

# Houston-The Woodlands- Sugar Land

## Housing Affordability Outlook



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TEXAS A&M UNIVERSITY

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TECHNICAL REPORT

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# Houston-The Woodlands-Sugar Land Housing Affordability Outlook 2Q2022

## 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 Metropolitan Statistical Area (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).

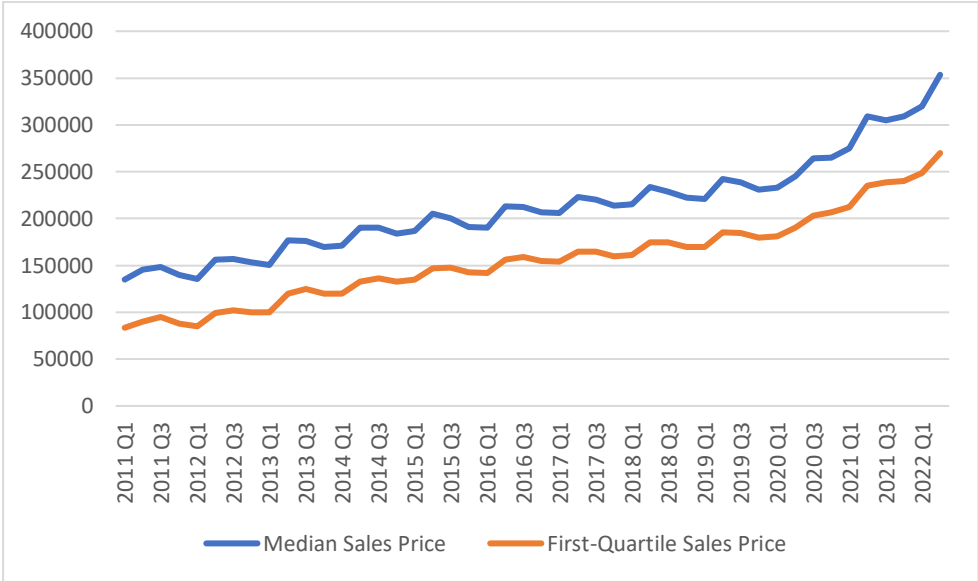
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### Purchase Affordability

The second quarter saw a continued uptick in both the median sales price and first-quartile sales price for the Houston-The Woodlands-Sugar Land MSA. (Figure 1).<sup>1</sup> The year-over-year (YOY) growth in median sales price and first-quartile sales price in the Houston-The Woodlands-Sugar Land MSA measured 14.4 percent and 14.9 percent, respectively. (Table 1). The median sales price measured \$353,500; the first-quartile sales price, \$270,000. Meanwhile, following years of generally sluggish growth, family income witnessed robust growth. From 2021 to 2022, median family income in the Houston-The Woodlands-Sugar Land MSA increased 13.8 percent (Table 2).

At the same time, mortgage interest rates ticked upward, averaging 5.27 percent in 2Q2022 (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. The average rate on the 30-year fixed-rate mortgage increased nearly 3 percentage points in the first half of 2022. For more information on the effect of mortgage interest rates on purchase affordability, see <https://www.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, First-Quartile Sales Price by Quarter**

Year	Median Sales Price	YOY Change	First-Quartile Sales Price	YOY Change
2Q2011	\$145,500		\$90,000	
2Q2012	\$156,500	7.6%	\$99,000	10.0%
2Q2013	\$176,475	12.8%	\$120,000	21.2%
2Q2014	\$190,000	7.7%	\$133,000	10.8%
2Q2015	\$205,000	7.9%	\$147,000	10.5%
2Q2016	\$212,900	3.9%	\$156,000	6.1%
2Q2017	\$223,000	4.7%	\$165,000	5.8%
2Q2018	\$234,000	4.9%	\$175,000	6.1%
2Q2019	\$242,000	3.4%	\$185,000	5.7%
2Q2020	\$245,000	1.2%	\$190,000	2.7%
2Q2021	\$309,000	26.1%	\$235,000	23.7%
<b>2Q2022</b>	<b>\$353,500</b>	<b>14.4%</b>	<b>\$270,000</b>	<b>14.9%</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
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%
<b>2022</b>	<b>\$70,850</b>	<b>11.8%</b>	<b>\$90,100</b>	<b>13.8%</b>

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**

Purchase affordability declined in 2Q2022 as the gap between the median sales price and family income continued to rise. For households earning the median family income for the Houston-The Woodlands-Sugar Land MSA in 2022 (\$90,100), the median sales price for 2Q2022 was not affordable to them unless the home price-to-income multiplier approximated 4 (Table 3). Only 25.8 percent of homes sold during that quarter 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 \$120,000 annually to be able to afford the median sales price with a home price-to-income multiplier of 3.

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

	Family Income	Home-Purchasing Power							
		2	2.5	3	3.5	4	4.5	5	5.5
	<b>\$80,000</b>	\$160,000	\$200,000	\$240,000	\$280,000	\$320,000	<b>\$360,000</b>	<b>\$400,000</b>	<b>\$440,000</b>
	<b>\$85,000</b>	\$170,000	\$212,500	\$255,000	\$297,500	\$340,000	<b>\$382,500</b>	<b>\$425,000</b>	<b>\$467,500</b>
<b>Median Family Income</b>	<b>\$90,100</b>	\$180,200	\$225,250	\$270,300	\$315,350	<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	\$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	\$350,000	<b>\$400,000</b>	<b>\$450,000</b>	<b>\$500,000</b>	<b>\$550,000</b>
	<b>\$105,000</b>	\$210,000	\$262,500	\$315,000	<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	\$324,300	<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	\$330,000	<b>\$385,000</b>	<b>\$440,000</b>	<b>\$495,000</b>	<b>\$550,000</b>	<b>\$605,000</b>
	<b>\$115,000</b>	\$230,000	\$287,500	\$345,000	<b>\$402,500</b>	<b>\$460,000</b>	<b>\$517,500</b>	<b>\$575,000</b>	<b>\$632,500</b>
	<b>\$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	\$350,000	<b>\$420,000</b>	<b>\$490,000</b>	<b>\$560,000</b>	<b>\$630,000</b>	<b>\$700,000</b>	<b>\$770,000</b>
	<b>\$145,000</b>	\$290,000	<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>
	<b>\$160,000</b>	\$320,000	<b>\$400,000</b>	<b>\$480,000</b>	<b>\$560,000</b>	<b>\$640,000</b>	<b>\$720,000</b>	<b>\$800,000</b>	<b>\$880,000</b>

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

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





**Table 4. Percentage of Homes Sold in 2Q2022 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>\$80,000</b>	3.4%	7.9%	16.3%	29.0%	41.3%	51.9%	60.8%	67.6%
	<b>\$85,000</b>	4.3%	9.6%	21.0%	33.7%	47.0%	56.8%	65.1%	71.1%
<b>Median Family Income</b>	<b>\$90,100</b>	5.5%	12.4%	25.8%	39.7%	51.9%	61.6%	69.2%	74.4%
	<b>\$95,000</b>	6.5%	15.1%	30.7%	44.7%	57.7%	65.3%	72.2%	77.0%
	<b>\$100,000</b>	7.9%	19.6%	35.4%	49.7%	60.8%	69.2%	75.2%	79.8%
	<b>\$105,000</b>	9.5%	23.0%	39.7%	53.3%	64.2%	71.6%	77.5%	81.5%
<b>Workforce Households</b>	<b>\$108,100</b>	10.4%	25.8%	41.7%	55.8%	66.2%	73.4%	78.8%	82.4%
	<b>\$110,000</b>	11.5%	27.4%	44.4%	57.6%	67.6%	74.4%	79.8%	83.4%
	<b>\$115,000</b>	13.7%	31.0%	48.0%	60.9%	70.5%	76.6%	81.4%	85.0%
	<b>\$120,000</b>	16.3%	35.4%	51.9%	64.2%	72.9%	78.8%	83.2%	86.6%
	<b>\$125,000</b>	19.6%	38.7%	55.4%	66.9%	75.2%	80.5%	84.7%	87.7%
	<b>\$130,000</b>	22.6%	42.8%	58.6%	69.8%	77.0%	82.0%	86.1%	88.9%
	<b>\$135,000</b>	25.8%	45.9%	61.6%	71.6%	78.8%	83.5%	87.3%	89.8%
	<b>\$140,000</b>	29.0%	49.7%	64.2%	73.9%	80.4%	85.0%	88.4%	90.6%
	<b>\$145,000</b>	32.1%	52.2%	66.8%	75.7%	81.7%	86.2%	89.3%	91.3%
	<b>\$150,000</b>	35.4%	55.4%	69.2%	77.5%	83.2%	87.3%	90.2%	92.2%
	<b>\$155,000</b>	38.3%	57.8%	71.1%	78.9%	84.4%	88.1%	90.8%	92.6%
	<b>\$160,000</b>	41.3%	60.8%	72.9%	80.4%	85.5%	89.0%	91.5%	93.2%

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

## Mortgage Interest Rate

Holding home price constant, the total monthly mortgage payment increases as the mortgage interest rate increases (Table 5). At a 4.24 percent rate, this payment was \$2,568 for the median sales price in 2Q2022, nearly 2.5 times the total monthly mortgage payment for the median-priced home in 2Q2011.

Table 6 shows the home price-to-income multiplier by mortgage interest rate. A 4.24 percent interest rate translates into a home price-to-income multiplier of 3.44<sup>2</sup>, meaning a household could afford a maximum home price of 3.44 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 4.24 percent mortgage interest rate was \$102,726 for the median sales price in 2Q2022 (Table 7). An estimated 47.9 percent of current Houston-The Woodlands-Sugar Land homeowners could afford the median sales price with a 4.24 percent interest rate (Table 8), a decline of nearly 27 percentage points from 2Q2011.

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

Year	Home Price	Mortgage Interest Rate						
		3%	4%	<b>4.24%</b>	4.5%	5%	5.5%	6%
2Q2011	\$145,500	\$976	\$1,041	<b>\$1,057</b>	\$1,075	\$1,110	\$1,146	\$1,183
2Q2012	\$156,500	\$1,050	\$1,119	<b>\$1,137</b>	\$1,156	\$1,194	\$1,233	\$1,272
2Q2013	\$176,475	\$1,183	\$1,262	<b>\$1,282</b>	\$1,304	\$1,346	\$1,390	\$1,435
2Q2014	\$190,000	\$1,274	\$1,359	<b>\$1,380</b>	\$1,403	\$1,449	\$1,496	\$1,545
2Q2015	\$205,000	\$1,375	\$1,466	<b>\$1,489</b>	\$1,514	\$1,564	\$1,615	\$1,667
2Q2016	\$212,900	\$1,428	\$1,523	<b>\$1,547</b>	\$1,573	\$1,624	\$1,677	\$1,731
2Q2017	\$223,000	\$1,495	\$1,595	<b>\$1,620</b>	\$1,647	\$1,701	\$1,756	\$1,813
2Q2018	\$234,000	\$1,569	\$1,674	<b>\$1,700</b>	\$1,729	\$1,785	\$1,843	\$1,902
2Q2019	\$242,000	\$1,623	\$1,731	<b>\$1,758</b>	\$1,788	\$1,846	\$1,906	\$1,967
2Q2020	\$245,000	\$1,643	\$1,752	<b>\$1,780</b>	\$1,810	\$1,869	\$1,930	\$1,992
2Q2021	\$309,000	\$2,072	\$2,210	<b>\$2,245</b>	\$2,283	\$2,357	\$2,434	\$2,512
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$2,371</b>	<b>\$2,528</b>	<b>\$2,568</b>	<b>\$2,611</b>	<b>\$2,696</b>	<b>\$2,784</b>	<b>\$2,874</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
<b>4.24%</b>	<b>3.44</b>
4.5%	3.38
5%	3.28
5.5%	3.17
6%	3.08

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%	<b>4.24%</b>	4.5%	5%	5.5%	6%
2Q2011	\$145,500	\$39,030	\$41,628	<b>\$42,282</b>	\$42,991	\$44,394	\$45,836	\$47,315
2Q2012	\$156,500	\$41,981	\$44,776	<b>\$45,479</b>	\$46,241	\$47,751	\$49,302	\$50,892
2Q2013	\$176,475	\$47,339	\$50,491	<b>\$51,283</b>	\$52,144	\$53,845	\$55,594	\$57,388
2Q2014	\$190,000	\$50,967	\$54,360	<b>\$55,214</b>	\$56,140	\$57,972	\$59,855	\$61,786
2Q2015	\$205,000	\$54,991	\$58,652	<b>\$59,573</b>	\$60,572	\$62,549	\$64,580	\$66,664
2Q2016	\$212,900	\$57,110	\$60,912	<b>\$61,868</b>	\$62,906	\$64,959	\$67,069	\$69,233
2Q2017	\$223,000	\$59,819	\$63,802	<b>\$64,803</b>	\$65,890	\$68,041	\$70,251	\$72,517
2Q2018	\$234,000	\$62,770	\$66,949	<b>\$68,000</b>	\$69,141	\$71,397	\$73,716	\$76,094
2Q2019	\$242,000	\$64,916	\$69,238	<b>\$70,325</b>	\$71,504	\$73,838	\$76,236	\$78,696
2Q2020	\$245,000	\$65,720	\$70,096	<b>\$71,197</b>	\$72,391	\$74,753	\$77,181	\$79,671
2Q2021	\$309,000	\$82,888	\$88,407	<b>\$89,795</b>	\$91,301	\$94,281	\$97,343	\$100,484
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$94,825</b>	<b>\$101,139</b>	<b>\$102,726</b>	<b>\$104,450</b>	<b>\$107,859</b>	<b>\$111,362</b>	<b>\$114,954</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%	<b>4.24%</b>	4.5%	5%	5.5%	6%
2Q2011	\$145,500	77.1%	75.1%	<b>74.6%</b>	74.1%	73.0%	71.9%	70.8%
2Q2012	\$156,500	75.1%	73.0%	<b>72.4%</b>	71.9%	70.8%	69.6%	68.4%
2Q2013	\$176,475	71.2%	68.9%	<b>68.3%</b>	67.7%	66.5%	65.3%	64.0%
2Q2014	\$190,000	69.1%	66.8%	<b>66.2%</b>	65.6%	64.3%	63.0%	61.6%
2Q2015	\$205,000	67.2%	64.6%	<b>64.0%</b>	63.3%	62.0%	60.6%	59.1%
2Q2016	\$212,900	66.6%	64.1%	<b>63.4%</b>	62.7%	61.3%	59.9%	58.4%
2Q2017	\$223,000	66.0%	63.3%	<b>62.7%</b>	62.0%	60.5%	59.0%	57.5%
2Q2018	\$234,000	65.5%	62.8%	<b>62.1%</b>	61.4%	59.9%	58.4%	57.0%
2Q2019	\$242,000	65.6%	62.8%	<b>62.2%</b>	61.4%	60.0%	58.6%	57.2%
2Q2020	\$245,000	65.7%	63.0%	<b>62.4%</b>	61.6%	60.2%	58.9%	57.5%
2Q2021*	\$309,000	57.2%	54.2%	<b>53.4%</b>	52.6%	51.0%	49.3%	47.7%
<b>2Q2022*</b>	<b>\$353,500</b>	<b>51.8%</b>	<b>48.5%</b>	<b>47.9%</b>	<b>47.1%</b>	<b>45.7%</b>	<b>44.2%</b>	<b>42.7%</b>

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

\*Represents estimates using historical ACS data.

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 \$2,568 for the median-priced home in 2Q2022, nearly 2.5 times the total monthly mortgage payment for the median-priced home in 2Q2011.

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 3.44<sup>3</sup>, meaning a household could afford a maximum home price of 3.44 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 \$102,726 for the median sales price in 2Q2022 (Table 11). An estimated 47.9 percent of current Houston-The

<sup>3</sup> The home price-to-income multiplier is based on a 30-year loan term, 4.24 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 80 percent or more LTV ratio.

Woodlands-Sugar Land homeowners could afford the median sales price with an 80 percent LTV ratio (Table 12), a decline of nearly 27 percentage points from 2Q2011.

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

Year	Home Price	LTV Ratio				
		80%	85%	90%	95%	100%
2Q2011	\$145,500	<b>\$1,057</b>	\$1,130	\$1,167	\$1,205	\$1,243
2Q2012	\$156,500	<b>\$1,137</b>	\$1,215	\$1,256	\$1,296	\$1,337
2Q2013	\$176,475	<b>\$1,282</b>	\$1,370	\$1,416	\$1,462	\$1,508
2Q2014	\$190,000	<b>\$1,380</b>	\$1,475	\$1,524	\$1,574	\$1,624
2Q2015	\$205,000	<b>\$1,489</b>	\$1,591	\$1,645	\$1,698	\$1,752
2Q2016	\$212,900	<b>\$1,547</b>	\$1,653	\$1,708	\$1,764	\$1,819
2Q2017	\$223,000	<b>\$1,620</b>	\$1,731	\$1,789	\$1,847	\$1,905
2Q2018	\$234,000	<b>\$1,700</b>	\$1,817	\$1,878	\$1,939	\$1,999
2Q2019	\$242,000	<b>\$1,758</b>	\$1,879	\$1,942	\$2,005	\$2,068
2Q2020	\$245,000	<b>\$1,780</b>	\$1,902	\$1,966	\$2,030	\$2,093
2Q2021	\$309,000	<b>\$2,245</b>	\$2,399	\$2,479	\$2,560	\$2,640
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$2,568</b>	<b>\$2,744</b>	<b>\$2,836</b>	<b>\$2,928</b>	<b>\$3,021</b>

Note: Assumes a 30-year loan term, 4.24 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 greater than 80 percent.

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>3.44</b>
85%	3.22
90%	3.12
95%	3.02
100%	2.93

Note: Assumes a 30-year loan term, 4.24 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 greater than 80 percent.

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%
2Q2011	\$145,500	<b>\$42,282</b>	\$45,181	\$46,698	\$48,214	\$49,731
2Q2012	\$156,500	<b>\$45,479</b>	\$48,597	\$50,228	\$51,859	\$53,490
2Q2013	\$176,475	<b>\$51,283</b>	\$54,800	\$56,639	\$58,478	\$60,318
2Q2014	\$190,000	<b>\$55,214</b>	\$58,999	\$60,980	\$62,960	\$64,940
2Q2015	\$205,000	<b>\$59,573</b>	\$63,657	\$65,794	\$67,931	\$70,067
2Q2016	\$212,900	<b>\$61,868</b>	\$66,110	\$68,329	\$70,548	\$72,767
2Q2017	\$223,000	<b>\$64,803</b>	\$69,247	\$71,571	\$73,895	\$76,220
2Q2018	\$234,000	<b>\$68,000</b>	\$72,662	\$75,101	\$77,540	\$79,979
2Q2019	\$242,000	<b>\$70,325</b>	\$75,147	\$77,669	\$80,191	\$82,714
2Q2020	\$245,000	<b>\$71,197</b>	\$76,078	\$78,632	\$81,185	\$83,739
2Q2021	\$309,000	<b>\$89,795</b>	\$95,952	\$99,172	\$102,393	\$105,614
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$102,726</b>	<b>\$109,770</b>	<b>\$113,454</b>	<b>\$117,139</b>	<b>\$120,823</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, 4.24 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 greater than 80 percent.

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%
2Q2011	\$145,500	<b>74.6%</b>	72.4%	71.2%	70.1%	68.9%
2Q2012	\$156,500	<b>72.4%</b>	70.1%	68.9%	67.7%	66.6%
2Q2013	\$176,475	<b>68.3%</b>	65.8%	64.6%	63.3%	62.0%
2Q2014	\$190,000	<b>66.2%</b>	63.6%	62.2%	60.8%	59.5%
2Q2015	\$205,000	<b>64.0%</b>	61.2%	59.7%	58.3%	56.8%
2Q2016	\$212,900	<b>63.4%</b>	60.5%	59.0%	57.5%	56.0%
2Q2017	\$223,000	<b>62.7%</b>	59.7%	58.1%	56.6%	55.2%
2Q2018	\$234,000	<b>62.1%</b>	59.1%	57.5%	56.2%	54.9%
2Q2019	\$242,000	<b>62.2%</b>	59.1%	57.8%	56.4%	55.0%
2Q2020	\$245,000	<b>62.4%</b>	59.5%	58.1%	56.7%	55.3%
2Q2021*	\$309,000	<b>53.4%</b>	50.1%	48.3%	46.9%	45.5%
<b>2Q2022*</b>	<b>\$353,500</b>	<b>47.9%</b>	<b>44.9%</b>	<b>43.4%</b>	<b>41.8%</b>	<b>40.3%</b>

Note: Assumes a 30-year loan term, 4.24 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 greater than 80 percent. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

\*Represents estimates using historical ACS data.

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 3.44<sup>4</sup> (Table 13), meaning a household could afford a maximum home price of 3.44 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 \$102,726 for the median sales price in 2Q2022 (Table 14). An estimated 47.9 percent of current Houston-The Woodlands-Sugar Land homeowners could afford the median sales price with a 30 percent DTI ratio (Table 15), a decline of nearly 27 percentage points from 2Q2011.

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

DTI Ratio	Home Price-to-Income Multiplier
20%	2.29
25%	2.87
<b>30%</b>	<b>3.44</b>
35%	4.01
40%	4.59
45%	5.16
50%	5.74

Note: Assumes a 30-year loan term, 4.24 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

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<sup>4</sup> The home price-to-income multiplier is based on a 30-year loan term, 4.24 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%
2Q2011	\$145,500	\$63,423	\$50,738	<b>\$42,282</b>	\$36,242	\$31,712	\$28,188	\$25,369
2Q2012	\$156,500	\$68,218	\$54,574	<b>\$45,479</b>	\$38,982	\$34,109	\$30,319	\$27,287
2Q2013	\$176,475	\$76,925	\$61,540	<b>\$51,283</b>	\$43,957	\$38,462	\$34,189	\$30,770
2Q2014	\$190,000	\$82,820	\$66,256	<b>\$55,214</b>	\$47,326	\$41,410	\$36,809	\$33,128
2Q2015	\$205,000	\$89,359	\$71,487	<b>\$59,573</b>	\$51,062	\$44,679	\$39,715	\$35,744
2Q2016	\$212,900	\$92,803	\$74,242	<b>\$61,868</b>	\$53,030	\$46,401	\$41,246	\$37,121
2Q2017	\$223,000	\$97,205	\$77,764	<b>\$64,803</b>	\$55,546	\$48,603	\$43,202	\$38,882
2Q2018	\$234,000	\$102,000	\$81,600	<b>\$68,000</b>	\$58,286	\$51,000	\$45,333	\$40,800
2Q2019	\$242,000	\$105,487	\$84,390	<b>\$70,325</b>	\$60,278	\$52,744	\$46,883	\$42,195
2Q2020	\$245,000	\$106,795	\$85,436	<b>\$71,197</b>	\$61,026	\$53,397	\$47,464	\$42,718
2Q2021	\$309,000	\$134,692	\$107,754	<b>\$89,795</b>	\$76,967	\$67,346	\$59,863	\$53,877
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$154,090</b>	<b>\$123,272</b>	<b>\$102,726</b>	<b>\$88,051</b>	<b>\$77,045</b>	<b>\$68,484</b>	<b>\$61,636</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, 4.24 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%
2Q2011	\$145,500	59.0%	68.2%	<b>74.6%</b>	79.2%	82.6%	85.2%	87.3%
2Q2012	\$156,500	56.0%	65.8%	<b>72.4%</b>	77.3%	80.9%	83.7%	86.0%
2Q2013	\$176,475	50.6%	61.1%	<b>68.3%</b>	73.6%	77.7%	80.8%	83.3%
2Q2014	\$190,000	48.1%	58.6%	<b>66.2%</b>	71.7%	76.0%	79.3%	81.9%
2Q2015	\$205,000	45.4%	55.8%	<b>64.0%</b>	69.9%	74.4%	77.9%	80.7%
2Q2016	\$212,900	44.7%	55.0%	<b>63.4%</b>	69.4%	73.9%	77.5%	80.3%
2Q2017	\$223,000	43.9%	54.4%	<b>62.7%</b>	68.9%	73.5%	77.1%	79.9%
2Q2018	\$234,000	43.2%	54.0%	<b>62.1%</b>	68.4%	73.2%	76.8%	79.6%
2Q2019	\$242,000	43.4%	54.1%	<b>62.2%</b>	68.5%	73.2%	76.8%	79.7%
2Q2020	\$245,000	43.7%	54.4%	<b>62.4%</b>	68.6%	73.3%	76.9%	79.7%
2Q2021*	\$309,000	33.5%	44.6%	<b>53.4%</b>	60.4%	66.1%	70.5%	74.1%
<b>2Q2022*</b>	<b>\$353,500</b>	<b>27.9%</b>	<b>39.2%</b>	<b>47.9%</b>	<b>55.5%</b>	<b>61.6%</b>	<b>66.5%</b>	<b>70.5%</b>

Note: Assumes a 30-year loan term, 4.24 percent mortgage interest rate, 80 percent LTV ratio, and additional costs of homeownership at 4 percent of home price. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

\*Represents estimates using historical ACS data.

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





## Property Taxes and Insurance

Holding home price constant, the total monthly mortgage payment increases as the annual costs of property taxes and insurance increase (Table 16). Assuming the cost of property taxes and insurance is 4 percent of the home price, the monthly mortgage payment was \$2,568 for the median sales price in 2Q2022, nearly 2.5 times the total monthly mortgage payment for the median-priced home in 2Q2011.

Table 17 shows the home price-to-income multiplier<sup>5</sup> by the costs of property taxes and insurance. At a 4 percent property tax and insurance rate, a household could afford a maximum home price of 3.44 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 \$102,726 for the median sales price in 2Q2022 (Table 18). An estimated 47.9 percent of current Houston-The Woodlands-Sugar Land homeowners could afford the median sales price with property taxes and insurance at 4 percent of home price (Table 19), a decline of nearly 27 percentage points from 2Q2011.

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

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
2Q2011	\$145,500	\$815	\$936	<b>\$1,057</b>	\$1,178	\$1,300
2Q2012	\$156,500	\$876	\$1,007	<b>\$1,137</b>	\$1,267	\$1,398
2Q2013	\$176,475	\$988	\$1,135	<b>\$1,282</b>	\$1,429	\$1,576
2Q2014	\$190,000	\$1,064	\$1,222	<b>\$1,380</b>	\$1,539	\$1,697
2Q2015	\$205,000	\$1,148	\$1,318	<b>\$1,489</b>	\$1,660	\$1,831
2Q2016	\$212,900	\$1,192	\$1,369	<b>\$1,547</b>	\$1,724	\$1,902
2Q2017	\$223,000	\$1,248	\$1,434	<b>\$1,620</b>	\$1,806	\$1,992
2Q2018	\$234,000	\$1,310	\$1,505	<b>\$1,700</b>	\$1,895	\$2,090
2Q2019	\$242,000	\$1,355	\$1,556	<b>\$1,758</b>	\$1,960	\$2,161
2Q2020	\$245,000	\$1,372	\$1,576	<b>\$1,780</b>	\$1,984	\$2,188
2Q2021	\$309,000	\$1,730	\$1,987	<b>\$2,245</b>	\$2,502	\$2,760
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$1,979</b>	<b>\$2,274</b>	<b>\$2,568</b>	<b>\$2,863</b>	<b>\$3,157</b>

Note: Assumes a 30-year loan term, 4.24 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, 4.24 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%	4.47
3%	3.89
<b>4%</b>	<b>3.44</b>
5%	3.09
6%	2.80

Note: Assumes a 30-year loan term, 4.24 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%
2Q2011	\$145,500	\$32,582	\$37,432	<b>\$42,282</b>	\$47,132	\$51,982
2Q2012	\$156,500	\$35,045	\$40,262	<b>\$45,479</b>	\$50,695	\$55,912
2Q2013	\$176,475	\$39,518	\$45,401	<b>\$51,283</b>	\$57,166	\$63,048
2Q2014	\$190,000	\$42,547	\$48,880	<b>\$55,214</b>	\$61,547	\$67,880
2Q2015	\$205,000	\$45,906	\$52,739	<b>\$59,573</b>	\$66,406	\$73,239
2Q2016	\$212,900	\$47,675	\$54,772	<b>\$61,868</b>	\$68,965	\$76,062
2Q2017	\$223,000	\$49,937	\$57,370	<b>\$64,803</b>	\$72,237	\$79,670
2Q2018	\$234,000	\$52,400	\$60,200	<b>\$68,000</b>	\$75,800	\$83,600
2Q2019	\$242,000	\$54,191	\$62,258	<b>\$70,325</b>	\$78,391	\$86,458
2Q2020	\$245,000	\$54,863	\$63,030	<b>\$71,197</b>	\$79,363	\$87,530
2Q2021	\$309,000	\$69,195	\$79,495	<b>\$89,795</b>	\$100,095	\$110,395
<b>2Q2022</b>	<b>\$353,500</b>	<b>\$79,160</b>	<b>\$90,943</b>	<b>\$102,726</b>	<b>\$114,510</b>	<b>\$126,293</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, 4.24 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%
2Q2011	\$145,500	82.0%	78.3%	<b>74.6%</b>	70.9%	67.3%
2Q2012	\$156,500	80.2%	76.3%	<b>72.4%</b>	68.6%	64.8%
2Q2013	\$176,475	76.9%	72.6%	<b>68.3%</b>	64.2%	60.1%
2Q2014	\$190,000	75.2%	70.6%	<b>66.2%</b>	61.8%	57.4%
2Q2015	\$205,000	73.5%	68.7%	<b>64.0%</b>	59.3%	54.6%
2Q2016	\$212,900	73.1%	68.2%	<b>63.4%</b>	58.6%	53.9%
2Q2017	\$223,000	72.6%	67.7%	<b>62.7%</b>	57.7%	53.3%
2Q2018	\$234,000	72.3%	67.2%	<b>62.1%</b>	57.1%	52.9%
2Q2019	\$242,000	72.3%	67.2%	<b>62.2%</b>	57.4%	53.0%
2Q2020	\$245,000	72.4%	67.4%	<b>62.4%</b>	57.7%	53.3%
2Q2021*	\$309,000	65.0%	59.0%	<b>53.4%</b>	47.8%	43.5%
<b>2Q2022*</b>	<b>\$353,500</b>	<b>60.4%</b>	<b>54.0%</b>	<b>47.9%</b>	<b>42.9%</b>	<b>38.0%</b>

Note: Assumes a 30-year loan term, 4.24 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio. As repeat homebuyers constitute owner-occupied households, this table reflects income data solely for owner-occupied households.

\*Represents estimates using historical ACS data.

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

## First-Time Homebuyer

Purchase affordability continued to decline in 2Q2022 for Houston-The Woodlands-Sugar Land’s first-time homebuyers, particularly among the lowest-income cohorts. Despite sustained low mortgage interest rates, the uptick in the first-quartile sales price left homeownership increasingly unaffordable for lower-income households.

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. That range increases to between \$111,000 and \$177,200 with a home price-to-income multiplier of 4.

Depending on the home price-to-income multiplier, only households earning at least \$50,000 annually could afford the first-quartile sales price in 2Q2022. Homeownership is largely not feasible to households earning no more than 50 percent of Houston-The Woodlands-Sugar Land’s 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 9.6 percent of homes for sale were affordable to households earning no more than 80 percent of area median income in 2Q2022 (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>\$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	\$243,650
	<b>\$45,000</b>	\$90,000	\$112,500	\$135,000	\$157,500	\$180,000	\$202,500	\$225,000	\$247,500
	<b>\$50,000</b>	\$100,000	\$125,000	\$150,000	\$175,000	\$200,000	\$225,000	\$250,000	<b>\$275,000</b>
	<b>\$55,000</b>	\$110,000	\$137,500	\$165,000	\$192,500	\$220,000	\$247,500	<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	\$260,000	<b>\$292,500</b>	<b>\$325,000</b>	<b>\$357,500</b>
	<b>\$70,000</b>	\$140,000	\$175,000	\$210,000	\$245,000	<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	\$247,975	<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	\$262,500	<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	\$255,000	<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 2Q2022 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
	\$25,000	0.1%	0.2%	0.3%	0.4%	0.7%	1.0%	1.4%	1.9%
<b>Extremely Low-Income (30%)</b>	\$27,750	0.1%	0.2%	0.4%	0.6%	1.0%	1.3%	2.0%	2.9%
	\$30,000	0.2%	0.3%	0.5%	0.8%	1.2%	1.9%	2.8%	3.9%
	\$35,000	0.2%	0.4%	0.8%	1.3%	2.2%	3.2%	4.8%	6.7%
	\$40,000	0.3%	0.7%	1.2%	2.2%	3.4%	5.5%	7.9%	11.5%
<b>Very Low-Income Households (50%)</b>	\$44,300	0.4%	1.0%	1.7%	3.1%	5.0%	7.4%	11.5%	16.9%
	\$45,000	0.5%	1.0%	1.9%	3.2%	5.5%	8.1%	12.4%	18.0%
	\$50,000	0.7%	1.4%	2.8%	4.8%	7.9%	12.4%	19.6%	27.4%
	\$55,000	1.0%	1.9%	3.9%	6.7%	11.5%	18.0%	27.4%	35.7%
	\$60,000	1.2%	2.8%	5.5%	9.5%	16.3%	25.8%	35.4%	44.4%
	\$65,000	1.7%	3.5%	7.0%	12.7%	22.6%	32.4%	42.8%	51.0%
	\$70,000	2.2%	4.8%	9.5%	17.7%	29.0%	39.7%	49.7%	57.6%
<b>Low-Income Households (80%)</b>	\$70,850	2.2%	5.0%	9.6%	18.0%	29.6%	40.1%	50.0%	58.0%
	\$75,000	2.8%	6.1%	12.4%	23.0%	35.4%	45.9%	55.4%	62.7%
	\$80,000	3.4%	7.9%	16.3%	29.0%	41.3%	51.9%	60.8%	67.6%
	\$85,000	4.3%	9.6%	21.0%	33.7%	47.0%	56.8%	65.1%	71.1%

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 4.31 percent rate brought the mortgage payment to \$2,247 for the first-quartile sales price in 2Q2022, three times the total monthly mortgage payment for the same home in 2Q2011.

Table 23 shows the home price-to-income multiplier by mortgage interest rate. A 4.31 percent interest rate translates into a home price-to-income multiplier of 3.50<sup>6</sup>, meaning a household could afford a maximum home price of 3.50 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 4.31 percent mortgage interest rate was \$77,036 for the first-quartile sales price in 2Q2022 (Table 24). An estimated 26.8 percent of current Houston-The Woodlands-Sugar Land renters could afford the first-quartile sales price with a 4.31 percent interest rate (Table 25), a decline of nearly 37 percentage points from 2Q2011.

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

Year	Home Price	Mortgage Interest Rate						
		3%	4%	<b>4.31%</b>	4.5%	5%	5.5%	6%
2Q2011	\$90,000	\$684	\$733	<b>\$749</b>	\$759	\$785	\$813	\$840
2Q2012	\$99,000	\$752	\$807	<b>\$824</b>	\$835	\$864	\$894	\$924
2Q2013	\$120,000	\$912	\$978	<b>\$999</b>	\$1,012	\$1,047	\$1,083	\$1,121
2Q2014	\$133,000	\$1,011	\$1,084	<b>\$1,107</b>	\$1,122	\$1,161	\$1,201	\$1,242
2Q2015	\$147,000	\$1,117	\$1,198	<b>\$1,223</b>	\$1,240	\$1,283	\$1,327	\$1,373
2Q2016	\$156,000	\$1,185	\$1,271	<b>\$1,298</b>	\$1,316	\$1,361	\$1,409	\$1,457
2Q2017	\$165,000	\$1,254	\$1,344	<b>\$1,373</b>	\$1,391	\$1,440	\$1,490	\$1,541
2Q2018	\$175,000	\$1,330	\$1,426	<b>\$1,456</b>	\$1,476	\$1,527	\$1,580	\$1,634
2Q2019	\$185,000	\$1,406	\$1,507	<b>\$1,540</b>	\$1,560	\$1,615	\$1,670	\$1,728
2Q2020	\$190,000	\$1,444	\$1,548	<b>\$1,581</b>	\$1,602	\$1,658	\$1,716	\$1,774
2Q2021	\$235,000	\$1,786	\$1,915	<b>\$1,956</b>	\$1,982	\$2,051	\$2,122	\$2,194
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$2,052</b>	<b>\$2,200</b>	<b>\$2,247</b>	<b>\$2,277</b>	<b>\$2,356</b>	<b>\$2,438</b>	<b>\$2,521</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
<b>4.31%</b>	<b>3.50</b>
4.5%	3.46
5%	3.34
5.5%	3.23
6%	3.12

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%	4.31%	4.5%	5%	5.5%	6%
2Q2011	\$90,000	\$23,449	\$25,139	<b>\$25,679</b>	\$26,022	\$26,930	\$27,861	\$28,814
2Q2012	\$99,000	\$25,794	\$27,653	<b>\$28,247</b>	\$28,624	\$29,623	\$30,647	\$31,696
2Q2013	\$120,000	\$31,266	\$33,518	<b>\$34,238</b>	\$34,696	\$35,907	\$37,148	\$38,419
2Q2014	\$133,000	\$34,653	\$37,150	<b>\$37,948</b>	\$38,455	\$39,797	\$41,173	\$42,581
2Q2015	\$147,000	\$38,300	\$41,060	<b>\$41,942</b>	\$42,503	\$43,986	\$45,506	\$47,063
2Q2016	\$156,000	\$40,645	\$43,574	<b>\$44,510</b>	\$45,105	\$46,679	\$48,293	\$49,945
2Q2017	\$165,000	\$42,990	\$46,088	<b>\$47,078</b>	\$47,707	\$49,372	\$51,079	\$52,826
2Q2018	\$175,000	\$45,596	\$48,881	<b>\$49,931</b>	\$50,599	\$52,364	\$54,174	\$56,028
2Q2019	\$185,000	\$48,201	\$51,674	<b>\$52,784</b>	\$53,490	\$55,356	\$57,270	\$59,229
2Q2020	\$190,000	\$49,504	\$53,071	<b>\$54,211</b>	\$54,936	\$56,852	\$58,818	\$60,830
2Q2021	\$235,000	\$61,228	\$65,640	<b>\$67,050</b>	\$67,947	\$70,317	\$72,748	\$75,237
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$70,347</b>	<b>\$75,416</b>	<b>\$77,036</b>	<b>\$78,067</b>	<b>\$80,790</b>	<b>\$83,583</b>	<b>\$86,443</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%	4.31%	4.5%	5%	5.5%	6%
2Q2011	\$90,000	66.9%	64.2%	<b>63.4%</b>	62.9%	61.5%	60.1%	58.7%
2Q2012	\$99,000	63.7%	61.0%	<b>60.2%</b>	59.6%	58.2%	56.7%	55.1%
2Q2013	\$120,000	56.2%	53.1%	<b>52.0%</b>	51.4%	50.0%	48.6%	47.3%
2Q2014	\$133,000	52.7%	49.9%	<b>49.1%</b>	48.5%	47.1%	45.6%	44.1%
2Q2015	\$147,000	49.4%	46.5%	<b>45.5%</b>	44.9%	43.4%	41.8%	40.1%
2Q2016	\$156,000	48.3%	45.2%	<b>44.2%</b>	43.6%	41.9%	40.2%	38.4%
2Q2017	\$165,000	47.8%	44.5%	<b>43.5%</b>	42.8%	41.0%	39.6%	38.3%
2Q2018	\$175,000	47.0%	43.6%	<b>42.5%</b>	42.0%	40.7%	39.4%	38.0%
2Q2019	\$185,000	45.6%	42.5%	<b>41.7%</b>	41.2%	39.8%	38.4%	36.9%
2Q2020	\$190,000	45.6%	42.7%	<b>41.8%</b>	41.3%	39.8%	38.3%	36.7%
2Q2021*	\$235,000	37.6%	34.1%	<b>33.0%</b>	32.3%	30.5%	28.6%	26.7%
<b>2Q2022*</b>	<b>\$270,000</b>	<b>31.4%</b>	<b>27.5%</b>	<b>26.8%</b>	<b>26.4%</b>	<b>25.2%</b>	<b>24.0%</b>	<b>22.7%</b>

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

\*Represents estimates using historical ACS data.

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 \$2,247 for the first-quartile sales price in 2Q2022, three times the total monthly mortgage payment for the same home in 2Q2011.

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 3.50<sup>7</sup>, meaning a household could afford a maximum home price of 3.50 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 \$77,036 for the first-quartile sales price in 2Q2022 (Table 28). An estimated 26.8 percent of current Houston-The Woodlands-Sugar Land renters could afford the first-quartile sales price with a 95 percent LTV ratio (Table 29), a decline of nearly 37 percentage points from 2Q2011.

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

Year	Home Price	LTV Ratio				
		95%	96.5%	97%	98%	100%
2Q2011	\$90,000	<b>\$749</b>	\$756	\$758	\$763	\$773
2Q2012	\$99,000	<b>\$824</b>	\$832	\$834	\$839	\$850
2Q2013	\$120,000	<b>\$999</b>	\$1,008	\$1,011	\$1,018	\$1,030
2Q2014	\$133,000	<b>\$1,107</b>	\$1,117	\$1,121	\$1,128	\$1,142
2Q2015	\$147,000	<b>\$1,223</b>	\$1,235	\$1,239	\$1,246	\$1,262
2Q2016	\$156,000	<b>\$1,298</b>	\$1,310	\$1,315	\$1,323	\$1,339
2Q2017	\$165,000	<b>\$1,373</b>	\$1,386	\$1,390	\$1,399	\$1,416
2Q2018	\$175,000	<b>\$1,456</b>	\$1,470	\$1,475	\$1,484	\$1,502
2Q2019	\$185,000	<b>\$1,540</b>	\$1,554	\$1,559	\$1,569	\$1,588
2Q2020	\$190,000	<b>\$1,581</b>	\$1,596	\$1,601	\$1,611	\$1,631
2Q2021	\$235,000	<b>\$1,956</b>	\$1,974	\$1,980	\$1,993	\$2,017
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$2,247</b>	<b>\$2,268</b>	<b>\$2,275</b>	<b>\$2,289</b>	<b>\$2,318</b>

Note: Assumes a 30-year loan term, 4.31 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, 4.31 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
<b>95%</b>	<b>3.50</b>
96.5%	3.47
97%	3.46
98%	3.44
100%	3.40

Note: Assumes a 30-year loan term, 4.31 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%
2Q2011	\$90,000	<b>\$25,679</b>	\$25,922	\$26,003	\$26,165	\$26,489
2Q2012	\$99,000	<b>\$28,247</b>	\$28,514	\$28,603	\$28,781	\$29,138
2Q2013	\$120,000	<b>\$34,238</b>	\$34,562	\$34,670	\$34,886	\$35,319
2Q2014	\$133,000	<b>\$37,948</b>	\$38,307	\$38,426	\$38,666	\$39,145
2Q2015	\$147,000	<b>\$41,942</b>	\$42,339	\$42,471	\$42,736	\$43,265
2Q2016	\$156,000	<b>\$44,510</b>	\$44,931	\$45,072	\$45,352	\$45,914
2Q2017	\$165,000	<b>\$47,078</b>	\$47,523	\$47,672	\$47,969	\$48,563
2Q2018	\$175,000	<b>\$49,931</b>	\$50,404	\$50,561	\$50,876	\$51,506
2Q2019	\$185,000	<b>\$52,784</b>	\$53,284	\$53,450	\$53,783	\$54,449
2Q2020	\$190,000	<b>\$54,211</b>	\$54,724	\$54,895	\$55,237	\$55,921
2Q2021	\$235,000	<b>\$67,050</b>	\$67,685	\$67,896	\$68,319	\$69,166
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$77,036</b>	<b>\$77,765</b>	<b>\$78,008</b>	<b>\$78,495</b>	<b>\$79,467</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, 4.31 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%
2Q2011	\$90,000	<b>63.4%</b>	63.0%	62.9%	62.7%	62.2%
2Q2012	\$99,000	<b>60.2%</b>	59.8%	59.6%	59.4%	58.9%
2Q2013	\$120,000	<b>52.0%</b>	51.6%	51.4%	51.1%	50.6%
2Q2014	\$133,000	<b>49.1%</b>	48.7%	48.5%	48.3%	47.8%
2Q2015	\$147,000	<b>45.5%</b>	45.1%	45.0%	44.7%	44.1%
2Q2016	\$156,000	<b>44.2%</b>	43.8%	43.6%	43.3%	42.7%
2Q2017	\$165,000	<b>43.5%</b>	43.0%	42.8%	42.5%	41.9%
2Q2018	\$175,000	<b>42.5%</b>	42.1%	42.0%	41.8%	41.3%
2Q2019	\$185,000	<b>41.7%</b>	41.3%	41.2%	40.9%	40.5%
2Q2020	\$190,000	<b>41.8%</b>	41.4%	41.3%	41.0%	40.5%
2Q2021*	\$235,000	<b>33.0%</b>	32.5%	32.4%	32.0%	31.4%
<b>2Q2022*</b>	<b>\$270,000</b>	<b>26.8%</b>	<b>26.5%</b>	<b>26.4%</b>	<b>26.2%</b>	<b>25.8%</b>

Note: Assumes a 30-year loan term, 4.31 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

\*Represents estimates using historical ACS data.

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 3.50<sup>8</sup> (Table 30), meaning a household could afford a maximum home price of 3.50 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 \$77,036 for the first-quartile sales price in 2Q2022 (Table 31). An estimated 26.8 percent of current Houston-The Woodlands-Sugar Land renters could afford the first-quartile sales price with a 35 percent DTI ratio (Table 32), a decline of nearly 37 percentage points from 2Q2011.

<sup>8</sup> The home price-to-income multiplier is based on a 30-year loan term, 4.31 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%	2.00
25%	2.50
30%	3.00
<b>35%</b>	<b>3.50</b>
40%	4.01
45%	4.51
50%	5.01

Note: Assumes a 30-year loan term, 4.31 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%
2Q2011	\$90,000	\$44,938	\$35,950	\$29,959	<b>\$25,679</b>	\$22,469	\$19,972	\$17,975
2Q2012	\$99,000	\$49,432	\$39,545	\$32,954	<b>\$28,247</b>	\$24,716	\$21,970	\$19,773
2Q2013	\$120,000	\$59,917	\$47,934	\$39,945	<b>\$34,238</b>	\$29,959	\$26,630	\$23,967
2Q2014	\$133,000	\$66,408	\$53,127	\$44,272	<b>\$37,948</b>	\$33,204	\$29,515	\$26,563
2Q2015	\$147,000	\$73,398	\$58,719	\$48,932	<b>\$41,942</b>	\$36,699	\$32,622	\$29,359
2Q2016	\$156,000	\$77,892	\$62,314	\$51,928	<b>\$44,510</b>	\$38,946	\$34,619	\$31,157
2Q2017	\$165,000	\$82,386	\$65,909	\$54,924	<b>\$47,078</b>	\$41,193	\$36,616	\$32,954
2Q2018	\$175,000	\$87,379	\$69,903	\$58,253	<b>\$49,931</b>	\$43,690	\$38,835	\$34,952
2Q2019	\$185,000	\$92,372	\$73,898	\$61,581	<b>\$52,784</b>	\$46,186	\$41,054	\$36,949
2Q2020	\$190,000	\$94,869	\$75,895	\$63,246	<b>\$54,211</b>	\$47,434	\$42,164	\$37,948
2Q2021	\$235,000	\$117,338	\$93,870	\$78,225	<b>\$67,050</b>	\$58,669	\$52,150	\$46,935
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$134,814</b>	<b>\$107,851</b>	<b>\$89,876</b>	<b>\$77,036</b>	<b>\$67,407</b>	<b>\$59,917</b>	<b>\$53,925</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, 4.31 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%
2Q2011	\$90,000	38.8%	48.5%	57.0%	<b>63.4%</b>	68.4%	72.3%	75.6%
2Q2012	\$99,000	35.0%	45.5%	53.3%	<b>60.2%</b>	65.4%	69.7%	73.3%
2Q2013	\$120,000	28.3%	37.1%	45.6%	<b>52.0%</b>	58.1%	62.8%	66.7%
2Q2014	\$133,000	25.1%	34.1%	42.3%	<b>49.1%</b>	54.7%	59.8%	63.9%
2Q2015	\$147,000	21.1%	31.1%	38.1%	<b>45.5%</b>	51.1%	56.2%	60.6%
2Q2016	\$156,000	20.0%	29.8%	37.0%	<b>44.2%</b>	50.1%	54.9%	59.5%
2Q2017	\$165,000	19.7%	29.0%	36.8%	<b>43.5%</b>	49.6%	54.5%	58.8%
2Q2018	\$175,000	19.3%	27.9%	36.4%	<b>42.5%</b>	49.0%	54.0%	58.0%
2Q2019	\$185,000	18.1%	26.0%	35.2%	<b>41.7%</b>	47.7%	53.1%	57.3%
2Q2020	\$190,000	17.5%	25.4%	34.8%	<b>41.8%</b>	47.7%	53.2%	57.6%
2Q2021*	\$235,000	12.7%	18.8%	25.4%	<b>33.0%</b>	39.6%	44.7%	49.6%
<b>2Q2022*</b>	<b>\$270,000</b>	<b>9.6%</b>	<b>15.2%</b>	<b>21.2%</b>	<b>26.8%</b>	<b>33.8%</b>	<b>39.8%</b>	<b>44.5%</b>

Note: Assumes a 30-year loan term, 4.31 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

\*Represents estimates using historical ACS data.

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

## Property Taxes and Insurance

Holding home price constant, the total monthly mortgage payment increases as additional annual homeownership costs (property taxes and insurance) increase (Table 33). With a rate of 4 percent of home price, this payment amounted to \$2,247 for the first-quartile sales price in 2Q2022, three times the total monthly mortgage payment for the same home in 2Q2011.

Table 34 shows the home price-to-income multiplier<sup>9</sup> by the costs of property taxes and insurance. At a 4 percent property tax and insurance rate, household could afford a maximum home price of 3.50 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 \$77,036 for the first-quartile sales price in 2Q2022 (Table 35). An estimated 26.8 percent of current Houston-The Woodlands-Sugar Land renters could afford the first-quartile

<sup>9</sup> The home price-to-income multiplier is based on a 30-year loan term, 4.31 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.



sales price in 2Q2022 with property taxes and insurance at 4 percent (Table 36), a decline of nearly 37 percentage points from 2Q2011.

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

Year	Home Price	Property Taxes & Insurance				
		2%	3%	4%	5%	6%
2Q2011	\$90,000	\$599	\$674	<b>\$749</b>	\$824	\$899
2Q2012	\$99,000	\$659	\$741	<b>\$824</b>	\$906	\$989
2Q2013	\$120,000	\$799	\$899	<b>\$999</b>	\$1,099	\$1,199
2Q2014	\$133,000	\$885	\$996	<b>\$1,107</b>	\$1,218	\$1,328
2Q2015	\$147,000	\$978	\$1,101	<b>\$1,223</b>	\$1,346	\$1,468
2Q2016	\$156,000	\$1,038	\$1,168	<b>\$1,298</b>	\$1,428	\$1,558
2Q2017	\$165,000	\$1,098	\$1,236	<b>\$1,373</b>	\$1,511	\$1,648
2Q2018	\$175,000	\$1,165	\$1,310	<b>\$1,456</b>	\$1,602	\$1,748
2Q2019	\$185,000	\$1,231	\$1,385	<b>\$1,540</b>	\$1,694	\$1,848
2Q2020	\$190,000	\$1,264	\$1,423	<b>\$1,581</b>	\$1,739	\$1,898
2Q2021	\$235,000	\$1,564	\$1,760	<b>\$1,956</b>	\$2,151	\$2,347
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$1,797</b>	<b>\$2,022</b>	<b>\$2,247</b>	<b>\$2,472</b>	<b>\$2,697</b>

Note: Assumes a 30-year loan term, 4.31 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%	4.38
3%	3.89
<b>4%</b>	<b>3.50</b>
5%	3.19
6%	2.92

Note: Assumes a 30-year loan term, 4.31 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%
2Q2011	\$90,000	\$20,536	\$23,107	<b>\$25,679</b>	\$28,250	\$30,822
2Q2012	\$99,000	\$22,590	\$25,418	<b>\$28,247</b>	\$31,075	\$33,904
2Q2013	\$120,000	\$27,381	\$30,810	<b>\$34,238</b>	\$37,667	\$41,095
2Q2014	\$133,000	\$30,348	\$34,148	<b>\$37,948</b>	\$41,748	\$45,548
2Q2015	\$147,000	\$33,542	\$37,742	<b>\$41,942</b>	\$46,142	\$50,342
2Q2016	\$156,000	\$35,596	\$40,053	<b>\$44,510</b>	\$48,967	\$53,424
2Q2017	\$165,000	\$37,649	\$42,363	<b>\$47,078</b>	\$51,792	\$56,506
2Q2018	\$175,000	\$39,931	\$44,931	<b>\$49,931</b>	\$54,931	\$59,931
2Q2019	\$185,000	\$42,213	\$47,498	<b>\$52,784</b>	\$58,070	\$63,356
2Q2020	\$190,000	\$43,354	\$48,782	<b>\$54,211</b>	\$59,639	\$65,068
2Q2021	\$235,000	\$53,622	\$60,336	<b>\$67,050</b>	\$73,764	\$80,479
<b>2Q2022</b>	<b>\$270,000</b>	<b>\$61,608</b>	<b>\$69,322</b>	<b>\$77,036</b>	<b>\$84,751</b>	<b>\$92,465</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, 4.31 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%
2Q2011	\$90,000	71.5%	67.4%	<b>63.4%</b>	59.6%	55.7%
2Q2012	\$99,000	68.8%	64.3%	<b>60.2%</b>	56.0%	51.9%
2Q2013	\$120,000	61.8%	56.9%	<b>52.0%</b>	48.1%	44.4%
2Q2014	\$133,000	58.7%	53.4%	<b>49.1%</b>	45.0%	40.9%
2Q2015	\$147,000	54.9%	50.0%	<b>45.5%</b>	41.1%	36.8%
2Q2016	\$156,000	53.7%	49.0%	<b>44.2%</b>	39.5%	36.0%
2Q2017	\$165,000	53.4%	48.4%	<b>43.5%</b>	39.1%	35.7%
2Q2018	\$175,000	52.8%	47.7%	<b>42.5%</b>	38.8%	35.2%
2Q2019	\$185,000	51.9%	46.4%	<b>41.7%</b>	37.8%	33.8%
2Q2020	\$190,000	52.0%	46.3%	<b>41.8%</b>	37.6%	33.4%
2Q2021*	\$235,000	43.6%	38.3%	<b>33.0%</b>	27.8%	24.5%
<b>2Q2022*</b>	<b>\$270,000</b>	<b>38.4%</b>	<b>32.2%</b>	<b>26.8%</b>	<b>23.5%</b>	<b>20.1%</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, 4.31 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

\*Represents estimates using historical ACS data.

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



## Overview of Housing Affordability

Housing affordability persistently proves one of the most salient topics in housing markets across the state. Although definitions vary, housing affordability broadly denotes the relationship between home price (or rent) and household (or family) income.<sup>10</sup> As such, housing affordability generally reflects the two housing tenures: owner- and renter-occupied housing. However, Center economists further classify owner-occupied housing affordability into two distinct categories: purchase and repayment affordability.

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

## Measuring Purchase Affordability

The vast majority of homebuyers—86 percent in Texas in 2020—rely on mortgage financing to purchase a home. As such, purchase affordability largely acts as a function of income, wealth, and credit. These three factors typically constitute the primary determinants of a mortgage applicant's creditworthiness, or the applicant's ability to repay the mortgage loan, a factor heavily weighed by the mortgage lender in the decision to extend mortgage financing to an applicant. In mortgage financing, income, wealth, and credit materialize through the DTI ratio, LTV ratio, and credit score.<sup>11</sup>

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

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

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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.

home price. Meanwhile, an increase in the DTI ratio also raises the maximum affordable home price. However, an increase in the mortgage interest rate, LTV ratio, additional costs of homeownership, and additional costs of borrowing mortgage capital increase the total monthly mortgage payment, which decreases the maximum affordable home price and reduces home-purchasing potential.

**Table 37. How Loan, Applicant Characteristics Affect Purchase Affordability**

<b>Loan or Applicant Characteristics</b>	<b>Effect on Purchase Affordability</b>
Mortgage interest rate	An increase in the mortgage interest rate <b>diminishes</b> purchase affordability
Loan term	An increase in the loan term <b>increases</b> purchase affordability
LTV ratio	An increase in the loan-to-value ratio <b>diminishes</b> purchase affordability
DTI ratio	An increase in the 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 (4.24 percent in 2Q2022)<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

<sup>12</sup> The source for the prevailing mortgage interest rate is CoreLogic.

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 (4.31 percent in 2Q2022), 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.



TEXAS A&M UNIVERSITY

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