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# Texas Housing Affordability Outlook 1Q2022

## **About this Report**

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

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

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# **Purchase Affordability**

The first quarter saw a continued uptick in both the median sales price and first-quartile sales price for Texas (Figure 1).<sup>1</sup> The year-over-year (YOY) growth in median sales price and first-quartile sales price in Texas measured 18.4 percent and 17.4 percent, respectively; this was significantly higher than average YOY growth for the first quarter (Table 1). The median sales price measured \$319,000 and the first-quartile sales price, \$229,000. Meanwhile, following years of generally sluggish growth, family income experienced robust growth. From 2021 to 2022, median family income increased 13.6 percent in Texas (Table 2). However, as long as the rise in home prices continues to outpace the increase in income, purchase affordability, or the ability of a household to buy a home, will continue to diminish.

Meanwhile, mortgage interest rates remained low by historical standards, averaging 3.82 percent in 1Q2022 (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 1 percentage point in March, rising from 3.76 percent to 4.67 percent. For more information on the effect of mortgage interest rates on purchase affordability, see "How Higher Interest Rates Affect Homebuying" at https://assets.recenter.tamu.edu/Documents/Articles/2339.pdf.



Figure 1. Texas' Median and First-Quartile Sales Prices

<sup>&</sup>lt;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	\$133,000		\$82,000	
1Q2012	\$136,500	2.6%	\$85,250	4.0%
1Q2013	\$148,000	8.4%	\$96,000	12.6%
1Q2014	\$162,000	9.5%	\$110,000	14.6%
1Q2015	\$175,000	8.0%	\$122,000	10.9%
1Q2016	\$185,000	5.7%	\$130,000	6.6%
1Q2017	\$199,990	8.1%	\$140,000	7.7%
1Q2018	\$213,000	6.5%	\$150,000	7.1%
1Q2019	\$218,000	2.3%	\$157,500	5.0%
1Q2020	\$230,000	5.5%	\$170,000	7.9%
1Q2021	\$269,500	17.2%	\$195,000	14.7%
1Q2022	\$319,000	18.4%	\$229,000	17.4%

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	\$47,600		\$59,500	
2012	\$48,250	1.4%	\$60,300	1.3%
2013	\$48,100	-0.3%	\$60,100	-0.3%
2014	\$48,250	0.3%	\$60,300	0.3%
2015	\$50,300	4.2%	\$62,900	4.3%
2016	\$50,250	-0.1%	\$62,800	-0.2%
2017	\$51,850	3.2%	\$64,800	3.2%
2018	\$55,050	6.2%	\$68,800	6.2%
2019	\$56,950	3.5%	\$71,200	3.5%
2020	\$59,600	4.7%	\$74,500	4.6%
2021	\$60,100	0.8%	\$75,100	0.8%
2022	\$67,250	11.9%	\$85,300	13.6%

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

Source: United States Department of Housing and Urban Development

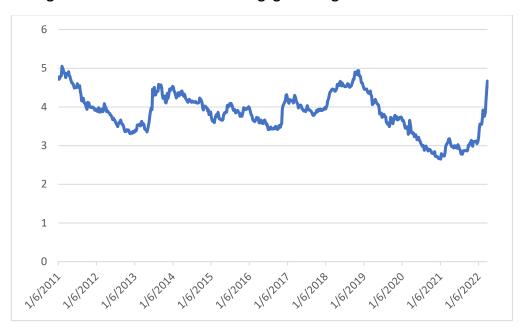


Figure 2. 30-Year Fixed Rate Mortgage Average in the United States

Sources: Federal Reserve Economic Data and Freddie Mac

## **Repeat Homebuyer**

Purchase affordability declined YOY as the gap between the median sales price and family income continued to rise. For Texas households earning the median family income in 2022 (\$85,300), the median sales price for 1Q2022 was not affordable unless the home price-to-income multiplier exceeded 3.5 (Table 3). Only 33.1 percent of homes sold in 1Q2022 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 \$106,000 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

				ŀ	Home-Purch	asing Powe	r		
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
Median									
Family Income	\$85,300	\$170,600	\$213,250	\$255,900	\$298,550	\$341,200	\$383,850	\$426,500	\$469,150
	\$90,000	\$180,000	\$225,000	\$270,000	\$315,000	\$360,000	\$405,000	\$450,000	\$495,000
	\$95,000	\$190,000	\$237,500	\$285,000	\$332,500	\$380,000	\$427,500	\$475,000	\$522,500
	\$100,000	\$200,000	\$250,000	\$300,000	\$350,000	\$400,000	\$450,000	\$500,000	\$550,000
Workforce Households (120%)	\$102,400	\$204,800	\$256,000	\$307,200	\$358,400	\$409,600	\$460,800	\$512,000	\$563,200
	\$105,000	\$210,000	\$262,500	\$315,000	\$367,500	\$420,000	\$472,500	\$525,000	\$577,500
	\$110,000	\$220,000	\$275,000	\$330,000	\$385,000	\$440,000	\$495,000	\$550,000	\$605,000
	\$115,000	\$230,000	\$287,500	\$345,000	\$402,500	\$460,000	\$517,500	\$575,000	\$632,500
	\$120,000	\$240,000	\$300,000	\$360,000	\$420,000	\$480,000	\$540,000	\$600,000	\$660,000
	\$125,000	\$250,000	\$312,500	\$375,000	\$437,500	\$500,000	\$562,500	\$625,000	\$687,500
	\$130,000	\$260,000	\$325,000	\$390,000	\$455,000	\$520,000	\$585,000	\$650,000	\$715,000
	\$135,000	\$270,000	\$337,500	\$405,000	\$472,500	\$540,000	\$607,500	\$675,000	\$742,500
	\$140,000	\$280,000	\$350,000	\$420,000	\$490,000	\$560,000	\$630,000	\$700,000	\$770,000
	\$145,000	\$290,000	\$362,500	\$435,000	\$507,500	\$580,000	\$652,500	\$725,000	\$797,500
	\$150,000	\$300,000	\$375,000	\$450,000	\$525,000	\$600,000	\$675,000	\$750,000	\$825,000
	\$155,000	\$310,000	\$387,500	\$465,000	\$542,500	\$620,000	\$697,500	\$775,000	\$852,000

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

Table 4. Percentage of Homes Sold in 1Q2022 Affordable by Family Income and Home Price-to-Income Multiplier

				Home I	Price-to-Ir	ncome Mu	ıltiplier		
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
Median									
Family	\$85,300	12.5%	21.1%	33.1%	44.7%	55.6%	64.1%	71.3%	76.7%
Income									
	\$90,000	14.4%	24.5%	37.5%	49.5%	60.0%	68.2%	74.8%	79.4%
	\$95,000	16.5%	27.6%	41.7%	53.5%	63.8%	71.4%	77.6%	81.6%
	\$100,000	18.7%	31.8%	45.9%	58.0%	67.5%	74.8%	80.1%	83.8%
Workforce Households (120%)	\$102,400	19.1%	33.2%	47.3%	59.2%	68.5%	76.0%	80.9%	84.5%
	\$105,000	20.7%	35.0%	49.5%	61.2%	70.5%	77.1%	82.1%	85.4%
	\$110,000	23.3%	38.9%	53.2%	64.7%	73.4%	79.4%	83.8%	86.9%
	\$115,000	25.9%	42.0%	56.4%	67.7%	76.0%	81.3%	85.3%	88.3%
	\$120,000	28.8%	45.9%	60.0%	70.5%	78.1%	83.1%	86.7%	89.6%
	\$125,000	31.8%	48.6%	62.9%	72.8%	80.1%	84.5%	88.0%	90.6%
	\$130,000	34.6%	52.0%	65.6%	75.4%	81.6%	85.8%	89.2%	91.5%
	\$135,000	37.5%	54.6%	68.2%	77.1%	83.1%	87.0%	90.2%	92.3%
	\$140,000	40.4%	58.0%	70.5%	79.1%	84.4%	88.3%	91.1%	93.0%
	\$145,000	43.1%	60.2%	72.7%	80.6%	85.6%	89.3%	91.9%	93.6%
	\$150,000	45.9%	62.9%	74.8%	82.1%	86.7%	90.2%	92.6%	94.3%
	\$155,000	48.3%	64.9%	76.5%	83.1%	87.7%	90.8%	93.2%	94.8%

## **Mortgage Interest Rate**

Holding home price constant, the total monthly mortgage payment increases as the mortgage interest rate increases (Table 5). At a 3.38 percent rate, this payment was \$2,192 for the median-priced home in 1Q2022, nearly 2.5 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 3.38 percent interest rate translates into a home price-to-income multiplier of 3.64<sup>2</sup>, meaning a household could afford a maximum home price of 3.64 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 3.38 percent mortgage interest rate was \$87,691 for the median sales price in 1Q2022 (Table 7). An estimated 50.9 percent of Texas households could afford the median sales price in 1Q2022 with a 3.38 percent interest rate (Table 8), a decline of over 23 percentage points from 1Q2011.

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

			Mortgage Interest Rate							
Year	Home Price	3%	3.38%	3.5%	4%	4.5%	5%	5.5%		
1Q2011	\$133,000	\$892	\$914	\$921	\$951	\$982	\$1,015	\$1,047		
1Q2012	\$136,500	\$915	\$938	\$945	\$976	\$1,008	\$1,041	\$1,075		
1Q2013	\$148,000	\$993	\$1,017	\$1,025	\$1,059	\$1,093	\$1,129	\$1,166		
1Q2014	\$162,000	\$1,086	\$1,113	\$1,122	\$1,159	\$1,197	\$1,236	\$1,276		
1Q2015	\$175,000	\$1,174	\$1,203	\$1,212	\$1,252	\$1,293	\$1,335	\$1,378		
1Q2016	\$185,000	\$1,241	\$1,271	\$1,281	\$1,323	\$1,367	\$1,411	\$1,457		
1Q2017	\$199,990	\$1,341	\$1,374	\$1,385	\$1,430	\$1,477	\$1,526	\$1,575		
1Q2018	\$213,000	\$1,428	\$1,464	\$1,475	\$1,524	\$1,573	\$1,625	\$1,678		
1Q2019	\$218,000	\$1,462	\$1,498	\$1,510	\$1,559	\$1,610	\$1,663	\$1,717		
1Q2020	\$230,000	\$1,542	\$1,581	\$1,593	\$1,645	\$1,699	\$1,754	\$1,811		
1Q2021	\$269,500	\$1,807	\$1,852	\$1,866	\$1,928	\$1,991	\$2,056	\$2,122		
1Q2022	\$319,000	\$2,139	\$2,192	\$2,209	\$2,282	\$2,356	\$2,433	\$2,512		

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>&</sup>lt;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.



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Table 6. Home Price-to-Income Multiplier for Repeat Buyers by Mortgage Interest Rate

	Home Price-to-
Mortgage	Income
Interest Rate	Multiplier
3%	3.73
3.38%	3.64
3.5%	3.61
4%	3.50
4.5%	3.38
5%	3.28
5.5%	3.17

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

				Mort	gage Interes	t Rate		
Year	Home Price	3%	3.38%	3.5%	4%	4.5%	5%	5.5%
1Q2011	\$133,000	\$35,677	\$36,561	\$36,845	\$38,052	\$39,298	\$40,580	\$41,898
1Q2012	\$136,500	\$36,616	\$37,523	\$37,814	\$39,054	\$40,332	\$41,648	\$43,001
1Q2013	\$148,000	\$39,701	\$40,684	\$41,000	\$42,344	\$43,730	\$45,157	\$46,624
1Q2014	\$162,000	\$43,456	\$44,533	\$44,878	\$46,349	\$47,867	\$49,429	\$51,034
1Q2015	\$175,000	\$46,943	\$48,106	\$48,480	\$50,069	\$51,708	\$53,395	\$55,130
1Q2016	\$185,000	\$49,626	\$50,855	\$51,250	\$52,930	\$54,662	\$56,447	\$58,280
1Q2017	\$199,990	\$53,647	\$54,976	\$55,403	\$57,218	\$59,092	\$61,020	\$63,002
1Q2018	\$213,000	\$57,137	\$58,552	\$59,007	\$60,941	\$62,936	\$64,990	\$67,100
1Q2019	\$218,000	\$58,478	\$59,927	\$60,392	\$62,371	\$64,413	\$66,515	\$68,676
1Q2020	\$230,000	\$61,697	\$63,225	\$63,716	\$65,804	\$67,959	\$70,177	\$72,456
1Q2021	\$269,500	\$72,292	\$74,084	\$74,659	\$77,106	\$79,630	\$82,229	\$84,899
1Q2022	\$319,000	\$85,571	\$87,691	\$88,372	\$91,268	\$94,256	\$97,332	\$100,493

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.

Table 8. Percentage of Repeat Buyers Who Earned Required Qualifying Income by Mortgage Interest Rate

				Mor	tgage Interes	t Rate		
Year	Home Price	3%	3.38%	3.5%	4%	4.5%	5%	5.5%
1Q2011	\$133,000	74.9%	74.2%	73.9%	72.9%	71.8%	70.7%	69.6%
1Q2012	\$136,500	74.3%	73.6%	73.3%	72.3%	71.2%	70.1%	68.9%
1Q2013	\$148,000	72.1%	71.2%	71.0%	69.9%	68.7%	67.5%	66.3%
1Q2014	\$162,000	69.3%	68.4%	68.1%	66.9%	65.7%	64.4%	63.2%
1Q2015	\$175,000	66.8%	65.9%	65.6%	64.3%	63.1%	61.8%	60.6%
1Q2016	\$185,000	65.9%	64.9%	64.7%	63.4%	62.2%	60.9%	59.5%
1Q2017	\$199,990	64.4%	63.4%	63.1%	61.8%	60.5%	59.1%	57.7%
1Q2018	\$213,000	63.5%	62.5%	62.2%	60.8%	59.4%	58.0%	56.5%
1Q2019	\$218,000	64.1%	63.1%	62.8%	61.4%	60.1%	58.6%	57.2%
1Q2020	\$230,000	63.1%	62.1%	61.7%	60.3%	58.9%	57.4%	55.9%
1Q2021	\$269,500	57.9%	56.8%	56.4%	55.0%	53.6%	52.2%	50.7%
1Q2022	\$319,000	52.1%	50.9%	50.6%	49.0%	47.3%	45.7%	44.0%

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 \$2,192 for the median-priced home in 1Q2022, nearly 2.5 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 3.64<sup>3</sup>, meaning a household could afford a maximum home price of 3.64 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 \$87,691 for the median sales price in 1Q2022 (Table 11). An estimated 50.9 percent of Texas households could afford the median sales price in 1Q2022 with an 80 percent LTV ratio (Table 12), a decline of over 23 percentage points from 1Q2011.

<sup>&</sup>lt;sup>3</sup> The home price-to-income multiplier is based on a 30-year loan term, 3.38 percent mortgage interest rate, 30 percent DTI ratio, and property taxes and insurance of 4 percent. A 0.5 percent mortgage insurance premium is added to loans with a 90 percent or more LTV ratio.



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

		LTV Ratio						
Year	Home Price	80%	85%	90%	95%	100%		
1Q2011	\$133,000	\$914	\$943	\$1,007	\$1,038	\$1,069		
1Q2012	\$136,500	\$938	\$968	\$1,033	\$1,065	\$1,097		
1Q2013	\$148,000	\$1,017	\$1,050	\$1,120	\$1,155	\$1,190		
1Q2014	\$162,000	\$1,113	\$1,149	\$1,226	\$1,264	\$1,302		
1Q2015	\$175,000	\$1,203	\$1,241	\$1,324	\$1,366	\$1,407		
1Q2016	\$185,000	\$1,271	\$1,312	\$1,400	\$1,444	\$1,487		
1Q2017	\$199,990	\$1,374	\$1,419	\$1,514	\$1,561	\$1,608		
1Q2018	\$213,000	\$1,464	\$1,511	\$1,612	\$1,662	\$1,712		
1Q2019	\$218,000	\$1,498	\$1,546	\$1,650	\$1,701	\$1,752		
1Q2020	\$230,000	\$1,581	\$1,632	\$1,741	\$1,795	\$1,849		
1Q2021	\$269,500	\$1,852	\$1,912	\$2,040	\$2,103	\$2,166		
1Q2022	\$319,000	\$2,192	\$2,263	\$2,414	\$2,489	\$2,564		

Note: Assumes a 30-year loan term, 3.38 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

	Home Price-
	to-Income
LTV Ratio	Multiplier
80%	3.64
85%	3.52
90%	3.30
95%	3.20
100%	3.11

Note: Assumes a 30-year loan term, 3.38 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.

Table 11. Required Qualifying Income for Repeat Buyers by LTV Ratio

				LTV Ratio		
Year	Home Price	80%	85%	90%	95%	100%
1Q2011	\$133,000	\$36,561	\$37,737	\$40,262	\$41,514	\$42,765
1Q2012	\$136,500	\$37,523	\$38,731	\$41,322	\$42,606	\$43,891
1Q2013	\$148,000	\$40,684	\$41,994	\$44,803	\$46,196	\$47,588
1Q2014	\$162,000	\$44,533	\$45,966	\$49,041	\$50,565	\$52,090
1Q2015	\$175,000	\$48,106	\$49,655	\$52,976	\$54,623	\$56,270
1Q2016	\$185,000	\$50,855	\$52,492	\$56,004	\$57,744	\$59,485
1Q2017	\$199,990	\$54,976	\$56,745	\$60,541	\$62,423	\$64,305
1Q2018	\$213,000	\$58,552	\$60,437	\$64,480	\$66,484	\$68,489
1Q2019	\$218,000	\$59,927	\$61,855	\$65,993	\$68,045	\$70,096
1Q2020	\$230,000	\$63,225	\$65,260	\$69,626	\$71,790	\$73,955
1Q2021	\$269,500	\$74,084	\$76,468	\$81,583	\$84,120	\$86,656
1Q2022	\$319,000	\$87,691	\$90,513	\$96,568	\$99,570	\$102,572

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, 3.38 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.

Table 12. Percentage of Repeat Buyers Who Earned Required

Qualifying Income by LTV Ratio

		Loan-to-Value Ratio						
Year	Home Price	80%	85%	90%	95%	100%		
1Q2011	\$133,000	74.2%	73.2%	71.0%	69.9%	68.9%		
1Q2012	\$136,500	73.6%	72.5%	70.4%	69.3%	68.2%		
1Q2013	\$148,000	71.2%	70.1%	67.8%	66.6%	65.5%		
1Q2014	\$162,000	68.4%	67.2%	64.7%	63.5%	62.4%		
1Q2015	\$175,000	65.9%	64.6%	62.1%	60.9%	59.7%		
1Q2016	\$185,000	64.9%	63.7%	61.2%	59.9%	58.7%		
1Q2017	\$199,990	63.4%	62.2%	59.5%	58.1%	56.8%		
1Q2018	\$213,000	62.5%	61.2%	58.3%	57.0%	55.6%		
1Q2019	\$218,000	63.1%	61.8%	59.0%	57.6%	56.2%		
1Q2020	\$230,000	62.1%	60.7%	57.8%	56.3%	54.9%		
1Q2021	\$269,500	56.8%	55.4%	52.6%	51.2%	49.8%		
1Q2022	\$319,000	50.9%	49.4%	46.1%	44.4%	43.2%		

Note: Assumes a 30-year loan term, 3.38 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 3.64<sup>4</sup> (Table 13), meaning a household could afford a maximum home price of 3.64 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 \$87,691 for the median sales price in 1Q2022 (Table 14). An estimated 50.9 percent of Texas households could afford the median sales price in 1Q2022 with a 30 percent DTI ratio (Table 15), a decline of over 23 percentage points from 1Q2011.

<sup>&</sup>lt;sup>4</sup> The home price-to-income multiplier is based on a 30-year loan term, 3.38 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

	Home Price-				
	to-Income				
DTI Ratio	Multiplier				
20%	2.47				
25%	3.08				
30%	3.64				
35%	4.31				
40%	4.93				
45%	5.55				
50%	6.16				

Note: Assumes a 30-year loan term, 3.38 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

					DTI Ratio			
Year	Home Price	20%	25%	30%	35%	40%	45%	50%
1Q2011	\$133,000	\$54,841	\$43,873	\$36,561	\$31,338	\$27,421	\$24,374	\$21,936
1Q2012	\$136,500	\$56,284	\$45,027	\$37,523	\$32,162	\$28,142	\$25,015	\$22,514
1Q2013	\$148,000	\$61,026	\$48,821	\$40,684	\$34,872	\$30,513	\$27,123	\$24,410
1Q2014	\$162,000	\$66,799	\$53,439	\$44,533	\$38,171	\$33,399	\$29,688	\$26,720
1Q2015	\$175,000	\$72,159	\$57,727	\$48,106	\$41,234	\$36,080	\$32,071	\$28,864
1Q2016	\$185,000	\$76,283	\$61,026	\$50,855	\$43,590	\$38,141	\$33,903	\$30,513
1Q2017	\$199,990	\$82,464	\$65,971	\$54,976	\$47,122	\$41,232	\$36,651	\$32,985
1Q2018	\$213,000	\$87,828	\$70,263	\$58,552	\$50,188	\$43,914	\$39,035	\$35,131
1Q2019	\$218,000	\$89,890	\$71,912	\$59,927	\$51,366	\$44,945	\$39,951	\$35,956
1Q2020	\$230,000	\$94,838	\$75,870	\$63,225	\$54,193	\$47,419	\$42,150	\$37,935
1Q2021	\$269,500	\$111,125	\$88,900	\$74,084	\$63,500	\$55,563	\$49,389	\$44,450
1Q2022	\$319,000	\$131,536	\$105,229	\$87,691	\$75,164	\$65,768	\$58,461	\$52,614

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, 3.38 percent mortgage interest rate, 80 percent LTV ratio, and additional costs of homeownership at 4 percent of home price.

Table 15. Percentage of Repeat Buyers Who Earned Required Qualifying Income by DTI Ratio

					DTI Ratio			
Year	Home Price	20%	25%	30%	35%	40%	45%	50%
1Q2011	\$133,000	59.0%	67.9%	74.2%	78.7%	82.2%	84.8%	86.9%
1Q2012	\$136,500	58.3%	67.2%	73.6%	78.1%	81.6%	84.4%	86.4%
1Q2013	\$148,000	55.2%	64.4%	71.2%	76.1%	79.8%	82.8%	85.1%
1Q2014	\$162,000	51.5%	61.4%	68.4%	73.6%	77.6%	80.7%	83.3%
1Q2015	\$175,000	48.0%	58.7%	65.9%	71.5%	75.6%	79.0%	81.6%
1Q2016	\$185,000	46.6%	57.5%	64.9%	70.7%	75.0%	78.4%	81.1%
1Q2017	\$199,990	45.0%	55.6%	63.4%	69.2%	73.7%	77.2%	80.0%
1Q2018	\$213,000	43.9%	54.3%	62.5%	68.3%	72.9%	76.5%	79.3%
1Q2019	\$218,000	44.5%	55.0%	63.1%	68.9%	73.4%	76.9%	79.7%
1Q2020	\$230,000	43.2%	53.7%	62.1%	68.1%	72.6%	76.2%	79.1%
1Q2021	\$269,500	38.0%	48.5%	56.8%	63.6%	68.7%	72.7%	75.9%
1Q2022	\$319,000	31.5%	42.1%	50.9%	57.8%	63.7%	68.3%	71.9%

Note: Assumes a 30-year loan term, 3.38 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 \$2,192 for the median sales price in 1Q2022, nearly 2.5 times 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 3.64<sup>5</sup>, meaning a household could afford a maximum home price of 3.64 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 \$87,691 for the median sales price in 1Q2022 (Table 18). An estimated 50.9

<sup>&</sup>lt;sup>5</sup> The home price-to-income multiplier is based on a 30-year loan term, 3.38 percent mortgage interest rate, 80 percent LTV ratio, and 30 percent DTI ratio.



percent of Texas households could afford the median sales price in 1Q2022 with a mortgage interest rate of 3.38 percent (Table 19), a decline of over 23 percentage points from 1Q2011.

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

		Property Taxes & Insurance							
Year	Home Price	2%	3%	4%	5%	6%			
1Q2011	\$133,000	\$692	\$803	\$914	\$1,025	\$1,136			
1Q2012	\$136,500	\$711	\$824	\$938	\$1,052	\$1,166			
1Q2013	\$148,000	\$770	\$894	\$1,017	\$1,140	\$1,264			
1Q2014	\$162,000	\$843	\$978	\$1,113	\$1,248	\$1,383			
1Q2015	\$175,000	\$911	\$1,057	\$1,203	\$1,348	\$1,494			
1Q2016	\$185,000	\$963	\$1,117	\$1,271	\$1,426	\$1,580			
1Q2017	\$199,990	\$1,041	\$1,208	\$1,374	\$1,541	\$1,708			
1Q2018	\$213,000	\$1,109	\$1,286	\$1,464	\$1,641	\$1,819			
1Q2019	\$218,000	\$1,135	\$1,316	\$1,498	\$1,680	\$1,861			
1Q2020	\$230,000	\$1,197	\$1,389	\$1,581	\$1,772	\$1,964			
1Q2021	\$269,500	\$1,403	\$1,628	\$1,852	\$2,077	\$2,301			
1Q2022	\$319,000	\$1,661	\$1,926	\$2,192	\$2,458	\$2,724			

Note: Assumes a 30-year loan term, 3.38 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	Home Price-
Taxes and	to-Income
Insurance	Multiplier
2%	4.80
3%	4.14
4%	3.64
5%	3.24
6%	2.93

Note: Assumes a 30-year loan term, 3.38 percent mortgage interest  $\,$ 

rate, 80 percent LTV ratio, and 30 percent DTI ratio.

Table 18. Required Qualifying Income for Repeat Homebuyers by Additional Homeownership Costs

		Property Taxes & Insurance							
Year	Home Price	2%	3%	4%	5%	6%			
1Q2011	\$133,000	\$27,694	\$32,127	\$36,561	\$40,994	\$45,427			
1Q2012	\$136,500	\$28,423	\$32,973	\$37,523	\$42,073	\$46,623			
1Q2013	\$148,000	\$30,817	\$35,751	\$40,684	\$45,617	\$50,551			
1Q2014	\$162,000	\$33,733	\$39,133	\$44,533	\$49,933	\$55,333			
1Q2015	\$175,000	\$36,440	\$42,273	\$48,106	\$53,940	\$59,773			
1Q2016	\$185,000	\$38,522	\$44,688	\$50,855	\$57,022	\$63,188			
1Q2017	\$199,990	\$41,643	\$48,309	\$54,976	\$61,642	\$68,308			
1Q2018	\$213,000	\$44,352	\$51,452	\$58,552	\$65,652	\$72,752			
1Q2019	\$218,000	\$45,393	\$52,660	\$59,927	\$67,193	\$74,460			
1Q2020	\$230,000	\$47,892	\$55,559	\$63,225	\$70,892	\$78,559			
1Q2021	\$269,500	\$56,117	\$65,100	\$74,084	\$83,067	\$92,050			
1Q2022	\$319,000	\$66,424	\$77,057	\$87,691	\$98,324	\$108,957			

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, 3.38 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

		Property Taxes & Insurance							
Year	Home Price	2%	3%	4%	5%	6%			
1Q2011	\$133,000	81.9%	78.0%	74.2%	70.4%	66.6%			
1Q2012	\$136,500	81.4%	77.4%	73.6%	69.7%	65.9%			
1Q2013	\$148,000	79.6%	75.3%	71.2%	67.1%	63.0%			
1Q2014	\$162,000	77.3%	72.8%	68.4%	64.0%	60.0%			
1Q2015	\$175,000	75.4%	70.6%	65.9%	61.4%	57.2%			
1Q2016	\$185,000	74.7%	69.8%	64.9%	60.4%	56.0%			
1Q2017	\$199,990	73.4%	68.3%	63.4%	58.7%	53.9%			
1Q2018	\$213,000	72.6%	67.4%	62.5%	57.5%	52.6%			
1Q2019	\$218,000	73.1%	68.0%	63.1%	58.2%	53.2%			
1Q2020	\$230,000	72.3%	67.2%	62.1%	56.9%	52.2%			
1Q2021	\$269,500	68.4%	62.6%	56.8%	51.8%	46.8%			
1Q2022	\$319,000	63.3%	56.8%	50.9%	45.1%	40.6%			

Note: Assumes a 30-year loan term, 3.38 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**

Purchase affordability continued to decline in 1Q2022 for Texas' 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 \$27,250 and \$42,000 annually (i.e., between 31 and 50 percent of median family income) could afford a maximum home price between \$81,750 and \$126,000 with a home price-to-income multiplier of 3. Meanwhile, the range in the maximum home price affordable to that range in household income rises to between \$109,000 and \$168,000 should the home price-to-income multiplier measure 4.

Depending on the home price-to-income multiplier, only households earning at least \$42,000 annually could afford the first-quartile sales price in 1Q2022. Homeownership is largely not feasible to households earning no more than 50 percent of Texas' median family income. In fact, homeownership really only becomes viable for households earning at least 80 percent of area median income. Even at that point it largely depends on whether mortgage lenders are willing to accept loans with high home price-to-income multipliers. Moreover, few homes are available for sale at these income thresholds. For instance, with a home price-to-income multiplier of 3, only 18.8 percent of homes for sale were affordable to households earning no more than 80 percent of area median income in 1Q2022 (Table 21).

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

				Но	me Price-to-l	ncome Multip	olier		
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
	\$25,000	\$50,000	\$62,500	\$75,000	\$87,500	\$100,000	\$112,500	\$125,000	\$137,500
Extremely Low-Income (30%)	\$27,250	\$54,500	\$68,125	\$81,750	\$95,375	\$109,000	\$122,625	\$136,250	\$149,875
	\$30,000	\$60,000	\$75,000	\$90,000	\$105,000	\$120,000	\$135,000	\$150,000	\$165,000
	\$35,000	\$70,000	\$87,500	\$105,000	\$122,500	\$140,000	\$157,500	\$175,000	\$192,500
	\$40,000	\$80,000	\$100,000	\$120,000	\$140,000	\$160,000	\$180,000	\$200,000	\$220,000
Very Low- Income (50%)	\$42,000	\$84,000	\$105,000	\$126,000	\$147,000	\$168,000	\$189,000	\$210,000	\$231,000
	\$45,000	\$90,000	\$112,500	\$135,000	\$157,500	\$180,000	\$202,500	\$225,000	\$247,500
	\$50,000	\$100,000	\$125,000	\$150,000	\$175,000	\$200,000	\$225,000	\$250,000	\$275,000
	\$55,000	\$110,000	\$137,500	\$165,000	\$192,500	\$220,000	\$247,500	\$275,000	\$302,500
	\$60,000	\$120,000	\$150,000	\$180,000	\$210,000	\$240,000	\$270,000	\$300,000	\$330,000
	\$65,000	\$130,000	\$162,500	\$195,000	\$227,500	\$260,000	\$292,500	\$325,000	\$357,500
Low-Income (80%)	\$67,250	\$134,500	\$168,125	\$201,750	\$235,375	\$269,000	\$302,625	\$336,250	\$369,875
	\$70,000	\$140,000	\$175,000	\$210,000	\$245,000	\$280,000	\$315,000	\$350,000	\$385,000
	\$75,000	\$150,000	\$187,500	\$225,000	\$262,500	\$300,000	\$337,500	\$375,000	\$412,500
	\$80,000	\$160,000	\$200,000	\$240,000	\$280,000	\$320,000	\$360,000	\$400,000	\$440,000
	\$85,000	\$170,000	\$212,500	\$255,000	\$297,500	\$340,000	\$382,500	\$425,000	\$467,500
Median Family Income	\$85,300	\$170,600	\$213,250	\$255,900	\$298,550	\$341,200	\$383,850	\$426,500	\$469,150

Note: Figures in red indicate the maximum affordable home price meets or exceeds the first-quartile home sales price.

Table 21. Percentage of Homes Sold in 1Q2022 Affordable by Family Income and Home Price-to-Income Multiplier

				Home	Price-to-li	ncome Mul	tiplier		
	Family Income	2	2.5	3	3.5	4	4.5	5	5.5
Extremely	\$25,000	0.8%	1.2%	1.9%	2.6%	3.7%	4.5%	5.8%	7.2%
Low-Income (0-30%)	\$27,250	0.8%	1.5%	2.3%	3.3%	4.1%	5.4%	7.1%	8.6%
•	\$30,000	1.1%	1.9%	2.9%	3.9%	5.3%	7.0%	9.1%	11.6%
Very Low- Income	\$35,000	1.6%	2.6%	3.9%	5.4%	7.7%	10.1%	13.3%	16.7%
(31-50%)	\$40,000	2.2%	3.7%	5.3%	7.7%	10.7%	14.4%	18.7%	23.3%
	\$42,000	2.4%	3.9%	5.9%	8.4%	11.9%	15.9%	20.7%	26.1%
	\$45,000	2.9%	4.5%	7.0%	10.1%	14.4%	18.9%	24.5%	30.3%
	\$50,000	3.7%	5.8%	9.1%	13.3%	18.7%	24.5%	31.8%	38.9%
Low-Income	\$55,000	4.4%	7.2%	11.6%	16.7%	23.3%	30.3%	38.9%	46.2%
(51-80%)	\$60,000	5.3%	9.1%	14.4%	20.7%	28.8%	37.5%	45.9%	53.2%
	\$65,000	6.4%	10.9%	17.4%	24.8%	34.6%	43.4%	52.0%	59.1%
	\$67,250	6.7%	11.9%	18.8%	27.3%	36.6%	46.2%	54.4%	61.4%
	\$70,000	7.7%	13.3%	20.7%	30.0%	40.4%	49.5%	58.0%	64.7%
	\$75,000	9.1%	15.6%	24.5%	35.0%	45.9%	54.6%	62.9%	69.1%
	\$80,000	10.7%	18.7%	28.8%	40.4%	50.8%	60.0%	67.5%	73.4%
	\$85,000	12.4%	21.0%	33.1%	44.5%	55.5%	64.0%	71.2%	76.6%
Median Family Income	\$85,300	12.5%	21.1%	33.1%	44.7%	55.6%	64.1%	71.3%	76.7%

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 3.47 percent rate brought the mortgage payment to \$1,798 for the first-quartile sales price in 1Q2022, nearly three 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 3.47 percent interest rate translates into a home price-to-income multiplier of 3.71<sup>6</sup>, meaning a household could afford a maximum home price of 3.71 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 3.47 percent mortgage interest rate was \$61,652 for the first-quartile sales price in 1Q2022 (Table 24). An estimated 37.4 percent of Texas

<sup>&</sup>lt;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.



households could afford the first-quartile sales price in 1Q2022 with a 3.47 percent interest rate (Table 25), a decline of over 28 percentage points from 1Q2011.

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

				Mortg	age Intere	st Rate		
Year	Home Price	3%	3.47%	3.5%	4%	4.5%	5%	5.5%
1Q2011	\$82,000	\$623	\$644	\$645	\$668	\$692	\$716	\$740
1Q2012	\$85,250	\$648	\$669	\$671	\$695	\$719	\$744	\$770
1Q2013	\$96,000	\$730	\$754	\$755	\$782	\$810	\$838	\$867
1Q2014	\$110,000	\$836	\$864	\$866	\$896	\$928	\$960	\$993
1Q2015	\$122,000	\$927	\$958	\$960	\$994	\$1,029	\$1,065	\$1,102
1Q2016	\$130,000	\$988	\$1,021	\$1,023	\$1,059	\$1,096	\$1,135	\$1,174
1Q2017	\$140,000	\$1,064	\$1,099	\$1,102	\$1,141	\$1,181	\$1,222	\$1,264
1Q2018	\$150,000	\$1,140	\$1,178	\$1,180	\$1,222	\$1,265	\$1,309	\$1,354
1Q2019	\$157,500	\$1,197	\$1,237	\$1,239	\$1,283	\$1,328	\$1,375	\$1,422
1Q2020	\$170,000	\$1,292	\$1,335	\$1,338	\$1,385	\$1,434	\$1,484	\$1,535
1Q2021	\$195,000	\$1,482	\$1,531	\$1,534	\$1,589	\$1,644	\$1,702	\$1,761
1Q2022	\$229,000	\$1,740	\$1,798	\$1,802	\$1,866	\$1,931	\$1,999	\$2,068

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	Home Price-			
Interest	to-Income			
Rate	Multiplier			
3%	3.84			
3.47%	3.71			
3.5%	3.71			
4%	3.58			
4.5%	3.46			
5%	3.34			

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.

Table 24. Required Qualifying Income by Mortgage Interest Rate

			Mortgage Interest Rate					
Year	Home Price	3.0%	3.47%	3.5%	4%	4.5%	5%	5.5%
1Q2011	\$82,000	\$21,365	\$22,076	\$22,123	\$22,904	\$23,709	\$24,536	\$25,385
1Q2012	\$85,250	\$22,212	\$22,951	\$22,999	\$23,812	\$24,649	\$25,509	\$26,391
1Q2013	\$96,000	\$25,012	\$25,845	\$25,900	\$26,815	\$27,757	\$28,725	\$29,719
1Q2014	\$110,000	\$28,660	\$29,615	\$29,677	\$30,725	\$31,805	\$32,914	\$34,052
1Q2015	\$122,000	\$31,787	\$32,845	\$32,914	\$34,077	\$35,275	\$36,505	\$37,767
1Q2016	\$130,000	\$33,871	\$34,999	\$35,072	\$36,312	\$37,588	\$38,899	\$40,244
1Q2017	\$140,000	\$36,476	\$37,691	\$37,770	\$39,105	\$40,479	\$41,891	\$43,340
1Q2018	\$150,000	\$39,082	\$40,384	\$40,468	\$41,898	\$43,370	\$44,883	\$46,435
1Q2019	\$157,500	\$41,036	\$42,403	\$42,491	\$43,993	\$45,539	\$47,128	\$48,757
1Q2020	\$170,000	\$44,293	\$45,768	\$45,864	\$47,484	\$49,153	\$50,868	\$52,627
1Q2021	\$195,000	\$50,806	\$52,499	\$52,608	\$54,467	\$56,382	\$58,348	\$60,366
1Q2022	\$229,000	\$59,665	\$61,652	\$61,781	\$63,964	\$66,212	\$68,522	\$70,891

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

			Mortgage Interest Rate						
Year	Home Price	3.0%	3.47%	3.5%	4%	4.5%	5%	5.5%	
1Q2011	\$82,000	66.6%	65.4%	65.4%	64.1%	62.8%	61.5%	60.1%	
1Q2012	\$85,250	65.8%	64.6%	64.5%	63.2%	61.9%	60.6%	59.3%	
1Q2013	\$96,000	62.0%	60.9%	60.8%	59.5%	58.1%	56.7%	55.3%	
1Q2014	\$110,000	57.7%	56.4%	56.3%	54.8%	53.3%	51.8%	50.2%	
1Q2015	\$122,000	54.5%	53.1%	53.0%	51.4%	49.8%	48.5%	47.1%	
1Q2016	\$130,000	53.3%	51.7%	51.7%	50.4%	49.0%	47.6%	46.2%	
1Q2017	\$140,000	52.2%	50.9%	50.9%	49.4%	48.0%	46.5%	44.9%	
1Q2018	\$150,000	51.4%	50.1%	50.0%	48.5%	46.9%	45.3%	43.7%	
1Q2019	\$157,500	51.3%	49.9%	49.8%	48.2%	46.6%	44.9%	43.2%	
1Q2020	\$170,000	49.4%	47.9%	47.8%	46.1%	44.4%	42.8%	41.5%	
1Q2021	\$195,000	44.5%	43.1%	43.0%	41.6%	40.1%	38.6%	37.0%	
1Q2022	\$229,000	38.9%	37.4%	37.3%	35.5%	33.7%	31.9%	30.0%	

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 \$1,798 for the first-quartile sales price in 1Q2022, nearly three 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 3.71<sup>7</sup>, meaning a household could afford a maximum home price of 3.71 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 \$61,652 for the first-quartile sales price in 1Q2022 (Table 28). An estimated 37.4 percent of Texas households could afford the first-quartile sales price in 1Q2022 with a 95 percent LTV ratio (Table 29), a decline of over 28 percentage points from 1Q2011.

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

		LTV Ratio					
Year	Home Price	95%	96.5%	97%	98%	100%	
1Q2011	\$82,000	\$644	\$650	\$652	\$656	\$663	
1Q2012	\$85,250	\$669	\$675	\$678	\$682	\$690	
1Q2013	\$96,000	\$754	\$761	\$763	\$768	\$777	
1Q2014	\$110,000	\$864	\$872	\$874	\$879	\$890	
1Q2015	\$122,000	\$958	\$967	\$970	\$975	\$987	
1Q2016	\$130,000	\$1,021	\$1,030	\$1,033	\$1,039	\$1,052	
1Q2017	\$140,000	\$1,099	\$1,109	\$1,113	\$1,119	\$1,133	
1Q2018	\$150,000	\$1,178	\$1,189	\$1,192	\$1,199	\$1,214	
1Q2019	\$157,500	\$1,237	\$1,248	\$1,252	\$1,259	\$1,274	
1Q2020	\$170,000	\$1,335	\$1,347	\$1,351	\$1,359	\$1,375	
1Q2021	\$195,000	\$1,531	\$1,545	\$1,550	\$1,559	\$1,578	
1Q2022	\$229,000	\$1,798	\$1,815	\$1,820	\$1,831	\$1,853	

Note: Assumes a 30-year loan term, 3.47 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>&</sup>lt;sup>7</sup> The home price-to-income multiplier is based on a 30-year loan term, 3.47 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 35 percent DTI ratio, and property taxes and insurance of 4 percent.



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Table 27. Home Price-to-Income Multiplier for First-Time Buyers by LTV Ratio

	Home-
	Purchasing
LTV Ratio	Power
95%	3.71
96.5%	3.68
97%	3.67
98%	3.65
100%	3.61

Note: Assumes a 30-year loan term, 3.47 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

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Table 28. Required Qualifying Income by LTV Ratio

				LTV Ratio		
Year	Home Price	95%	96.5%	97%	98%	100%
1Q2011	\$82,000	\$22,076	\$22,277	\$22,344	\$22,478	\$22,745
1Q2012	\$85,250	\$22,951	\$23,160	\$23,229	\$23,368	\$23,647
1Q2013	\$96,000	\$25,845	\$26,080	\$26,159	\$26,315	\$26,628
1Q2014	\$110,000	\$29,615	\$29,884	\$29,973	\$30,153	\$30,512
1Q2015	\$122,000	\$32,845	\$33,144	\$33,243	\$33,442	\$33,840
1Q2016	\$130,000	\$34,999	\$35,317	\$35,423	\$35,635	\$36,059
1Q2017	\$140,000	\$37,691	\$38,034	\$38,148	\$38,376	\$38,833
1Q2018	\$150,000	\$40,384	\$40,751	\$40,873	\$41,118	\$41,607
1Q2019	\$157,500	\$42,403	\$42,788	\$42,917	\$43,173	\$43,687
1Q2020	\$170,000	\$45,768	\$46,184	\$46,323	\$46,600	\$47,154
1Q2021	\$195,000	\$52,499	\$52,976	\$53,135	\$53,453	\$54,089
1Q2022	\$229,000	\$61,652	\$62,212	\$62,399	\$62,773	\$63,520

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, 3.47 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.

Table 29. Percentage of Renter-Occupied Households That Earned Required

Qualifying Income by LTV Ratio

				LTV Ratio		
Year	Home Price	95%	96.5%	97%	98%	100%
1Q2011	\$82,000	65.4%	65.1%	65.0%	64.8%	64.4%
1Q2012	\$85,250	64.6%	64.3%	64.2%	63.9%	63.5%
1Q2013	\$96,000	60.9%	60.5%	60.4%	60.2%	59.7%
1Q2014	\$110,000	56.4%	56.0%	55.9%	55.6%	55.1%
1Q2015	\$122,000	53.1%	52.7%	52.5%	52.2%	51.7%
1Q2016	\$130,000	51.7%	51.4%	51.3%	51.1%	50.6%
1Q2017	\$140,000	50.9%	50.6%	50.5%	50.2%	49.7%
1Q2018	\$150,000	50.1%	49.7%	49.5%	49.3%	48.8%
1Q2019	\$157,500	49.9%	49.5%	49.3%	49.0%	48.5%
1Q2020	\$170,000	47.9%	47.5%	47.3%	47.0%	46.5%
1Q2021	\$195,000	43.1%	42.8%	42.6%	42.4%	41.9%
1Q2022	\$229,000	37.4%	36.9%	36.8%	36.5%	35.9%

Note: Assumes a 30-year loan term, 3.47 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 3.71<sup>8</sup> (Table 30), meaning a household could afford a maximum home price of 3.71 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 \$61,652 for the first-quartile sales price in 1Q2022 (Table 31). An estimated 37.4 percent of Texas households could afford the first-quartile sales price in 1Q2022 with a 35 percent DTI ratio (Table 32), a decline of over 28 percentage points from 1Q2011.

<sup>&</sup>lt;sup>8</sup> The home price-to-income multiplier is based on a 30-year loan term, 3.47 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

	Home Price-			
	to-Income			
DTI Ratio	Multiplier			
20%	2.12			
25%	2.65			
30%	3.18			
35%	3.71			
40%	4.25			
45%	4.78			
50%	5.31			

Note: Assumes a 30-year loan term, 3.47 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

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Table 31. Required Qualifying Income for First-Time Buyers by DTI Ratio

					DTI Ratio			
Year	Home Price	20%	25%	30%	35%	40%	45%	50%
1Q2011	\$82,000	\$38,634	\$30,907	\$25,756	\$22,076	\$19,317	\$17,171	\$15,453
1Q2012	\$85,250	\$40,165	\$32,132	\$26,777	\$22,951	\$20,082	\$17,851	\$16,066
1Q2013	\$96,000	\$45,230	\$36,184	\$30,153	\$25,845	\$22,615	\$20,102	\$18,092
1Q2014	\$110,000	\$51,826	\$41,460	\$34,550	\$29,615	\$25,913	\$23,034	\$20,730
1Q2015	\$122,000	\$57,479	\$45,983	\$38,320	\$32,845	\$28,740	\$25,546	\$22,992
1Q2016	\$130,000	\$61,248	\$48,999	\$40,832	\$34,999	\$30,624	\$27,222	\$24,499
1Q2017	\$140,000	\$65,960	\$52,768	\$43,973	\$37,691	\$32,980	\$29,315	\$26,384
1Q2018	\$150,000	\$70,671	\$56,537	\$47,114	\$40,384	\$35,336	\$31,409	\$28,269
1Q2019	\$157,500	\$74,205	\$59,364	\$49,470	\$42,403	\$37,102	\$32,980	\$29,682
1Q2020	\$170,000	\$80,094	\$64,075	\$53,396	\$45,768	\$40,047	\$35,597	\$32,038
1Q2021	\$195,000	\$91,873	\$73,498	\$61,248	\$52,499	\$45,936	\$40,832	\$36,749
1Q2022	\$229,000	\$107,891	\$86,313	\$71,928	\$61,652	\$53,946	\$47,952	\$43,157

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, 3.47 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.

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

					DTI Ratio			
Year	Home Price	20%	25%	30%	35%	40%	45%	50%
1Q2011	\$82,000	41.8%	51.9%	59.6%	65.4%	70.0%	73.6%	76.5%
1Q2012	\$85,250	41.2%	50.9%	58.7%	64.6%	69.3%	73.0%	75.9%
1Q2013	\$96,000	36.8%	46.5%	54.7%	60.9%	65.8%	69.8%	73.1%
1Q2014	\$110,000	31.6%	42.0%	49.5%	56.4%	61.6%	65.9%	69.4%
1Q2015	\$122,000	29.1%	38.4%	46.6%	53.1%	58.7%	63.1%	67.0%
1Q2016	\$130,000	28.0%	36.8%	45.5%	51.7%	57.7%	62.3%	66.1%
1Q2017	\$140,000	26.4%	35.8%	44.2%	50.9%	56.5%	61.3%	65.2%
1Q2018	\$150,000	24.8%	35.2%	43.0%	50.1%	55.4%	60.4%	64.5%
1Q2019	\$157,500	23.8%	34.9%	42.4%	49.9%	55.4%	60.2%	64.5%
1Q2020	\$170,000	22.3%	32.7%	40.9%	47.9%	53.9%	58.5%	62.8%
1Q2021	\$195,000	18.3%	26.7%	36.3%	43.1%	49.3%	54.6%	58.9%
1Q2022	\$229,000	13.9%	21.6%	29.2%	37.4%	43.5%	48.8%	53.7%

Note: Assumes a 30-year loan term, 3.47 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and additional costs of homeownership at 4 percent of home price. As first-time homebuyers constitute renter-occupied households, this table reflects income data solely for renter-occupied households.

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

# **Property Taxes and Insurance**

Holding home price constant, the total monthly mortgage payment increases as additional annual homeownership costs (property taxes and insurance) increase (Table 33). With a rate of 4 percent of home price, this payment amounted to \$1,728 for the first-quartile sales price in 1Q2022, more than twice 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 3.71<sup>9</sup>, meaning a household could afford a maximum home price of 3.71 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 \$61,652 for the first-quartile sales price in 1Q2022 (Table 35). An estimated

<sup>&</sup>lt;sup>9</sup> The home price-to-income multiplier is based on a 30-year loan term, 3.47 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.



37.4 percent of Texas households could afford the first-quartile sales price in 1Q2022 with a 3.47 percent mortgage interest rate (Table 36), a decline of over 28 percentage points from 1Q2011.

Table 33. Total Monthly Mortgage Payment by Additional Homeownership Costs

		Property Taxes & Insurance					
Year	Home Price	2%	3%	4%	5%	6%	
1Q2011	\$82,000	\$507	\$576	\$644	\$712	\$781	
1Q2012	\$85,250	\$527	\$598	\$669	\$740	\$811	
1Q2013	\$96,000	\$594	\$674	\$754	\$834	\$914	
1Q2014	\$110,000	\$680	\$772	\$864	\$955	\$1,047	
1Q2015	\$122,000	\$755	\$856	\$958	\$1,060	\$1,161	
1Q2016	\$130,000	\$804	\$912	\$1,021	\$1,129	\$1,237	
1Q2017	\$140,000	\$866	\$983	\$1,099	\$1,216	\$1,333	
1Q2018	\$150,000	\$928	\$1,053	\$1,178	\$1,303	\$1,428	
1Q2019	\$157,500	\$974	\$1,105	\$1,237	\$1,368	\$1,499	
1Q2020	\$170,000	\$1,052	\$1,193	\$1,335	\$1,477	\$1,618	
1Q2021	\$195,000	\$1,206	\$1,369	\$1,531	\$1,694	\$1,856	
1Q2022	\$229,000	\$1,417	\$1,607	\$1,798	\$1,989	\$2,180	

Note: Assumes a 30-year loan term, 3.47 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	Home Price-to-
& Insurance	Income Multiplier
2%	4.72
3%	4.16
4%	3.71
5%	3.36
6%	3.06

Note: Assumes a 30-year loan term, 3.47 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

Table 35. Required Qualifying Income by Additional Homeownership Costs

			Prope	rty Taxes & Ins	urance	
Year	Home Price	2%	3%	4%	5%	6%
1Q2011	\$82,000	\$17,391	\$19,734	\$22,076	\$24,419	\$26,762
1Q2012	\$85,250	\$18,080	\$20,516	\$22,951	\$25,387	\$27,823
1Q2013	\$96,000	\$20,360	\$23,103	\$25,845	\$28,588	\$31,331
1Q2014	\$110,000	\$23,329	\$26,472	\$29,615	\$32,757	\$35,900
1Q2015	\$122,000	\$25,874	\$29,360	\$32,845	\$36,331	\$39,817
1Q2016	\$130,000	\$27,571	\$31,285	\$34,999	\$38,713	\$42,428
1Q2017	\$140,000	\$29,691	\$33,691	\$37,691	\$41,691	\$45,691
1Q2018	\$150,000	\$31,812	\$36,098	\$40,384	\$44,669	\$48,955
1Q2019	\$157,500	\$33,403	\$37,903	\$42,403	\$46,903	\$51,403
1Q2020	\$170,000	\$36,054	\$40,911	\$45,768	\$50,625	\$55,482
1Q2021	\$195,000	\$41,356	\$46,927	\$52,499	\$58,070	\$63,642
1Q2022	\$229,000	\$48,567	\$55,109	\$61,652	\$68,195	\$74,738

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, 3.47 percent mortgage interest rate, 0.5 percent mortgage insurance premium, 95 percent LTV ratio, and 35 percent DTI ratio.

Table 36. Percentage of Households That Earned the Required Qualifying Income by Additional Homeownership Costs

		Property Taxes & Insurance						
Year	Home Price	2%	3%	4%	5%	6%		
1Q2011	\$82,000	73.2%	69.3%	65.4%	61.6%	58.1%		
1Q2012	\$85,250	72.6%	68.6%	64.6%	60.7%	57.2%		
1Q2013	\$96,000	69.4%	65.1%	60.9%	56.9%	53.0%		
1Q2014	\$110,000	65.4%	60.8%	56.4%	52.0%	47.9%		
1Q2015	\$122,000	62.7%	57.9%	53.1%	48.7%	45.0%		
1Q2016	\$130,000	61.8%	56.8%	51.7%	47.8%	43.8%		
1Q2017	\$140,000	60.8%	55.5%	50.9%	46.7%	42.4%		
1Q2018	\$150,000	59.9%	54.6%	50.1%	45.5%	41.0%		
1Q2019	\$157,500	59.7%	54.6%	49.9%	45.1%	40.8%		
1Q2020	\$170,000	58.1%	53.0%	47.9%	43.0%	39.3%		
1Q2021	\$195,000	54.1%	48.3%	43.1%	38.8%	34.4%		
1Q2022	\$229,000	48.1%	42.6%	37.4%	32.2%	26.9%		

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, 3.47 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

<sup>&</sup>lt;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>\*</sup>Represents estimates using 2020 ACS 1-Year Experimental Data.

homebuyers, regardless of whether a household already owns a home, repayment affordability solely involves current homeowners (i.e., only owner-occupied households).

## **Measuring Purchase Affordability**

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

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

Table 37 shows how characteristics of a mortgage loan or applicant affect the maximum home price affordable to a particular household. Holding all else equal, an increase in the loan term decreases the total monthly mortgage payment, which increases the maximum affordable home price. Meanwhile, an increase in the DTI ratio also raises the maximum affordable home price. However, an increase in the mortgage interest rate, LTV ratio, additional costs of 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.

<sup>&</sup>lt;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. How Loan, Applicant Characteristics Affect Purchase Affordability

Loan or Applicant Characteristics	Effect on Purchase Affordability
Mortgage interest rate	An increase in the mortgage interest rate
	diminishes purchase affordability
Loan term	An increase in the loan term increases
	purchase affordability
LTV ratio	An increase in the loan-to-value ratio
	diminishes purchase affordability
DTI ratio	An increase in the DTI ratio increases
	purchase affordability
Additional costs of homeownership (property	An increase in the additional costs of
taxes and insurance)	homeownership diminishes purchase
	affordability
Additional costs of borrowing mortgage	An increase in the additional costs of
capital (such as the mortgage insurance	borrowing mortgage capital diminishes
premium)	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 (3.38 percent in 1Q2022)<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 (3.47 percent in 1Q2022), 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.

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





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