49,978	\$50,632
3Q2018	\$165,000	<b>\$51,494</b>	\$52,010	\$52,182	\$52,525	\$53,212
3Q2019	\$175,000	<b>\$54,615</b>	\$55,162	\$55,344	\$55,708	\$56,437
3Q2020	\$194,500	<b>\$60,701</b>	\$61,309	\$61,511	\$61,916	\$62,726
3Q2021	\$225,000	<b>\$70,220</b>	\$70,922	\$71,157	\$71,625	\$72,562
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$76,462</b>	<b>\$77,227</b>	<b>\$77,482</b>	<b>\$77,992</b>	<b>\$79,012</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, 5.62 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%
3Q2011	\$92,765	<b>54.8%</b>	54.4%	54.2%	53.9%	53.4%
3Q2012	\$101,900	<b>51.4%</b>	50.9%	50.7%	50.4%	49.8%
3Q2013	\$119,900	<b>45.1%</b>	44.7%	44.6%	44.3%	43.8%
3Q2014	\$127,900	<b>43.6%</b>	43.2%	43.0%	42.7%	42.2%
3Q2015	\$137,000	<b>41.8%</b>	41.4%	41.2%	40.9%	40.3%
3Q2016	\$147,500	<b>40.0%</b>	39.5%	39.3%	39.0%	38.4%
3Q2017	\$157,000	<b>38.9%</b>	38.4%	38.2%	37.8%	37.4%
3Q2018	\$165,000	<b>38.8%</b>	38.5%	38.3%	38.1%	37.6%
3Q2019	\$175,000	<b>38.4%</b>	38.0%	37.9%	37.6%	37.1%
3Q2020	\$194,500	<b>35.3%</b>	34.8%	34.7%	34.4%	33.8%
3Q2021	\$225,000	<b>29.4%</b>	28.9%	28.7%	28.3%	27.6%
<b>3Q2022</b>	<b>\$245,000</b>	<b>26.3%</b>	<b>26.0%</b>	<b>25.9%</b>	<b>25.6%</b>	<b>25.2%</b>

Note: Assumes a 30-year loan term, 5.62 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.

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

### DTI Ratio

A 35 percent DTI ratio translates into a home price-to-income multiplier of 3.2<sup>8</sup> (Table 30), meaning a household could afford a maximum home price of 3.2 times its annual income. The home price-to-income multiplier increases as the DTI ratio increases.

The income required to qualify for a loan with a 35 percent DTI ratio was \$76,462 for the first-quartile sales price in 3Q2022 (Table 31). An estimated 26.3 percent of Texas households could afford the first-quartile sales price in 3Q2022 with a 35 percent DTI ratio (Table 32), a decline of over 28 percentage points from 3Q2011.

<sup>8</sup> The home price-to-income multiplier is based on a 30-year loan term, 5.62 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 Price-to-Income Multiplier
20%	1.83
25%	2.29
30%	2.75
<b>35%</b>	<b>3.20</b>
40%	3.66
45%	4.12
50%	4.58

Note: Assumes a 30-year loan term, 5.62 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%
3Q2011	\$92,765	\$50,664	\$40,531	\$33,776	<b>\$28,951</b>	\$25,332	\$22,517	\$20,266
3Q2012	\$101,900	\$55,653	\$44,522	\$37,102	<b>\$31,802</b>	\$27,827	\$24,735	\$22,261
3Q2013	\$119,900	\$65,484	\$52,387	\$43,656	<b>\$37,419</b>	\$32,742	\$29,104	\$26,194
3Q2014	\$127,900	\$69,853	\$55,882	\$46,569	<b>\$39,916</b>	\$34,927	\$31,046	\$27,941
3Q2015	\$137,000	\$74,823	\$59,858	\$49,882	<b>\$42,756</b>	\$37,412	\$33,255	\$29,929
3Q2016	\$147,500	\$80,558	\$64,446	\$53,705	<b>\$46,033</b>	\$40,279	\$35,803	\$32,223
3Q2017	\$157,000	\$85,746	\$68,597	\$57,164	<b>\$48,998</b>	\$42,873	\$38,109	\$34,298
3Q2018	\$165,000	\$90,115	\$72,092	\$60,077	<b>\$51,494</b>	\$45,058	\$40,051	\$36,046
3Q2019	\$175,000	\$95,577	\$76,462	\$63,718	<b>\$54,615</b>	\$47,788	\$42,479	\$38,231
3Q2020	\$194,500	\$106,227	\$84,982	\$70,818	<b>\$60,701</b>	\$53,113	\$47,212	\$42,491
3Q2021	\$225,000	\$122,885	\$98,308	\$81,923	<b>\$70,220</b>	\$61,442	\$54,615	\$49,154
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$133,808</b>	<b>\$107,046</b>	<b>\$89,205</b>	<b>\$76,462</b>	<b>\$66,904</b>	<b>\$59,470</b>	<b>\$53,523</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, 5.62 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and additional costs of homeownership at 4 percent of home price.

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

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

Year	Home Price	DTI Ratio						
		20%	25%	30%	35%	40%	45%	50%
3Q2011	\$92,765	29.0%	39.8%	47.6%	<b>54.8%</b>	60.2%	64.7%	68.4%
3Q2012	\$101,900	27.0%	36.5%	44.4%	<b>51.4%</b>	57.2%	61.7%	65.7%
3Q2013	\$119,900	21.6%	30.1%	38.4%	<b>45.1%</b>	51.0%	56.2%	60.4%
3Q2014	\$127,900	19.8%	29.0%	36.5%	<b>43.6%</b>	49.0%	54.4%	58.7%
3Q2015	\$137,000	17.4%	27.5%	34.2%	<b>41.8%</b>	47.5%	52.5%	57.1%
3Q2016	\$147,500	16.6%	25.8%	33.2%	<b>40.0%</b>	46.1%	50.9%	55.5%
3Q2017	\$157,000	16.1%	24.5%	32.7%	<b>38.9%</b>	45.4%	50.5%	54.7%
3Q2018	\$165,000	15.8%	23.8%	32.6%	<b>38.8%</b>	45.1%	50.4%	54.6%
3Q2019	\$175,000	14.9%	22.7%	31.7%	<b>38.4%</b>	44.2%	49.8%	54.2%
3Q2020	\$194,500	12.8%	20.2%	27.6%	<b>35.3%</b>	41.1%	46.4%	51.3%
3Q2021	\$225,000	10.4%	15.6%	22.7%	<b>29.4%</b>	36.3%	41.6%	46.1%
<b>3Q2022</b>	<b>\$245,000</b>	<b>8.8%</b>	<b>14.3%</b>	<b>20.6%</b>	<b>26.3%</b>	<b>33.4%</b>	<b>39.3%</b>	<b>44.0%</b>

Note: Assumes a 30-year loan term, 5.62 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.

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 \$2,230 for the first-quartile sales price in 3Q2022, more than 2.5 times the total monthly mortgage payment for the same home in 3Q2011.

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 3.2<sup>9</sup>, meaning a household could afford a maximum home price of 3.2 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 property taxes and insurance at 4 percent of home price was \$76,462 for the first-quartile sales price in 3Q2022 (Table 35). An estimated 26.3 percent of Texas households could afford the first-quartile sales price in 3Q2022 with

<sup>9</sup> The home price-to-income multiplier is based on a 30-year loan term, 5.62 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

property taxes and insurance at 4 percent of home price (Table 36), a decline of over 28 percentage points from 3Q2011.

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

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
<b>3Q2011</b>	\$92,765	\$690	\$767	<b>\$844</b>	\$922	\$999
<b>3Q2012</b>	\$101,900	\$758	\$843	<b>\$928</b>	\$1,012	\$1,097
<b>3Q2013</b>	\$119,900	\$892	\$991	<b>\$1,091</b>	\$1,191	\$1,291
<b>3Q2014</b>	\$127,900	\$951	\$1,058	<b>\$1,164</b>	\$1,271	\$1,377
<b>3Q2015</b>	\$137,000	\$1,019	\$1,133	<b>\$1,247</b>	\$1,361	\$1,475
<b>3Q2016</b>	\$147,500	\$1,097	\$1,220	<b>\$1,343</b>	\$1,466	\$1,588
<b>3Q2017</b>	\$157,000	\$1,167	\$1,298	<b>\$1,429</b>	\$1,560	\$1,691
<b>3Q2018</b>	\$165,000	\$1,227	\$1,364	<b>\$1,502</b>	\$1,639	\$1,777
<b>3Q2019</b>	\$175,000	\$1,301	\$1,447	<b>\$1,593</b>	\$1,739	\$1,885
<b>3Q2020</b>	\$194,500	\$1,446	\$1,608	<b>\$1,770</b>	\$1,933	\$2,095
<b>3Q2021</b>	\$225,000	\$1,673	\$1,861	<b>\$2,048</b>	\$2,236	\$2,423
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$1,822</b>	<b>\$2,026</b>	<b>\$2,230</b>	<b>\$2,434</b>	<b>\$2,638</b>

Note: Assumes a 30-year loan term, 5.62 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 & Insurance	Home Price-to-Income Multiplier
2%	3.92
3%	3.53
<b>4%</b>	<b>3.20</b>
5%	2.94
6%	2.71

Note: Assumes a 30-year loan term, 5.62 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%
3Q2011	\$92,765	\$23,650	\$26,300	<b>\$28,951</b>	\$31,601	\$34,252
3Q2012	\$101,900	\$25,979	\$28,890	<b>\$31,802</b>	\$34,713	\$37,625
3Q2013	\$119,900	\$30,568	\$33,994	<b>\$37,419</b>	\$40,845	\$44,271
3Q2014	\$127,900	\$32,607	\$36,262	<b>\$39,916</b>	\$43,570	\$47,225
3Q2015	\$137,000	\$34,927	\$38,842	<b>\$42,756</b>	\$46,670	\$50,585
3Q2016	\$147,500	\$37,604	\$41,819	<b>\$46,033</b>	\$50,247	\$54,462
3Q2017	\$157,000	\$40,026	\$44,512	<b>\$48,998</b>	\$53,484	\$57,969
3Q2018	\$165,000	\$42,066	\$46,780	<b>\$51,494</b>	\$56,209	\$60,923
3Q2019	\$175,000	\$44,615	\$49,615	<b>\$54,615</b>	\$59,615	\$64,615
3Q2020	\$194,500	\$49,587	\$55,144	<b>\$60,701</b>	\$66,258	\$71,815
3Q2021	\$225,000	\$57,363	\$63,791	<b>\$70,220</b>	\$76,648	\$83,077
<b>3Q2022</b>	<b>\$245,000</b>	<b>\$62,462</b>	<b>\$69,462</b>	<b>\$76,462</b>	<b>\$83,462</b>	<b>\$90,462</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, 5.62 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%
3Q2011	\$92,765	62.9%	58.8%	<b>54.8%</b>	50.9%	46.9%
3Q2012	\$101,900	59.9%	55.6%	<b>51.4%</b>	47.1%	43.9%
3Q2013	\$119,900	54.1%	49.2%	<b>45.1%</b>	41.5%	37.8%
3Q2014	\$127,900	52.2%	47.5%	<b>43.6%</b>	39.7%	35.8%
3Q2015	\$137,000	50.2%	46.0%	<b>41.8%</b>	37.7%	33.7%
3Q2016	\$147,500	49.0%	44.5%	<b>40.0%</b>	35.6%	32.7%
3Q2017	\$157,000	48.4%	43.7%	<b>38.9%</b>	35.3%	32.1%
3Q2018	\$165,000	48.3%	43.3%	<b>38.8%</b>	35.4%	31.9%
3Q2019	\$175,000	47.5%	42.3%	<b>38.4%</b>	34.7%	31.0%
3Q2020	\$194,500	43.9%	39.6%	<b>35.3%</b>	31.1%	26.8%
3Q2021	\$225,000	39.5%	34.4%	<b>29.4%</b>	25.0%	22.2%
<b>3Q2022</b>	<b>\$245,000</b>	<b>36.9%</b>	<b>31.4%</b>	<b>26.3%</b>	<b>23.2%</b>	<b>20.0%</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, 5.62 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 debt-to-income ratio (DTI), loan-to-value (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.

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

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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.

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 DTI 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 (5.62 percent in 3Q2022)<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

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

for first-time homebuyers reflect the prevailing mortgage interest rate (5.62 percent in 3Q2022), 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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