

# Houston-The Woodlands- Sugar Land

## Housing Affordability Outlook



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# Houston-The Woodlands-Sugar Land Housing Affordability Outlook 1Q2023

## About this Report

Texas Real Estate Research Center economists continuously monitor many facets of both state and local housing markets. *Houston-The Woodlands-Sugar Land Housing Affordability Outlook* summarizes significant housing activity and trends as related to affordability in the Houston-The Woodlands-Sugar Land MSA. 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 the Houston-The Woodlands-Sugar Land MSA. 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. Adam Perdue, Dr. Harold D. Hunt, and Reece Neathery

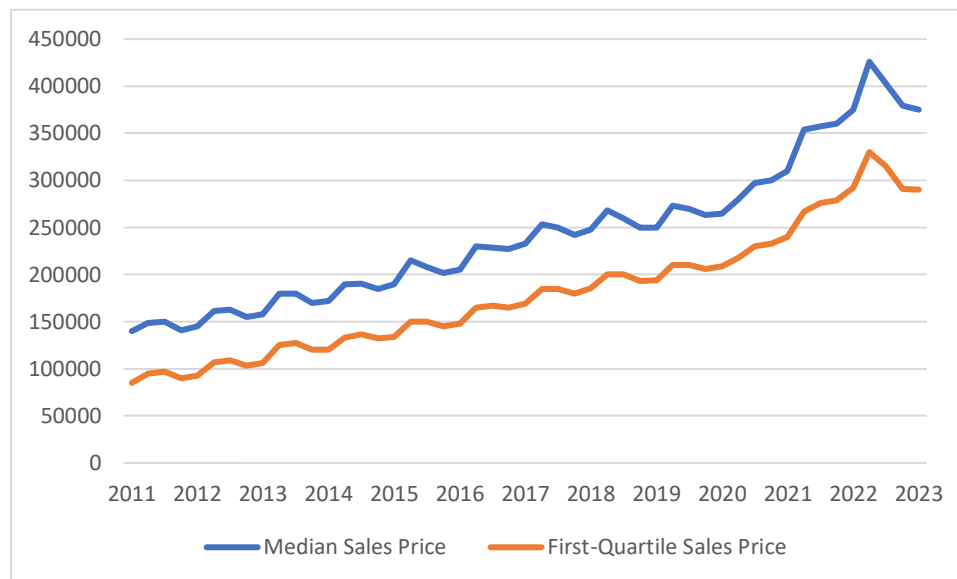


## Purchase Affordability

Affordability remained low in 1Q2023 amid higher mortgage interest rates and still-elevated home prices. Year-over-year (YOY) change in both the median and first-quartile sales price was negative, at -4.1 percent and -5.6 percent, respectively (Figure 1 and Table 1).<sup>1</sup> The significant YOY increase in family income seen a year ago in 1Q2022 followed years of modest rises (Table 2).

The rapid rise in mortgage interest rates in 3Q2022 and 4Q2022 moderated going into 1Q2023. Rates averaged 6.37 percent in 1Q2023, a slight decrease from 4Q2022, which averaged 6.66 percent (Figure 2). All other things being equal, lower (higher) mortgage interest rates translate into lower (higher) monthly mortgage payments and ease (diminish) purchase affordability. For more information on the effect of mortgage interest rates on purchase affordability, see “[How Higher Interest Rates Affect Homebuying](https://recenter.tamu.edu/articles/tierra-grande/How-Higher-Interest-Rates-Affect-Homebuying-2339)” at [recenter.tamu.edu/articles/tierra-grande/How-Higher-Interest-Rates-Affect-Homebuying-2339](https://recenter.tamu.edu/articles/tierra-grande/How-Higher-Interest-Rates-Affect-Homebuying-2339).

**Figure 1. Median and First-Quartile Sales Prices,  
Houston-The Woodlands-Sugar Land MSA**



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 Home Price	YOY Change
1Q2011	\$134,962		\$83,500	
1Q2012	\$135,900	0.7%	\$85,000	1.8%
1Q2013	\$150,800	11.0%	\$100,000	17.6%
1Q2014	\$171,250	13.6%	\$120,000	20.0%
1Q2015	\$186,500	8.9%	\$135,000	12.5%
1Q2016	\$190,000	1.9%	\$142,000	5.2%
1Q2017	\$206,000	8.4%	\$154,900	9.1%
1Q2018	\$215,000	4.4%	\$160,000	3.3%
1Q2019	\$221,000	2.8%	\$170,000	6.3%
1Q2020	\$233,000	5.4%	\$181,000	6.5%
1Q2021	\$275,000	18.0%	\$212,500	17.4%
1Q2022	\$320,000	16.4%	\$249,000	17.2%
<b>1Q2023</b>	<b>\$307,000</b>	<b>-4.1%</b>	<b>\$235,000</b>	<b>-5.6%</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
2011	\$52,800		\$66,000	
2012	\$53,500	1.3%	\$66,900	1.4%
2013	\$52,950	-1.0%	\$66,200	-1.0%
2014	\$53,300	0.7%	\$66,600	0.6%
2015	\$55,450	4.0%	\$69,300	4.1%
2016	\$55,350	-0.2%	\$69,200	-0.1%
2017	\$57,200	3.3%	\$71,500	3.3%
2018	\$59,900	4.7%	\$74,900	4.8%
2019	\$61,050	1.9%	\$76,300	1.9%
2020	\$63,050	3.3%	\$78,800	3.3%
2021	\$63,350	0.5%	\$79,200	0.5%
2022	\$70,850	11.8%	\$90,100	13.8%
<b>2023*</b>	-	-	-	-

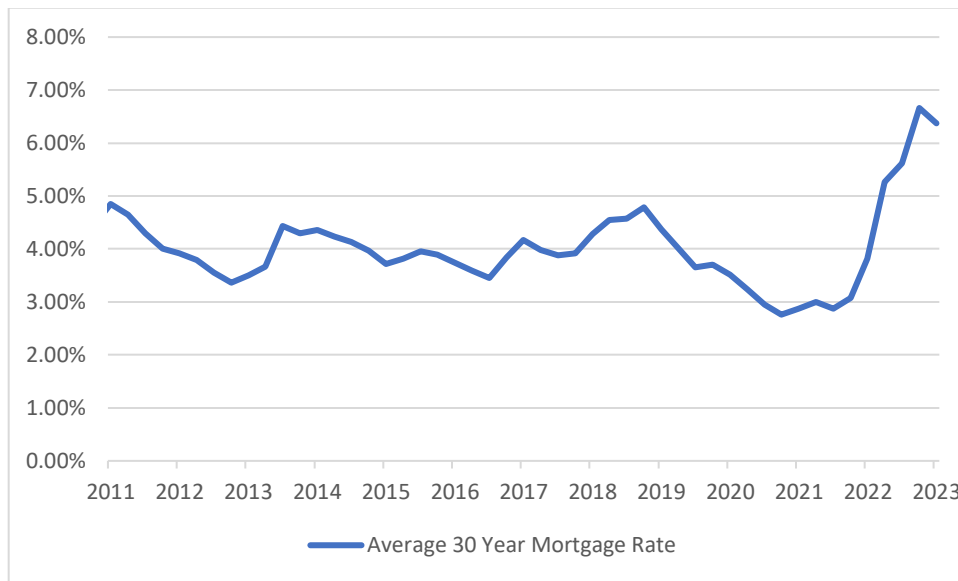
\* 2023 Estimates have not been released yet, 2022 estimated incomes are used where necessary.

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

Source: United States Department of Housing and Urban Development



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



Sources: Federal Reserve Economic Data and Freddie Mac

## Repeat Homebuyer

Despite significant YOY growth in family income and negative home price growth, the gap between home price and family income remained wide. For households earning the median family income for the Houston-The Woodlands-Sugar Land MSA in 2022 (\$90,100), the median sales price for 1Q2023 was not affordable unless the home price-to-income multiplier reached 3.5 (Table 3). Only 37.9 percent of homes sold in 1Q2023 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 \$105,000 annually to be able to afford the median sales price (\$307,000) with a home price-to-income multiplier of 3.

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

		Home-Purchasing Power							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	<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>
	<b>\$85,000</b>	\$170,000	\$212,500	\$255,000	\$297,500	<b>\$340,000</b>	<b>\$382,500</b>	<b>\$425,000</b>	<b>\$467,500</b>
<b>Median Family Income</b>	<b>\$90,100</b>	\$180,200	\$225,250	\$270,300	<b>\$315,350</b>	<b>\$360,400</b>	<b>\$405,450</b>	<b>\$450,500</b>	<b>\$495,550</b>
	<b>\$95,000</b>	\$190,000	\$237,500	\$285,000	<b>\$332,500</b>	<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>\$105,000</b>	\$210,000	\$262,500	<b>\$315,000</b>	<b>\$367,500</b>	<b>\$420,000</b>	<b>\$472,500</b>	<b>\$525,000</b>	<b>\$577,500</b>
<b>Workforce Households</b>	<b>\$108,100</b>	\$216,200	\$270,250	<b>\$324,300</b>	<b>\$378,350</b>	<b>\$432,400</b>	<b>\$486,450</b>	<b>\$540,500</b>	<b>\$594,550</b>
	<b>\$110,000</b>	\$220,000	\$275,000	<b>\$330,000</b>	<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	<b>\$312,500</b>	<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	<b>\$325,000</b>	<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	<b>\$337,500</b>	<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>	<b>\$310,000</b>	<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>	<b>\$320,000</b>	<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 1Q2023 Affordable by Family Income  
and Home Price-to-Income Multiplier**

		Home-Purchasing Power							
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	<b>\$80,000</b>	8.5%	15.4%	27.0%	41.5%	54.1%	63.3%	70.8%	76.1%
	<b>\$85,000</b>	10.0%	18.1%	32.6%	46.8%	58.9%	67.5%	74.3%	78.8%
<b>Median Family Income</b>	<b>\$90,100</b>	11.5%	22.6%	37.9%	52.5%	63.3%	71.4%	77.3%	81.7%
	<b>\$95,000</b>	13.4%	25.8%	43.1%	56.8%	67.4%	74.4%	79.9%	83.9%
	<b>\$100,000</b>	15.4%	31.0%	48.7%	61.4%	70.8%	77.3%	82.4%	85.9%
	<b>\$105,000</b>	17.8%	35.1%	52.5%	64.4%	73.5%	79.4%	84.2%	87.3%
<b>Workforce Households</b>	<b>\$108,100</b>	19.3%	37.9%	54.5%	66.7%	74.9%	81.0%	85.2%	88.0%
	<b>\$110,000</b>	21.0%	39.7%	56.6%	68.1%	76.1%	81.7%	85.9%	88.8%
	<b>\$115,000</b>	24.0%	43.5%	59.8%	70.9%	78.3%	83.5%	87.3%	89.7%
	<b>\$120,000</b>	27.0%	48.7%	63.3%	73.5%	80.4%	85.2%	88.6%	90.9%
	<b>\$125,000</b>	31.0%	51.5%	66.5%	75.6%	82.4%	86.5%	89.6%	91.7%
	<b>\$130,000</b>	34.7%	55.4%	69.0%	77.7%	83.8%	87.7%	90.6%	92.4%
	<b>\$135,000</b>	37.9%	57.8%	71.4%	79.4%	85.2%	88.8%	91.4%	93.0%
	<b>\$140,000</b>	41.5%	61.4%	73.5%	81.4%	86.4%	89.7%	92.1%	93.7%
	<b>\$145,000</b>	45.0%	63.5%	75.5%	82.8%	87.5%	90.7%	92.7%	94.2%
	<b>\$150,000</b>	48.7%	66.5%	77.3%	84.2%	88.6%	91.4%	93.3%	94.6%
	<b>\$155,000</b>	51.2%	68.3%	78.7%	85.3%	89.3%	91.9%	93.8%	95.0%
	<b>\$160,000</b>	54.1%	70.8%	80.4%	86.4%	90.1%	92.5%	94.3%	95.4%

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 5). At a 6.37 percent rate, this payment was \$2,555 for the median-priced home in 1Q2023, nearly 2.3 times the total monthly mortgage payment for the median-priced home in 1Q2011.

Table 6 shows the home price-to-income multiplier by mortgage interest rate. A 6.37 percent interest rate translates into a home price-to-income multiplier of 3,<sup>2</sup> meaning a household could afford a maximum home price three 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 6.37 percent mortgage interest rate was \$102,190 for the median sales price in 1Q2023 (Table 7). An estimated 48.1 percent of homeowners in the Houston-The Woodlands-Sugar Land MSA could afford the median sales price in 1Q2023 with a 6.37 percent interest rate (Table 8), a decline of nearly 25 percentage points from 1Q2011.

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

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	<b>6.37%</b>	6.5%	7%
1Q2011	\$134,962	\$905	\$965	\$1,029	\$1,097	<b>\$1,123</b>	\$1,132	\$1,168
1Q2012	\$135,900	\$911	\$972	\$1,037	\$1,105	<b>\$1,131</b>	\$1,140	\$1,176
1Q2013	\$150,800	\$1,011	\$1,079	\$1,150	\$1,226	<b>\$1,255</b>	\$1,265	\$1,305
1Q2014	\$171,250	\$1,148	\$1,225	\$1,306	\$1,392	<b>\$1,425</b>	\$1,437	\$1,482
1Q2015	\$186,500	\$1,251	\$1,334	\$1,423	\$1,516	<b>\$1,552</b>	\$1,565	\$1,614
1Q2016	\$190,000	\$1,274	\$1,359	\$1,449	\$1,545	<b>\$1,581</b>	\$1,594	\$1,645
1Q2017	\$206,000	\$1,381	\$1,473	\$1,571	\$1,675	<b>\$1,714</b>	\$1,728	\$1,783
1Q2018	\$215,000	\$1,442	\$1,538	\$1,640	\$1,748	<b>\$1,789</b>	\$1,804	\$1,861
1Q2019	\$221,000	\$1,482	\$1,581	\$1,686	\$1,797	<b>\$1,839</b>	\$1,854	\$1,913
1Q2020	\$233,000	\$1,563	\$1,667	\$1,777	\$1,894	<b>\$1,939</b>	\$1,955	\$2,017
1Q2021	\$275,000	\$1,844	\$1,967	\$2,098	\$2,236	<b>\$2,288</b>	\$2,307	\$2,380
1Q2022	\$320,000	\$2,146	\$2,289	\$2,441	\$2,602	<b>\$2,663</b>	\$2,685	\$2,770
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$2,059</b>	<b>\$2,196</b>	<b>\$2,342</b>	<b>\$2,496</b>	<b>\$2,555</b>	<b>\$2,576</b>	<b>\$2,657</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
<b>6.37%</b>	<b>3.00</b>
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%	6%	<b>6.37%</b>	6.5%	7%
1Q2011	\$134,962	\$36,203	\$38,613	\$41,179	\$43,888	<b>\$44,924</b>	\$45,293	\$46,728
1Q2012	\$135,900	\$36,455	\$38,882	\$41,465	\$44,193	<b>\$45,237</b>	\$45,607	\$47,053
1Q2013	\$150,800	\$40,452	\$43,145	\$46,012	\$49,039	<b>\$50,196</b>	\$50,608	\$52,212
1Q2014	\$171,250	\$45,937	\$48,996	\$52,251	\$55,689	<b>\$57,003</b>	\$57,471	\$59,292
1Q2015	\$186,500	\$50,028	\$53,359	\$56,904	\$60,648	<b>\$62,080</b>	\$62,588	\$64,572
1Q2016	\$190,000	\$50,967	\$54,360	\$57,972	\$61,786	<b>\$63,245</b>	\$63,763	\$65,784
1Q2017	\$206,000	\$55,259	\$58,938	\$62,854	\$66,989	<b>\$68,571</b>	\$69,133	\$71,323
1Q2018	\$215,000	\$57,673	\$61,513	\$65,600	\$69,916	<b>\$71,566</b>	\$72,153	\$74,439
1Q2019	\$221,000	\$59,283	\$63,229	\$67,431	\$71,867	<b>\$73,564</b>	\$74,167	\$76,517
1Q2020	\$233,000	\$62,501	\$66,663	\$71,092	\$75,769	<b>\$77,558</b>	\$78,194	\$80,672
1Q2021	\$275,000	\$73,768	\$78,679	\$83,907	\$89,427	<b>\$91,538</b>	\$92,289	\$95,213
1Q2022	\$320,000	\$85,839	\$91,554	\$97,637	\$104,061	<b>\$106,517</b>	\$107,390	\$110,794
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$82,352</b>	<b>\$87,835</b>	<b>\$93,671</b>	<b>\$99,833</b>	<b>\$102,190</b>	<b>\$103,028</b>	<b>\$106,293</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%	<b>6.37%</b>	6.5%	7%
1Q2011	\$134,962	79.3%	77.4%	75.5%	73.4%	<b>72.6%</b>	72.3%	71.2%
1Q2012	\$135,900	79.2%	77.4%	75.4%	73.4%	<b>72.6%</b>	72.4%	71.3%
1Q2013	\$150,800	76.2%	74.2%	72.1%	69.9%	<b>69.1%</b>	68.8%	67.7%
1Q2014	\$171,250	72.7%	70.5%	68.2%	65.9%	<b>65.0%</b>	64.6%	63.4%
1Q2015	\$186,500	70.6%	68.3%	65.8%	63.3%	<b>62.3%</b>	61.9%	60.6%
1Q2016	\$190,000	70.8%	68.5%	66.0%	63.5%	<b>62.5%</b>	62.1%	60.7%
1Q2017	\$206,000	69.1%	66.6%	64.0%	61.2%	<b>60.2%</b>	59.8%	58.3%
1Q2018	\$215,000	68.8%	66.3%	63.7%	60.9%	<b>59.8%</b>	59.4%	57.9%
1Q2019	\$221,000	69.1%	66.6%	64.0%	61.2%	<b>60.1%</b>	59.8%	58.4%
1Q2020	\$233,000	67.7%	65.1%	62.4%	59.6%	<b>58.7%</b>	58.3%	57.0%
1Q2021	\$275,000	62.2%	59.5%	56.6%	53.6%	<b>52.5%</b>	52.1%	50.5%
1Q2022	\$320,000	56.8%	53.6%	50.3%	47.3%	<b>46.3%</b>	45.9%	44.5%
<b>1Q2023</b>	<b>\$307,000</b>	<b>58.7%</b>	<b>55.7%</b>	<b>52.5%</b>	<b>49.1%</b>	<b>48.1%</b>	<b>47.7%</b>	<b>46.4%</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 \$2,555 for the median sales price in 1Q2023, nearly 2.3 times the total monthly mortgage payment for the median-priced home in 1Q2011.

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,<sup>3</sup> meaning a household could afford a maximum home price of three times its annual income. The home price-to-income multiplier declines as the LTV ratio increases.

The income required to qualify for a loan with an 80 percent LTV ratio was \$102,190 for the median sales price in 1Q2023 (Table 11). An estimated 48.1 percent of homeowners in the

<sup>3</sup> The home price-to-income multiplier is based on a 30-year loan term, 6.37 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.

Houston-The Woodlands-Sugar Land MSA could afford the median sales price in 1Q2023 with an 80 percent LTV ratio (Table 12), a decline of nearly 25 percentage points from 1Q2011.

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

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
1Q2011	\$134,962	<b>\$1,123</b>	\$1,165	\$1,207	\$1,249	\$1,291
1Q2012	\$135,900	<b>\$1,131</b>	\$1,173	\$1,216	\$1,258	\$1,300
1Q2013	\$150,800	<b>\$1,255</b>	\$1,302	\$1,349	\$1,396	\$1,443
1Q2014	\$171,250	<b>\$1,425</b>	\$1,478	\$1,532	\$1,585	\$1,639
1Q2015	\$186,500	<b>\$1,552</b>	\$1,610	\$1,668	\$1,726	\$1,785
1Q2016	\$190,000	<b>\$1,581</b>	\$1,640	\$1,700	\$1,759	\$1,818
1Q2017	\$206,000	<b>\$1,714</b>	\$1,778	\$1,843	\$1,907	\$1,971
1Q2018	\$215,000	<b>\$1,789</b>	\$1,856	\$1,923	\$1,990	\$2,057
1Q2019	\$221,000	<b>\$1,839</b>	\$1,908	\$1,977	\$2,046	\$2,115
1Q2020	\$233,000	<b>\$1,939</b>	\$2,012	\$2,084	\$2,157	\$2,230
1Q2021	\$275,000	<b>\$2,288</b>	\$2,374	\$2,460	\$2,546	\$2,631
1Q2022	\$320,000	<b>\$2,663</b>	\$2,763	\$2,862	\$2,962	\$3,062
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$2,555</b>	<b>\$2,650</b>	<b>\$2,746</b>	<b>\$2,842</b>	<b>\$2,938</b>

Note: Assumes a 30-year loan term, 6.37 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 Purchasing Power
80%	3.00
85%	2.90
90%	2.79
95%	2.70
100%	2.61

Note: Assumes a 30-year loan term, 6.37 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%
1Q2011	\$134,962	<b>\$44,924</b>	\$46,607	\$48,291	\$49,974	\$51,657
1Q2012	\$135,900	<b>\$45,237</b>	\$46,931	\$48,626	\$50,321	\$52,016
1Q2013	\$150,800	<b>\$50,196</b>	\$52,077	\$53,958	\$55,838	\$57,719
1Q2014	\$171,250	<b>\$57,003</b>	\$59,139	\$61,275	\$63,410	\$65,546
1Q2015	\$186,500	<b>\$62,080</b>	\$64,406	\$66,731	\$69,057	\$71,383
1Q2016	\$190,000	<b>\$63,245</b>	\$65,614	\$67,984	\$70,353	\$72,723
1Q2017	\$206,000	<b>\$68,571</b>	\$71,140	\$73,709	\$76,278	\$78,847
1Q2018	\$215,000	<b>\$71,566</b>	\$74,248	\$76,929	\$79,610	\$82,291
1Q2019	\$221,000	<b>\$73,564</b>	\$76,320	\$79,076	\$81,832	\$84,588
1Q2020	\$233,000	<b>\$77,558</b>	\$80,464	\$83,369	\$86,275	\$89,181
1Q2021	\$275,000	<b>\$91,538</b>	\$94,968	\$98,397	\$101,827	\$105,256
1Q2022	\$320,000	<b>\$106,517</b>	\$110,508	\$114,499	\$118,489	\$122,480
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$102,190</b>	<b>\$106,019</b>	<b>\$109,847</b>	<b>\$113,676</b>	<b>\$117,504</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, 6.37 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%
1Q2011	\$134,962	<b>72.6%</b>	71.3%	70.0%	68.7%	67.5%
1Q2012	\$135,900	<b>72.6%</b>	71.4%	70.1%	68.8%	67.6%
1Q2013	\$150,800	<b>69.1%</b>	67.7%	66.4%	65.1%	63.8%
1Q2014	\$171,250	<b>65.0%</b>	63.5%	62.0%	60.5%	59.0%
1Q2015	\$186,500	<b>62.3%</b>	60.7%	59.1%	57.5%	55.9%
1Q2016	\$190,000	<b>62.5%</b>	60.9%	59.3%	57.6%	56.0%
1Q2017	\$206,000	<b>60.2%</b>	58.4%	56.7%	55.2%	53.8%
1Q2018	\$215,000	<b>59.8%</b>	58.1%	56.5%	55.1%	53.6%
1Q2019	\$221,000	<b>60.1%</b>	58.5%	57.0%	55.5%	54.0%
1Q2020	\$233,000	<b>58.7%</b>	57.1%	55.5%	53.9%	52.4%
1Q2021	\$275,000	<b>52.5%</b>	50.6%	48.7%	47.1%	45.7%
1Q2022	\$320,000	<b>46.3%</b>	44.6%	42.9%	41.2%	39.6%
<b>1Q2023</b>	<b>\$307,000</b>	<b>48.1%</b>	<b>46.5%</b>	<b>44.9%</b>	<b>43.3%</b>	<b>41.7%</b>

Note: Assumes a 30-year loan term, 6.37 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, 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<sup>4</sup> (Table 13), meaning a household could afford a maximum home price of three 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 \$102,190 for the median sales price in 1Q2023 (Table 14). An estimated 48.1 percent of homeowners in the Houston-The Woodlands-Sugar Land MSA could afford the median sales price in 1Q2023 with a 30 percent DTI ratio (Table 15), a decline of nearly 25 percentage points from 1Q2011.

<sup>4</sup> The home price-to-income multiplier is based on a 30-year loan term, 6.37 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%	2.00
25%	2.50
<b>30%</b>	<b>3.00</b>
35%	3.50
40%	4.01
45%	4.51
50%	5.01

Note: Assumes a 30-year loan term, 6.37 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%
1Q2011	\$134,962	\$67,387	\$53,909	<b>\$44,924</b>	\$38,507	\$33,693	\$29,950	\$26,955
1Q2012	\$135,900	\$67,855	\$54,284	<b>\$45,237</b>	\$38,774	\$33,927	\$30,158	\$27,142
1Q2013	\$150,800	\$75,295	\$60,236	<b>\$50,196</b>	\$43,025	\$37,647	\$33,464	\$30,118
1Q2014	\$171,250	\$85,505	\$68,404	<b>\$57,003</b>	\$48,860	\$42,753	\$38,002	\$34,202
1Q2015	\$186,500	\$93,120	\$74,496	<b>\$62,080</b>	\$53,211	\$46,560	\$41,386	\$37,248
1Q2016	\$190,000	\$94,867	\$75,894	<b>\$63,245</b>	\$54,210	\$47,434	\$42,163	\$37,947
1Q2017	\$206,000	\$102,856	\$82,285	<b>\$68,571</b>	\$58,775	\$51,428	\$45,714	\$41,142
1Q2018	\$215,000	\$107,350	\$85,880	<b>\$71,566</b>	\$61,343	\$53,675	\$47,711	\$42,940
1Q2019	\$221,000	\$110,345	\$88,276	<b>\$73,564</b>	\$63,055	\$55,173	\$49,042	\$44,138
1Q2020	\$233,000	\$116,337	\$93,070	<b>\$77,558</b>	\$66,478	\$58,169	\$51,705	\$46,535
1Q2021	\$275,000	\$137,308	\$109,846	<b>\$91,538</b>	\$78,462	\$68,654	\$61,026	\$54,923
1Q2022	\$320,000	\$159,776	\$127,821	<b>\$106,517</b>	\$91,301	\$79,888	\$71,012	\$63,910
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$153,285</b>	<b>\$122,628</b>	<b>\$102,190</b>	<b>\$87,592</b>	<b>\$76,643</b>	<b>\$68,127</b>	<b>\$61,314</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, 6.37 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%
1Q2011	\$134,962	56.1%	65.9%	<b>72.6%</b>	77.5%	81.2%	83.9%	86.2%
1Q2012	\$135,900	56.3%	66.0%	<b>72.6%</b>	77.5%	81.1%	83.9%	86.1%
1Q2013	\$150,800	51.5%	62.0%	<b>69.1%</b>	74.3%	78.3%	81.3%	83.8%
1Q2014	\$171,250	46.5%	57.1%	<b>65.0%</b>	70.6%	75.0%	78.4%	81.2%
1Q2015	\$186,500	43.3%	53.7%	<b>62.3%</b>	68.4%	73.0%	76.7%	79.6%
1Q2016	\$190,000	43.5%	54.0%	<b>62.5%</b>	68.6%	73.2%	76.8%	79.7%
1Q2017	\$206,000	41.2%	51.9%	<b>60.2%</b>	66.7%	71.6%	75.4%	78.4%
1Q2018	\$215,000	41.1%	51.7%	<b>59.8%</b>	66.4%	71.4%	75.3%	78.3%
1Q2019	\$221,000	41.5%	52.0%	<b>60.1%</b>	66.7%	71.7%	75.5%	78.5%
1Q2020	\$233,000	39.9%	50.2%	<b>58.7%</b>	65.3%	70.4%	74.3%	77.4%
1Q2021	\$275,000	32.4%	43.8%	<b>52.5%</b>	59.6%	65.3%	69.9%	73.5%
1Q2022	\$320,000	27.7%	37.3%	<b>46.3%</b>	<b>53.8%</b>	<b>60.0%</b>	<b>65.0%</b>	<b>69.2%</b>
<b>1Q2023</b>	<b>\$307,000</b>	<b>27.9%</b>	<b>39.5%</b>	<b>48.1%</b>	<b>55.8%</b>	<b>61.8%</b>	<b>66.7%</b>	<b>70.7%</b>

Note: Assumes a 30-year loan term, 6.37 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 \$2,555 for the median sales price in 1Q2023, over twice the total monthly mortgage payment for the median-priced home in 1Q2011.

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,<sup>5</sup> meaning a household could afford a maximum home price of three 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, 6.37 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 \$102,190 for the median sales price in 1Q2023 (Table 18). An estimated 48.1 percent of homeowners in the Houston-The Woodlands-Sugar Land MSA could afford the median sales price in 1Q2023 with property taxes and insurance at 4 percent of home price (Table 19), a decline of nearly 25 percentage points from 1Q2011.

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

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
1Q2011	\$134,962	\$898	\$1,011	<b>\$1,123</b>	\$1,236	\$1,348
1Q2012	\$135,900	\$904	\$1,018	<b>\$1,131</b>	\$1,244	\$1,357
1Q2013	\$150,800	\$1,004	\$1,129	<b>\$1,255</b>	\$1,381	\$1,506
1Q2014	\$171,250	\$1,140	\$1,282	<b>\$1,425</b>	\$1,568	\$1,711
1Q2015	\$186,500	\$1,241	\$1,397	<b>\$1,552</b>	\$1,707	\$1,863
1Q2016	\$190,000	\$1,264	\$1,423	<b>\$1,581</b>	\$1,739	\$1,898
1Q2017	\$206,000	\$1,371	\$1,543	<b>\$1,714</b>	\$1,886	\$2,058
1Q2018	\$215,000	\$1,431	\$1,610	<b>\$1,789</b>	\$1,968	\$2,147
1Q2019	\$221,000	\$1,471	\$1,655	<b>\$1,839</b>	\$2,023	\$2,207
1Q2020	\$233,000	\$1,551	\$1,745	<b>\$1,939</b>	\$2,133	\$2,327
1Q2021	\$275,000	\$1,830	\$2,059	<b>\$2,288</b>	\$2,518	\$2,747
1Q2022	\$320,000	\$2,130	\$2,396	<b>\$2,663</b>	\$2,930	\$3,196
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$2,043</b>	<b>\$2,299</b>	<b>\$2,555</b>	<b>\$2,811</b>	<b>\$3,066</b>

Note: Assumes a 30-year loan term, 6.37 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 & Insurance	Home Purchasing Power
2%	3.76
3%	3.34
<b>4%</b>	<b>3.00</b>
5%	2.73
6%	2.50

Note: Assumes a 30-year loan term, 6.37 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%
1Q2011	\$134,962	\$35,927	\$40,426	<b>\$44,924</b>	\$49,423	\$53,922
1Q2012	\$135,900	\$36,177	\$40,707	<b>\$45,237</b>	\$49,767	\$54,297
1Q2013	\$150,800	\$40,143	\$45,170	<b>\$50,196</b>	\$55,223	\$60,250
1Q2014	\$171,250	\$45,587	\$51,295	<b>\$57,003</b>	\$62,712	\$68,420
1Q2015	\$186,500	\$49,646	\$55,863	<b>\$62,080</b>	\$68,296	\$74,513
1Q2016	\$190,000	\$50,578	\$56,911	<b>\$63,245</b>	\$69,578	\$75,911
1Q2017	\$206,000	\$54,837	\$61,704	<b>\$68,571</b>	\$75,437	\$82,304
1Q2018	\$215,000	\$57,233	\$64,400	<b>\$71,566</b>	\$78,733	\$85,900
1Q2019	\$221,000	\$58,830	\$66,197	<b>\$73,564</b>	\$80,930	\$88,297
1Q2020	\$233,000	\$62,025	\$69,791	<b>\$77,558</b>	\$85,325	\$93,091
1Q2021	\$275,000	\$73,205	\$82,372	<b>\$91,538</b>	\$100,705	\$109,872
1Q2022	\$320,000	\$85,184	\$95,851	<b>\$106,517</b>	\$117,184	\$127,851
<b>1Q2023</b>	<b>\$307,000</b>	<b>\$81,724</b>	<b>\$91,957</b>	<b>\$102,190</b>	<b>\$112,424</b>	<b>\$122,657</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, 6.37 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%
1Q2011	\$134,962	79.5%	76.0%	<b>72.6%</b>	69.1%	65.9%
1Q2012	\$135,900	79.4%	76.0%	<b>72.6%</b>	69.2%	66.0%
1Q2013	\$150,800	76.4%	72.7%	<b>69.1%</b>	65.5%	62.0%
1Q2014	\$171,250	73.0%	68.9%	<b>65.0%</b>	61.0%	57.1%
1Q2015	\$186,500	70.8%	66.6%	<b>62.3%</b>	58.0%	53.7%
1Q2016	\$190,000	71.1%	66.8%	<b>62.5%</b>	58.2%	54.0%
1Q2017	\$206,000	69.3%	64.8%	<b>60.2%</b>	55.6%	51.9%
1Q2018	\$215,000	69.1%	64.5%	<b>59.8%</b>	55.5%	51.7%
1Q2019	\$221,000	69.4%	64.8%	<b>60.1%</b>	56.0%	52.0%
1Q2020	\$233,000	68.0%	63.2%	<b>58.7%</b>	54.4%	50.2%
1Q2021	\$275,000	62.6%	57.5%	<b>52.5%</b>	47.6%	43.8%
1Q2022	\$320,000	57.1%	51.3%	<b>46.3%</b>	41.8%	37.3%
<b>1Q2023</b>	<b>\$307,000</b>	<b>59.0%</b>	<b>53.4%</b>	<b>48.1%</b>	<b>43.8%</b>	<b>39.5%</b>

Note: Assumes a 30-year loan term, 6.37 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 constrained purchase affordability for Houston-The Woodlands-Sugarland's first-time buyers in 1Q2023. Table 20 shows the maximum home price affordable by family income and home-purchasing power. For example, households earning between \$27,750 and \$44,300 annually (i.e., between 31 and 50 percent of median family income) could afford a maximum home price between \$83,250 and \$132,900 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 \$111,000 and \$177,200 should the home price-to-income multiplier measure 4.

Depending on the home price-to-income multiplier, only households earning at least \$44,300 annually could afford the first-quartile sales price in 1Q2023. Homeownership is largely not feasible to households earning less than 50 percent of 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 18.1 percent of homes for sale in the Houston-The Woodlands-Sugar Land MSA were affordable to households earning no more than 80 percent of area median income in 1Q2023 (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>\$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>\$27,750</b>	\$55,500	\$69,375	\$83,250	\$97,125	\$111,000	\$124,875	\$138,750	\$152,625
	<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 Households (50%)</b>	<b>\$44,300</b>	\$88,600	\$110,750	\$132,900	\$155,050	\$177,200	\$199,350	\$221,500	<b>\$243,650</b>
	<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	<b>\$240,000</b>	<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>\$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>Low-Income Households (80%)</b>	<b>\$70,850</b>	\$141,700	\$177,125	\$212,550	<b>\$247,975</b>	<b>\$283,400</b>	<b>\$318,825</b>	<b>\$354,250</b>	<b>\$389,675</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	<b>\$240,000</b>	<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>

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 4Q2021 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>\$25,000</b>	0.5%	0.7%	1.2%	1.6%	2.4%	3.3%	4.5%	5.4%
<b>Extremely Low-Income (30%)</b>	<b>\$27,750</b>	0.6%	0.9%	1.4%	2.2%	3.3%	4.2%	5.6%	7.3%
	<b>\$30,000</b>	0.6%	1.2%	1.8%	2.7%	4.0%	5.4%	7.1%	9.1%
	<b>\$35,000</b>	1.0%	1.6%	2.7%	4.1%	5.9%	7.9%	10.7%	13.6%
	<b>\$40,000</b>	1.4%	2.4%	4.0%	5.9%	8.5%	11.5%	15.4%	21.0%
<b>Very Low-Income Households (50%)</b>	<b>\$44,300</b>	1.6%	3.2%	5.1%	7.8%	10.8%	14.6%	21.1%	27.5%
	<b>\$45,000</b>	1.8%	3.3%	5.4%	7.9%	11.5%	15.5%	22.6%	29.0%
	<b>\$50,000</b>	2.4%	4.5%	7.1%	10.7%	15.4%	22.6%	31.0%	39.7%
	<b>\$55,000</b>	3.2%	5.4%	9.1%	13.6%	21.0%	29.0%	39.7%	48.9%
	<b>\$60,000</b>	4.0%	7.1%	11.5%	17.8%	27.0%	37.9%	48.7%	56.6%
	<b>\$65,000</b>	5.0%	8.6%	14.2%	22.9%	34.7%	45.4%	55.4%	62.4%
	<b>\$70,000</b>	5.9%	10.7%	17.8%	28.6%	41.5%	52.5%	61.4%	68.1%
<b>Low-Income Households (80%)</b>	<b>\$70,850</b>	6.0%	10.8%	18.1%	29.0%	42.0%	52.9%	61.6%	68.5%
	<b>\$75,000</b>	7.1%	12.6%	22.6%	35.1%	48.7%	57.8%	66.5%	72.1%
	<b>\$80,000</b>	8.5%	15.4%	27.0%	41.5%	54.1%	63.3%	70.8%	76.1%
	<b>\$85,000</b>	10.0%	18.1%	32.6%	46.8%	58.9%	67.5%	74.3%	78.8%

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 22). A 6.37 percent rate brought the mortgage payment to \$2,249 for the first-quartile sales price in 1Q2023, over 2.8 times the total monthly mortgage payment for the same home in 1Q2011.

Table 23 shows the home price-to-income multiplier by mortgage interest rate. A 6.37 percent interest rate translates into a home price-to-income multiplier of 3.05,<sup>6</sup> meaning a household could afford a maximum home price of 3.05 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 6.37 percent mortgage interest rate was \$77,115 for the first-quartile sales price in 1Q2023 (Table 24). An estimated 26.8 percent of renters in the Houston-The Woodlands-Sugar Land MSA could afford the first-quartile sales price in 1Q2023 with a 6.37 percent interest rate (Table 25), a decline of 34 percentage points from 1Q2011.

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

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	6.37%	6.5%	7%
1Q2011	\$83,500	\$635	\$680	\$729	\$780	<b>\$799</b>	\$806	\$833
1Q2012	\$85,000	\$646	\$692	\$742	\$794	<b>\$814</b>	\$821	\$848
1Q2013	\$100,000	\$760	\$815	\$873	\$934	<b>\$957</b>	\$965	\$998
1Q2014	\$120,000	\$912	\$978	\$1,047	\$1,121	<b>\$1,149</b>	\$1,158	\$1,197
1Q2015	\$135,000	\$1,026	\$1,100	\$1,178	\$1,261	<b>\$1,292</b>	\$1,303	\$1,347
1Q2016	\$142,000	\$1,079	\$1,157	\$1,239	\$1,326	<b>\$1,359</b>	\$1,371	\$1,417
1Q2017	\$154,900	\$1,177	\$1,262	\$1,352	\$1,446	<b>\$1,483</b>	\$1,495	\$1,545
1Q2018	\$160,000	\$1,216	\$1,303	\$1,396	\$1,494	<b>\$1,531</b>	\$1,545	\$1,596
1Q2019	\$170,000	\$1,292	\$1,385	\$1,484	\$1,587	<b>\$1,627</b>	\$1,641	\$1,696
1Q2020	\$181,000	\$1,375	\$1,475	\$1,580	\$1,690	<b>\$1,732</b>	\$1,747	\$1,806
1Q2021	\$212,500	\$1,615	\$1,731	\$1,855	\$1,984	<b>\$2,034</b>	\$2,051	\$2,120
1Q2022	\$249,000	\$1,892	\$2,029	\$2,173	\$2,325	\$2,383	\$2,404	\$2,484
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$1,786</b>	<b>\$1,915</b>	<b>\$2,051</b>	<b>\$2,194</b>	<b>\$2,249</b>	<b>\$2,269</b>	<b>\$2,344</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

<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.

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

<b>Mortgage Interest Rate</b>	<b>Home Purchasing Power</b>
3%	3.84
4%	3.58
5%	3.34
6%	3.12
<b>6.37%</b>	<b>3.05</b>
6.5%	3.02
7%	2.92

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

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

**Table 24. Required Qualifying Income by Mortgage Interest Rate**

Year	Home Price	Mortgage Interest Rate						
		3%	4%	5%	6%	<b>6.37%</b>	6.5%	7%
1Q2011	\$83,500	\$21,756	\$23,323	\$24,985	\$26,733	<b>\$27,400</b>	\$27,637	\$28,559
1Q2012	\$85,000	\$22,146	\$23,742	\$25,434	\$27,214	<b>\$27,893</b>	\$28,134	\$29,073
1Q2013	\$100,000	\$26,055	\$27,932	\$29,922	\$32,016	<b>\$32,815</b>	\$33,098	\$34,203
1Q2014	\$120,000	\$31,266	\$33,518	\$35,907	\$38,419	<b>\$39,378</b>	\$39,718	\$41,044
1Q2015	\$135,000	\$35,174	\$37,708	\$40,395	\$43,222	<b>\$44,300</b>	\$44,683	\$46,174
1Q2016	\$142,000	\$36,998	\$39,663	\$42,490	\$45,463	<b>\$46,597</b>	\$47,000	\$48,568
1Q2017	\$154,900	\$40,359	\$43,267	\$46,350	\$49,593	<b>\$50,830</b>	\$51,269	\$52,980
1Q2018	\$160,000	\$41,687	\$44,691	\$47,876	\$51,225	<b>\$52,504</b>	\$52,957	\$54,725
1Q2019	\$170,000	\$44,293	\$47,484	\$50,868	\$54,427	<b>\$55,785</b>	\$56,267	\$58,145
1Q2020	\$181,000	\$47,159	\$50,557	\$54,159	\$57,949	<b>\$59,395</b>	\$59,908	\$61,907
1Q2021	\$212,500	\$55,366	\$59,356	\$63,585	\$68,034	<b>\$69,731</b>	\$70,334	\$72,681
1Q2022	\$249,000	\$64,876	\$69,551	\$74,506	\$79,720	<b>\$81,709</b>	\$82,415	\$85,165
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$61,228</b>	<b>\$65,640</b>	<b>\$70,317</b>	<b>\$75,237</b>	<b>\$77,115</b>	<b>\$77,781</b>	<b>\$80,377</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%	<b>6.37%</b>	6.5%	7%
1Q2011	\$83,500	69.5%	67.0%	64.4%	61.8%	<b>60.8%</b>	60.5%	59.1%
1Q2012	\$85,000	69.5%	66.9%	64.3%	61.7%	<b>60.7%</b>	60.3%	59.0%
1Q2013	\$100,000	63.6%	61.0%	58.2%	55.2%	<b>54.0%</b>	53.6%	52.1%
1Q2014	\$120,000	57.4%	54.3%	51.2%	48.6%	<b>47.5%</b>	47.2%	45.8%
1Q2015	\$135,000	52.7%	50.0%	47.2%	44.2%	<b>43.0%</b>	42.6%	41.1%
1Q2016	\$142,000	52.2%	49.4%	46.4%	43.2%	<b>42.0%</b>	41.6%	39.9%
1Q2017	\$154,900	50.5%	47.5%	44.2%	40.8%	<b>39.8%</b>	39.5%	38.2%
1Q2018	\$160,000	51.0%	47.9%	44.6%	41.5%	<b>40.6%</b>	40.3%	39.0%
1Q2019	\$170,000	49.7%	46.4%	43.1%	40.5%	<b>39.5%</b>	39.1%	37.7%
1Q2020	\$181,000	48.0%	44.6%	41.9%	38.9%	<b>37.8%</b>	37.4%	35.9%
1Q2021	\$212,500	42.2%	39.1%	35.8%	32.3%	<b>30.9%</b>	30.5%	28.6%
1Q2022	\$249,000	35.8%	32.1%	28.1%	25.6%	<b>24.8%</b>	24.5%	23.3%
<b>1Q2023</b>	<b>\$235,000</b>	<b>38.7%</b>	<b>35.2%</b>	<b>31.5%</b>	<b>27.6%</b>	<b>26.8%</b>	<b>26.5%</b>	<b>25.4%</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 \$2,249 for the first-quartile sales price in 1Q2023, over 2.8 times the total monthly mortgage payment for the same home in 1Q2011.

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 3.05,<sup>7</sup> meaning a household could afford a maximum home price of 3.05 times its annual income. The home price-to-income multiplier declines as the LTV ratio increases.

<sup>7</sup> The home price-to-income multiplier is based on a 30-year loan term, 6.37 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and property taxes and insurance of 4 percent.

The income required to qualify for a loan with a 95 percent LTV ratio was \$77,115 for the first-quartile sales price in 1Q2023 (Table 28). An estimated 26.8 percent of renters in the Houston-The Woodlands-Sugar Land MSA could afford the first-quartile sales price in 1Q2023 with a 95 percent LTV ratio (Table 29), a decline of 34 percentage points from 1Q2011.

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

Year	Home Price	LTV Ratio				
		95%	96.5%	97%	98%	100%
1Q2011	\$83,500	<b>\$799</b>	\$807	\$810	\$816	\$827
1Q2012	\$85,000	<b>\$814</b>	\$822	\$825	\$830	\$841
1Q2013	\$100,000	<b>\$957</b>	\$967	\$970	\$977	\$990
1Q2014	\$120,000	<b>\$1,149</b>	\$1,160	\$1,164	\$1,172	\$1,188
1Q2015	\$135,000	<b>\$1,292</b>	\$1,305	\$1,310	\$1,319	\$1,336
1Q2016	\$142,000	<b>\$1,359</b>	\$1,373	\$1,378	\$1,387	\$1,406
1Q2017	\$154,900	<b>\$1,483</b>	\$1,498	\$1,503	\$1,513	\$1,533
1Q2018	\$160,000	<b>\$1,531</b>	\$1,547	\$1,552	\$1,563	\$1,584
1Q2019	\$170,000	<b>\$1,627</b>	\$1,644	\$1,649	\$1,661	\$1,683
1Q2020	\$181,000	<b>\$1,732</b>	\$1,750	\$1,756	\$1,768	\$1,792
1Q2021	\$212,500	<b>\$2,034</b>	\$2,055	\$2,062	\$2,076	\$2,104
1Q2022	\$249,000	<b>\$2,383</b>	<b>\$2,408</b>	<b>\$2,416</b>	<b>\$2,432</b>	<b>\$2,465</b>
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$2,249</b>	<b>\$2,272</b>	<b>\$2,280</b>	<b>\$2,295</b>	<b>\$2,326</b>

Note: Assumes a 30-year loan term, 6.37 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 27. Home Price-to-Income Multiplier  
for First-Time Buyers by LTV Ratio**

LTV Ratio	Home Purchasing Power
<b>95%</b>	<b>3.05</b>
96.5%	3.02
97%	3.01
98%	2.99
100%	2.95

Note: Assumes a 30-year loan term, 6.37 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%
1Q2011	\$83,500	<b>\$27,400</b>	\$27,682	\$27,776	\$27,964	\$28,340
1Q2012	\$85,000	<b>\$27,893</b>	\$28,180	\$28,275	\$28,467	\$28,849
1Q2013	\$100,000	<b>\$32,815</b>	\$33,152	\$33,265	\$33,490	\$33,940
1Q2014	\$120,000	<b>\$39,378</b>	\$39,783	\$39,918	\$40,188	\$40,728
1Q2015	\$135,000	<b>\$44,300</b>	\$44,756	\$44,908	\$45,212	\$45,820
1Q2016	\$142,000	<b>\$46,597</b>	\$47,077	\$47,236	\$47,556	\$48,195
1Q2017	\$154,900	<b>\$50,830</b>	\$51,353	\$51,528	\$51,876	\$52,574
1Q2018	\$160,000	<b>\$52,504</b>	\$53,044	\$53,224	\$53,584	\$54,305
1Q2019	\$170,000	<b>\$55,785</b>	\$56,359	\$56,551	\$56,933	\$57,699
1Q2020	\$181,000	<b>\$59,395</b>	\$60,006	\$60,210	\$60,617	\$61,432
1Q2021	\$212,500	<b>\$69,731</b>	\$70,449	\$70,688	\$71,167	\$72,123
1Q2022	\$249,000	<b>\$81,709</b>	\$82,550	\$82,830	\$83,390	\$84,512
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$77,115</b>	<b>\$77,908</b>	<b>\$78,173</b>	<b>\$78,702</b>	<b>\$79,760</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, 6.37 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%
1Q2011	\$83,500	<b>60.8%</b>	60.4%	60.3%	60.0%	59.4%
1Q2012	\$85,000	<b>60.7%</b>	60.3%	60.1%	59.8%	59.3%
1Q2013	\$100,000	<b>54.0%</b>	53.6%	53.4%	53.1%	52.5%
1Q2014	\$120,000	<b>47.5%</b>	47.1%	47.0%	46.7%	46.1%
1Q2015	\$135,000	<b>43.0%</b>	42.6%	42.4%	42.1%	41.4%
1Q2016	\$142,000	<b>42.0%</b>	41.5%	41.3%	41.0%	40.3%
1Q2017	\$154,900	<b>39.8%</b>	39.4%	39.3%	39.0%	38.5%
1Q2018	\$160,000	<b>40.6%</b>	40.2%	40.1%	39.8%	39.3%
1Q2019	\$170,000	<b>39.5%</b>	39.0%	38.9%	38.6%	38.0%
1Q2020	\$181,000	<b>37.8%</b>	37.3%	37.2%	36.9%	36.2%
1Q2021	\$212,500	<b>30.9%</b>	30.4%	30.2%	29.8%	29.1%
1Q2022	\$249,000	<b>24.8%</b>	24.4%	24.3%	24.0%	23.6%
<b>1Q2023</b>	<b>\$235,000</b>	<b>26.8%</b>	<b>26.4%</b>	<b>26.3%</b>	<b>26.1%</b>	<b>25.6%</b>

Note: Assumes a 30-year loan term, 6.37 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 3.05<sup>8</sup> (Table 30), meaning a household could afford a maximum home price of 3.05 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 \$77,115 for the first-quartile sales price in 1Q2023 (Table 31). An estimated 26.8 percent of renters in the Houston-The Woodlands-Sugar Land MSA could afford the first-quartile sales price in 1Q2023 with a 35 percent DTI ratio (Table 32), a decline of 34 percentage points from 1Q2011.

<sup>8</sup> The home price-to-income multiplier is based on a 30-year loan term, 6.37 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%	1.74
25%	2.18
30%	2.61
<b>35%</b>	<b>3.05</b>
40%	3.48
45%	3.92
50%	4.35

Note: Assumes a 30-year loan term, 6.37 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%
1Q2011	\$83,500	\$47,951	\$38,361	\$31,967	<b>\$27,400</b>	\$23,975	\$21,311	\$19,180
1Q2012	\$85,000	\$48,812	\$39,050	\$32,541	<b>\$27,893</b>	\$24,406	\$21,694	\$19,525
1Q2013	\$100,000	\$57,426	\$45,941	\$38,284	<b>\$32,815</b>	\$28,713	\$25,523	\$22,970
1Q2014	\$120,000	\$68,911	\$55,129	\$45,941	<b>\$39,378</b>	\$34,456	\$30,627	\$27,564
1Q2015	\$135,000	\$77,525	\$62,020	\$51,683	<b>\$44,300</b>	\$38,762	\$34,456	\$31,010
1Q2016	\$142,000	\$81,545	\$65,236	\$54,363	<b>\$46,597</b>	\$40,772	\$36,242	\$32,618
1Q2017	\$154,900	\$88,953	\$71,162	\$59,302	<b>\$50,830</b>	\$44,476	\$39,535	\$35,581
1Q2018	\$160,000	\$91,881	\$73,505	\$61,254	<b>\$52,504</b>	\$45,941	\$40,836	\$36,753
1Q2019	\$170,000	\$97,624	\$78,099	\$65,083	<b>\$55,785</b>	\$48,812	\$43,388	\$39,050
1Q2020	\$181,000	\$103,941	\$83,153	\$69,294	<b>\$59,395</b>	\$51,970	\$46,196	\$41,576
1Q2021	\$212,500	\$122,030	\$97,624	\$81,353	<b>\$69,731</b>	\$61,015	\$54,236	\$48,812
1Q2022	\$249,000	\$142,990	\$114,392	\$95,327	<b>\$81,709</b>	\$71,495	\$63,551	\$57,196
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$134,951</b>	<b>\$107,961</b>	<b>\$89,967</b>	<b>\$77,115</b>	<b>\$67,475</b>	<b>\$59,978</b>	<b>\$53,980</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, 6.37 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%
1Q2011	\$83,500	35.5%	45.9%	54.0%	<b>60.8%</b>	66.0%	70.2%	73.6%
1Q2012	\$85,000	35.7%	46.0%	53.9%	<b>60.7%</b>	65.9%	70.2%	73.7%
1Q2013	\$100,000	29.9%	39.2%	47.4%	<b>54.0%</b>	59.9%	64.4%	68.3%
1Q2014	\$120,000	23.4%	32.7%	40.5%	<b>47.5%</b>	53.0%	58.3%	62.5%
1Q2015	\$135,000	19.1%	28.8%	35.9%	<b>43.0%</b>	48.9%	53.6%	58.4%
1Q2016	\$142,000	18.7%	27.8%	35.3%	<b>42.0%</b>	48.2%	53.0%	57.6%
1Q2017	\$154,900	17.3%	25.2%	33.7%	<b>39.8%</b>	46.2%	51.4%	55.5%
1Q2018	\$160,000	17.5%	25.2%	34.2%	<b>40.6%</b>	46.6%	51.9%	56.1%
1Q2019	\$170,000	16.0%	23.9%	32.6%	<b>39.5%</b>	45.0%	50.6%	55.1%
1Q2020	\$181,000	14.7%	22.4%	30.2%	<b>37.8%</b>	43.5%	49.0%	53.8%
1Q2021	\$212,500	11.8%	17.2%	24.1%	<b>30.9%</b>	37.8%	43.1%	47.6%
1Q2022	\$249,000	7.9%	13.8%	18.8%	<b>24.8%</b>	30.5%	36.9%	41.9%
<b>1Q2023</b>	<b>\$235,000</b>	<b>9.6%</b>	<b>15.2%</b>	<b>21.2%</b>	<b>26.8%</b>	<b>33.7%</b>	<b>39.7%</b>	<b>44.5%</b>

Note: Assumes a 30-year loan term, 6.37 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 & 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 \$2,249 for the first-quartile sales price in 1Q2023, more than 2.8 times the total monthly mortgage payment for the same home in 1Q2011.

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 3.05,<sup>9</sup> meaning a household could afford a maximum home price of 3.05 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, 6.37 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 \$77,115 for the first-quartile sales price in 1Q2023 (Table 35). An estimated 26.8 percent of renters in the Houston-The Woodlands-Sugar Land MSA could afford the first-quartile sales price in 1Q2023 with property taxes and insurance at 4 percent of home price (Table 36), a decline of 34 percentage points from 1Q2011.

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

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
1Q2011	\$83,500	\$660	\$730	<b>\$799</b>	\$869	\$938
1Q2012	\$85,000	\$672	\$743	<b>\$814</b>	\$884	\$955
1Q2013	\$100,000	\$790	\$874	<b>\$957</b>	\$1,040	\$1,124
1Q2014	\$120,000	\$949	\$1,049	<b>\$1,149</b>	\$1,249	\$1,349
1Q2015	\$135,000	\$1,067	\$1,180	<b>\$1,292</b>	\$1,405	\$1,517
1Q2016	\$142,000	\$1,122	\$1,241	<b>\$1,359</b>	\$1,477	\$1,596
1Q2017	\$154,900	\$1,224	\$1,353	<b>\$1,483</b>	\$1,612	\$1,741
1Q2018	\$160,000	\$1,265	\$1,398	<b>\$1,531</b>	\$1,665	\$1,798
1Q2019	\$170,000	\$1,344	\$1,485	<b>\$1,627</b>	\$1,769	\$1,910
1Q2020	\$181,000	\$1,431	\$1,582	<b>\$1,732</b>	\$1,883	\$2,034
1Q2021	\$212,500	\$1,680	\$1,857	<b>\$2,034</b>	\$2,211	\$2,388
1Q2022	\$249,000	\$1,968	\$2,176	<b>\$2,383</b>	\$2,591	\$2,798
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$1,858</b>	<b>\$2,053</b>	<b>\$2,249</b>	<b>\$2,445</b>	<b>\$2,641</b>

Note: Assumes a 30-year loan term, 6.37 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 Purchasing Power
2%	3.69
3%	3.34
<b>4%</b>	<b>3.05</b>
5%	2.80
6%	2.60

Note: Assumes a 30-year loan term, 6.37 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%
1Q2011	\$83,500	\$22,629	\$25,015	<b>\$27,400</b>	\$29,786	\$32,172
1Q2012	\$85,000	\$23,035	\$25,464	<b>\$27,893</b>	\$30,321	\$32,750
1Q2013	\$100,000	\$27,101	\$29,958	<b>\$32,815</b>	\$35,672	\$38,529
1Q2014	\$120,000	\$32,521	\$35,949	<b>\$39,378</b>	\$42,806	\$46,235
1Q2015	\$135,000	\$36,586	\$40,443	<b>\$44,300</b>	\$48,157	\$52,014
1Q2016	\$142,000	\$38,483	\$42,540	<b>\$46,597</b>	\$50,654	\$54,711
1Q2017	\$154,900	\$41,979	\$46,404	<b>\$50,830</b>	\$55,256	\$59,682
1Q2018	\$160,000	\$43,361	\$47,932	<b>\$52,504</b>	\$57,075	\$61,647
1Q2019	\$170,000	\$46,071	\$50,928	<b>\$55,785</b>	\$60,642	\$65,499
1Q2020	\$181,000	\$49,052	\$54,223	<b>\$59,395</b>	\$64,566	\$69,738
1Q2021	\$212,500	\$57,589	\$63,660	<b>\$69,731</b>	\$75,803	\$81,874
1Q2022	\$249,000	\$67,480	\$74,595	<b>\$81,709</b>	\$88,823	\$95,937
<b>1Q2023</b>	<b>\$235,000</b>	<b>\$63,686</b>	<b>\$70,400</b>	<b>\$77,115</b>	<b>\$83,829</b>	<b>\$90,543</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, 6.37 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%
1Q2011	\$83,500	68.1%	64.4%	<b>60.8%</b>	57.3%	53.7%
1Q2012	\$85,000	68.0%	64.2%	<b>60.7%</b>	57.1%	53.6%
1Q2013	\$100,000	62.2%	58.1%	<b>54.0%</b>	50.2%	47.2%
1Q2014	\$120,000	55.6%	51.2%	<b>47.5%</b>	43.9%	40.2%
1Q2015	\$135,000	51.2%	47.1%	<b>43.0%</b>	39.0%	35.6%
1Q2016	\$142,000	50.6%	46.3%	<b>42.0%</b>	37.9%	35.1%
1Q2017	\$154,900	48.8%	44.2%	<b>39.8%</b>	36.6%	33.4%
1Q2018	\$160,000	49.3%	44.6%	<b>40.6%</b>	37.2%	33.9%
1Q2019	\$170,000	47.8%	43.1%	<b>39.5%</b>	35.9%	32.3%
1Q2020	\$181,000	46.1%	41.8%	<b>37.8%</b>	33.8%	29.8%
1Q2021	\$212,500	40.4%	35.7%	<b>30.9%</b>	26.5%	23.9%
1Q2022	\$249,000	33.7%	28.0%	<b>24.8%</b>	21.7%	18.6%
<b>1Q2023</b>	<b>\$235,000</b>	<b>36.7%</b>	<b>31.4%</b>	<b>26.8%</b>	<b>23.9%</b>	<b>20.9%</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, 6.37 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

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**

Loan or Applicant Characteristics	Effect on Purchase Affordability
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

(6.37 percent in 1Q2023),<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 (6.37 percent in 1Q2023), 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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