

Homeownership Affordability in Urban America: Past and Future

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Executive Summary

This study gauges trends in the affordability of homes for median-income working Americans. It examines past (1990-2003) and projected trends (2004-2008) for the nation as a whole, for 11 selected metropolitan areas, and for people working as schoolteachers, nurses, firefighters, and police officers. It concludes that:

- *At the national level, a median-income, first-time home buyer with a 10 percent down payment will no longer qualify for a mortgage on a median-priced home beginning this year. By 2007, even a repeat buyer with a 20 percent down payment will not qualify for a mortgage on a median-priced home.*
- *At the metropolitan-area level, median-priced homes will remain affordable or nearly affordable for median-income buyers in only three of 11 selected urban markets (Atlanta, Houston, and Philadelphia). As a result of faster growth in home prices than in family incomes, four other urban markets (Chicago, Denver, Seattle, and Washington, D.C.) are shifting from barely or nearly affordable to unaffordable for median-income residents. The median-income worker is already shut out of four metropolitan markets (Boston, Los Angeles, New York, and San Francisco).*
- *In the metropolitan areas in which the home affordability crisis is most severe (Boston, Los Angeles, New York, and San Francisco), first-time home buyers will need at least twice the area's median income to afford a median-priced home.*
- *At the national level and in most of the 11 selected metropolitan areas, an average-wage schoolteacher, nurse, police officer, or firefighter lacks sufficient income to purchase a median-priced home with a 10 percent down payment.*
- *Even as a repeat buyer with a 20 percent down payment, an average-wage police officer or firefighter faces affordability problems that will continue to worsen. A teacher and nurse will encounter affordability problems in 2005.*
- *Locally, only in Atlanta, Houston, and Philadelphia can an average-wage nurse or teacher currently afford a median-priced home with 20 percent down. The median-priced home is projected to be unaffordable for most of this subgroup within five years.*
- *Homeownership is more affordable for a double-income working family. However, many two-income families are unable to afford a median-priced home in Boston, San Francisco, Los Angeles, New York, and Washington, D.C.*
- *These projections assume that family income and house prices will continue to grow at the average rates experienced in the past 14 years and that mortgage interest rates will increase by 0.5 percentage point per year during the 2004-2008 period. If house prices*

and family income grow at the average rates observed in the past seven years, or if mortgage rates increase by 0.75 percentage point per year instead of by a half point, affordability for both first-time and repeat home buyers would deteriorate further.

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Introduction

The United States has been enjoying a nonstop, high-speed, widespread housing boom since 1997. The boom encompasses all regions, all geographic areas (central city, suburban, and rural), various submarkets (detached single-family homes, townhouses, and condos), and differing economic environments. This flourishing housing market has benefited homeowners and energized the nation's economy. But the dramatic price appreciation, coupled with the slow pace of income growth, is making homeownership increasingly unaffordable for median-income working Americans, especially those seeking to purchase a home for the first time.

This report uses past performance of homeownership affordability to project whether working Americans will be able to buy a home in the future. It focuses not on the lowest-income earners but on middle-class American families in major metropolitan areas. It addresses four questions:

- Can a median-income home buyer afford today's median-priced home, and will the same buyer be able to afford a median-priced home in the next five years (2004-2008)?
- What are the trends in affordability for typical middle-class working Americans — police officers, firefighters, nurses, schoolteachers, and their families?
- Does homeownership affordability differ for first-time home buyers and repeat home buyers?
- How do homeownership affordability trends in major metropolitan areas compare with affordability trends across the entire nation?

Existing resources cannot address these questions. Currently, the only data available on housing affordability are those published by the research divisions of the National Association of REALTORS® (NAR) and National Association of Home Builders (NAHB). Although the NAR index is important, it helps us understand affordability only at the national level — and only in the past. In contrast, the NAHB index contains information for the nation and for metropolitan statistical areas, but it has a lag time of about one year, provides no forecasts, and data are available only for home buyers putting 10 percent down. Moreover, after publishing the data for first quarter 2002, the NAHB stopped producing its housing affordability index. Finally, neither the NAHB nor the NAR indices links affordability data to homeowners' occupations.

To address these limitations, this report creates a series of unique "homeownership affordability ratios" that capture historical data and offer projections of affordability. The report also offers broad geographic coverage and distinguishes between first-time home buyers and repeat home buyers. Equally important, the analysis examines affordability for people working in four middle-class occupations — schoolteachers, nurses, police officers, and firefighters (because of income and occupational similarities, police officers and firefighters are considered together). In addition, it calculates affordability using a more complete accounting of monthly housing expenses than the other indices. It considers all monthly payments, including the loan principal, loan interest, property taxes, homeowners' association membership fees, hazard insurance, and mortgage insurance.

The report examines homeownership affordability for first-time and repeat home buyers at the national level in the United States and 11 selected metropolitan areas. It also looks at affordability for home buyers and aspiring home buyers working in four middle-class occupations. It then summarizes the key findings. Finally, several appendices explain the data and methodology and present the results of sensitivity tests, which capture the effects of different base assumptions on projected changes in mortgage rates.

Measuring Homeownership Affordability

A household's homeownership affordability ratio — the amount of qualifying income required to obtain a median-priced home loan divided by median family income — is a fairly straightforward measure. A ratio of 100 percent or less indicates that the family has sufficient income to qualify for the mortgage to purchase a median-priced home. A ratio above 100 indicates that the family does not have enough income to qualify for the required loan. Put simply, a ratio of 100 equates to barely affordable; a ratio of less than 100 equates to affordable; and a ratio above 100 equates to unaffordable.

The overall series constructed for the analysis spans the 1990-2008 period.¹ Homeownership affordability ratios for the 1990-2003 period reflect historical data and are an actual measure; the ratios for 2004 to 2008 are projections. The projections were developed using the assumptions that family income and house prices will continue to grow at the average rates experienced in the past 14 years and that effective mortgage interest rates will increase by 0.5 percentage point per year over the 2004-2008 period. (See appendices A and B for a full description of the methodology and the estimation techniques.)

Homeownership Affordability: Trends among First-Time Home Buyers

National Results

At the national level, the median-priced home remained barely affordable for first-time home buyers over the past 14 years and is expected to become unaffordable to first-time homebuyers this year. First-time home buyers are defined as people with a 10 percent down payment (see appendix A). Table 1 and Figures 1a-1e show the national results for first-time home buyers.

Over the past 14 years (1990-2003), the qualifying income (for a median-price home) and the median family income tended to move in tandem. This close relationship kept homeownership from tipping into the unaffordable range. The affordability ratio over this period hovered near 100 percent (except in 1990 and 1991), which means that the amount needed to qualify for a median-priced home and the amount earned by a median-income family were roughly the same. Take homeownership affordability in 2003 as an example. In that year, the median home price soared to a record high of \$169,900, and the effective mortgage rate was at a record low of 5.74 percent. Thus, a median-income home buyer (earning \$54,500) needed \$1,212 to pay the monthly housing expense (principal, interest, taxes, and insurance, or P.I.T.I.) on a

¹ This applies to both national and metropolitan data. Because of data availability, however, series for four types of middle-class working families spans only the 1998-2008 period.

median-priced home with 10 percent down. This amount translated into a homeownership affordability ratio of 95. In other words, the median-income home buyer needed about \$52,000, or 95 percent of its family income, to qualify for a mortgage to purchase a median-priced home in 2003.

If the mortgage rate begins to increase by 0.5 percentage points a year, and home prices and family incomes continue to grow at the rates observed during the past 14 years (4.8 percent for home prices and 3.4 percent for family incomes), the affordability ratios for people with 10 percent down would exceed 100 by increasing increments (102, 108, 115, 122, and 129 for 2004 through 2008, respectively) (Figure 1e). These results suggest that beginning this year, with home prices increasing and interest rates on the rise, a typical first-time home buyer who earns a median income would find it increasingly difficult to qualify for a mortgage on a median-priced home. This development would signal a dramatic retreat to the affordability picture that prevailed during the late 1980s and early 1990s: The median-income family would be unable to afford a median-priced home.

Results by Selected Metropolitan Areas

Homeownership affordability results for 11 selected metropolitan areas fall into three tiers: areas remaining affordable, areas shifting from barely affordable to unaffordable, and areas that are already unaffordable and will become increasingly so in the future. (See Table 2 and Figures 2 and 3 for a summary of metropolitan-area results for first-time homebuyers.)

Tier 1: Remaining affordable. Atlanta, Houston, and Philadelphia are the markets in which owning a median-priced home has been and will continue to be a realistic dream for a middle-class home buyer with a 10 percent down payment (Figure 2a and Table 2a). The homeownership affordability ratios in these three metropolitan areas will likely remain at less than or around 100 over the next five years. Atlanta and Houston are clearly more consistent and stable than Philadelphia in maintaining homes affordable to first-time buyers.

Tier 2: Shifting to unaffordable. Chicago, Denver, Seattle, and Washington, D.C., are experiencing a dramatic shift from barely affordable to unaffordable (Figure 2b and Table 2b). In these areas, the homeownership affordability ratios for first-time buyers stayed near 100 percent for most of the 1990-2003 period. This is now changing: The ratio is projected to climb to more than 120 after 2004. (Aspiring homeowners now need 110 percent of their income to qualify for a median-priced home and will soon need 120 percent of their income.) Within this group, the Washington, D.C., metropolitan area has experienced the most dramatic shift: In 1999 a family earning \$62,300, or merely 79 percent of the area's median income, qualified for a mortgage on a median-priced house in the area. By 2004, however, a family would have to make \$100,100 — or 117 percent of the area median income — to qualify.

Tier 3: Increasingly unaffordable. With ratios hovering around 150 percent in Boston, Los Angeles, New York, and San Francisco, working families purchasing a median-priced home in these areas need 1.5 times the area median income to qualify for a mortgage with 10 percent down (Table 2c and Figure 2c). The future of homeownership affordability in these four metropolitan areas is even more ominous. In the next five years, affordability ratios for first-time

buyers will rise above 200, meaning that an aspiring homeowner would need double the area median income to qualify for a mortgage on a median-priced home.

Why would these three tiers of metropolitan areas exhibit substantially different affordability trends? Although shifting mortgage interest rates explain much of the change in affordability indices over time, they do little to explain geographic differences. Affordability differences from one metropolitan region to another stem mainly from the vast differences in home prices across regions. As illustrated in Figure 3, the higher the house price goes, the more unaffordable the home becomes. For example, in the affordable tier (Atlanta, Houston, Philadelphia), the median home price in 2003 was between \$130,000 and \$170,000. The median price in the shifting tier (Chicago, Denver, Seattle, and Washington, D.C.) ranged from \$230,000 to \$290,000. And in the increasingly unaffordable tier (Boston, Los Angeles, New York, San Francisco), median prices ranged from \$350,000 to \$290,000. Price appreciation relative to income growth also seems to matter greatly. Between 1990 and 2003, the income growth for all 11 metropolitan areas averaged from 3.7 percent to 3.9 percent. However, during that same period, median home prices rose by 4.4 percent in the affordable tier, 5.6 percent in the shifting tier, and 5.9 percent in the unaffordable tier.

Results for Four Middle-Class Occupations

The middle class encompasses families earning \$20,000 more or \$20,000 less than the area median income. Because the median family income in 2002 was \$52,700, middle-class families would be those earning roughly between \$30,000 and \$70,000 a year. To put the data in a real-world context, this analysis also develops specific affordability ratios for four types of middle-income working professionals: schoolteachers, nurses, and police officers and firefighters (because of income and occupational similarities, police officers and firefighters are considered together). According to the latest data from the Bureau of Labor Statistics, the average annual wage in 2002 was \$44,700 for teachers, \$45,700 for nurses, and \$39,400 for police officers and firefighters (Table 3a). Therefore, teachers, nurses, police officers, and firefighters represent the lower income tier of the middle class, or those earning between \$30,000 and \$50,000. The findings on their homeownership affordability trends (assuming a 10 percent down payment) for the 1998-2008 period are reported in Tables 3a-3c, with the key information also depicted in Figures 4 through 7.

As the tables and figures show, at the national level, single-income families of teachers, nurses, police, or firefighters were unable to afford a median-priced U.S. home over the 1998-2003 period (Figure 4 and Table 3a). This trend is projected to continue in the 2004-2008 period. Among the four occupations, police officers and firefighters have the worst homeownership prospects because they have the lowest average wages. Indeed, their affordability ratios exceed those for teachers and nurses by about 15 percentage points.

Double-income families fare better: In the 1998-2003 period, a household in which a teacher is married to a police officer or a nurse is married to a firefighter needed only about 60 percent to 80 percent of its household income to qualify for the mortgage for a median-priced U.S. home, purchased with 10 percent down. These families can expect to see similar affordability patterns in the 2004-2008 period.

The metropolitan-area pictures differ vastly from each other and from the national trend. The 11 areas fall into three categories of homeownership affordability by occupations.

Type 1: Mostly unaffordable to single-income families; affordable to double-income families with a 10 percent down payment (Philadelphia, Atlanta, and Houston). The affordability ratios for an average-wage teacher, nurse, police officer, or firefighter range from 94 to 200. This suggests that a single-income working family earning an average wage would not have sufficient income to purchase a median-priced home with 10 percent down (a 90 percent loan-to-value ratio) in these areas. With two incomes, however, these families have been able to qualify for the mortgage on a median-priced home, a trend that is expected to continue through 2008. (See Figure 5 and Table 3a.)

Type 2: Increasingly unaffordable to single-income families; affordable to double-income families (Chicago, Denver, Seattle, and Washington, D.C.). In these metropolitan areas, the affordability ratios are between 150 and 280 for a single-income family for all four occupations and slightly below 100 for a double income family in most years. The results suggest that, without external assistance or a second income from a spouse, an average-wage schoolteacher, nurse, police officer, or firefighter will need 1.5 to 2.8 times his or her income to afford a median-priced home in these areas. With a double-income, however, the families have been able to purchase a median-priced home in their areas with a 10 percent down payment, but they will barely be able to do so in markets such as Washington, D.C., by around 2005. (See Figure 6 and Table 3b.)

Type 3: Increasingly unaffordable to single-income families; unaffordable to double-income families (Los Angeles, New York, Boston, and San Francisco). A teacher, nurse, police officer, and firefighter currently need 2 to 4 times the area median income to qualify for a mortgage for the median-priced existing home, a trend that will continue through 2008. Even a middle-class family with a double income has had, and will continue to have, insufficient income to afford a median-priced home in Boston, Los Angeles, New York, and San Francisco. (See Figure 7 and Table 3c.)

Homeownership Affordability: Trends among Repeat Homebuyers

National Results

According to the national data for repeat home buyers (those with a down payment of 20 percent), the median-priced U.S. home remained affordable to repeat home buyers over the past 14 years, a trend that will likely continue for only a few more years (Table 4 and Figures 8a-8c).

Affordability ratios during the 1990-2003 period ranged from 79 to 99, within the affordable range. Homeownership reached its most affordable point in 2003. In that year, the median-income home buyer needed \$42,800, or 79 percent of its family income, to qualify for a mortgage for purchasing a median-priced home (with an 80 percent loan-to-value ratio).

Using the base assumptions (with the mortgage interest rate increasing by 0.5 percentage

points per year and home prices and family incomes growing at the average rates experienced over the past 14 years), the affordability ratios are projected to stay affordable in the next few years but then tip into the unaffordable range (hitting 84, 90, 96, 102, and 108 for 2004 through 2008, respectively) (Figure 8c). These results suggest that by 2007, a median-income repeat home buyer will not be able to qualify for a mortgage for the median-priced U.S. home. It would be the first time in about two decades that even middle-class families who could afford to put 20 percent down would be squeezed out of the median-priced housing market.

Results by Selected Metropolitan Areas

The findings from metropolitan affordability analyses for repeat buyers (with 20 percent down) show that these 11 metropolitan areas can also be grouped into three tiers: areas remaining affordable, areas shifting from affordable to unaffordable, and areas that are already unaffordable and will become increasingly so in the future. (See Table 5 and Figure 9 for a summary of metropolitan-area results for repeat home buyers.)

Tier 1: Remaining affordable. In Atlanta, Houston, and Philadelphia, a median-priced home has largely been and will continue to be affordable to a middle-class family paying 20 percent down (Figure 9a and Table 5a). The homeownership affordability ratios in these three areas are projected to remain at less than 100 for the next five years. It is especially striking that none of the historical or projected ratios in Atlanta and Houston is more than 92, making these two areas the most consistently affordable in the analysis.

Tier 2: Shifting to unaffordable. Chicago, Denver, Seattle, and Washington, D.C., are currently experiencing a dramatic shift from affordable to unaffordable (Figure 9b and Table 5b). Similar to the national trend, these areas' homeownership affordability ratios for repeat buyers had been below 100 for most of the 1990-2003 period. However, the ratios are projected to climb above 100 by 2005. Within this group, the Washington metropolitan area once again has seen the most drastic shift: In 1999, a family earning \$51,800, or merely 66 percent of the area's median income, was able to qualify for a mortgage on a median-priced house with a 20 percent down payment. By 2006, however, a family would have to make \$100,000, or 108 percent of the area median income, to qualify for a mortgage on the median-priced Washington home with an 80 percent loan-to-value ratio.

Tier 3: Increasingly unaffordable. With ratios that have exceeded 100 since 1990, purchasing a median-priced existing home has consistently been unaffordable for a typical median-income family in Boston, Los Angeles, New York, and San Francisco, even if the family has a 20 percent down payment. As shown in Table 5c and in Figure 9c, the future of homeownership affordability in these four metropolitan areas looks even more ominous. In the next five years, the affordability ratios for first-time and repeat median-income home buyers in these areas are projected to range from 144 to as high as 250, suggesting that a home purchaser's family income would need to be about 44 percent to 150 percent higher than the area median income to qualify for the mortgage on a median-priced home with 20 percent down.

Results for Four Middle-Class Occupations

The findings on the affordability trends for middle-class, repeat home buyers by occupation show a mixed affordability picture (Tables 6a-6c and Figures 10-13). From 1998 to 2003, both teachers and nurses heading up single-income families were largely able to afford a median-priced U.S. home (Figure 10). By 2005, however, these single-income families will no longer have sufficient income to qualify for such a mortgage. Police officers and firefighters have already faced unfavorable homeownership affordability. From 1998 to 2003, their affordability ratios stayed above 100, and their ratios are expected to remain there through 2008. Homeownership affordability improves substantially for a double-income family working in these occupations: Through 2008, a double-income family needs only about 50 to 70 percent of their family income to qualify for the mortgage on a median-priced U.S. home with 20 percent down.

Once again, the local pictures differ greatly, with the 11 areas falling into three types of localities in terms of homeownership affordability by occupation.

Type 1: Affordable for nurses and schoolteachers in single-income families and for double-income families; mostly unaffordable for police officers or firefighters in single-income families (Philadelphia, Atlanta, and Houston). A nurse earning an average wage is currently able to purchase a median-priced home in Atlanta, Houston, and Philadelphia, but will face affordability problems within five years. A typical schoolteacher in these areas should be able to afford a median-priced home until about 2005. However, in these areas, a police officer or firefighter earning the average wage cannot afford to buy a median-priced home for the most of the 1998-2008 period. The median-priced home will remain affordable to a double-income family in these markets. (See Figure 11 and Table 6a.)

Type 2: Unaffordable for single-income families; affordable for double-income families (Chicago, Denver, Seattle, and Washington, D.C.). In these metropolitan areas, the affordability ratios are uniformly above 100 for a single-income family for all three occupations and below 100 for a double-income family. They suggest that, without external assistance or a second income from a spouse, an average-wage schoolteacher, nurse, police officer, or firefighter will not be able to afford a median-priced home in these areas. (See Figure 12 and Table 6b.)

Type 3: Unaffordable for single-income families; largely unaffordable for double-income families (Los Angeles, New York, Boston, and San Francisco). In these areas, a teacher, nurse, police officer, and firefighter need to have 160 to 370 percent of the median income to qualify for a mortgage for the median-priced existing home with 20 percent down. Even a middle-class family with a double income has largely been, and will continue to be, unable to purchase a median-priced home in Boston and San Francisco. A double-income family is likely to suffer from the same affordability problem in Los Angeles and New York by 2007, even though their down payment would be 20 percent of the purchase price.

Conclusion

This report creates a series of homeownership affordability ratios to gauge the affordability trends for middle-class working people and families, including ratios for the United States, selected metropolitan areas, and people working in key occupations. The findings at the

national level suggest that beginning this year, with prices and interest rates on the rise, even a first-time home buyer who earns a median family income will not be able to qualify for a mortgage for the median-priced U.S. home with 10 percent down. By 2007, even a typical repeat home buyer with a 20 percent down payment would have affordability problems, marking the first time in about two decades that middle-class families would be squeezed out of the median-priced housing market at the national level.

At the local level, there are three tiers of metropolitan areas: those that will remain affordable (Atlanta, Houston, and Philadelphia), those that are shifting to unaffordable (Chicago, Denver, Seattle, and Washington, D.C.), and those that are already unaffordable and will become increasingly so (Boston, Los Angeles, New York, and San Francisco). This classification can be applied both to first-time and repeat buyers. However, first-time home buyers earning their area's median income will be especially hard hit in the increasingly unaffordable markets. Indeed, these buyers will not be able to afford a median-priced home unless they have twice the median area income.

Furthermore, the results suggest that as a single-income, first-time home buyer, a schoolteacher, nurse, police officer, or firefighter has had, and will continue to have, insufficient income to afford a median-priced home at the national level. Even as a repeat buyer with a 20 percent down payment, police officers and firefighters have been facing affordability problems that will continue to worsen at the national level, whereas teachers and nurses are expected to have housing affordability problems by 2005.

The local pictures are even gloomier. A teacher, nurse, police officer, and firefighter earning an average wage will continue to have insufficient income to afford a median-priced home with 10 percent down in most of the selected metropolitan areas. Even with 20 percent down, only nurses in Atlanta, Houston, and Philadelphia have been, and will continue to be able, to afford a median-priced home. By 2006, a schoolteacher in these areas will no longer be able to afford a median-priced home with 20 percent down. In contrast, a police officer or firefighter even making a 20 percent down payment will not be able to afford a median-priced home in any of the 11 selected markets. The picture for a double-income family working in these professions is somewhat brighter. A double-income family needs to use less than 80 percent of its income to qualify for the mortgage on a median-priced home at the national level, regardless of whether it puts 10 or 20 percent down. Still, according to the projections, double-income, first-time home buyers have had, and will continue to have, insufficient income to afford a median-priced home in Boston, San Francisco, Los Angeles, and New York. Ownership of a median-priced home is expected to stay out of reach for repeat, two-income home buyers in Boston and San Francisco through 2008. In Los Angeles and New York, ownership of a median-priced home is expected to be unaffordable for repeat, two-income home buyers by 2007.

These projections were developed using the assumptions that family income and house prices will continue to grow at the average rates experienced in the past 14 years and that effective mortgage interest rates will increase by 0.5 point per year over the 2004-2008 period. In the future, if any of these factors deviate significantly from the assumptions, the predicted affordability trends would also shift (see the sensitivity analysis in Appendix C). For instance, the future of homeownership affordability would be less ominous than predicted if income growth caught up to price appreciation or if mortgage rates remained as low as the average 2003

level. In contrast, if house prices and family income grow at the average rates observed in the past seven years or if the mortgage rates increase by 0.75 percentage point per year instead of the predicted half point, the affordability for both first-time and repeat home buyers across the United States would deteriorate further.

Appendix A: Data and Methodology

The homeownership affordability ratio is defined in this analysis as the ratio of qualifying income² for the median-priced existing home loan to the median family income. A ratio of 100 percent refers to an exact match between the two. A ratio above 100 indicates unaffordability, meaning that the qualifying income required by mortgage lenders is higher than the family's median income. A ratio under 100 indicates affordability, meaning the median-income family has sufficient income to qualify for the mortgage to purchase a median-priced home. For instance, a ratio of 130 indicates that the median-income family needs to have 30 percent more than its actual income to qualify for a mortgage for a median-priced home. In contrast, a ratio of 90 indicates that the median-income family needs to use only 90 percent of its income to meet the lender's income requirements for purchasing a median-priced home.

This affordability ratio is created for both first-time and repeat home buyers for the United States and 11 selected major metropolitan areas for the 1990-2008 period, as well as for median earners in four key occupations for the 1998-2008 period. For the purposes of the analysis, people making a 10 percent down payment, or those having a loan-to-value ratio of 90 percent, are considered typical first-time home buyers. Because most repeat home buyers have already accumulated equity wealth from their previous homes, they can make significantly larger down payments on the purchase of another home. Therefore, regardless of the reason for the purchase — trading up, relocating, or downsizing — the analysis treats people with a 20 percent down payment, or people with a loan-to-value ratio of about 80 percent, as typical repeat homebuyers.

The metropolitan areas selected for this analysis include the eight most populous: New York; Los Angeles; Chicago; Houston; Washington, D.C.; Boston; Atlanta; and Philadelphia. Three other metropolitan areas — San Francisco, Seattle, and Denver — are also included to widen the geographic representation. The key occupations analyzed are (1) schoolteachers working in elementary, middle, and secondary schools, (2) nurses, including registered nurses, licensed practical nurses, and licensed vocational nurses, and (3) police and firefighters, including police and sheriff's patrol officers, correctional officers, and jailers, and firefighters.

Computing affordability ratios requires information on both qualifying income and median family income. The data on estimated median (or average) family income come from three sources: the national median-income data obtained from the U.S. Bureau of the Census's *Current Population Survey*, the metropolitan median-income data from the U.S. Department of Housing and Urban Development, and the occupational average wage data from the U.S. Bureau of Labor Statistics's *Occupational Employment Statistics Survey*.³ The qualifying income for

² The mortgage industry sets 28 percent as the standard qualifying ratio ("front ratio"), that is, monthly housing expenses (P.I.T.I.) should not exceed 28 percent of the borrower's monthly gross income to qualify for a mortgage.

³ Although not ideal, the average annual wage is the only data available that can be used as the proxy to family income by occupation. According to the Bureau of Labor Statistics, the average annual wage estimates by occupations are calculated by multiplying the occupation's mean hourly wage by a "year-round, full-time" hours figure of 2,080 hours per year (52 weeks by 40 hours). Thus, the annual wage estimates may not represent the actual annual pay received by the workers such as firefighters and nurses if they work more or fewer than 2,080 hours per year.

purchasing the median-priced home is estimated through several steps, using data from the National Association of REALTORS®, Federal Housing Finance Board, and the U.S. Bureau of Census. The specific estimation steps are documented in Appendix B.

Although the data and methods discussed above are sufficient to create ratios for the past performance of homeownership affordability, they are not sufficient for projecting the future. The projection of middle-class homeownership affordability in the report relies on reasonable assumptions derived from the area-specific (or occupation-specific) past performance of three key factors: appreciation of median house price, growth of median family income, and effective interest rate of residential mortgages. Specifically, the projections assume that (1) the median price will continue to appreciate at the area-specific average rate, as observed in the past 14 years (1990-2003);⁴ (2) the median family income will grow at the area- or occupation-specific average rate experienced in the past (1990-2002); and (3) the effective mortgage rate will increase by half a percentage point per year in the next five years, based on the area-specific rate in 2003.⁵ (While the half-point annual increase will be used as the base assumption on mortgage rate changes, the report will also briefly report the results from the sensitivity tests that assume a 0.75-point increase per year in effective mortgage rate over the 2004-2008 period, as described in Appendix C.⁶)

For example, as shown in Table 1, the following assumptions were used for the development of affordability ratios for the United States at the national level:

- Median prices of existing single-family homes in the next five years (2004-2008) would appreciate at a rate of 4.8 percent per year, the average rate that has been observed in the United States from 1990 through 2003.
- Median family income in the future would grow at a rate of 3.4 percent per year, which was the average rate of income growth in the past (1990-2002).
- Effective mortgage interest rates would increase by 0.5 percentage points per year, with 2003 as the base year when the mortgage interest rate hit its historic low.

⁴ This assumption likely results in a conservative projection. The 1997-2003 period saw a rapid price run-up and 1990-1996 period saw a stagnant housing market. By using the averages for both up and down periods, rather than merely using the most recent average, the projections effectively factor in the possibility that increases in mortgage interest rates and/or changes in other housing market fundamentals in the next five years could dramatically slow housing price appreciation.

⁵ At the national level, this would translate into an average of about 7.24 percentage points per year over the 2004-2008 period, which is lower than the 7.65 point average experienced in the past (1990-2003). However, the half-point annual increase seems to be more consistent and agreeable with the forecasts made by the mortgage industry leaders at present.

⁶ The 0.75-point annual increase in the effective mortgage rate would translate into an average of about 7.99 percentage points per year at the national level over the 2004-2008 period, which is higher than the 7.65 point average observed in the past (1990-2003). Thus, while the half-point annual increase represents the more conservative estimate, the 0.75-point increase represents the more aggressive outlook into the future.

Appendix B: Procedures for Estimating Qualifying Income

The qualifying income for purchasing the median-priced home is estimated through the following four steps:

Step 1. Using data on effective interest rates obtained from the Federal Housing Finance Board and median prices of existing single-family houses from the National Association of REALTORS®, we calculate the monthly mortgage payment for principal and interest (P & I). The formula is as follows:

$$\text{Monthly Payment for P \& I} = \text{Home price} * 80\% * (\text{mortgage rate}/12) * (1 + (\text{mortgage rate}/12)^{360}) / (((1 + \text{mortgage rate}/12)^{360}) - 1)$$

Step 2. Based on the data from *American Housing Survey* for various years, we calculate the area-specific weights of housing cost elements in relation to the overall monthly housing expenses (P.I.T.I.): median monthly payments for principal and interest (P & I), real estate taxes and homeowner association fees (T), and property insurance (I). Additionally, we have estimated the cost of private mortgage insurance (PMI) as part of the P.I.T.I. expenses for typical first-time purchasers (with a 10 percent down payment). Although PMI may differ by loan size, program, and other factors, the typical PMI cost is believed to be about 7/10 of 1 percent of the loan amount per year.⁷

Step 3. We estimate the average monthly cost for real estate taxes and homeowner association fees (T) and monthly costs for property insurance (I), using the principal and interest payment (from step 1) and weights for housing cost elements (from step 2). In turn, the monthly payment for median-priced housing expenses (P.I.T.I.) comes as the sum of property taxes and homeowner association fees, hazard insurance (and PMI for loan with 10 percent down), plus the principal and interests (from step 1).

Step 4. Since the mortgage industry sets 28 percent as the standard qualifying ratio (“front ratio”) for monthly housing expenses (P.I.T.I.) to gross monthly income, the annual income to qualify for a median-priced home loan has to be the monthly P.I.T.I. expenses (from step 3) divided by 28 percent and then multiplied by 12 (months).

⁷ Source: GE Mortgage Insurance, “About Mortgage Insurance: How much does mortgage insurance cost?” <http://www.gehomenow.com/Homebuyer/faq.asp>.

Appendix C. Sensitivity Analysis: Effect of Changes in Mortgage Interest Rate

An important assumption used for the creating the future projections is that the mortgage interest rate would increase by 0.5 point per year in the next five years. This assumption probably results in a conservative projection, because it would be equivalent to the national average of 7.24 percentage point per year over the 2004-2008 period, which is lower than the 7.65 point average observed in the past (1990-2003). Therefore, to test the sensitivity on how different mortgage rates may affect homeownership affordability differently, the analysis also creates affordability ratios using an aggressive assumption of a 0.75-point increase per year. The 0.75-point annual increase would translate into an average of about 7.99 percentage points per year at the national level over the next five years, a worse scenario than the average of 7.65 points experienced in the past 14 years.

The results of sensitivity tests for both first-time and repeat home buyers are reported in attachments 1-4. Briefly, they show that the U.S. homeownership affordability ratios that assume the 0.75-point increase a year would be roughly 2, 5, 8, 11, and 15 percentage points higher than those developed with the half-point increase assumption for 2004 through 2008, respectively. In other words, the additional 0.25-point increase in mortgage rates per year would raise the gaps between qualifying and median family incomes by an additional 2 to 15 percentage points per year over the 2004-2008 period. These increases at the national level are consistent with those in the tier 2 (shifting) areas, slightly more than those in the tier 1 (affordable) areas, and somewhat less than those in the tier 3 (increasingly unaffordable) areas.

The increase of mortgage rates by 0.75 (instead of 0.5) points per year would also deteriorate the homeownership affordability for teachers, nurses and police/firefighters: For these middle-class working people as single-income buyers, it would increase the affordability ratios at the national level by roughly 3, 6, 10, 13, and 17 percentage points for 2004 through 2008, respectively. As double-income families, their ratio increases would be about 1, 3, 5, 7 and 9 percentage points for 2004 through 2008, respectively. Similarly, the pace of affordability deterioration by occupations would be also smaller in the type 1 areas (such as Atlanta), consistent with the type 2 areas (such as Chicago), and worse in the type 3 areas (such as San Francisco).

Table 1. Existing Single-Family Housing in the United States: Trends in Housing Prices, Mortgage Rates, and Homeownership Affordability for First-Time Home Buyers

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Price Appreciation Rate (%)	Effective Interest Rate (%) ^b	Monthly Housing Expense for P.I.T.I.	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Income Growth Rate (%)	Homeownership Affordability Ratio (%) ^e
1990	92.0		10.05	967	41.5	35.4		117
1991	97.1	5.5	9.33	963	41.3	35.9	1.7	115
1992	99.7	2.7	8.08	888	38.1	36.6	1.8	104
1993	103.1	3.4	7.12	841	36.0	37.0	1.1	98
1994	107.2	4.0	7.49	905	38.8	38.8	4.9	100
1995	110.5	3.1	7.84	963	41.3	40.6	4.7	102
1996	115.8	4.8	7.71	998	42.8	42.3	4.2	101
1997	121.8	5.2	7.68	1,046	44.8	44.6	5.4	101
1998	128.4	5.4	7.10	1,045	44.8	46.7	4.9	96
1999	133.3	3.8	7.33	1,109	47.5	49.0	4.7	97
2000	139.0	4.3	8.03	1,232	52.8	50.7	3.6	104
2001	147.8	6.3	7.03	1,196	51.2	51.4	1.3	100
2002	158.1	7.0	6.55	1,222	52.4	52.7	2.5	99
2003	169.9	7.5	5.74	1,212	52.0	54.5	3.4	95
2004 ^f	178.1	4.8	6.24	1,336	57.2	56.3	3.4	102
2005 ^f	186.7	4.8	6.74	1,470	63.0	58.2	3.4	108
2006 ^f	195.8	4.8	7.24	1,616	69.2	60.2	3.4	115
2007 ^f	205.3	4.8	7.74	1,774	76.0	62.3	3.4	122
2008 ^f	215.2	4.8	8.24	1,944	83.3	64.4	3.4	129

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.

c. Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P.I.T.I.) to gross monthly income

d. Source: *Current Population Survey*, U.S. Bureau of the Census.

e. The homeownership affordability ratio is the ratio of qualifying family income to median family income.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 2a. Homeownership Affordability for First-Time Home Buyers by Metropolitan Areas: Tier 1

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Effective Interest Rate (%) ^b	Estimated Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Homeownership Affordability Ratio (%) ^e	Median House Price (\$000)	Effective Interest Rate (%)	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000)	Median Family Income (\$000)	Homeownership Affordability Ratio (%)
Atlanta							Houston					
1990	86.4	9.92	880	37.7	41.5	91	70.7	10.32	834	35.7	41.0	87
1991	87.6	9.39	855	36.6	44.1	83	74.0	9.34	806	34.5	42.4	81
1992	89.5	8.15	785	33.7	44.4	76	80.3	8.25	796	34.1	42.4	80
1993	91.8	7.14	735	31.5	46.5	68	80.9	7.19	728	31.2	42.5	73
1994	93.6	7.62	783	33.6	48.7	69	80.5	7.77	765	32.8	44.1	74
1995	97.5	7.74	825	35.3	48.7	73	79.2	7.89	760	32.6	45.3	72
1996	100.7	7.60	841	36.0	52.1	69	84.7	7.80	807	34.6	46.0	75
1997	108.4	7.66	910	39.0	53.1	73	90.9	7.67	855	36.7	49.1	75
1998	115.4	7.08	919	39.4	54.7	72	97.5	7.08	869	37.2	50.4	74
1999	123.7	7.38	1,013	43.4	59.9	72	105.3	7.33	960	41.2	54.1	76
2000	131.2	8.02	1,138	48.8	63.1	77	116.1	8.15	1,141	48.9	56.7	86
2001	138.8	6.97	1,094	46.9	66.5	70	122.4	7.08	1,090	46.7	58.5	80
2002	146.5	6.49	1,102	47.2	71.2	66	132.8	6.66	1,136	48.7	59.6	82
2003	152.4	5.74	1,065	45.6	68.8	66	136.4	5.80	1,072	45.9	59.1	78
2004 ^f	159.3	6.24	1,169	50.1	69.0	73	143.5	6.30	1,139	48.8	61.0	80
2005 ^f	166.4	6.74	1,283	55.0	71.6	77	151.0	6.80	1,258	53.9	62.8	86
2006 ^f	173.9	7.24	1,405	60.2	74.3	81	158.8	7.30	1,387	59.5	64.6	92
2007 ^f	181.7	7.74	1,537	65.9	77.2	85	167.1	7.80	1,528	65.5	66.5	99
2008 ^f	189.9	8.24	1,680	72.0	80.1	90	175.7	8.30	1,681	72.0	68.4	105
Philadelphia												
1990	108.7	9.78	1,246	53.4	38.3	139						
1991	118.4	9.00	1,271	54.5	41.2	132						
1992	117.0	8.25	1,177	50.5	41.4	122						
1993	118.0	7.22	1,081	46.3	46.6	99						
1994	119.5	7.74	1,148	49.2	46.6	106						
1995	118.7	7.92	1,160	49.7	47.1	106						
1996	126.5	7.70	1,211	51.9	49.3	105						
1997	126.3	7.63	1,202	51.5	51.3	100						
1998	129.7	7.05	1,169	50.1	52.9	95						
1999	124.8	7.30	1,152	49.4	55.6	89						
2000	125.2	7.99	1,231	52.7	57.8	91						
2001	134.8	7.01	1,210	51.9	60.1	86						
2002	146.1	6.56	1,256	53.8	63.3	85						
2003	168.0	5.89	1,352	57.9	68.2	85						
2004 ^f	173.9	6.39	1,443	61.8	68.8	90						
2005 ^f	180.0	6.89	1,568	67.2	71.8	94						
2006 ^f	186.3	7.39	1,701	72.9	74.8	97						
2007 ^f	192.8	7.89	1,843	79.0	78.1	101						
2008 ^f	199.5	8.39	1,994	85.5	81.4	105						

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.

c. Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P.I.T.I.) to gross monthly income.

d. Source: U.S. Department of Housing and Urban Development.

e. The homeownership affordability ratio is the ratio of qualifying family income to median family income.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 2b. Homeownership Affordability for First-Time Home Buyers by Metropolitan Areas: Tier 2

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Effective Interest Rate (%) ^b	Estimated Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Homeownership Affordability Ratio (%) ^e	Median House Price (\$000)	Effective Interest Rate (%)	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000)	Median Family Income (\$000)	Homeownership Affordability Ratio (%)
Chicago							Denver					
1990	116.8	10.04	1,302	55.8	43.4	129	86.4	9.96	905	38.8	40.0	97
1991	131.1	9.27	1,372	58.8	46.9	125	89.1	9.41	892	38.2	41.9	91
1992	136.8	8.26	1,313	56.3	48.4	116	96.2	8.06	858	36.8	43.2	85
1993	142.0	7.21	1,239	53.1	48.4	110	104.7	6.82	833	35.7	46.4	77
1994	144.1	7.78	1,325	56.8	51.3	111	116.8	6.97	943	40.4	48.6	83
1995	147.9	8.02	1,389	59.5	51.3	116	127.3	7.79	1,108	47.5	48.6	98
1996	153.2	7.72	1,401	60.0	54.1	111	133.4	7.66	1,148	49.2	53.1	93
1997	158.9	7.51	1,425	61.1	55.8	109	140.6	7.61	1,204	51.6	54.9	94
1998	166.8	6.99	1,425	61.1	59.5	103	152.2	7.06	1,239	53.1	55.7	95
1999	171.2	7.16	1,486	63.7	63.8	100	171.3	7.24	1,418	60.8	58.6	104
2000	171.8	7.79	1,581	67.7	67.9	100	196.8	7.81	1,716	73.6	62.1	118
2001	198.5	6.99	1,696	72.7	70.5	103	218.3	6.95	1,758	75.4	64.4	117
2002	220.9	6.37	1,778	76.2	75.4	101	228.1	6.34	1,733	74.3	69.9	106
2003	238.9	5.54	1,768	75.8	68.7	110	238.2	5.55	1,672	71.7	68.0	105
2004 ^f	252.5	6.04	1,995	85.5	69.6	123	257.7	6.05	1,873	80.3	69.5	116
2005 ^f	266.9	6.54	2,215	94.9	72.0	132	278.9	6.55	2,128	91.2	72.3	126
2006 ^f	282.1	7.04	2,456	105.3	74.6	141	301.7	7.05	2,415	103.5	75.3	137
2007 ^f	298.2	7.54	2,720	116.6	77.2	151	326.5	7.55	2,737	117.3	78.4	150
2008 ^f	315.2	8.04	3,009	129.0	79.9	161	353.2	8.05	3,099	132.8	81.6	163
Seattle							Washington, D.C.					
1990	142.0	10.35	1,526	65.4	41.5	158	150.5	9.94	1,559	66.8	51.0	131
1991	143.1	9.41	1,425	61.1	43.9	139	156.7	8.80	1,477	63.3	57.3	110
1992	145.7	8.01	1,287	55.1	44.1	125	157.8	8.03	1,391	59.6	59.2	101
1993	150.2	6.91	1,199	51.4	48.0	107	158.3	7.04	1,274	54.6	60.6	90
1994	155.9	6.80	1,231	52.8	50.4	105	157.9	7.50	1,327	56.9	62.7	91
1995	159.0	7.57	1,349	57.8	51.5	112	156.5	7.76	1,346	57.7	62.7	92
1996	164.6	7.60	1,401	60.0	52.8	114	160.7	7.70	1,375	58.9	68.3	86
1997	171.3	7.65	1,464	62.8	55.1	114	166.3	7.60	1,410	60.4	70.3	86
1998	175.3	7.07	1,420	60.9	59.0	103	172.1	7.10	1,393	59.7	72.3	83
1999	N/A	7.00	N/A	N/A	62.6	N/A	176.5	7.28	1,453	62.3	78.9	79
2000	230.1	7.58	1,955	83.8	65.8	127	182.6	8.08	1,617	69.3	82.8	84
2001	245.4	6.91	1,959	83.9	72.2	116	213.9	7.13	1,736	74.4	85.6	87
2002	254.0	6.34	1,919	82.2	77.9	106	250.2	6.64	1,939	83.1	91.5	91
2003	268.8	5.53	1,873	80.3	71.9	112	286.2	6.00	2,083	89.3	84.8	105
2004 ^f	277.9	6.03	2,085	89.4	71.9	124	301.1	6.50	2,335	100.1	85.4	117
2005 ^f	287.4	6.53	2,265	97.1	74.8	130	316.7	7.00	2,577	110.4	88.7	124
2006 ^f	297.2	7.03	2,456	105.3	77.9	135	333.2	7.50	2,840	121.7	92.2	132
2007 ^f	307.3	7.53	2,661	114.0	81.1	141	350.5	8.00	3,126	134.0	95.8	140
2008 ^f	317.7	8.03	2,879	123.4	84.4	146	368.8	8.50	3,437	147.3	99.5	148

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.

c. Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P. I.T.I.) to gross monthly income.

d. Source: U.S. Department of Housing and Urban Development

e. The homeownership affordability ratio is the ratio of qualifying family income to median family income.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 2c. Homeownership Affordability for First-Time Home Buyers by Metropolitan Areas: Tier 3

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Effective Interest Rate (%) ^b	Estimated Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Homeownership Affordability Ratio (%) ^e	Median House Price (\$000)	Effective Interest Rate (%)	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000)	Median Family Income (\$000)	Homeownership Affordability Ratio (%)
Boston							Los Angeles					
1990	174.1	10.02	1,856	79.5	46.3	172	212.1	9.79	2,092	89.6	38.9	230
1991	170.1	9.40	1,724	73.9	50.2	147	218.9	9.12	2,043	87.6	42.0	208
1992	171.1	8.42	1,595	68.4	51.1	134	210.8	7.59	1,721	73.8	42.3	174
1993	173.2	7.26	1,454	62.3	51.2	122	195.4	6.55	1,447	62.0	43.0	144
1994	179.3	7.65	1,561	66.9	51.3	130	189.1	6.52	1,396	59.8	45.2	132
1995	179.0	7.89	1,592	68.2	53.1	129	179.9	7.34	1,435	61.5	45.2	136
1996	189.3	7.67	1,651	70.7	56.5	125	172.9	7.63	1,417	60.7	46.9	129
1997	229.0	7.74	2,009	86.1	59.6	144	176.5	7.50	1,429	61.3	47.8	128
1998	258.4	7.19	2,155	92.4	60.0	154	192.6	6.92	1,478	63.3	49.8	127
1999	290.0	7.35	2,455	105.2	62.7	168	199.0	6.74	1,501	64.3	51.3	125
2000	314.2	8.02	2,828	121.2	65.5	185	215.9	7.27	1,712	73.4	52.1	141
2001	356.6	7.04	2,933	125.7	70.0	180	241.4	6.85	1,840	78.9	54.5	145
2002	395.9	6.47	3,083	132.1	74.2	178	286.0	6.34	2,075	88.9	55.1	161
2003	412.8	5.69	2,974	127.5	80.8	158	354.7	5.60	2,391	102.5	50.3	204
2004 ^f	442.1	6.19	3,454	148.0	82.6	179	370.3	6.10	2,639	113.1	53.5	211
2005 ^f	473.5	6.69	3,885	166.5	86.2	193	386.6	6.60	2,892	124.0	54.8	226
2006 ^f	507.1	7.19	4,363	187.0	89.9	208	403.6	7.10	3,166	135.7	56.1	242
2007 ^f	543.1	7.69	4,894	209.7	93.7	224	421.4	7.60	3,462	148.4	57.4	258
2008 ^f	581.7	8.19	5,482	235.0	97.8	240	439.9	8.10	3,780	162.0	58.8	275
New York							San Francisco					
1990	174.9	9.93	1,857	79.6	36.9	216	259.3	9.73	2,548	109.2	45.6	239
1991	173.5	9.44	1,770	75.9	40.5	187	258.5	8.96	2,383	102.1	49.9	205
1992	172.7	8.41	1,614	69.2	41.1	168	259.3	7.54	2,110	90.4	49.9	181
1993	173.2	7.28	1,462	62.6	41.7	150	254.4	6.48	1,874	80.3	54.3	148
1994	173.2	7.60	1,506	64.5	41.7	155	255.6	6.29	1,848	79.2	57.6	137
1995	169.7	7.84	1,508	64.6	43.0	150	254.4	7.10	1,987	85.2	58.8	145
1996	174.5	7.69	1,529	65.5	45.8	143	266.7	7.31	2,125	91.1	61.3	149
1997	177.9	7.62	1,549	66.4	47.3	140	286.2	7.26	2,269	97.3	64.4	151
1998	188.1	7.09	1,560	66.8	49.8	134	321.7	6.82	2,448	104.9	68.6	153
1999	203.2	7.30	1,718	73.6	53.4	138	340.8	6.54	2,524	108.2	72.4	149
2000	230.2	7.99	2,073	88.8	56.2	158	454.6	6.83	3,462	148.4	74.9	198
2001	258.2	7.04	2,131	91.3	59.1	155	475.9	6.69	3,576	153.3	80.1	191
2002	309.8	6.45	2,416	103.5	62.8	165	517.1	5.99	3,630	155.6	86.1	181
2003	352.6	5.63	2,535	108.6	51.9	209	558.1	5.50	3,727	159.7	91.5	175
2004 ^f	373.1	6.13	2,893	124.0	54.4	228	593.8	6.00	4,254	182.3	95.0	192
2005 ^f	394.7	6.63	3,214	137.8	56.0	246	631.8	6.50	4,754	203.8	100.1	203
2006 ^f	417.6	7.13	3,567	152.9	57.7	265	672.3	7.00	5,306	227.4	105.5	215
2007 ^f	441.8	7.63	3,953	169.4	59.4	285	715.3	7.50	5,914	253.5	111.2	228
2008 ^f	467.4	8.13	4,375	187.5	61.2	306	761.1	8.00	6,584	282.2	117.2	241

Notes:

- Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.
- Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.
- Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P.I.T.I.) to gross monthly income.
- Source: U.S. Department of Housing and Urban Development.
- The homeownership affordability ratio is the ratio of qualifying family income to median family income.
- Results for 2004-2008 (shaded and in italics) are projections.

Table 3a. Homeownership Affordability by Selected Occupations: First-Time Home Buyers

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Income to Qualify for a Mortgage (\$000) ^b	Weighted Average Annual Wage (\$000)					Homeownership Affordability Ratio (%)				
			School Teachers ^c	Nurses ^c	Police Officers/ Firefighters ^c	Teacher - Police Family ^d	Nurse - Firefighter Family ^e	School Teachers	Nurses	Police Officers/ Firefighters	Teacher - Police Family	Nurse - Firefighter Family
United States												
1998	128.4	44.8	39.4	39.3	34.5	73.9	73.8	114	114	130	61	61
1999	133.3	47.5	40.2	40.8	35.3	75.6	76.1	118	117	134	63	62
2000	139.0	52.8	42.3	42.6	36.9	79.2	79.5	125	124	143	67	66
2001	147.8	51.2	44.0	44.3	38.1	82.1	82.4	116	116	135	62	62
2002	158.1	52.4	44.7	45.7	39.4	84.1	85.1	117	115	133	62	62
2003	169.9	52.0	46.2	47.4	40.7	86.9	88.2	113	109	128	60	59
2004 ^f	178.1	57.2	47.6	49.3	42.1	89.7	91.4	120	116	136	64	63
2005 ^f	186.7	63.0	49.2	51.2	43.5	92.7	94.7	128	123	145	68	67
2006 ^f	195.8	69.2	50.8	53.1	45.0	95.8	98.1	136	130	154	72	71
2007 ^f	205.3	76.0	52.4	55.1	46.5	98.9	101.7	145	138	163	77	75
2008 ^f	215.2	83.3	54.1	57.3	48.1	102.2	105.4	154	146	173	82	79
Atlanta												
1998	115.4	39.4	41.0	37.2	27.6	68.6	64.8	96	106	143	57	61
1999	123.7	43.4	40.9	39.0	31.8	72.6	70.8	106	111	137	60	61
2000	131.2	48.8	42.7	42.6	32.5	75.1	75.1	114	114	150	65	65
2001	138.8	46.9	44.5	43.8	33.8	78.2	77.6	105	107	139	60	60
2002	146.5	47.2	45.2	45.2	34.6	79.8	79.8	105	104	137	59	59
2003	152.4	45.6	46.3	47.5	36.6	82.9	84.1	99	96	125	55	54
2004 ^f	159.3	50.1	47.4	49.9	38.8	86.2	88.7	106	100	129	58	57
2005 ^f	166.4	55.0	48.6	52.4	41.1	89.7	93.5	113	105	134	61	59
2006 ^f	173.9	60.2	49.8	55.1	43.5	93.3	98.5	121	109	138	65	61
2007 ^f	181.7	65.9	51.0	57.8	46.1	97.1	103.9	129	114	143	68	63
2008 ^f	189.9	72.0	52.3	60.7	48.8	101.1	109.5	138	119	148	71	66
Houston												
1998	97.5	37.2	39.3	41.4	36.9	76.3	78.4	95	90	101	49	48
1999	105.3	41.2	37.9	45.1	34.6	72.5	79.7	109	91	119	57	52
2000	116.1	48.9	40.2	45.0	36.8	76.9	81.8	122	109	133	64	60
2001	122.4	46.7	41.4	47.2	37.9	79.3	85.1	113	99	123	59	55
2002	132.8	48.7	42.7	48.0	36.3	79.0	84.3	114	102	134	62	58
2003	136.4	45.9	43.6	49.8	36.2	79.9	86.1	105	92	127	58	53
2004 ^f	143.5	48.8	44.5	51.7	36.2	80.7	87.8	110	94	135	60	56
2005 ^f	151.0	53.9	45.5	53.7	36.1	81.6	89.7	118	100	150	66	60
2006 ^f	158.8	59.5	46.5	55.7	36.0	82.4	91.7	128	107	165	72	65
2007 ^f	167.1	65.5	47.5	57.8	35.9	83.3	93.7	138	113	183	79	70
2008 ^f	175.7	72.0	48.5	60.0	35.8	84.3	95.8	149	120	201	86	75
Philadelphia												
1998	129.7	50.1	49.9	43.2	36.5	86.4	79.7	100	116	137	58	63
1999	124.8	49.4	47.9	44.6	37.9	85.8	82.6	103	111	130	58	60
2000	125.2	52.7	49.5	46.6	44.2	93.6	90.8	107	113	119	56	58
2001	134.8	51.9	50.1	49.3	44.9	95.0	94.3	103	105	115	55	55
2002	146.1	53.8	51.5	50.4	46.1	97.6	96.6	105	107	117	55	56
2003	168.0	57.9	51.9	52.4	49.0	100.9	101.4	112	110	118	57	57
2004 ^f	173.9	61.8	52.4	54.5	52.0	104.4	106.5	118	113	119	59	58
2005 ^f	180.0	67.2	52.8	56.7	55.2	108.0	111.9	127	119	122	62	60
2006 ^f	186.3	72.9	53.2	58.9	58.6	111.9	117.6	137	124	124	65	62
2007 ^f	192.8	79.0	53.7	61.3	62.3	116.0	123.6	147	129	127	68	64
2008 ^f	199.5	85.5	54.1	63.7	66.1	120.3	129.9	158	134	129	71	66

Notes:

- Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.
- Source: Tables 1 and 2.
- The weighted averages are calculated from the annual wage data obtained from *Occupational Employment Statistics Survey*, U.S. Bureau of Labor Statistics.
- Family income is the sum of the weighted averages of annual wages for school teachers and police/firefighters.
- Family income is the sum of the weighted averages of annual wages for nurses and police/firefighters.
- Results for 2004-2008 (shaded area in italics) are projections.

Table 3b. Homeownership Affordability by Selected Occupations: First-Time Home Buyers

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Income to Qualify for a Mortgage (\$000) ^b	Weighted Average Annual Wage (\$000)					Homeownership Affordability Ratio (%)				
			School Teachers ^c	Nurses ^c	Police Officers/ Firefighters ^c	Teacher - Police Family ^d	Nurse - Firefighter Family ^e	School Teachers	Nurses ^c	Police Officers/ Firefighters	Teacher - Police Family	Nurse - Firefighter Family
Chicago												
1998	166.8	61.1	41.4	39.6	40.1	81.5	79.7	147	154	152	75	77
1999	171.2	63.7	45.2	42.3	37.7	82.9	79.9	141	151	169	77	80
2000	171.8	67.7	46.3	46.3	42.0	88.3	88.3	146	146	161	77	77
2001	198.5	72.7	50.8	48.0	42.0	92.9	90.0	143	152	173	78	81
2002	220.9	76.2	51.5	48.9	45.9	97.4	94.8	148	156	166	78	80
2003	238.9	75.8	54.5	51.5	47.6	102.1	99.1	139	147	159	74	76
2004 ^f	252.5	85.5	57.6	54.3	49.3	106.9	103.6	149	157	173	80	82
2005 ^f	266.9	94.9	60.8	57.2	51.1	112.0	108.4	156	166	186	85	88
2006 ^f	282.1	105.3	64.3	60.3	53.0	117.3	113.3	164	175	199	90	93
2007 ^f	298.2	116.6	67.9	63.6	55.0	122.9	118.6	172	183	212	95	98
2008 ^f	315.2	129.0	71.8	67.0	57.0	128.8	124.0	180	192	226	100	104
Denver												
1998	152.2	53.1	37.4	42.3	37.3	74.7	79.6	142	126	142	71	67
1999	171.3	60.8	37.8	44.3	40.7	78.6	85.0	161	137	149	77	71
2000	196.8	73.6	39.7	45.5	44.0	83.7	89.5	185	162	167	88	82
2001	218.3	75.4	40.7	48.1	46.2	86.9	94.3	185	157	163	87	80
2002	228.1	74.3	43.2	49.6	47.7	90.8	97.3	172	150	156	82	76
2003	238.2	71.7	44.7	51.7	50.7	95.4	102.3	160	139	141	75	70
2004 ^f	257.7	80.3	46.4	53.8	53.9	100.2	107.7	173	149	149	80	75
2005 ^f	278.9	91.2	48.1	56.0	57.3	105.4	113.3	190	163	159	87	81
2006 ^f	301.7	103.5	49.8	58.3	60.9	110.7	119.2	208	178	170	93	87
2007 ^f	326.5	117.3	51.7	60.7	64.7	116.4	125.4	227	193	181	101	94
2008 ^f	353.2	132.8	53.6	63.1	68.8	122.4	132.0	248	210	193	109	101
Seattle												
1998	175.3	60.9	40.7	47.5	44.7	85.4	92.3	150	128	136	71	66
1999	N/A	N/A	41.4	48.6	42.7	84.1	91.3	N/A	N/A	N/A	N/A	N/A
2000	230.1	83.8	41.9	51.0	45.8	87.7	96.8	200	164	183	96	87
2001	245.4	83.9	42.9	52.8	46.6	89.5	99.4	196	159	180	94	84
2002	254.0	82.2	43.8	54.4	50.2	94.0	104.7	188	151	164	87	79
2003	268.8	80.3	44.6	56.3	51.8	96.4	108.1	180	143	155	83	74
2004 ^f	277.9	89.4	45.4	58.2	53.4	98.8	111.6	197	153	167	90	80
2005 ^f	287.4	97.1	46.2	60.2	55.0	101.2	115.3	210	161	176	96	84
2006 ^f	297.2	105.3	47.1	62.3	56.7	103.8	119.0	224	169	186	101	88
2007 ^f	307.3	114.0	47.9	64.5	58.5	106.4	122.9	238	177	195	107	93
2008 ^f	317.7	123.4	48.8	66.7	60.2	109.0	126.9	253	185	205	113	97
Washington, D.C.												
1998	172.1	59.7	41.7	42.8	39.9	81.7	82.7	143	140	149	73	72
1999	176.5	62.3	38.0	45.8	38.5	76.5	84.3	164	136	162	81	74
2000	182.6	69.3	36.9	47.4	41.9	78.8	89.3	188	146	165	88	78
2001	213.9	74.4	45.0	51.8	45.4	90.3	97.2	165	144	164	82	77
2002	250.2	83.1	45.7	53.7	44.7	90.4	98.4	182	155	186	92	84
2003	286.2	89.3	47.0	56.9	46.0	93.1	102.9	190	157	194	96	87
2004 ^f	301.1	100.1	48.4	60.3	47.4	95.8	107.7	207	166	211	104	93
2005 ^f	316.7	110.4	49.8	63.8	48.8	98.6	112.7	222	173	226	112	98
2006 ^f	333.2	121.7	51.2	67.6	50.3	101.5	117.9	238	180	242	120	103
2007 ^f	350.5	134.0	52.7	71.6	51.8	104.5	123.4	254	187	259	128	109
2008 ^f	368.8	147.3	54.3	75.8	53.4	107.6	129.2	272	194	276	137	114

Notes:

- Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.
- Source: Tables 1 and 2.
- The weighted averages are calculated from the annual wage data obtained from *Occupational Employment Statistics Survey*, U.S. Bureau of Labor Statistics.
- Family income is the sum of the weighted averages of annual wages for school teachers and police/firefighters.
- Family income is the sum of the weighted averages of annual wages for nurses and police/firefighters.
- Results for 2004-2008 (shaded area in italics) are projections.

Table 3c. Homeownership Affordability by Selected Occupations: First-Time Home Buyers

(Assuming 10% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Income to Qualify for a Mortgage (\$000) ^b	Weighted Average Annual Wage (\$000)					Homeownership Affordability Ratio (%)				
			School Teachers ^c	Nurses ^c	Police Officers/ Firefighters ^c	Teacher - Police Family ^d	Nurse - Firefighter Family ^e	School Teachers	Nurses ^c	Police Officers/ Firefighters	Teacher - Police Family	Nurse - Firefighter Family
Boston												
1998	258.4	92.4	40.3	49.0	37.2	77.5	86.3	229	188	248	119	107
1999	290.0	105.2	44.3	48.5	40.7	85.0	89.2	238	217	259	124	118
2000	314.2	121.2	44.5	49.6	38.4	82.8	88.0	273	244	316	146	138
2001	356.6	125.7	47.0	52.1	45.1	92.0	97.1	268	241	279	137	129
2002	395.9	132.1	48.4	54.8	44.8	93.3	99.7	273	241	295	142	133
2003	412.8	127.5	50.7	56.4	47.1	97.9	103.5	251	226	270	130	123
2004 ^f	442.1	148.0	53.2	58.0	49.5	102.7	107.6	278	255	299	144	138
2005 ^f	473.5	166.5	55.7	59.7	52.1	107.8	111.8	299	279	320	154	149
2006 ^f	507.1	187.0	58.4	61.4	54.8	113.1	116.2	320	304	341	165	161
2007 ^f	543.1	209.7	61.2	63.2	57.6	118.7	120.7	343	332	364	177	174
2008 ^f	581.7	235.0	64.1	65.0	60.5	124.6	125.5	367	362	388	189	187
Los Angeles												
1998	192.6	63.3	48.9	47.8	50.2	99.1	98.1	130	132	126	64	65
1999	199.0	64.3	48.7	50.0	48.5	97.2	98.4	132	129	133	66	65
2000	215.9	73.4	49.2	51.1	49.3	98.5	100.4	149	144	149	75	73
2001	241.4	78.9	50.7	51.9	51.9	102.6	103.9	156	152	152	77	76
2002	286.0	88.9	51.8	54.0	53.4	105.2	107.4	172	165	167	85	83
2003	354.7	102.5	52.5	55.7	54.2	106.8	109.9	195	184	189	96	93
2004 ^f	370.3	113.1	53.3	57.4	55.1	108.4	112.5	212	197	205	104	101
2005 ^f	386.6	124.0	54.1	59.2	56.0	110.0	115.1	229	209	221	113	108
2006 ^f	403.6	135.7	54.9	61.0	56.8	111.7	117.9	247	222	239	121	115
2007 ^f	421.4	148.4	55.7	62.9	57.7	113.4	120.7	266	236	257	131	123
2008 ^f	439.9	162.0	56.5	64.8	58.7	115.2	123.5	287	250	276	141	131
New York												
1998	188.1	66.8	44.4	52.3	45.6	90.0	97.9	151	128	147	74	68
1999	203.2	73.6	58.6	52.7	43.2	101.8	95.9	126	140	170	72	77
2000	230.2	88.8	52.9	52.4	47.4	100.3	99.8	168	170	187	89	89
2001	258.2	91.3	54.0	56.0	47.2	101.2	103.2	169	163	193	90	88
2002	309.8	103.5	54.7	58.1	49.6	104.2	107.6	189	178	209	99	96
2003	352.6	108.6	58.1	59.6	50.7	108.8	110.3	187	182	214	100	99
2004 ^f	373.1	124.0	61.9	61.2	51.8	113.7	113.0	200	203	239	109	110
2005 ^f	394.7	137.8	65.8	62.8	53.0	118.8	115.8	209	219	260	116	119
2006 ^f	417.6	152.9	70.0	64.5	54.2	124.2	118.7	218	237	282	123	129
2007 ^f	441.8	169.4	74.5	66.2	55.4	129.9	121.7	227	256	306	130	139
2008 ^f	467.4	187.5	79.3	68.0	56.7	136.0	124.7	236	276	331	138	150
San Francisco												
1998	321.7	104.9	43.2	56.7	48.6	91.8	105.3	243	185	216	114	100
1999	340.8	108.2	42.8	58.5	58.2	101.0	116.7	253	185	186	107	93
2000	454.6	148.4	44.5	60.1	58.4	102.9	118.5	333	247	254	144	125
2001	475.9	153.3	48.2	62.4	60.7	108.9	123.1	318	246	252	141	124
2002	517.1	155.6	50.1	66.5	55.4	105.6	122.0	310	234	281	147	128
2003	558.1	159.7	52.0	69.3	57.6	109.6	126.8	307	231	277	146	126
2004 ^f	593.8	182.3	54.0	72.1	59.8	113.8	131.9	338	253	305	160	138
2005 ^f	631.8	203.8	56.1	75.0	62.1	118.2	137.1	363	272	328	172	149
2006 ^f	672.3	227.4	58.2	78.1	64.5	122.7	142.6	391	291	353	185	160
2007 ^f	715.3	253.5	60.4	81.3	67.0	127.4	148.2	419	312	378	199	171
2008 ^f	761.1	282.2	62.8	84.6	69.6	132.3	154.1	450	334	406	213	183

Notes:

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- Source: Tables 1 and 2.
- The weighted averages are calculated from the annual wage data obtained from *Occupational Employment Statistics Survey*, U.S. Bureau of Labor Statistics.
- Family income is the sum of the weighted averages of annual wages for school teachers and police/firefighters.
- Family income is the sum of the weighted averages of annual wages for nurses and police/firefighters.
- Results for 2004-2008 (shaded areas in italics) are projections.

Table 4. Existing Single-Family Housing in the United States: Trends in Housing Prices, Mortgage Rates, and Homeownership Affordability for Repeat Buyers

(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Price Appreciation Rate (%)	Effective Interest Rate (%) ^b	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Income Growth Rate (%)	Homeownership Affordability Ratio (%) ^e
1990	92.0		10.05	817	35.0	35.4		99
1991	97.1	5.5	9.33	811	34.7	35.9	1.7	97
1992	99.7	2.7	8.08	743	31.8	36.6	1.8	87
1993	103.1	3.4	7.12	700	30.0	37.0	1.1	81
1994	107.2	4.0	7.49	754	32.3	38.8	4.9	83
1995	110.5	3.1	7.84	805	34.5	40.6	4.7	85
1996	115.8	4.8	7.71	833	35.7	42.3	4.2	84
1997	121.8	5.2	7.68	873	37.4	44.6	5.4	84
1998	128.4	5.4	7.10	869	37.3	46.7	4.9	80
1999	133.3	3.8	7.33	924	39.6	49.0	4.7	81
2000	139.0	4.3	8.03	1,031	44.2	50.7	3.6	87
2001	147.8	6.3	7.03	994	42.6	51.4	1.3	83
2002	158.1	7.0	6.55	1,012	43.4	52.7	2.5	82
2003	169.9	7.5	5.74	998	42.8	54.5	3.4	79
2004 ^f	178.1	4.8	6.24	1,104	47.3	56.3	3.4	84
2005 ^f	186.7	4.8	6.74	1,220	52.3	58.2	3.4	90
2006 ^f	195.8	4.8	7.24	1,345	57.6	60.2	3.4	96
2007 ^f	205.3	4.8	7.74	1,481	63.5	62.3	3.4	102
2008 ^f	215.2	4.8	8.24	1,628	69.8	64.4	3.4	108

Notes:

- a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.
- b. Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.
- c. Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P. I.T.I.) to gross monthly income.
- d. Source: *Current Population Survey*, U.S. Bureau of the Census.
- e. The homeownership affordability ratio is the ratio of qualifying family income to median family income.
- f. Results for 2004-2008 (shaded area in italics) are projections.

Table 5a. Homeownership Affordability for Repeat Buyers by Metropolitan Areas: Tier 1*(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)*

Year	Median House Price (\$000) ^a	Effective Interest Rate (%) ^b	Estimated Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Homeownership Affordability Ratio (%) ^e	Median House Price (\$000)	Effective Interest Rate (%)	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000)	Median Family Income (\$000)	Homeownership Affordability Ratio (%)
Atlanta							Houston					
1990	86.4	9.92	742	31.8	41.5	77	70.7	10.32	708	30.3	41.0	74
1991	87.6	9.39	719	30.8	44.1	70	74.0	9.34	682	29.2	42.4	69
1992	89.5	8.15	656	28.1	44.4	63	80.3	8.25	670	28.7	42.4	68
1993	91.8	7.14	610	26.2	46.5	56	80.9	7.19	610	26.1	42.5	61
1994	93.6	7.62	653	28.0	48.7	57	80.5	7.77	642	27.5	44.1	62
1995	97.5	7.74	688	29.5	48.7	61	79.2	7.89	639	27.4	45.3	60
1996	100.7	7.60	701	30.0	52.1	58	84.7	7.80	677	29.0	46.0	63
1997	108.4	7.66	759	32.5	53.1	61	90.9	7.67	718	30.8	49.1	63
1998	115.4	7.08	763	32.7	54.7	60	97.5	7.08	727	31.1	50.4	62
1999	123.7	7.38	842	36.1	59.9	60	105.3	7.33	805	34.5	54.1	64
2000	131.2	8.02	950	40.7	63.1	65	116.1	8.15	960	41.1	56.7	73
2001	138.8	6.97	907	38.9	66.5	58	122.4	7.08	912	39.1	58.5	67
2002	146.5	6.49	912	39.1	71.2	55	132.8	6.66	948	40.6	59.6	68
2003	152.4	5.74	875	37.5	68.8	55	136.4	5.80	889	38.1	59.1	64
2004 ^f	159.3	6.24	965	41.4	69.0	60	143.5	6.30	987	42.3	61.0	69
2005 ^f	166.4	6.74	1,062	45.5	71.6	64	151.0	6.80	1,093	46.9	62.8	75
2006 ^f	173.9	7.24	1,168	50.0	74.3	67	158.8	7.30	1,210	51.8	64.6	80
2007 ^f	181.7	7.74	1,282	54.9	77.2	71	167.1	7.80	1,336	57.3	66.5	86
2008 ^f	189.9	8.24	1,404	60.2	80.1	75	175.7	8.30	1,474	63.2	68.4	92
Philadelphia												
1990	108.7	9.78	1,056	45.3	38.3	118						
1991	118.4	9.00	1,075	46.1	41.2	112						
1992	117.0	8.25	992	42.5	41.4	103						
1993	118.0	7.22	906	38.8	46.6	83						
1994	119.5	7.74	965	41.4	46.6	89						
1995	118.7	7.92	975	41.8	47.1	89						
1996	126.5	7.70	1,018	43.6	49.3	88						
1997	126.3	7.63	1,009	43.3	51.3	84						
1998	129.7	7.05	979	41.9	52.9	79						
1999	124.8	7.30	965	41.4	55.6	74						
2000	125.2	7.99	1,036	44.4	57.8	77						
2001	134.8	7.01	1,013	43.4	60.1	72						
2002	146.1	6.56	1,048	44.9	63.3	71						
2003	168.0	5.89	1,123	48.1	68.2	71						
2004 ^f	173.9	6.39	1,226	52.5	68.8	76						
2005 ^f	180.0	6.89	1,336	57.3	71.8	80						
2006 ^f	186.3	7.39	1,454	62.3	74.8	83						
2007 ^f	192.8	7.89	1,579	67.7	78.1	87						
2008 ^f	199.5	8.39	1,714	73.4	81.4	90						

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.

c. Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P. I.T.I.) to gross monthly income.

d. Source: U.S. Department of Housing and Urban Development

e. The homeownership affordability ratio is the ratio of qualifying family income to median family income.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 5b. Homeownership Affordability for Repeat Buyers by Metropolitan Areas: Tier 2

(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Effective Interest Rate (%) ^b	Estimated Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Homeownership Affordability Ratio (%) ^e	Median House Price (\$000)	Effective Interest Rate (%)	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000)	Median Family Income (\$000)	Homeownership Affordability Ratio (%)
Chicago							Denver					
1990	116.8	10.04	1,103	47.3	43.4	109	86.4	9.96	764	32.7	40.0	82
1991	131.1	9.27	1,159	49.7	46.9	106	89.1	9.41	752	32.2	41.9	77
1992	136.8	8.26	1,103	47.3	48.4	98	96.2	8.06	718	30.8	43.2	71
1993	142.0	7.21	1,035	44.3	48.4	92	104.7	6.82	692	29.6	46.4	64
1994	144.1	7.78	1,110	47.6	51.3	93	116.8	6.97	783	33.6	48.6	69
1995	147.9	8.02	1,166	50.0	51.3	97	127.3	7.79	926	39.7	48.6	82
1996	153.2	7.72	1,174	50.3	54.1	93	133.4	7.66	958	41.1	53.1	77
1997	158.9	7.51	1,193	51.1	55.8	92	140.6	7.61	1,005	43.1	54.9	78
1998	166.8	6.99	1,189	51.0	59.5	86	152.2	7.06	1,030	44.1	55.7	79
1999	171.2	7.16	1,241	53.2	63.8	83	171.3	7.24	1,180	50.6	58.6	86
2000	171.8	7.79	1,325	56.8	67.9	84	196.8	7.81	1,434	61.4	62.1	99
2001	198.5	6.99	1,415	60.6	70.5	86	218.3	6.95	1,461	62.6	64.4	97
2002	220.9	6.37	1,477	63.3	75.4	84	228.1	6.34	1,434	61.4	69.9	88
2003	238.9	5.54	1,460	62.6	68.7	91	238.2	5.55	1,375	58.9	68.0	87
2004 ^f	252.5	6.04	1,630	69.8	69.6	100	257.7	6.05	1,571	67.3	69.5	97
2005 ^f	266.9	6.54	1,816	77.8	72.0	108	278.9	6.55	1,792	76.8	72.3	106
2006 ^f	282.1	7.04	2,020	86.6	74.6	116	301.7	7.05	2,041	87.5	75.3	116
2007 ^f	298.2	7.54	2,244	96.2	77.2	125	326.5	7.55	2,320	99.4	78.4	127
2008 ^f	315.2	8.04	2,489	106.7	79.9	134	353.2	8.05	2,634	112.9	81.6	138
Seattle							Washington, D.C.					
1990	142.0	10.35	1,290	55.3	41.5	133	150.5	9.94	1,316	56.4	51.0	111
1991	143.1	9.41	1,200	51.4	43.9	117	156.7	8.80	1,240	53.1	57.3	93
1992	145.7	8.01	1,076	46.1	44.1	105	157.8	8.03	1,163	49.8	59.2	84
1993	150.2	6.91	995	42.7	48.0	89	158.3	7.04	1,059	45.4	60.6	75
1994	155.9	6.80	1,022	43.8	50.4	87	157.9	7.50	1,105	47.4	62.7	76
1995	159.0	7.57	1,125	48.2	51.5	94	156.5	7.76	1,124	48.2	62.7	77
1996	164.6	7.60	1,168	50.1	52.8	95	160.7	7.70	1,147	49.2	68.3	72
1997	171.3	7.65	1,222	52.4	55.1	95	166.3	7.60	1,176	50.4	70.3	72
1998	175.3	7.07	1,181	50.6	59.0	86	172.1	7.10	1,158	49.6	72.3	69
1999	N/A	7.00	N/A	N/A	62.6	N/A	176.5	7.28	1,209	51.8	78.9	66
2000	230.1	7.58	1,630	69.9	65.8	106	182.6	8.08	1,352	57.9	82.8	70
2001	245.4	6.91	1,626	69.7	72.2	97	213.9	7.13	1,444	61.9	85.6	72
2002	254.0	6.34	1,587	68.0	77.9	87	250.2	6.64	1,607	68.9	91.5	75
2003	268.8	5.53	1,540	66.0	71.9	92	286.2	6.00	1,718	73.6	84.8	87
2004 ^f	277.9	6.03	1,681	72.0	71.9	100	301.1	6.50	1,905	81.6	85.4	96
2005 ^f	287.4	6.53	1,832	78.5	74.8	105	316.7	7.00	2,109	90.4	88.7	102
2006 ^f	297.2	7.03	1,994	85.5	77.9	110	333.2	7.50	2,332	100.0	92.2	108
2007 ^f	307.3	7.53	2,167	92.9	81.1	114	350.5	8.00	2,575	110.3	95.8	115
2008 ^f	317.7	8.03	2,351	100.7	84.4	119	368.8	8.50	2,838	121.6	99.5	122

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.

c. Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P.I.T.I.) to gross monthly income.

d. Source: U.S. Department of Housing and Urban Development

e. The homeownership affordability ratio is the ratio of qualifying family income to median family income.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 5c. Homeownership Affordability for Repeat Buyers by Metropolitan Areas: Tier 3

(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Effective Interest Rate (%) ^b	Estimated Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000) ^c	Median Family Income (\$000) ^d	Homeownership Affordability Ratio (%) ^e	Median House Price (\$000)	Effective Interest Rate (%)	Monthly Payment for Housing Expenses (P.I.T.I.)	Income to Qualify for a Mortgage (\$000)	Median Family Income (\$000)	Homeownership Affordability Ratio (%)
Boston							Los Angeles					
1990	174.1	10.02	1,568	67.2	46.3	145	212.1	9.79	1,760	75.4	38.9	194
1991	170.1	9.40	1,453	62.3	50.2	124	218.9	9.12	1,714	73.5	42.0	175
1992	171.1	8.42	1,338	57.3	51.1	112	210.8	7.59	1,431	61.3	42.3	145
1993	173.2	7.26	1,212	51.9	51.2	101	195.4	6.55	1,195	51.2	43.0	119
1994	179.3	7.65	1,303	55.9	51.3	109	189.1	6.52	1,153	49.4	45.2	109
1995	179.0	7.89	1,332	57.1	53.1	107	179.9	7.34	1,192	51.1	45.2	113
1996	189.3	7.67	1,379	59.1	56.5	105	172.9	7.63	1,179	50.5	46.9	108
1997	229.0	7.74	1,679	72.0	59.6	121	176.5	7.50	1,188	50.9	47.8	107
1998	258.4	7.19	1,795	76.9	60.0	128	192.6	6.92	1,224	52.4	49.8	105
1999	290.0	7.35	2,047	87.7	62.7	140	199.0	6.74	1,241	53.2	51.3	104
2000	314.2	8.02	2,367	101.4	65.5	155	215.9	7.27	1,421	60.9	52.1	117
2001	356.6	7.04	2,441	104.6	70.0	149	241.4	6.85	1,523	65.3	54.5	120
2002	395.9	6.47	2,556	109.5	74.2	148	286.0	6.34	1,711	73.3	55.1	133
2003	412.8	5.69	2,451	105.0	80.8	130	354.7	5.60	1,960	84.0	50.3	167
2004 ^f	442.1	6.19	2,770	118.7	82.6	144	370.3	6.10	2,160	92.6	53.5	173
2005 ^f	473.5	6.69	3,126	134.0	86.2	155	386.6	6.60	2,376	101.8	54.8	186
2006 ^f	507.1	7.19	3,522	150.9	89.9	168	403.6	7.10	2,611	111.9	56.1	199
2007 ^f	543.1	7.69	3,962	169.8	93.7	181	421.4	7.60	2,863	122.7	57.4	214
2008 ^f	581.7	8.19	4,450	190.7	97.8	195	439.9	8.10	3,136	134.4	58.8	229
New York							San Francisco					
1990	174.9	9.93	1,569	67.2	36.9	182	259.3	9.73	2,144	91.9	45.6	201
1991	173.5	9.44	1,492	64.0	40.5	158	258.5	8.96	1,998	85.6	49.9	172
1992	172.7	8.41	1,354	58.0	41.1	141	259.3	7.54	1,754	75.2	49.9	151
1993	173.2	7.28	1,219	52.2	41.7	125	254.4	6.48	1,547	66.3	54.3	122
1994	173.2	7.60	1,258	53.9	41.7	129	255.6	6.29	1,523	65.3	57.6	113
1995	169.7	7.84	1,261	54.0	43.0	126	254.4	7.10	1,648	70.6	58.8	120
1996	174.5	7.69	1,278	54.8	45.8	120	266.7	7.31	1,764	75.6	61.3	123
1997	177.9	7.62	1,294	55.5	47.3	117	286.2	7.26	1,884	80.7	64.4	125
1998	188.1	7.09	1,299	55.7	49.8	112	321.7	6.82	2,026	86.8	68.6	127
1999	203.2	7.30	1,432	61.4	53.4	115	340.8	6.54	2,085	89.4	72.4	123
2000	230.2	7.99	1,735	74.4	56.2	132	454.6	6.83	2,865	122.8	74.9	164
2001	258.2	7.04	1,774	76.0	59.1	129	475.9	6.69	2,957	126.7	80.1	158
2002	309.8	6.45	2,003	85.8	62.8	137	517.1	5.99	2,985	127.9	86.1	149
2003	352.6	5.63	2,089	89.5	51.9	172	558.1	5.50	3,053	130.8	91.5	143
2004 ^f	373.1	6.13	2,333	100.0	54.4	184	593.8	6.00	3,430	147.0	95.0	155
2005 ^f	394.7	6.63	2,601	111.5	56.0	199	631.8	6.50	3,847	164.9	100.1	165
2006 ^f	417.6	7.13	2,895	124.1	57.7	215	672.3	7.00	4,309	184.7	105.5	175
2007 ^f	441.8	7.63	3,218	137.9	59.4	232	715.3	7.50	4,818	206.5	111.2	186
2008 ^f	467.4	8.13	3,571	153.1	61.2	250	761.1	8.00	5,380	230.6	117.2	197

Notes:

- Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.
- Source: *Monthly Interest Rate Survey*, Federal Housing Finance Board. It is an effective rate (points are amortized over 10 years) that combines fixed-rate and adjustable-rate loans closed on existing homes.
- Based on a 28% qualifying ratio for monthly housing payment (principal, interest, taxes, and insurance, or P.I.T.I.) to gross monthly income.
- Source: U.S. Department of Housing and Urban Development
- The homeownership affordability ratio is the ratio of qualifying family income to median family income.
- Results for 2004-2008 (shaded area in italics) are projections.

Table 6a. Homeownership Affordability by Selected Occupations: Repeat Home Buyers

(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Income to Qualify for a Mortgage (\$000) ^b	Weighted Average Annual Wage (\$000)					Homeownership Affordability Ratio (%)				
			School Teachers ^c	Registered/ Licensed Nurses ^c	Police Officers/ Firefighters ^c	Teacher - Police Family ^d	Nurse - Firefighter Family ^e	School Teachers	Registered/ Licensed Nurses	Police Officers/ Firefighters	Teacher - Police Family	Nurse - Firefighter Family
United States												
1998	128.4	37.3	39.4	39.3	34.5	73.9	73.8	95	95	108	50	51
1999	133.3	39.6	40.2	40.8	35.3	75.6	76.1	98	97	112	52	52
2000	139.0	44.2	42.3	42.6	36.9	79.2	79.5	104	104	120	56	56
2001	147.8	42.6	44.0	44.3	38.1	82.1	82.4	97	96	112	52	52
2002	158.1	43.4	44.7	45.7	39.4	84.1	85.1	97	95	110	52	51
2003	169.9	42.8	46.2	47.4	40.7	86.9	88.2	93	90	105	49	49
2004 ^f	178.1	47.3	47.6	49.3	42.1	89.7	91.4	99	96	112	53	52
2005 ^f	186.7	52.3	49.2	51.2	43.5	92.7	94.7	106	102	120	56	55
2006 ^f	195.8	57.6	50.8	53.1	45.0	95.8	98.1	114	109	128	60	59
2007 ^f	205.3	63.5	52.4	55.1	46.5	98.9	101.7	121	115	136	64	62
2008 ^f	215.2	69.8	54.1	57.3	48.1	102.2	105.4	129	122	145	68	66
Atlanta												
1998	115.4	32.7	41.0	37.2	27.6	68.6	64.8	80	88	118	48	50
1999	123.7	36.1	40.9	39.0	31.8	72.6	70.8	88	92	114	50	51
2000	131.2	40.7	42.7	42.6	32.5	75.1	75.1	95	96	126	54	54
2001	138.8	38.9	44.5	43.8	33.8	78.2	77.6	87	89	115	50	50
2002	146.5	39.1	45.2	45.2	34.6	79.8	79.8	86	86	113	49	49
2003	152.4	37.5	46.3	47.5	36.6	82.9	84.1	81	79	102	45	45
2004 ^f	159.3	41.4	47.4	49.9	38.8	86.2	88.7	87	83	107	48	47
2005 ^f	166.4	45.5	48.6	52.4	41.1	89.7	93.5	94	87	111	51	49
2006 ^f	173.9	50.0	49.8	55.1	43.5	93.3	98.5	100	91	115	54	51
2007 ^f	181.7	54.9	51.0	57.8	46.1	97.1	103.9	108	95	119	57	53
2008 ^f	189.9	60.2	52.3	60.7	48.8	101.1	109.5	115	99	123	60	55
Houston												
1998	97.5	31.1	39.3	41.4	36.9	76.3	78.4	79	75	84	41	40
1999	105.3	34.5	37.9	45.1	34.6	72.5	79.7	91	76	100	48	43
2000	116.1	41.1	40.2	45.0	36.8	76.9	81.8	102	91	112	53	50
2001	122.4	39.1	41.4	47.2	37.9	79.3	85.1	95	83	103	49	46
2002	132.8	40.6	42.7	48.0	36.3	79.0	84.3	95	85	112	51	48
2003	136.4	38.1	43.6	49.8	36.2	79.9	86.1	87	77	105	48	44
2004 ^f	143.5	42.3	44.5	51.7	36.2	80.7	87.8	95	82	117	52	48
2005 ^f	151.0	46.9	45.5	53.7	36.1	81.6	89.7	103	87	130	57	52
2006 ^f	158.8	51.8	46.5	55.7	36.0	82.4	91.7	112	93	144	63	57
2007 ^f	167.1	57.3	47.5	57.8	35.9	83.3	93.7	121	99	160	69	61
2008 ^f	175.7	63.2	48.5	60.0	35.8	84.3	95.8	130	105	177	75	66
Philadelphia												
1998	129.7	41.9	49.9	43.2	36.5	86.4	79.7	84	97	115	49	53
1999	124.8	41.4	47.9	44.6	37.9	85.8	82.6	86	93	109	48	50
2000	125.2	44.4	49.5	46.6	44.2	93.6	90.8	90	95	100	47	49
2001	134.8	43.4	50.1	49.3	44.9	95.0	94.3	87	88	97	46	46
2002	146.1	44.9	51.5	50.4	46.1	97.6	96.6	87	89	97	46	47
2003	168.0	48.1	51.9	52.4	49.0	100.9	101.4	93	92	98	48	47
2004 ^f	173.9	52.5	52.4	54.5	52.0	104.4	106.5	100	96	101	50	49
2005 ^f	180.0	57.3	52.8	56.7	55.2	108.0	111.9	108	101	104	53	51
2006 ^f	186.3	62.3	53.2	58.9	58.6	111.9	117.6	117	106	106	56	53
2007 ^f	192.8	67.7	53.7	61.3	62.3	116.0	123.6	126	110	109	58	55
2008 ^f	199.5	73.4	54.1	63.7	66.1	120.3	129.9	136	115	111	61	57

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: Tables 4 and 5.

c. The weighted averages are calculated from the annual wage data obtained from *Occupational Employment Statistics Survey*, U.S. Bureau of Labor Statistics.

d. Family income is the sum of the weighted averages of annual wages for school teachers and police/firefighters.

e. Family income is the sum of the weighted averages of annual wages for nurses and police/firefighters.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 6b. Homeownership Affordability by Selected Occupations: Repeat Home Buyers

(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Income to Qualify for a Mortgage (\$000) ^b	Weighted Average Annual Wage (\$000)					Homeownership Affordability Ratio (%)				
			School Teachers ^c	Registered/ Licensed Nurses ^c	Police Officers/ Firefighters ^c	Teacher - Police Family ^d	Nurse - Firefighter Family ^e	School Teachers	Registered/ Licensed Nurses	Police Officers/ Firefighters	Teacher - Police Family	Nurse - Firefighter Family
Chicago												
1998	166.8	51.0	41.4	39.6	40.1	81.5	79.7	123	129	127	62	64
1999	171.2	53.2	45.2	42.3	37.7	82.9	79.9	118	126	141	64	67
2000	171.8	56.8	46.3	46.3	42.0	88.3	88.3	123	123	135	64	64
2001	198.5	60.6	50.8	48.0	42.0	92.9	90.0	119	126	144	65	67
2002	220.9	63.3	51.5	48.9	45.9	97.4	94.8	123	130	138	65	67
2003	238.9	62.6	54.5	51.5	47.6	102.1	99.1	115	122	132	61	63
2004 ^f	252.5	69.8	57.6	54.3	49.3	106.9	103.6	121	129	142	65	67
2005 ^f	266.9	77.8	60.8	57.2	51.1	112.0	108.4	128	136	152	69	72
2006 ^f	282.1	86.6	64.3	60.3	53.0	117.3	113.3	135	144	163	74	76
2007 ^f	298.2	96.2	67.9	63.6	55.0	122.9	118.6	142	151	175	78	81
2008 ^f	315.2	106.7	71.8	67.0	57.0	128.8	124.0	149	159	187	83	86
Denver												
1998	152.2	44.1	37.4	42.3	37.3	74.7	79.6	118	104	118	59	55
1999	171.3	50.6	37.8	44.3	40.7	78.6	85.0	134	114	124	64	59
2000	196.8	61.4	39.7	45.5	44.0	83.7	89.5	155	135	140	73	69
2001	218.3	62.6	40.7	48.1	46.2	86.9	94.3	154	130	136	72	66
2002	228.1	61.4	43.2	49.6	47.7	90.8	97.3	142	124	129	68	63
2003	238.2	58.9	44.7	51.7	50.7	95.4	102.3	132	114	116	62	58
2004 ^f	257.7	67.3	46.4	53.8	53.9	100.2	107.7	145	125	125	67	63
2005 ^f	278.9	76.8	48.1	56.0	57.3	105.4	113.3	160	137	134	73	68
2006 ^f	301.7	87.5	49.8	58.3	60.9	110.7	119.2	175	150	144	79	73
2007 ^f	326.5	99.4	51.7	60.7	64.7	116.4	125.4	192	164	154	85	79
2008 ^f	353.2	112.9	53.6	63.1	68.8	122.4	132.0	211	179	164	92	86
Seattle												
1998	175.3	50.6	40.7	47.5	44.7	85.4	92.3	124	106	113	59	55
1999	N/A	N/A	41.4	48.6	42.7	84.1	91.3	N/A	N/A	N/A	N/A	N/A
2000	230.1	69.9	41.9	51.0	45.8	87.7	96.8	167	137	153	80	72
2001	245.4	69.7	42.9	52.8	46.6	89.5	99.4	163	132	150	78	70
2002	254.0	68.0	43.8	54.4	50.2	94.0	104.7	155	125	135	72	65
2003	268.8	66.0	44.6	56.3	51.8	96.4	108.1	148	117	127	68	61
2004 ^f	277.9	72.0	45.4	58.2	53.4	98.8	111.6	159	124	135	73	65
2005 ^f	287.4	78.5	46.2	60.2	55.0	101.2	115.3	170	130	143	78	68
2006 ^f	297.2	85.5	47.1	62.3	56.7	103.8	119.0	182	137	151	82	72
2007 ^f	307.3	92.9	47.9	64.5	58.5	106.4	122.9	194	144	159	87	76
2008 ^f	317.7	100.7	48.8	66.7	60.2	109.0	126.9	206	151	167	92	79
Washington, D.C.												
1998	172.1	49.6	41.7	42.8	39.9	81.7	82.7	119	116	124	61	60
1999	176.5	51.8	38.0	45.8	38.5	76.5	84.3	136	113	135	68	61
2000	182.6	57.9	36.9	47.4	41.9	78.8	89.3	157	122	138	74	65
2001	213.9	61.9	45.0	51.8	45.4	90.3	97.2	138	119	136	68	64
2002	250.2	68.9	45.7	53.7	44.7	90.4	98.4	151	128	154	76	70
2003	286.2	73.6	47.0	56.9	46.0	93.1	102.9	157	129	160	79	72
2004 ^f	301.1	81.6	48.4	60.3	47.4	95.8	107.7	169	135	172	85	76
2005 ^f	316.7	90.4	49.8	63.8	48.8	98.6	112.7	182	142	185	92	80
2006 ^f	333.2	100.0	51.2	67.6	50.3	101.5	117.9	195	148	199	98	85
2007 ^f	350.5	110.3	52.7	71.6	51.8	104.5	123.4	209	154	213	106	89
2008 ^f	368.8	121.6	54.3	75.8	53.4	107.6	129.2	224	160	228	113	94

Notes:

a. Source: National Association of REALTORS®. Used with permission. Reprinting or retransmission of this data is prohibited without written permission.

b. Source: Tables 4 and 5.

c. The weighted averages are calculated from the annual wage data obtained from *Occupational Employment Statistics Survey*, U.S. Bureau of Labor Statistics.

d. Family income is the sum of the weighted averages of annual wages for school teachers and police/firefighters.

e. Family income is the sum of the weighted averages of annual wages for nurses and police/firefighters.

f. Results for 2004-2008 (shaded area in italics) are projections.

Table 6c. Homeownership Affordability by Selected Occupations: Repeat Home Buyers

(Assuming 20% down payment and 0.5-percentage-point increase per year in mortgage rate beginning 2004)

Year	Median House Price (\$000) ^a	Income to Qualify for a Mortgage (\$000) ^b	Weighted Average Annual Wage (\$000)					Homeownership Affordability Ratio (%)				
			School Teachers ^c	Registered/ Licensed Nurses ^c	Police Officers/ Firefighters ^c	Teacher - Police Family ^d	Nurse - Firefighter Family ^e	School Teachers	Registered/ Licensed Nurses	Police Officers/ Firefighters	Teacher - Police Family	Nurse - Firefighter Family
Boston												
1998	258.4	76.9	40.3	49.0	37.2	77.5	86.3	191	157	207	99	89
1999	290.0	87.7	44.3	48.5	40.7	85.0	89.2	198	181	216	103	98
2000	314.2	101.4	44.5	49.6	38.4	82.8	88.0	228	204	264	122	115
2001	356.6	104.6	47.0	52.1	45.1	92.0	97.1	223	201	232	114	108
2002	395.9	109.5	48.4	54.8	44.8	93.3	99.7	226	200	244	117	110
2003	412.8	105.0	50.7	56.4	47.1	97.9	103.5	207	186	223	107	101
2004 ^f	442.1	118.7	53.2	58.0	49.5	102.7	107.6	223	205	240	116	110
2005 ^f	473.5	134.0	55.7	59.7	52.1	107.8	111.8	240	224	257	124	120
2006 ^f	507.1	150.9	58.4	61.4	54.8	113.1	116.2	259	246	276	133	130
2007 ^f	543.1	169.8	61.2	63.2	57.6	118.7	120.7	278	269	295	143	141
2008 ^f	581.7	190.7	64.1	65.0	60.5	124.6	125.5	298	293	315	153	152
Los Angeles												
1998	192.6	52.4	48.9	47.8	50.2	99.1	98.1	107	110	104	53	53
1999	199.0	53.2	48.7	50.0	48.5	97.2	98.4	109	106	110	55	54
2000	215.9	60.9	49.2	51.1	49.3	98.5	100.4	124	119	124	62	61
2001	241.4	65.3	50.7	51.9	51.9	102.6	103.9	129	126	126	64	63
2002	286.0	73.3	51.8	54.0	53.4	105.2	107.4	142	136	137	70	68
2003	354.7	84.0	52.5	55.7	54.2	106.8	109.9	160	151	155	79	76
2004 ^f	370.3	92.6	53.3	57.4	55.1	108.4	112.5	174	161	168	85	82
2005 ^f	386.6	101.8	54.1	59.2	56.0	110.0	115.1	188	172	182	93	88
2006 ^f	403.6	111.9	54.9	61.0	56.8	111.7	117.9	204	183	197	100	95
2007 ^f	421.4	122.7	55.7	62.9	57.7	113.4	120.7	220	195	213	108	102
2008 ^f	439.9	134.4	56.5	64.8	58.7	115.2	123.5	238	207	229	117	109
New York												
1998	188.1	55.7	44.4	52.3	45.6	90.0	97.9	125	106	122	62	57
1999	203.2	61.4	58.6	52.7	43.2	101.8	95.9	105	116	142	60	64
2000	230.2	74.4	52.9	52.4	47.4	100.3	99.8	141	142	157	74	75
2001	258.2	76.0	54.0	56.0	47.2	101.2	103.2	141	136	161	75	74
2002	309.8	85.8	54.7	58.1	49.6	104.2	107.6	157	148	173	82	80
2003	352.6	89.5	58.1	59.6	50.7	108.8	110.3	154	150	177	82	81
2004 ^f	373.1	100.0	61.9	61.2	51.8	113.7	113.0	162	163	193	88	88
2005 ^f	394.7	111.5	65.8	62.8	53.0	118.8	115.8	169	177	210	94	96
2006 ^f	417.6	124.1	70.0	64.5	54.2	124.2	118.7	177	192	229	100	105
2007 ^f	441.8	137.9	74.5	66.2	55.4	129.9	121.7	185	208	249	106	113
2008 ^f	467.4	153.1	79.3	68.0	56.7	136.0	124.7	193	225	270	113	123
San Francisco												
1998	321.7	86.8	43.2	56.7	48.6	91.8	105.3	201	153	179	95	82
1999	340.8	89.4	42.8	58.5	58.2	101.0	116.7	209	153	154	88	77
2000	454.6	122.8	44.5	60.1	58.4	102.9	118.5	276	204	210	119	104
2001	475.9	126.7	48.2	62.4	60.7	108.9	123.1	263	203	209	116	103
2002	517.1	127.9	50.1	66.5	55.4	105.6	122.0	255	192	231	121	105
2003	558.1	130.8	52.0	69.3	57.6	109.6	126.8	251	189	227	119	103
2004 ^f	593.8	147.0	54.0	72.1	59.8	113.8	131.9	272	204	246	129	111
2005 ^f	631.8	164.9	56.1	75.0	62.1	118.2	137.1	294	220	266	140	120
2006 ^f	672.3	184.7	58.2	78.1	64.5	122.7	142.6	317	237	286	150	130
2007 ^f	715.3	206.5	60.4	81.3	67.0	127.4	148.2	342	254	308	162	139
2008 ^f	761.1	230.6	62.8	84.6	69.6	132.3	154.1	367	273	331	174	150

Notes:

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b. Source: Tables 4 and 5.

c. The weighted averages are calculated from the annual wage data obtained from *Occupational Employment Statistics Survey*, U.S. Bureau of Labor Statistics.

d. Family income is the sum of the weighted averages of annual wages for school teachers and police/firefighters.

e. Family income is the sum of the weighted averages of annual wages for nurses and police/firefighters

f. Results for 2004-2008 (shaded area in italics) are projections.

Attachment 1. Homeownership Affordability Ratio for First-Time Home Buyers by Metropolitan Areas: Sensitivity Test of Mortgage Rate Changes

(Assuming 10% down payment and 0.75-percentage-point increase per year in mortgage rate beginning 2004)

Year	United States	Tier 1: Remaining Affordable			Tier 2: Shifting to Unaffordable				Tier 3: Increasingly Unaffordable			
		Atlanta	Houston	Philadelphia	Chicago	Denver	Seattle	Washington, D.C.	Boston	Los Angeles	New York	San Francisco
1990	117	91	87	139	129	97	158	131	172	230	216	239
1991	115	83	81	132	125	91	139	110	147	208	187	205
1992	104	76	80	122	116	85	125	101	134	174	168	181
1993	98	68	73	99	110	77	107	90	122	144	150	148
1994	100	69	74	106	111	83	105	91	130	132	155	137
1995	102	73	72	106	116	98	112	92	129	136	150	145
1996	101	69	75	105	111	93	114	86	125	129	143	149
1997	101	73	75	100	109	94	114	86	144	128	140	151
1998	96	72	74	95	103	95	103	83	154	127	134	153
1999	97	72	76	89	100	104	N/A	79	168	125	138	149
2000	104	77	86	91	100	118	127	84	185	141	158	198
2001	100	70	80	86	103	117	116	87	180	145	155	191
2002	99	66	82	85	101	106	106	91	178	161	165	181
2003	95	66	78	85	110	105	112	105	158	204	209	175
2004 ^a	104	74	82	92	126	118	127	120	184	217	234	197
2005 ^a	113	80	90	98	138	132	136	130	203	237	258	213
2006 ^a	123	87	99	104	151	147	145	141	223	259	284	231
2007 ^a	133	93	108	110	165	164	154	153	245	282	311	249
2008 ^a	144	100	117	117	180	181	163	164	268	307	341	268

a. Figures for 2004-2008 (shaded area in italics) are projections.

Attachment 2. Homeownership Affordability Ratio for First-Time Home Buyers by Occupation and Metropolitan Area:

Sensitivity Test of Mortgage Rate Changes

(Assuming 10% down payment and 0.75-percentage-point increase per year in mortgage rate beginning 2004)

Year	School Teachers	Nurses	Police Officers/Firefighters	Teacher - Police Family	Nurse - Firefighter Family	Year	School Teachers	Nurses	Police Officers/Firefighters	Teacher - Police Family	Nurse - Firefighter Family
<u>United States</u>						<u>Atlanta</u>					
1998	114	114	130	61	61	1998	96	106	143	57	61
1999	118	117	134	63	62	1999	106	111	137	60	61
2000	125	124	143	67	66	2000	114	114	150	65	65
2001	116	116	135	62	62	2001	105	107	139	60	60
2002	117	115	133	62	62	2002	105	104	137	59	59
2003	113	109	128	60	59	2003	99	96	125	55	54
2004	123	119	139	65	64	2004	108	103	132	60	58
2005	134	129	152	71	70	2005	119	110	140	64	62
2006	146	140	165	77	76	2006	129	117	148	69	65
2007	158	151	178	84	82	2007	141	124	156	74	69
2008	171	162	193	91	88	2008	153	132	164	79	73
<u>Houston</u>						<u>Philadelphia</u>					
1998	95	90	101	49	48	1998	100	116	137	58	63
1999	109	91	119	57	52	1999	103	111	130	58	60
2000	122	109	133	64	60	2000	107	113	119	56	58
2001	113	99	123	59	55	2001	103	105	115	55	55
2002	114	102	134	62	58	2002	105	107	117	55	56
2003	105	92	127	58	53	2003	112	110	118	57	57
2004	112	97	138	62	57	2004	121	116	122	61	59
2005	124	105	157	69	63	2005	133	124	128	65	63
2006	137	114	177	77	69	2006	147	132	133	70	66
2007	151	124	199	86	76	2007	161	141	138	74	70
2008	165	134	224	95	84	2008	176	149	144	79	73
<u>Chicago</u>						<u>Denver</u>					
1998	147	154	152	75	77	1998	142	126	142	71	67
1999	141	151	169	77	80	1999	161	137	149	77	71
2000	146	146	161	77	77	2000	185	162	167	88	82
2001	143	152	173	78	81	2001	185	157	163	87	80
2002	148	156	166	78	80	2002	172	150	156	82	76
2003	139	147	159	74	76	2003	160	139	141	75	70
2004	152	161	178	82	85	2004	177	153	153	82	76
2005	164	174	195	89	92	2005	199	171	167	91	84
2006	176	187	213	96	100	2006	223	190	182	100	93
2007	188	201	232	104	108	2007	248	211	198	110	102
2008	200	214	252	112	116	2008	276	234	215	121	112
<u>Seattle</u>						<u>Washington, D.C.</u>					
1998	150	128	136	71	66	1998	143	140	149	73	72
1999	N/A	N/A	N/A	N/A	N/A	1999	164	136	162	81	74
2000	200	164	183	96	87	2000	188	146	165	88	78
2001	196	159	180	94	84	2001	165	144	164	82	77
2002	188	151	164	87	79	2002	182	155	186	92	84
2003	180	143	155	83	74	2003	190	157	194	96	87
2004	202	157	172	93	82	2004	212	170	216	107	95
2005	220	169	185	101	88	2005	232	181	237	117	103
2006	240	181	199	109	95	2006	254	193	259	128	110
2007	260	193	213	117	101	2007	277	204	282	140	118
2008	282	206	228	126	108	2008	302	216	307	152	127
<u>Boston</u>						<u>Los Angeles</u>					
1998	229	188	248	119	107	1998	130	132	126	64	65
1999	238	217	259	124	118	1999	132	129	133	66	65
2000	273	244	316	146	138	2000	149	144	149	75	73
2001	268	241	279	137	129	2001	156	152	152	77	76
2002	273	241	295	142	133	2002	172	165	167	85	83
2003	251	226	270	130	123	2003	195	184	189	96	93
2004	285	261	306	148	141	2004	217	202	210	107	103
2005	313	292	335	162	156	2005	240	220	232	118	113
2006	343	326	366	177	172	2006	265	238	256	130	123
2007	375	363	398	193	190	2007	291	258	281	143	134
2008	408	402	432	210	208	2008	319	278	307	157	146
<u>New York</u>						<u>San Francisco</u>					
1998	151	128	147	74	68	1998	243	185	216	114	100
1999	126	140	170	72	77	1999	253	185	186	107	93
2000	168	170	187	89	89	2000	333	247	254	144	125
2001	169	163	193	90	88	2001	318	246	252	141	124
2002	189	178	209	99	96	2002	310	234	281	147	128
2003	187	182	214	100	99	2003	307	231	277	146	126
2004	205	208	245	112	112	2004	346	259	313	164	142
2005	219	230	273	122	125	2005	381	285	344	181	156
2006	234	254	302	132	138	2006	419	312	378	199	171
2007	248	280	334	142	152	2007	458	341	414	217	187
2008	263	307	368	154	167	2008	501	372	452	238	204

Attachment 3. Homeownership Affordability Ratio for Repeat Home Buyers by Metropolitan Areas: Sensitivity Test of Mortgage Rate Changes

(Assuming 20% down payment and 0.75-percentage-point increase per year in mortgage rate beginning 2004)

Year	United States	Tier 1: Remaining Affordable			Tier 2: Shifting to Unaffordable				Tier 3: Increasingly Unaffordable			
		Atlanta	Houston	Philadelphia	Chicago	Denver	Seattle	Washington, D.C.	Boston	Los Angeles	New York	San Francisco
1990	99	77	74	118	109	82	133	111	145	194	182	201
1991	97	70	69	112	106	77	117	93	124	175	158	172
1992	87	63	68	103	98	71	105	84	112	145	141	151
1993	81	56	61	83	92	64	89	75	101	119	125	122
1994	83	57	62	89	93	69	87	76	109	109	129	113
1995	85	61	60	89	97	82	94	77	107	113	126	120
1996	84	58	63	88	93	77	95	72	105	108	120	123
1997	84	61	63	84	92	78	95	72	121	107	117	125
1998	80	60	62	79	86	79	86	69	128	105	112	127
1999	81	60	64	74	83	86	N/A	66	140	104	115	123
2000	87	65	73	77	84	99	106	70	155	117	132	164
2001	83	58	67	72	86	97	97	72	149	120	129	158
2002	82	55	68	71	84	88	87	75	148	133	137	149
2003	79	55	64	71	91	87	92	87	130	167	172	143
2004 ^a	86	62	71	78	103	99	103	98	148	178	189	159
2005 ^a	94	67	79	84	114	112	110	107	164	196	209	173
2006 ^a	103	72	86	89	125	125	118	116	181	215	231	188
2007 ^a	112	78	95	95	137	139	126	126	199	235	255	204
2008 ^a	121	84	103	101	150	155	134	137	218	256	280	220

a. Results for 2004-2008 (shaded area in italics) are projections.

Attachment 4. Homeownership Affordability Ratio for Repeat Home Buyers by Occupation and Metropolitan Area:

Sensitivity Test of Mortgage Rate Changes

(Assuming 20% down payment and 0.75-percentage-point increase per year in mortgage rate beginning 2004)

Year	School Teachers	Nurses	Police Officers/Firefighters	Teacher - Police Family	Nurse - Firefighter Family	Year	School Teachers	Nurses	Police Officers/Firefighters	Teacher - Police Family	Nurse - Firefighter Family
United States						Atlanta					
1998	95	95	108	50	51	1998	80	88	118	48	50
1999	98	97	112	52	52	1999	88	92	114	50	51
2000	104	104	120	56	56	2000	95	96	126	54	54
2001	97	96	112	52	52	2001	87	89	115	50	50
2002	97	95	110	52	51	2002	86	86	113	49	49
2003	93	90	105	49	49	2003	81	79	102	45	45
2004	102	99	115	54	53	2004	90	85	109	49	48
2005	112	107	126	59	58	2005	99	91	117	53	51
2006	122	117	138	65	63	2006	108	98	124	58	55
2007	133	126	150	70	69	2007	118	104	131	62	58
2008	144	136	162	76	74	2008	129	111	138	67	62
Houston						Philadelphia					
1998	79	75	84	41	40	1998	84	97	115	49	53
1999	91	76	100	48	43	1999	86	93	109	48	50
2000	102	91	112	53	50	2000	90	95	100	47	49
2001	95	83	103	49	46	2001	87	88	97	46	46
2002	95	85	112	51	48	2002	87	89	97	46	47
2003	87	77	105	48	44	2003	93	92	98	48	47
2004	97	84	120	54	49	2004	103	99	104	52	51
2005	108	92	137	60	55	2005	114	106	109	56	54
2006	120	100	155	68	61	2006	126	114	114	60	57
2007	132	109	175	75	67	2007	138	121	119	64	60
2008	146	118	198	84	74	2008	152	129	124	68	63
Chicago						Denver					
1998	123	129	127	62	64	1998	118	104	118	59	55
1999	118	126	141	64	67	1999	134	114	124	64	59
2000	123	123	135	64	64	2000	155	135	140	73	69
2001	119	126	144	65	67	2001	154	130	136	72	66
2002	123	130	138	65	67	2002	142	124	129	68	63
2003	115	122	132	61	63	2003	132	114	116	62	58
2004	125	132	145	67	69	2004	149	129	128	69	64
2005	135	143	160	73	76	2005	168	144	141	77	71
2006	145	155	176	79	82	2006	189	162	155	85	79
2007	156	166	192	86	89	2007	212	180	169	94	87
2008	167	178	210	93	96	2008	236	200	184	103	96
Seattle						Washington, D.C.					
1998	124	106	113	59	55	1998	119	116	124	61	60
1999	N/A	N/A	N/A	N/A	N/A	1999	136	113	135	68	61
2000	167	137	153	80	72	2000	157	122	138	74	65
2001	163	132	150	78	70	2001	138	119	136	68	64
2002	155	125	135	72	65	2002	151	128	154	76	70
2003	148	117	127	68	61	2003	157	129	160	79	72
2004	163	127	139	75	66	2004	173	139	177	87	78
2005	179	137	150	82	72	2005	191	149	195	96	84
2006	196	148	162	89	77	2006	210	159	213	106	91
2007	213	158	175	96	83	2007	230	169	234	116	98
2008	231	169	187	104	89	2008	251	179	255	126	105
Boston						Los Angeles					
1998	191	157	207	99	89	1998	107	110	104	53	53
1999	198	181	216	103	98	1999	109	106	110	55	54
2000	228	204	264	122	115	2000	124	119	124	62	61
2001	223	201	232	114	108	2001	129	126	126	64	63
2002	226	200	244	117	110	2002	142	136	137	70	68
2003	207	186	223	107	101	2003	160	151	155	79	76
2004	229	210	246	119	113	2004	178	166	173	88	84
2005	253	236	271	131	126	2005	198	181	191	97	93
2006	278	264	297	144	140	2006	219	197	212	108	102
2007	305	295	324	157	154	2007	242	214	234	119	112
2008	333	329	353	171	170	2008	267	232	257	131	122
New York						San Francisco					
1998	125	106	122	62	57	1998	201	153	179	95	82
1999	105	116	142	60	64	1999	209	153	154	88	77
2000	141	142	157	74	75	2000	276	204	210	119	104
2001	141	136	161	75	74	2001	263	203	209	116	103
2002	157	148	173	82	80	2002	255	192	231	121	105
2003	154	150	177	82	81	2003	251	189	227	119	103
2004	166	168	198	90	91	2004	279	209	252	133	114
2005	178	187	221	99	101	2005	309	231	279	147	127
2006	191	207	246	107	112	2006	342	255	308	162	139
2007	203	229	273	117	125	2007	376	279	339	178	153
2008	216	252	303	126	138	2008	412	306	372	195	168

Figure 1a. Median Prices of Existing Single-Family Housing in the United States: 1990-2008

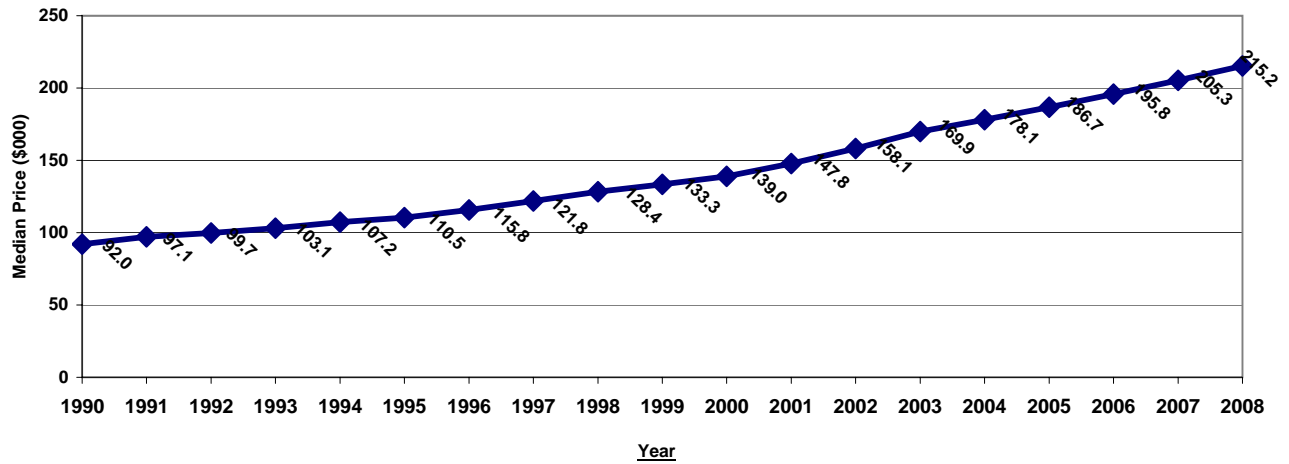


Figure 1b. Effective Interest Rate for Mortgages Closed on Existing Homes

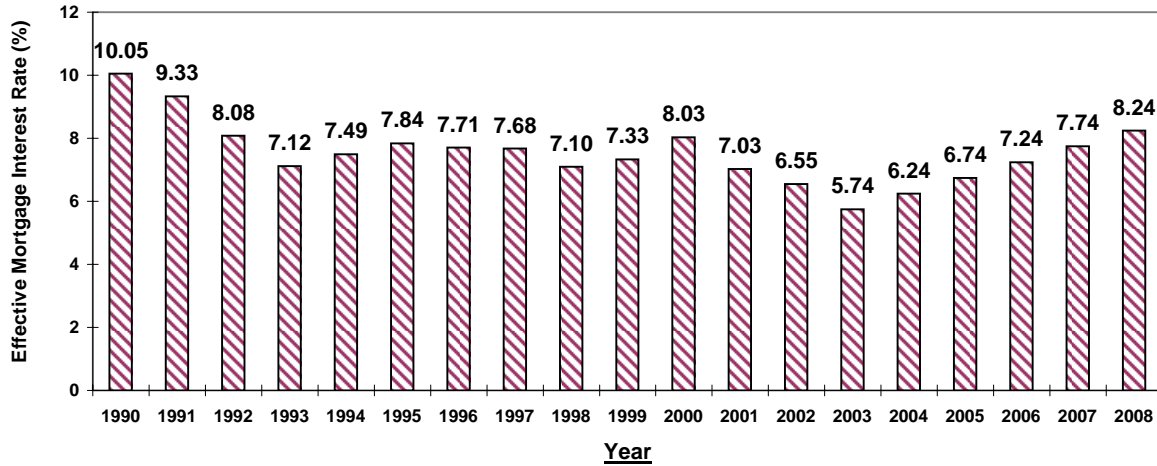


Figure 1c. Estimated Monthly Payment for Housing Expenses (P.I.T.I.) in the United States: First-Time Home Buyers

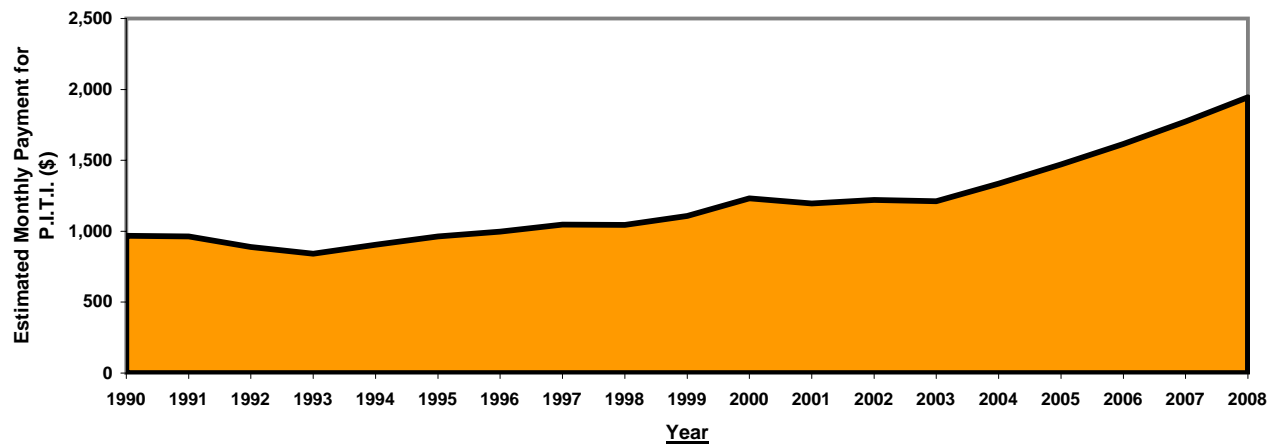


Figure 1d. Qualifying Income for Mortgage versus Median U.S. Family Income:
First-Time Home Buyers

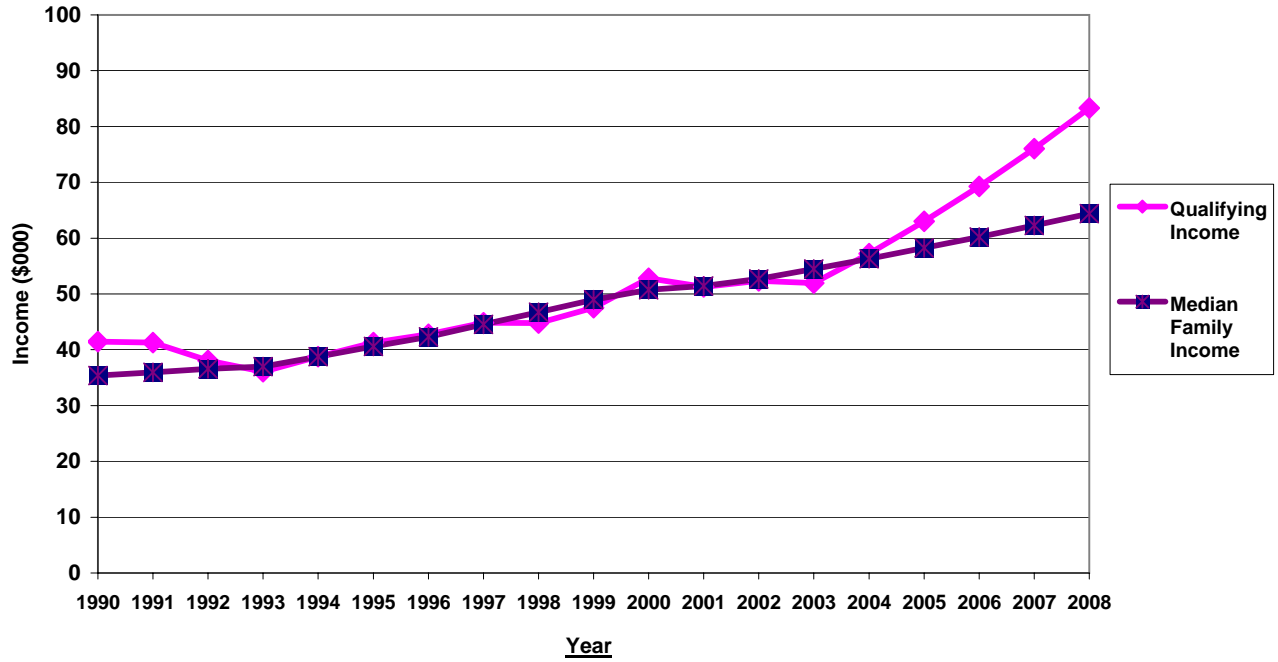
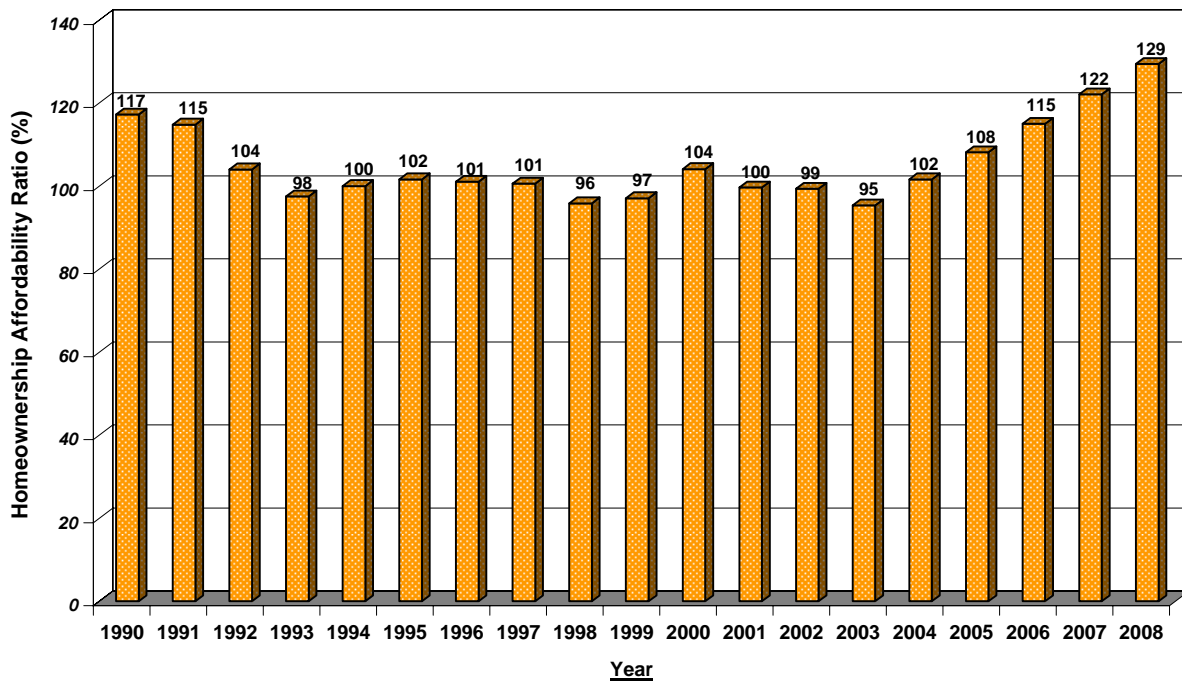


Figure 1e. Homeownership Affordability Ratio in the United States: First-Time Buyers



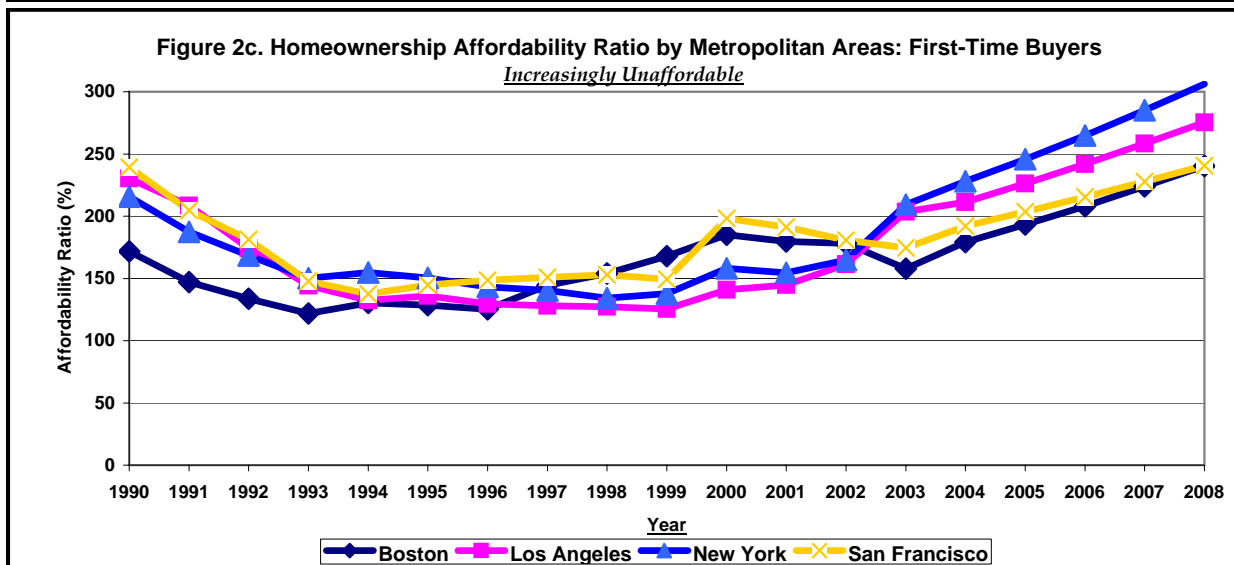
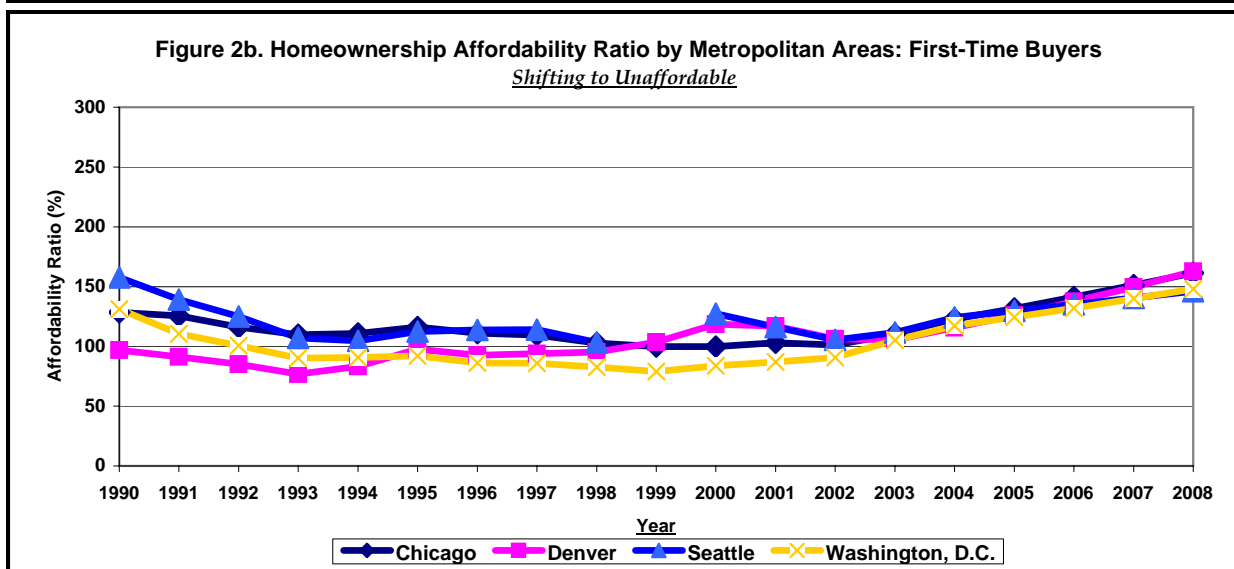
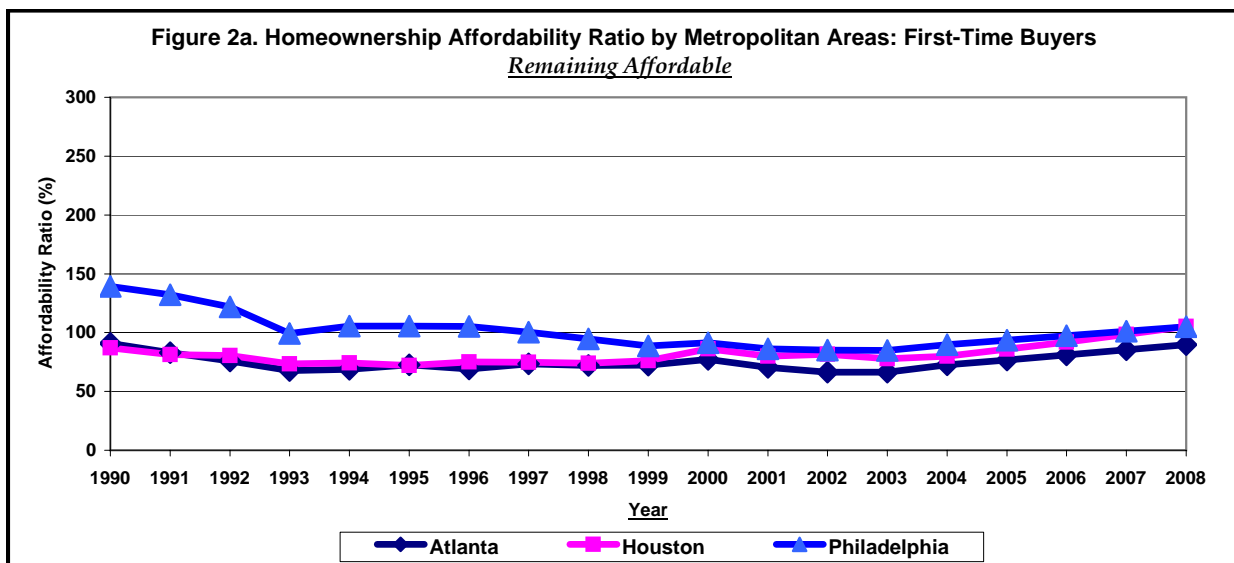


Figure 3a. Median Existing Home Prices by Selected Metropolitan Areas:

Tier 1

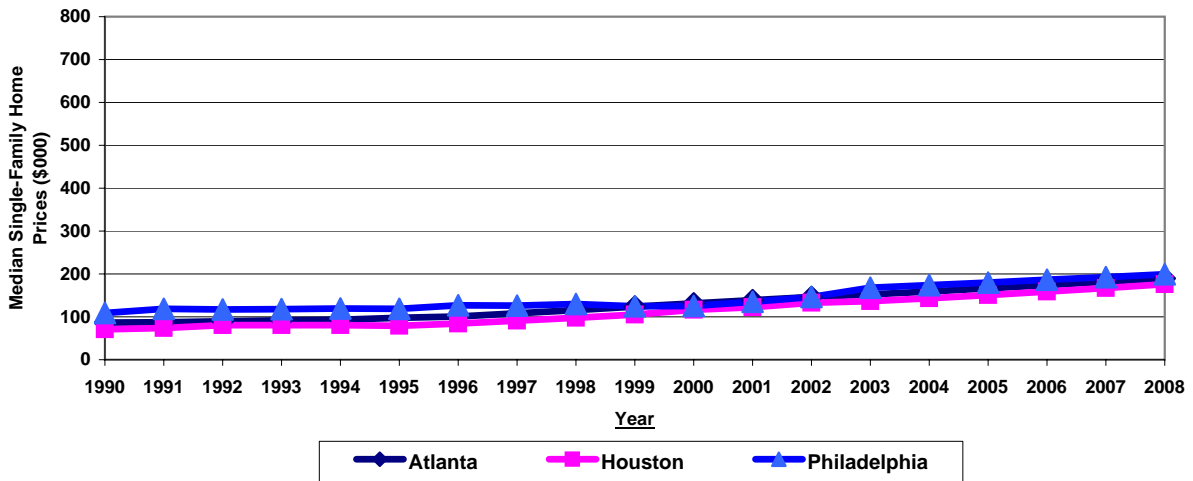


Figure 3b. Median Existing Home Prices by Selected Metropolitan Areas:

Tier 2

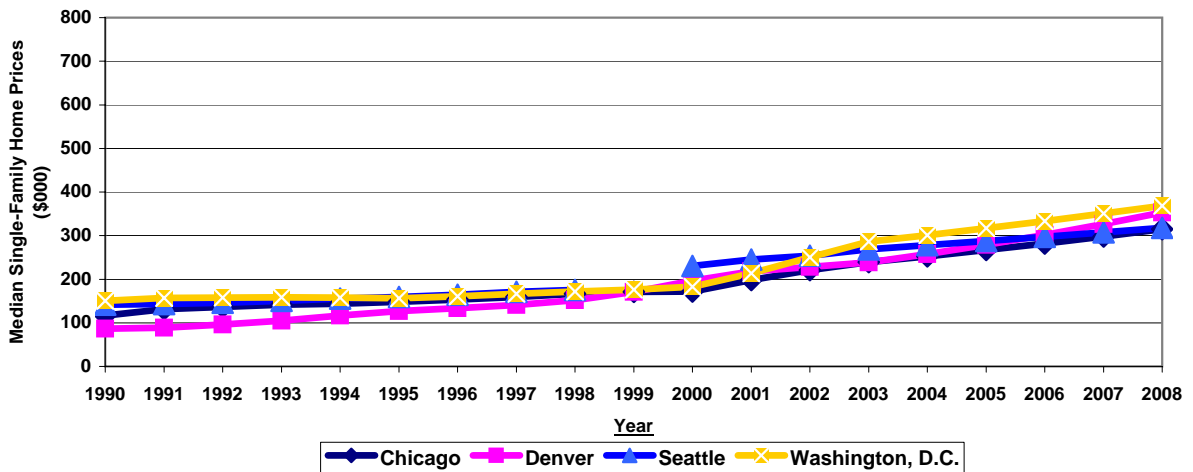


Figure 3c. Median Existing Home Prices by Selected Metropolitan Areas:

Tier 3

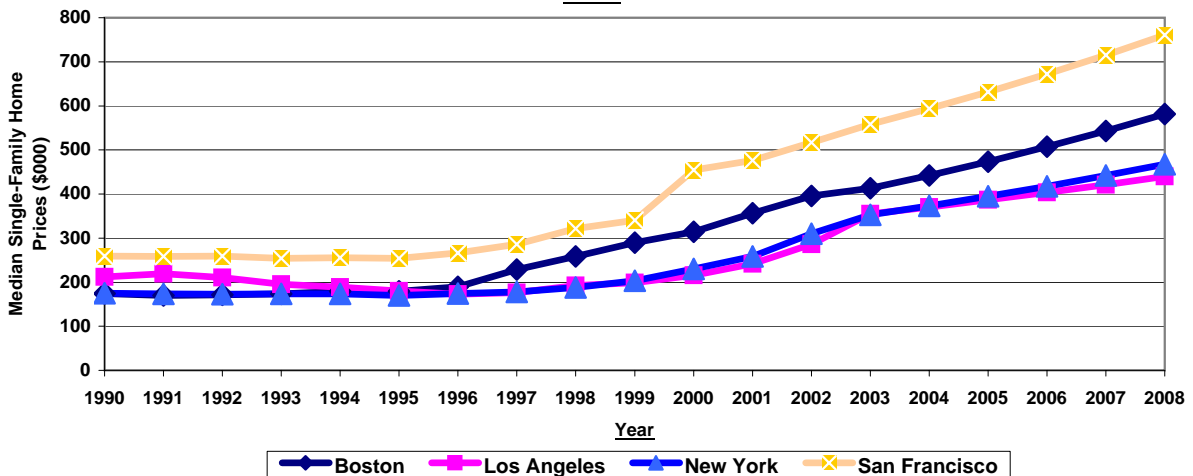


Figure 4. Homeownership Affordability for First-Time Buyers by Occupation: United States

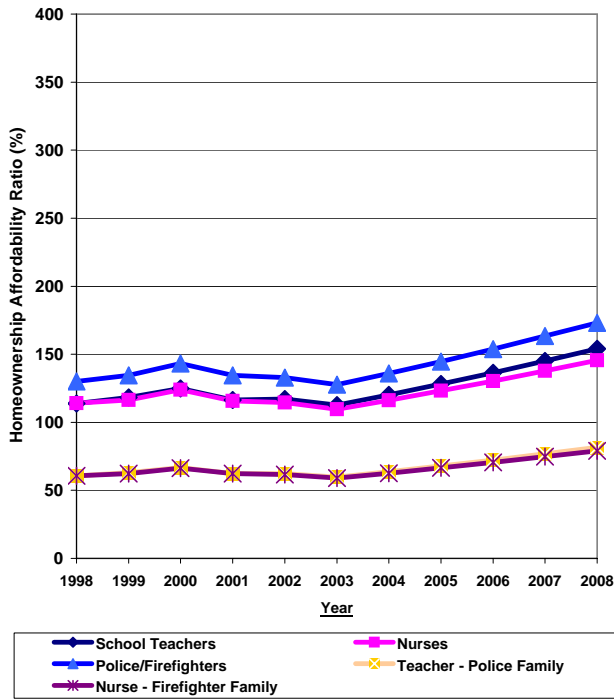


Figure 5a. Homeownership Affordability for First-Time Buyers by Occupation: Atlanta

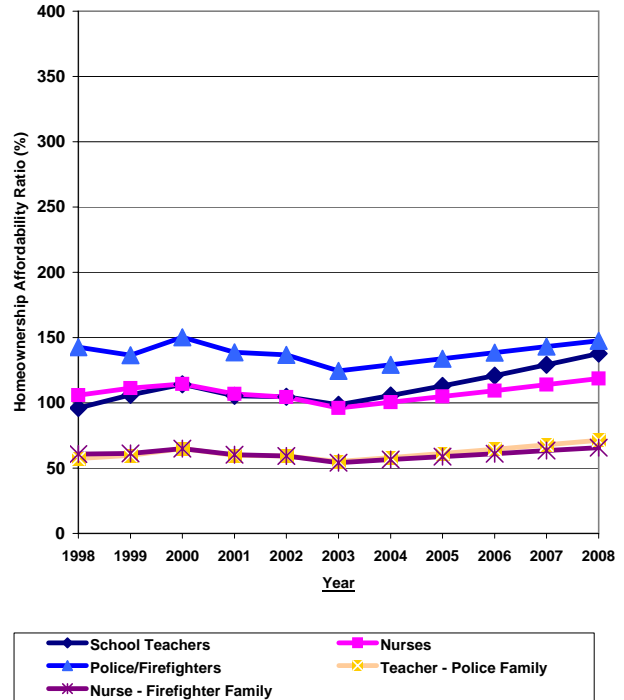


Figure 5b. Homeownership Affordability for First-Time Buyers by Occupation: Houston

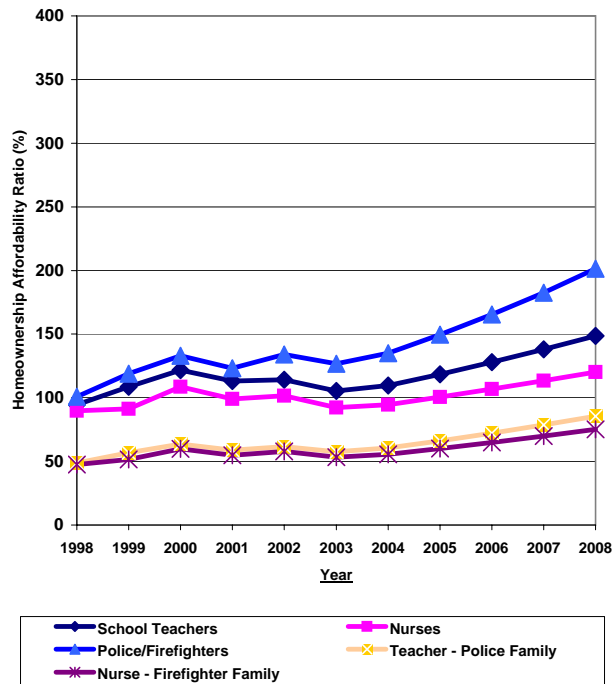


Figure 5c. Homeownership Affordability for First-Time Buyers by Occupation: Philadelphia

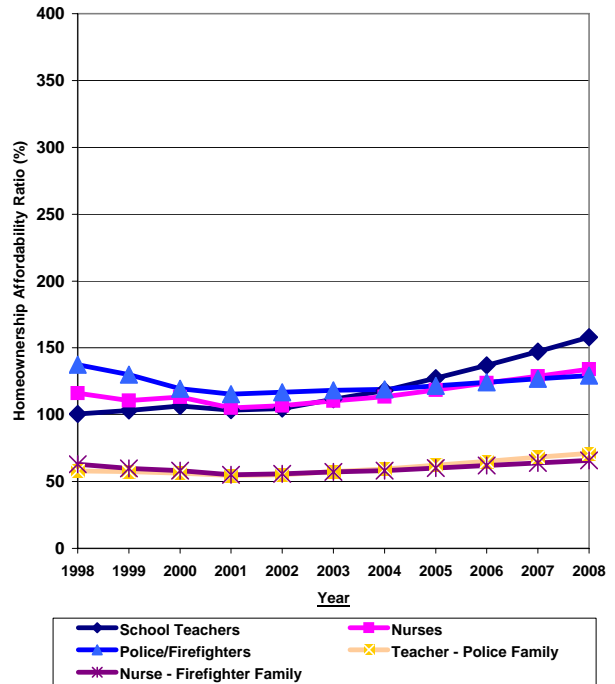


Figure 6a. Homeownership Affordability for First-Time Buyers
by Occupation: Chicago

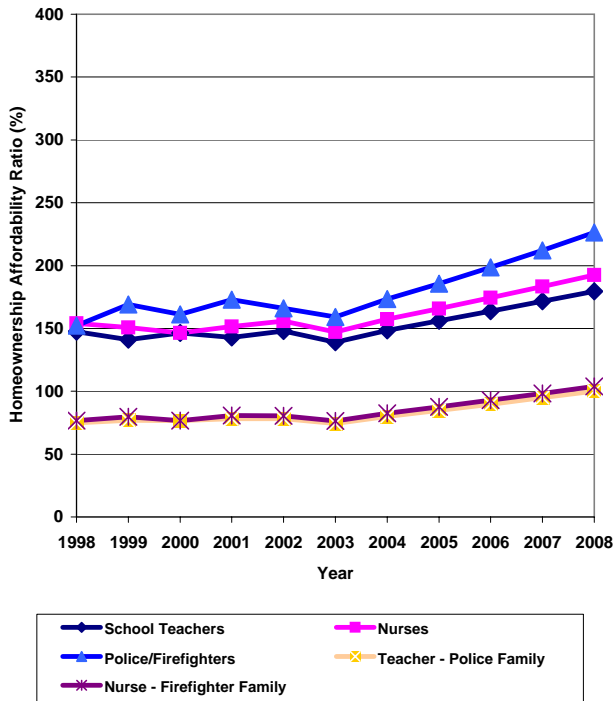


Figure 6b. Homeownership Affordability for First-Time Buyers
by Occupation: Denver

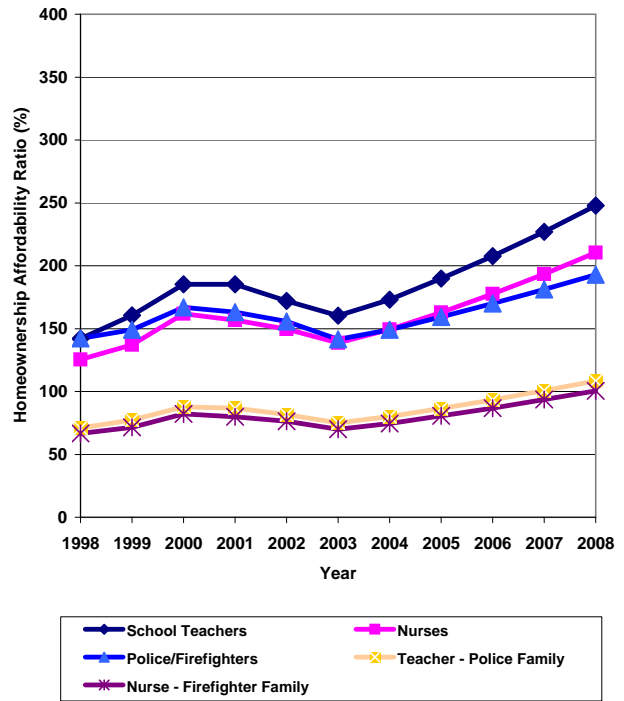


Figure 6c. Homeownership Affordability for First-Time Buyers
by Occupation: Seattle

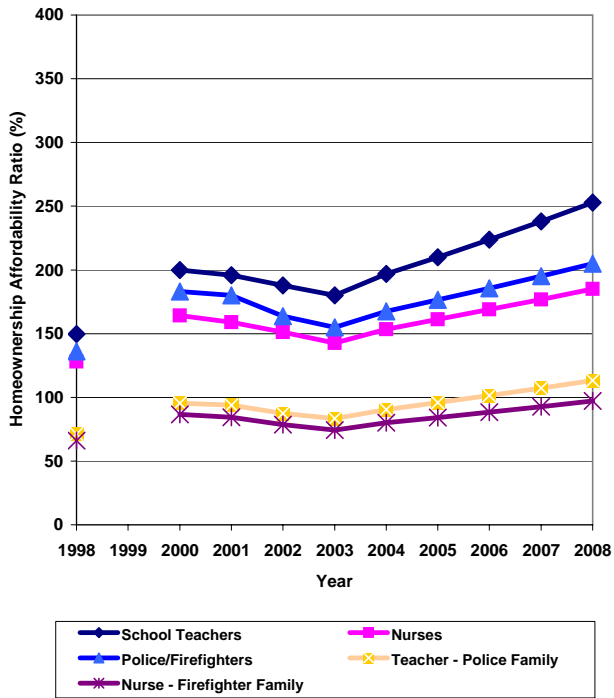


Figure 6d. Homeownership Affordability for First-Time Buyers
by Occupation: Washington, D.C.

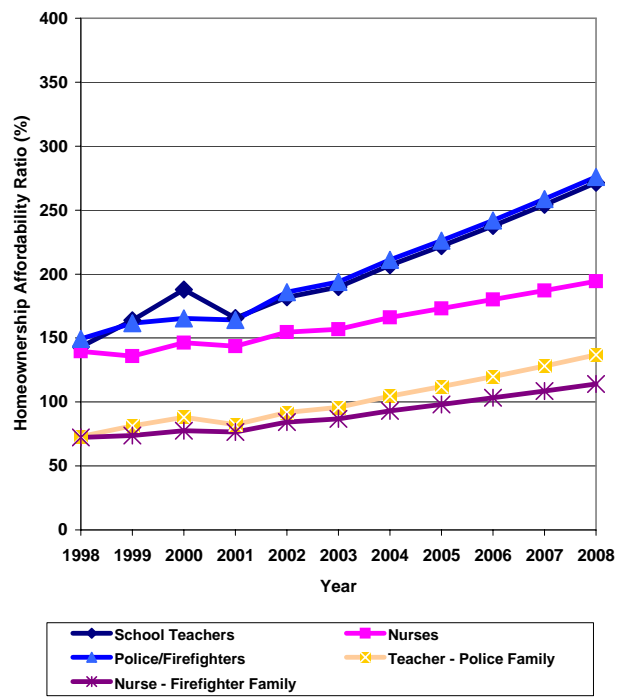


Figure 7a. Homeownership Affordability for First-Time Buyers by Occupation: Boston

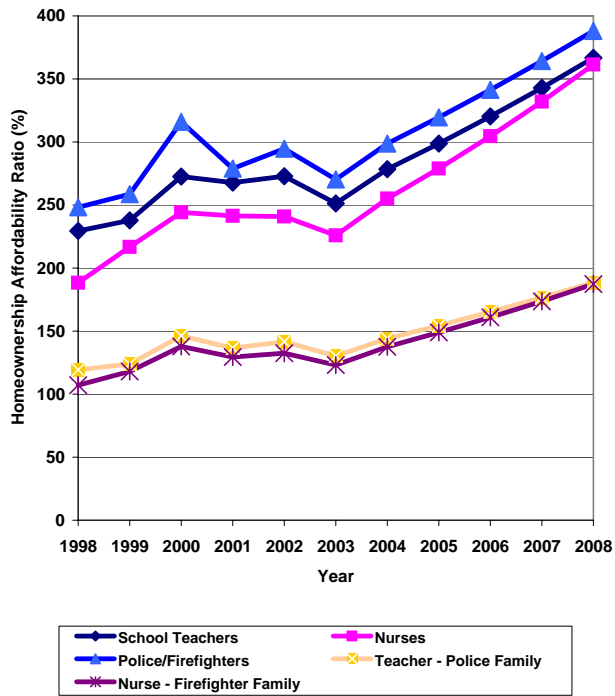


Figure 7b. Homeownership Affordability for First-Time Buyers by Occupation: Los Angeles

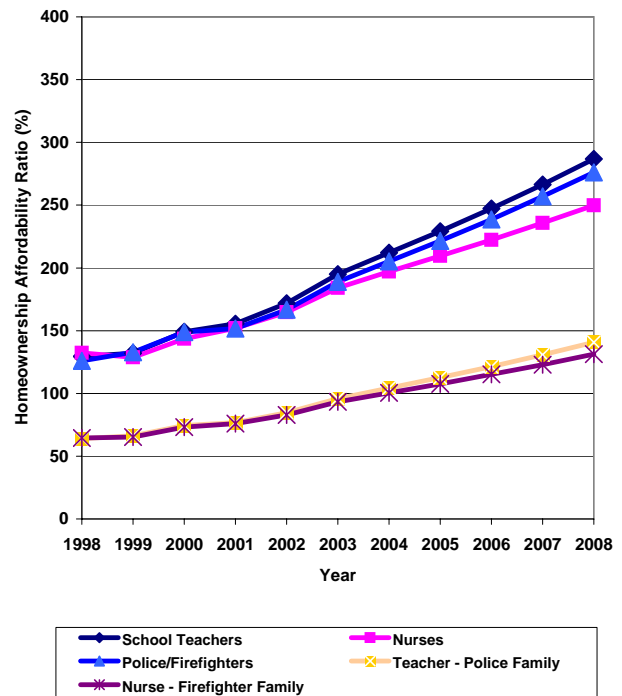


Figure 7c. Homeownership Affordability for First-Time Buyers by Occupation: New York

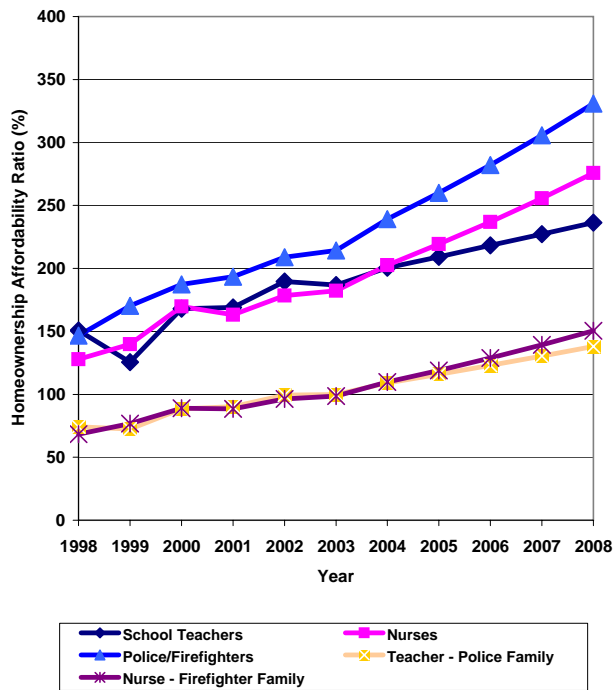


Figure 7d. Homeownership Affordability for First-Time Buyers by Occupation: San Francisco

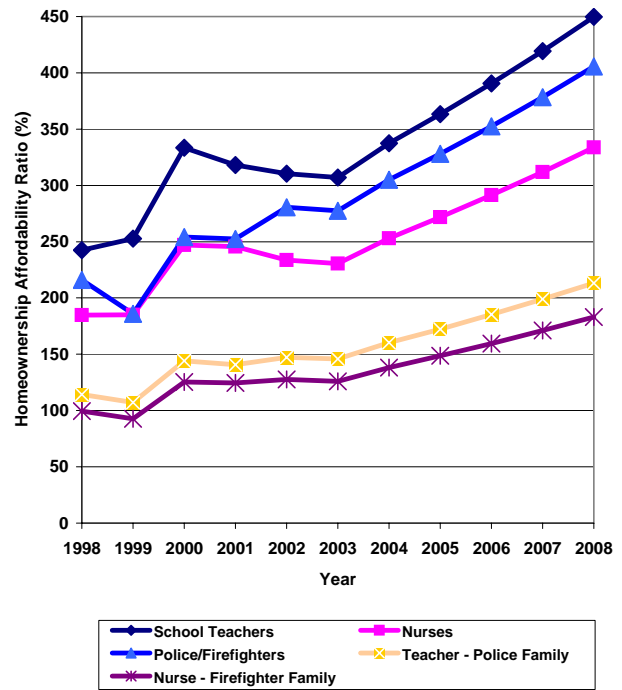


Figure 8a. Estimated Monthly Payment for Housing Expenses (P.I.T.I.) in the U. S.: Repeat Home Buyers

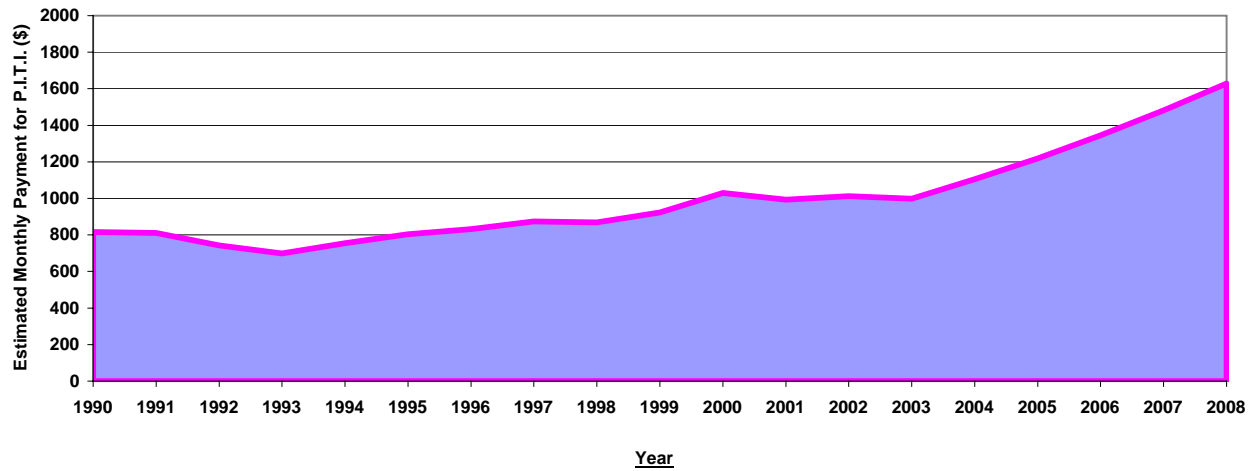


Figure 8b. Qualifying Income for Mortgage versus Median U.S. Family Income: Repeat Home Buyers

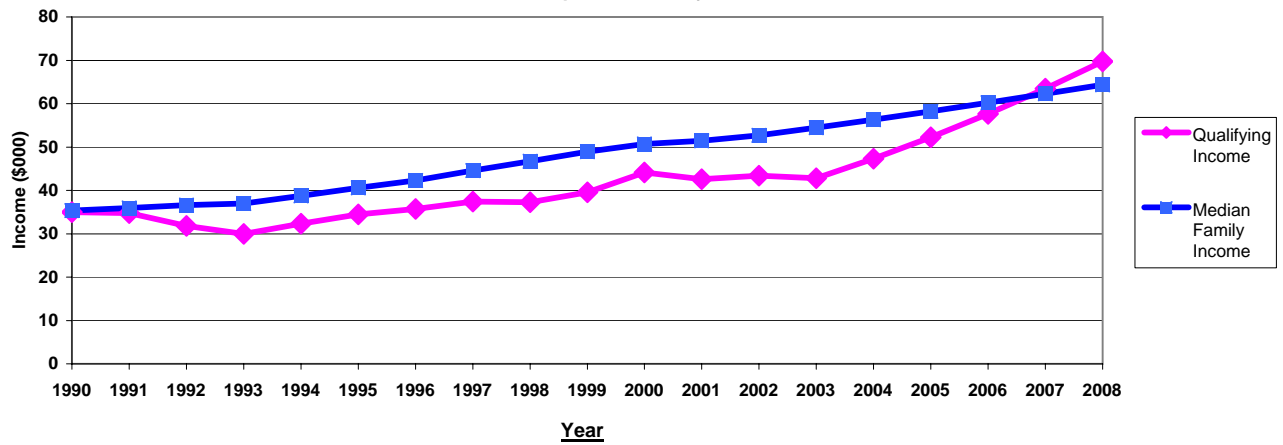


Figure 8c. Homeownership Affordability Ratio in the United States: Repeat Home Buyers

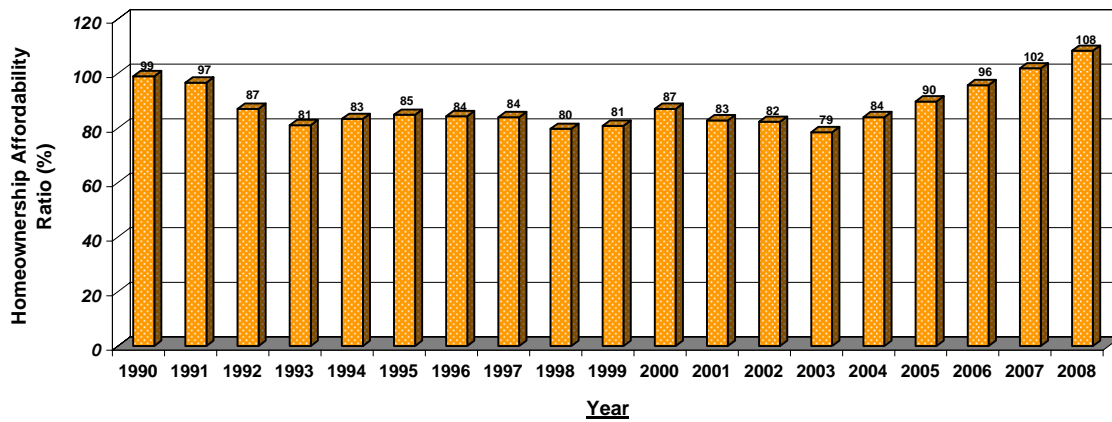


Figure 9a. Homeownership Affordability Ratio by Metropolitan Areas: Repeat Buyers
Remaining Affordable

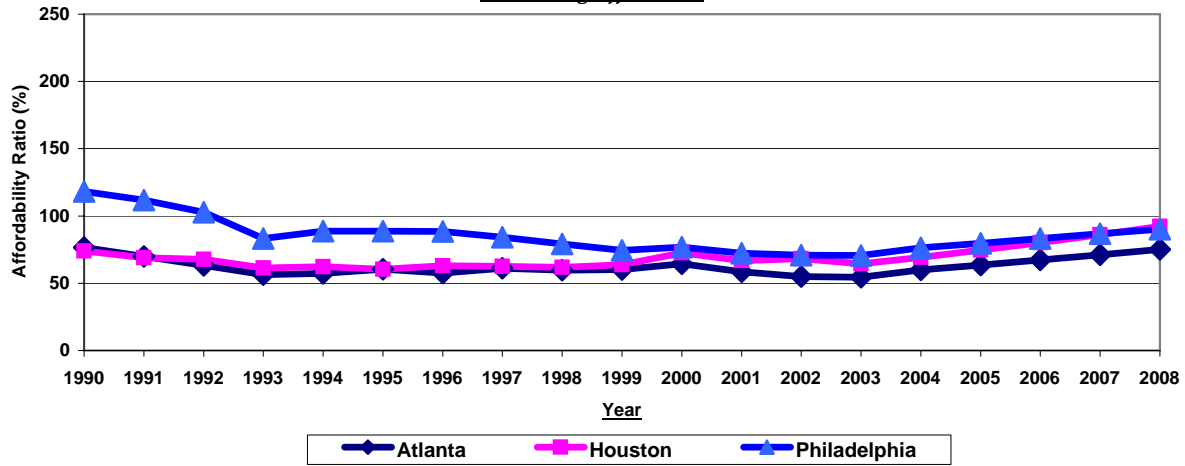


Figure 9b. Homeownership Affordability Ratio by Metropolitan Areas: Repeat Buyers
Shifting to Unaffordable

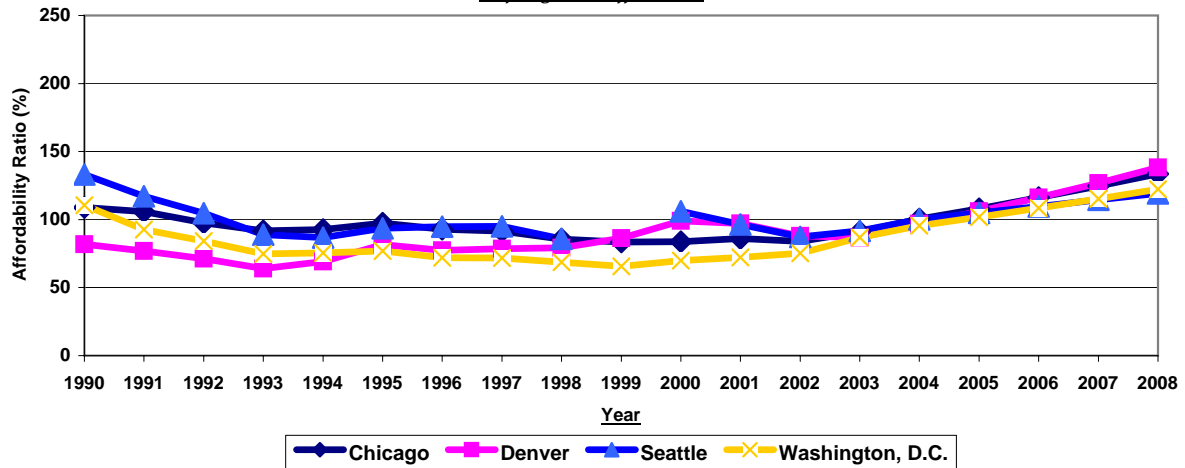


Figure 9c. Homeownership Affordability Ratio by Metropolitan Areas: Repeat Buyers
Increasingly Unaffordable

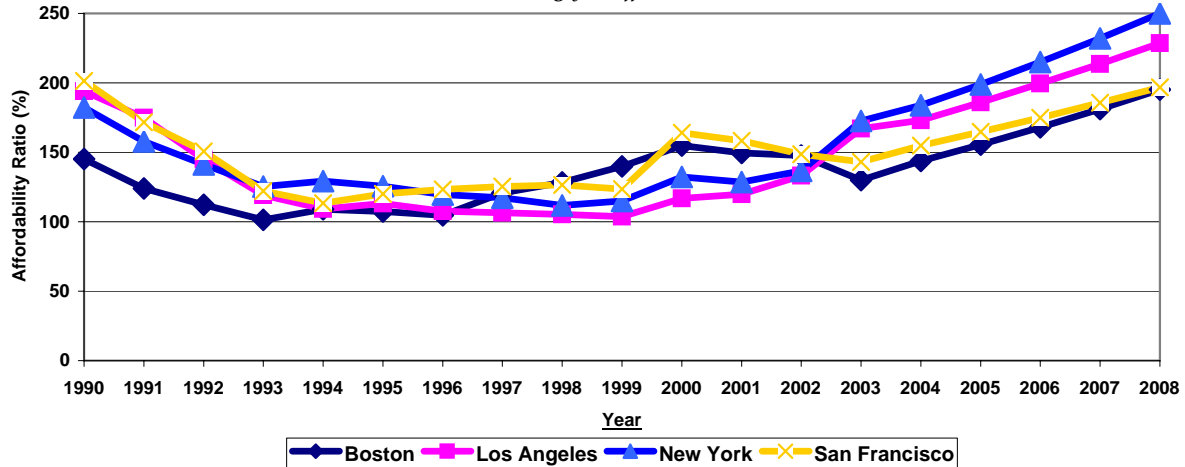


Figure 10. Homeownership Affordability for Repeat Buyers by Occupation: United States

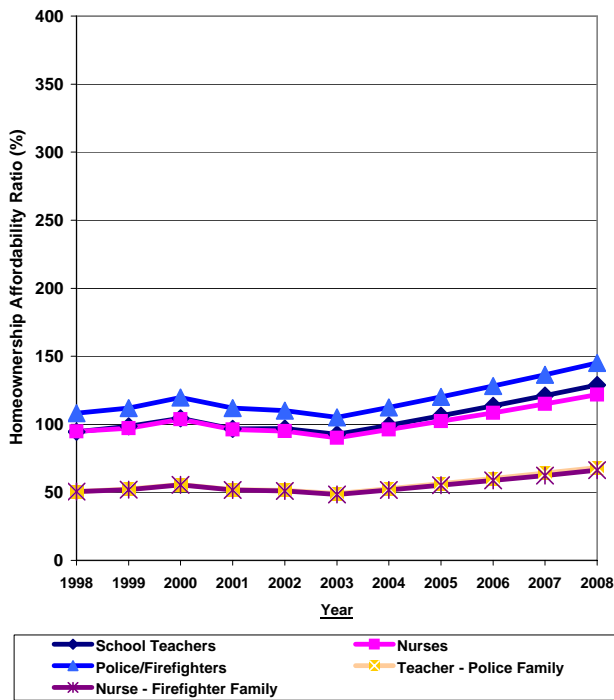


Figure 11a. Homeownership Affordability for Repeat Buyers by Occupation: Atlanta

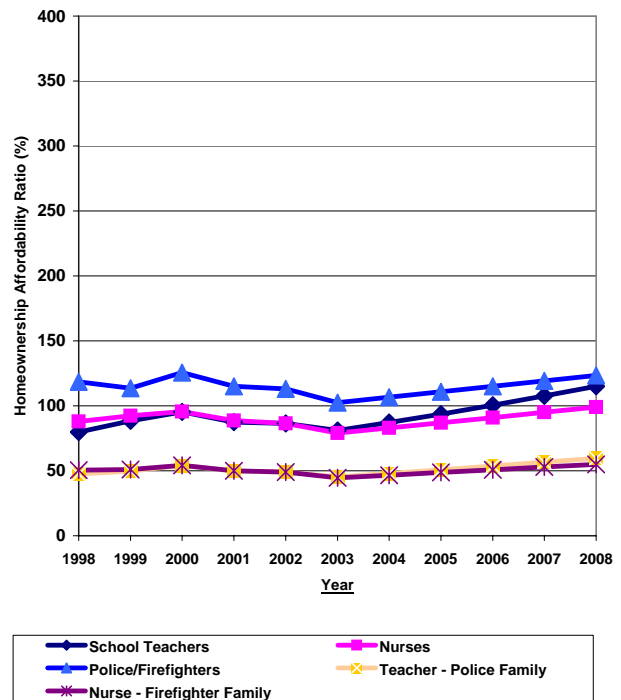


Figure 11b. Homeownership Affordability for Repeat Buyers by Occupation: Houston

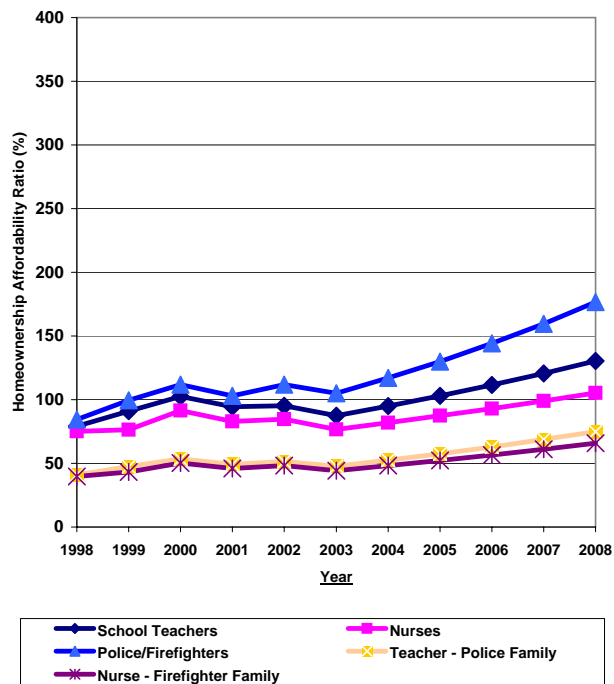


Figure 11c. Homeownership Affordability for Repeat Buyers by Occupation: Philadelphia

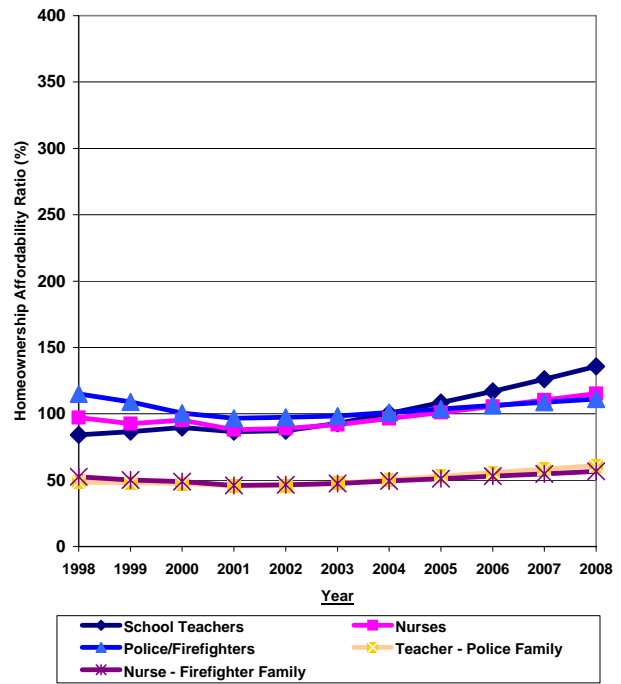


Figure 12a. Homeownership Affordability for Repeat Buyers by Occupation: Chicago

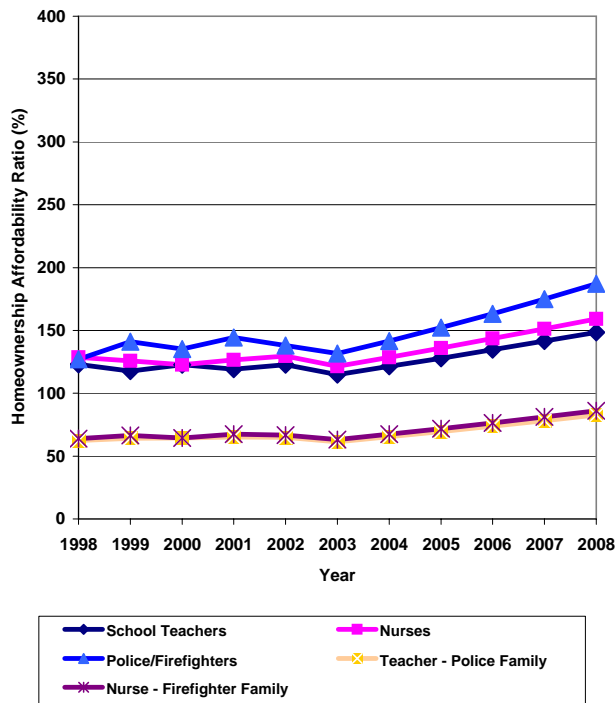


Figure 12b. Homeownership Affordability for Repeat Buyers by Occupation: Denver

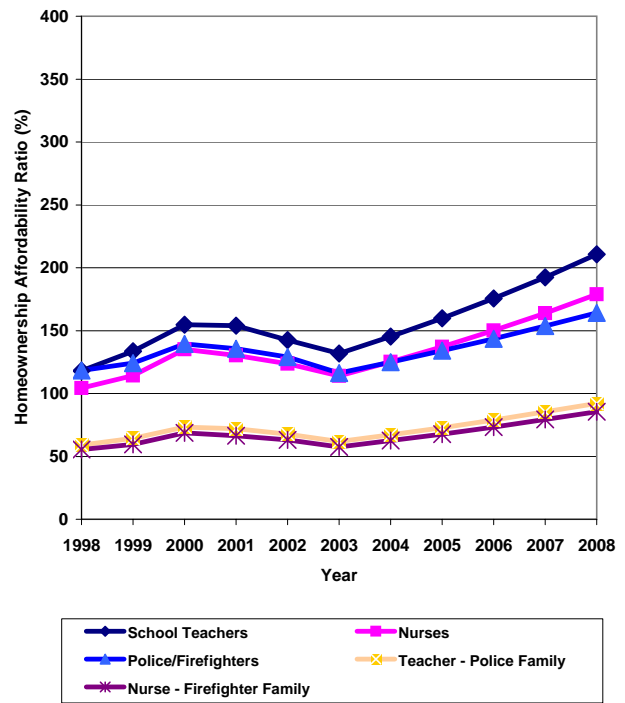


Figure 12c. Homeownership Affordability for Repeat Buyers by Occupation: Seattle

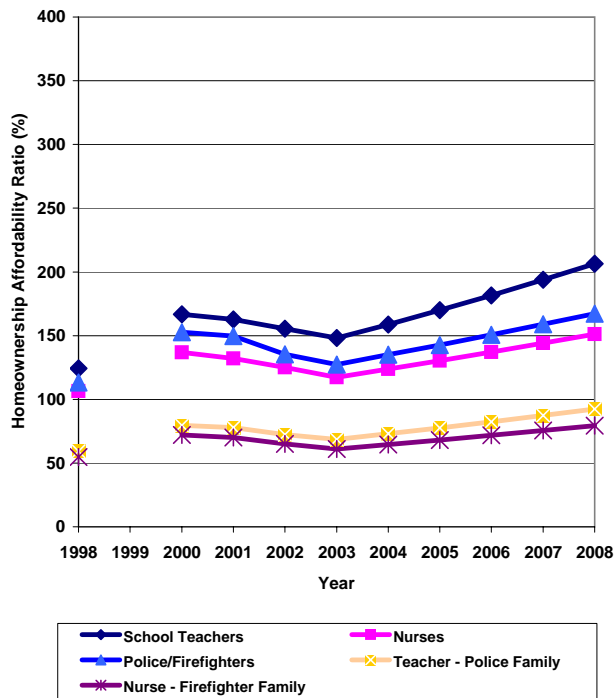


Figure 12d. Homeownership Affordability for Repeat Buyers by Occupation: Washington, D.C.

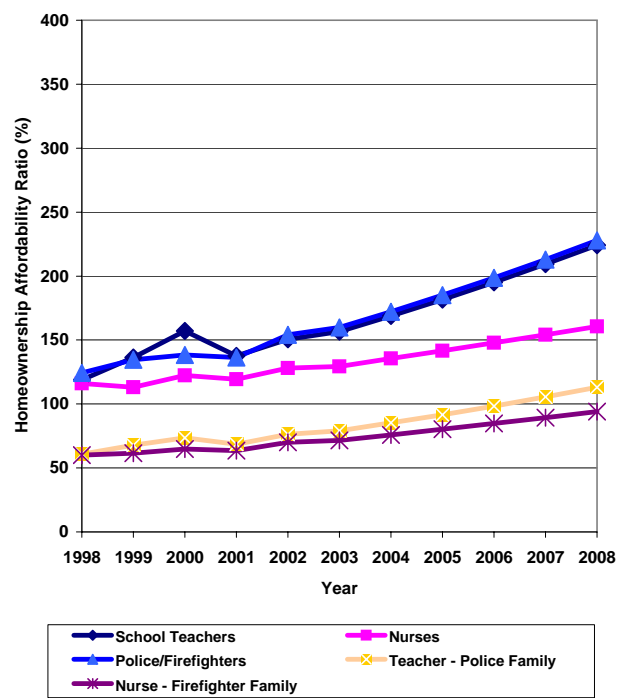


Figure 13a. Homeownership Affordability for Repeat Buyers by Occupation: Boston

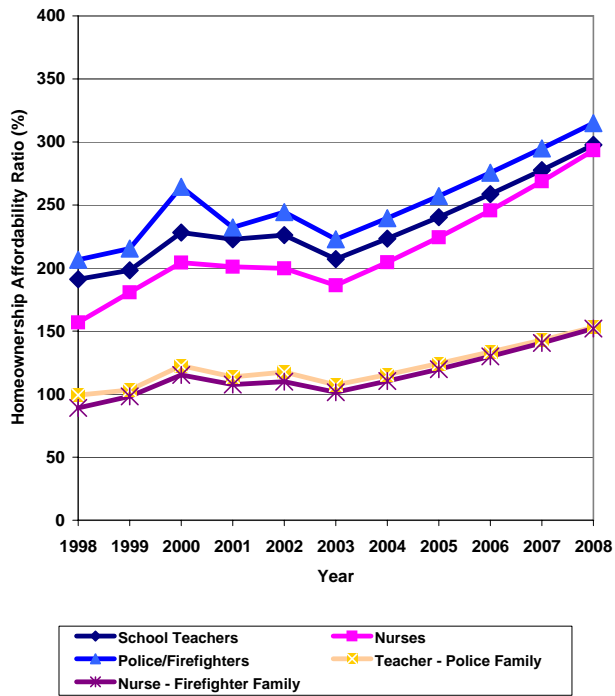


Figure 13b. Homeownership Affordability for Repeat Buyers by Occupation: Los Angeles

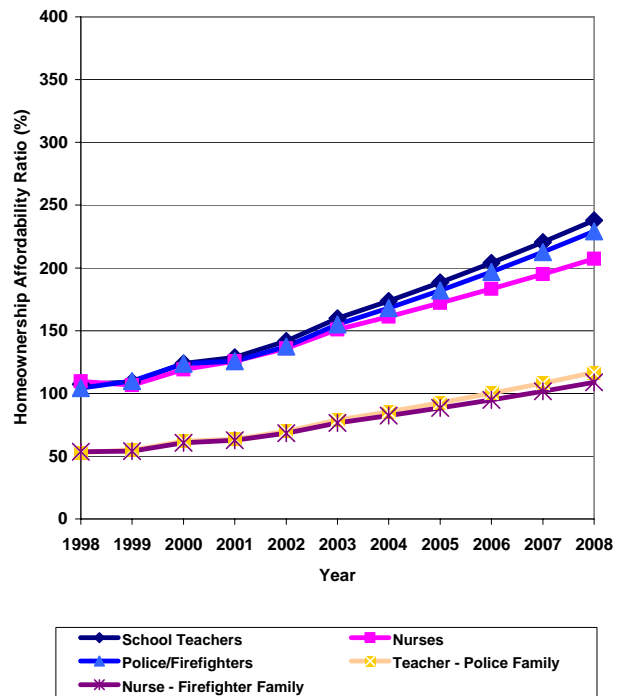


Figure 13c. Homeownership Affordability for Repeat Buyers by Occupation: New York

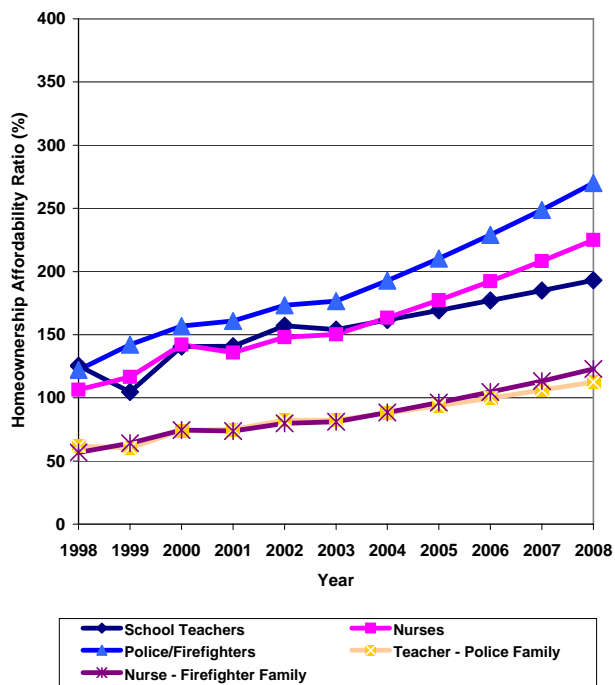


Figure 13d. Homeownership Affordability for Repeat Buyers by Occupation: San Francisco

