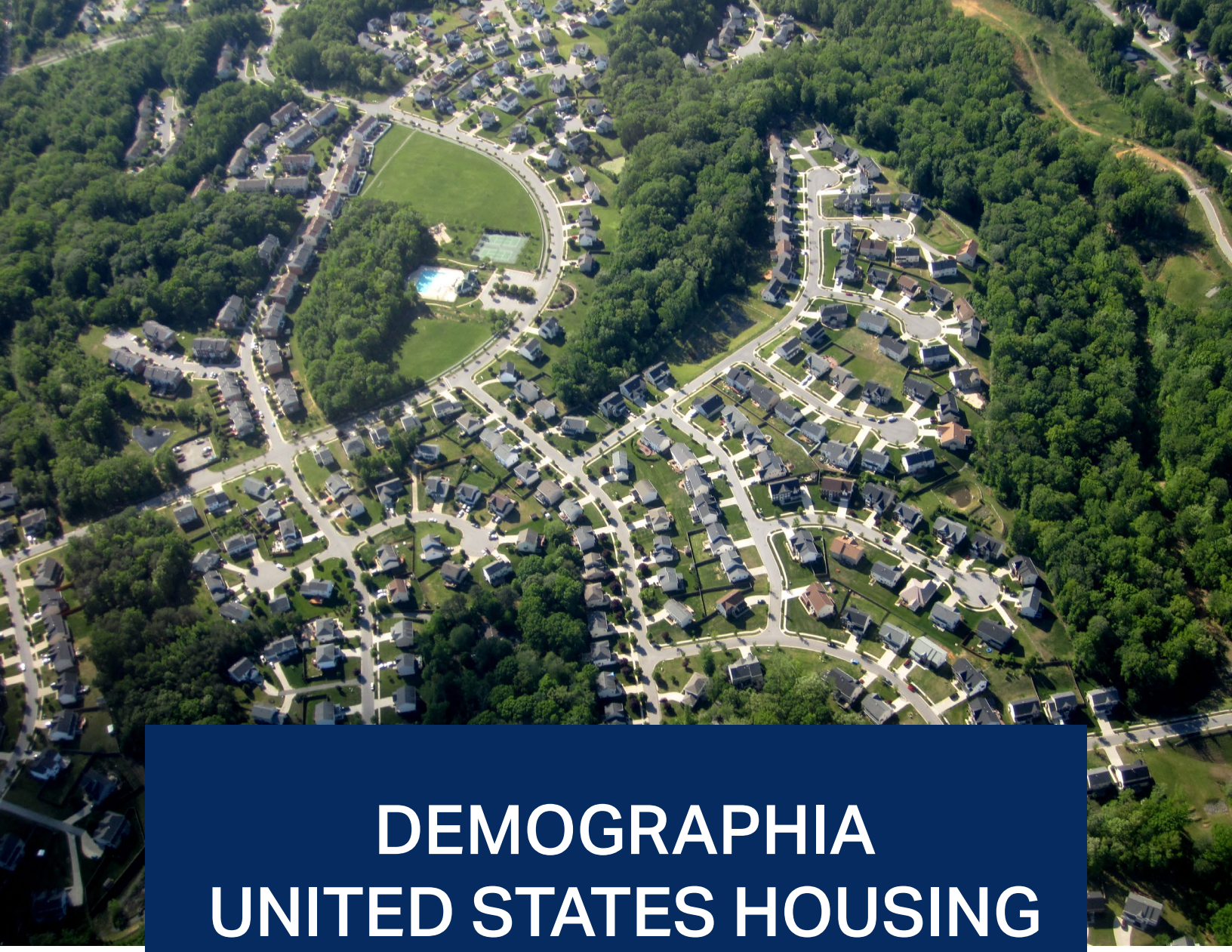

DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY

2021 Edition: Data from 2020 3rd Quarter

Presented by the Urban Reform Institute

Urban Reform Institute

a center for
opportunity urbanism

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is a 501(c)(3) national think tank.
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as generators of upward mobility.

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Introduction

The Urban Reform Institute is pleased to present the 2021 edition of ***Demographia United States Housing Affordability***. This report provides housing affordability ratings, using the median multiple, a measurement of income in relation to housing prices, or 188 major markets (metropolitan areas) for the third quarter of 2020.

It is not surprising that housing affordability — given the large influx of new buyers, particularly in suburban and outlying areas — has continued to deteriorate. As a result, many low-income and middle-income households who already have suffered the worst consequences from housing inflation will see their standards of living further decline.

The affordability issue is particularly critical due to the strong increase in remote working (telework) during and after the pandemic, which is accelerating the movement to more affordable places. It will likely also help flatten or even reduce prices in the highest cost housing markets as other households seek less costly housing elsewhere.

We hope that the losses sustained during the pandemic will be quickly reversed and the increasing inequality attributable to higher house prices will become a thing of the past.

Wendell Cox is the author, having previously co-authored the annual ***Demographia International Housing Affordability Survey***, with Hugh Pavletich of Performance Urban Planning. Cox is a senior fellow at the Urban Reform Institute.

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1 Evaluating Housing Affordability

During the pandemic, housing affordability has worsened, as many households have had their incomes decline, and house prices have escalated even beyond previous rates. Housing affordability, already a top public policy issue, has become even more important in this environment.

Demographia United States Housing Affordability rates middle-income housing affordability in the third quarter 2020. *Demographia United States Housing Affordability* report is a supplement to **Demographia International Housing Affordability**[1], which covered 92 major housing markets (1,000,000 or more population) in 8 nations (Australia, Canada, China [Hong Kong only], Ireland, New Zealand, Singapore, the United Kingdom and the United States).[2] Demographia United States Housing Affordability provides ratings in 188 markets, including the 56 major metropolitan areas[3] included in the earlier report.

1.1: Defining Housing Affordability

Housing affordability cannot be measured by house prices alone. The term "affordability" necessarily must be put into the context of ability to pay. Housing affordability is the relationship between house prices and incomes. Demographia uses the median multiple --- a price to income ratio --- to rate housing affordability.

Price-to-income ratios have been widely used, such as by the World Bank[4], the United Nations, the Organization for International Cooperation and Development (OECD), the Joint Center for Housing Studies at Harvard University and others. The median multiple is calculated by dividing the median house price by the gross median household income.

Housing affordability measures that use median house prices and median incomes are useful for evaluating middle-income housing affordability, because higher incomes and luxury housing do not skew measures higher, unlike averages.

1 Last year's Demographia International Housing Affordability Survey was featured in the **Global Housing Watch Newsletter** (April 20, 2020), published by the International Monetary Fund (IMF).

2 *Demographia International Housing Affordability* provides analysis similar to the major market analysis in the 16 editions of the *Demographia International Housing Affordability Survey*, co-authored by Wendell Cox and Hugh Pavletich (2005 to 2020).

3 Over 1,000,000 population.

4 *The Housing Indicators Program*, **http://siteresources.worldbank.org/INTURBANDEVELOPMENT/Resources/336387-1169578899171/rd-hs7.htm**. Also see Shlomo Angel, *Housing Policy Matters: A Global Analysis*. Oxford University Press, 2000.

1.2: Rating Housing Affordability (The Median Multiple)

Demographia rates middle-income housing affordability in four categories, ranging from the most affordable ("affordable") to the least affordable ("severely unaffordable"), as is indicated in Table 1. The "affordable" rating category is based on price to income ratios . As late as the 1990s. price-to-income ratios were at or below 3.0 in the United States, Australia, Ireland, New Zealand, the United Kingdom and the United States.[5]

Table 1
Demographia International Housing Affordability
Housing Affordability Ratings

Housing Affordability Rating	Median Multiple
Affordable	3.0 & Under
Moderately Unaffordable	3.1 to 4.0
Seriously Unaffordable	4.1 to 5.0
Severely Unaffordable	5.1 & Over

Median multiple: Median house price divided by median household income

1.3: Evaluating Housing Affordability in Metropolitan Housing Markets

This was before the broad implementation and strengthening of restrictive land use policies (especially urban containment policy), which have been identified with deteriorating housing affordability (Section 4) Since then we have seen large fluctuations in relative affordability, particularly at the local level.

Demographia International Housing Affordability focuses at the housing market level (metropolitan area) because there can be substantial affordability variations within the United States and other nations. It evaluates housing affordability at the housing market level – the metropolitan area --- which is also a labor or commuting market.[6] ***Demographia*** does not evaluate affordability within metropolitan areas, such as for individual municipalities or neighborhoods.

Housing affordability comparisons are made:

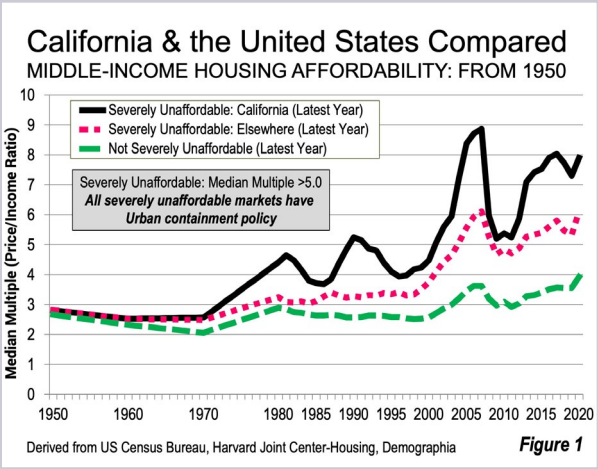
1. between housing markets (such as comparison between the Chicago and Dallas-Fort Worth markets) or
2. over time within the same housing market (such between years in the Chicago market).

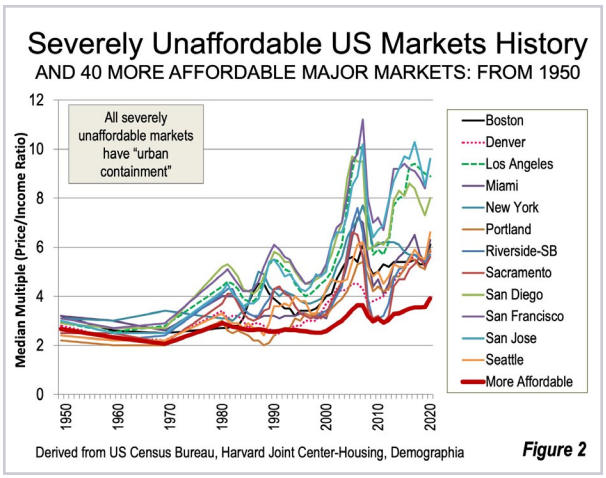
5 See: Anthony Richards, *Some Observations on the Cost of Housing in Australia*, Address to 2008 Economic and Social Outlook Conference The Melbourne Institute, 27 March 2008 http://www.rba.gov.au/speeches/2008/sp-so-270308.html. This research included all nations covered in the *Demographia International Housing Affordability Survey* except for Ireland. The Richards research is also illustrated in the of the National Housing Council of Australia, http://www.fahcsia.gov.au/sa/housing/pubs/housing/national_housing_supply/Documents/default.htm (Figure 1.1).

6 "Housing markets" in this report refers to metropolitan areas (which are labor markets, defined by commuting patterns).

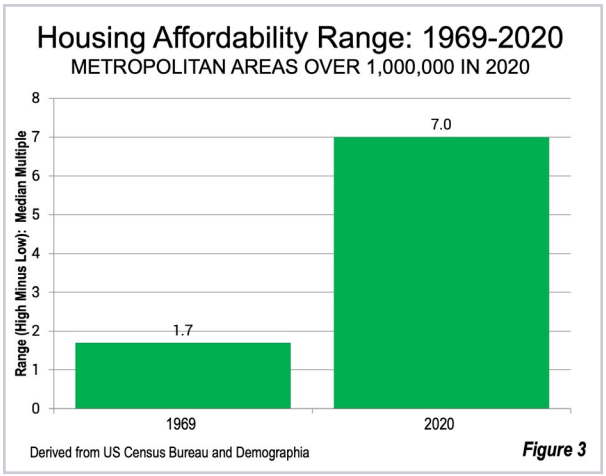
2: U.S. Housing Affordability: The Context

The United States had generally affordable housing through much of the period following World War II. Median Multiples in the United States were virtually all "affordable" (3.0 or below) until the 1970s (Figure 1).





More than 60% of major metropolitan areas retained "affordable" median multiples (2.0 or lower) as late as 2000.[7] Yet since then severely unaffordable markets have emerged is shown in Figure 2. The deterioration in housing affordability in these markets started in the 1970s and accelerated in the late 1990s and early 2000s.



In these markets, median house prices rose strongly relative to median household incomes (Figure 3). The range between least affordable San Francisco and San Jose (both with median multiples of 9.6) and most affordable Rochester (2.6) rose to 7.0 median multiple points. This is more than four times the 1969 ratio.

Why Housing Was Affordable

The key to housing affordability is a competitive market, both for land and construction. The home building industry has long been very competitive, and the construction element of that industry remains so. Land markets also remain competitive in many markets. However, in a number metropolitan areas the market for urban land has become distorted or destroyed, especially where there is urban containment (see: Section 4).

7 Derived from Harvard Joint Center for Housing Studies

The key to affordability lay in large part from the tract housing built on competitively priced land in the suburbs. This owed much to entrepreneurs such as William Levitt, who built "Levittowns" and other similar developments in New York, New Jersey, Pennsylvania and Maryland. These communities and others built similarly increased the number of households able to live a middle-income quality of life across the nation. Similar communities emerged from Canada, Australia, and New Zealand to other parts of the high income world.

3: Housing Affordability in 2020

Overall, the United States has a moderately unaffordable Median Multiple of 3.9, deteriorating from last year's 3.6. Yet, the United States still has the best housing affordability in this year's *Demographia International Housing Affordability 2021*. Housing affordability ratings for 2020 are shown in Table 2.

Table 2
United States 2020: 3rd Quarter
Housing Affordability Ratings

Housing Affordability Rating	Median Multiple	Major Markets	Total Markets
Affordable	3.0 & Under	4	44
Moderately Unaffordable	3.1 to 4.0	20	59
Seriously Unaffordable	4.1 to 5.0	17	51
Severely Unaffordable	5.1 & Over	15	34
Total Markets		56	188

Median multiple: Median house price divided by median household income

Affordability ratings by housing market are shown in Table 3 (alphabetical) and Table 4 (by housing affordability rating).

Major Housing Markets: The United States has 15 severely unaffordable markets and four affordable major housing markets.

The five major housing markets with the poorest U.S. housing affordability are in California and Hawaii (Figure 4, *below*). The least affordable markets are both in the San Francisco Bay Area, the San Francisco and San Jose metropolitan areas, both with a Median Multiple of 9.6. Honolulu (9.1) is the third least affordable market, followed by Los Angeles (8.9) and San Diego (8.0).

Three other markets are severely unaffordable and have Median Multiples of more than 6.0, Seattle (6.6), Miami (6.3) and Boston (6.1), ranked at from the 6th to 8th least affordable major US markets.

Seven additional markets are severely unaffordable , with Median Multiples over 5.0. These include Portland and New York (both 5.9), Denver (5.8), Riverside-San Bernardino and Fresno (5.7), Sacramento (5.6), with Las Vegas added this year (5.5).

Additional markets are at risk of becoming severely unaffordable, especially due to house price increases and growing demand resulting during the pandemic. The author contributed to a Chapman University Center for Demographics and Policy report that identified additional major markets that could be most at risk of becoming severely unaffordable (see **Beyond Feudalism: A Policy to Restore California's Middle-Class**). These included Washington, Baltimore, Tampa-St. Petersburg, Minneapolis-St. Paul, Tucson and Las Vegas.[8]

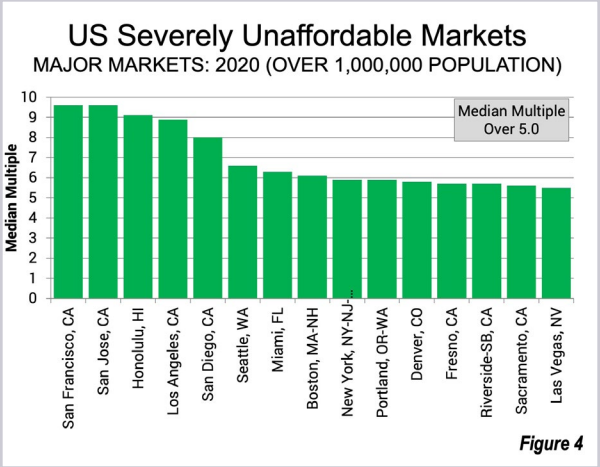


Figure 4

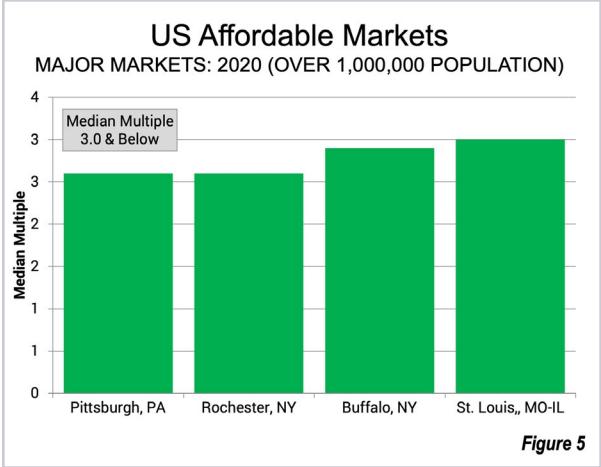


Figure 5

The four affordable major housing markets are Pittsburgh (PA) and Rochester (NY), each with a median multiple of 2.6. Buffalo (NY) has a median multiple of 2.9, and St. Louis (MO-IL) has a median multiple of 3.0 (Figure 5).

Housing Markets with Less than 1,000,000 Population: Overall, 19 of the 132 U.S. housing markets with under 1,000,000 population are severely unaffordable (Figure 6, *below*).

- Eight of these severely unaffordable markets are in California, with the six of the least affordable being Santa Cruz (8.9), San Luis Obispo (7.8), Salinas (7.4) Santa Barbara (7.4) Santa Rosa (7.2) and Oxnard (6.8).Modesto (5.5) and Stockton (5.3) .
- Three of the markets are in Florida, including Fort Walton Beach (5.9), Naples (5.5) and Gainesville (5.1).
- Colorado has three of the severely unaffordable markets, including Boulder (7.3), which is the least affordable outside California, along with Fort Collins (5.5) and Colorado Springs (at 5.3).

8 Las Vegas subsequently became severely unaffordable, according to *Demographia International Housing Affordability, 2021*.

- Five states have a single severely unaffordable market, including Idaho (Boise, at 5.8), Connecticut (Bridgeport-Stamford, at 5.8), Nevada (Reno, at 5.8) Oregon (Eugene at 5.7), and Maine (Portland, at 5.1).

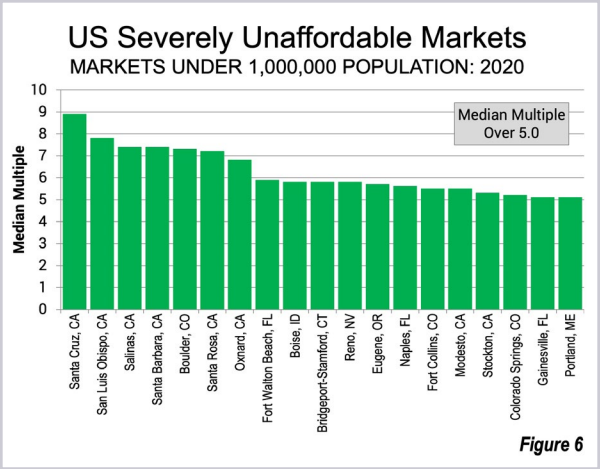
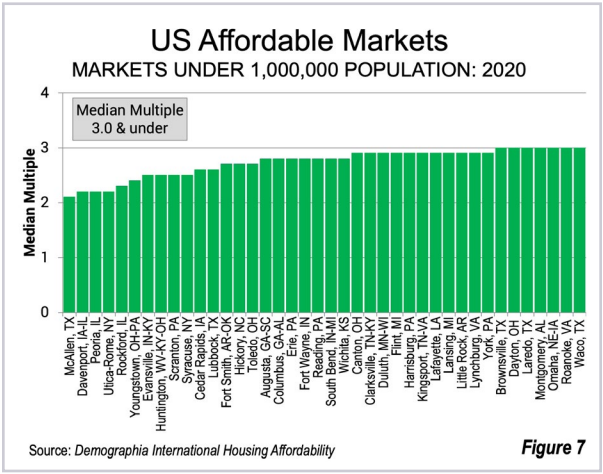


Figure 6



Source: *Demographia International Housing Affordability*
Figure 7

The affordable markets with less than 1,000,000 population are widely distributed among 25 states (Figure 7). This includes markets in 10 of 12 Midwest states (all but North Dakota and South Dakota), 14 of 16 states in the South (all but Florida and Mississippi) and two of three Mid-Atlantic states (. No states in the West, Middle Atlantic coastal states or New England have affordable markets.

The most affordable markets with a population below 1,000,000 are McAllen, TX (median multiple of 2.1), Davenport, IA-IL (2.2), Peoria, IL (2.2), Utica-Rome, NY (2.2) , Rockford, IL (2.3), Youngstown, OH-PA (2.4), as well as Evanston, IN-KY, Huntington, WV-KY-OH, Scranton, PA and Syracuse, NY, each with a median multiple of 2.5.

4: Urban Containment

The largest differences in housing affordability between major metropolitan areas stem from the imposition of regulatory strictures that constitute "urban containment" and are often referred to as "growth management" and "compact city" policies. Urban containment applies to entire housing markets (metropolitan areas). This is to be contrasted with municipal zoning, which applies within *single* municipalities (principally incorporated cities and towns). There were, on average, more than 120 municipalities in each of the 53 major metropolitan areas.[9]

9 Derived from the 2012 US Census Bureau Census of Governments.

A principal purpose of urban containment is to curb the physical expansion of urban areas – the conversion of rural land to urban land, which has been characterized as "urban sprawl."[10] However, urban containment comes at a steep cost, which leads to much higher housing costs and a much higher cost of living, driven up by the "urban containment effect" on land values. This is in a nation with 97% of its land *outside* urban development.[11]

According to prominent urban planners Arthur C. Nelson and Casey J. Dawkins: "… urban containment involves drawing a line around an urban area. Urban development is steered to the area inside the line and discouraged (if not prevented) outside it."[12] Further: "… urban containment programs can be distinguished from traditional approaches to land use regulation by the presence of policies that are explicitly designed to limit the development of land outside a defined urban area, while encouraging infill development and redevelopment inside the urban area."[13]

Simply put, urban containment is intended to increase land costs. According to Nelson and Dawkins " …the regional demand for urban development is shifted to the area inside the boundary. This shift should decrease the value of land outside the boundary and increase the value of land inside the boundary."[14]

There was, however, a risk that "higher prices (especially for housing) could occur if planning fails to increase the supply of build-able land within the boundary" and that "…urban containment boundaries are prudent land-use policies … only when accompanied by policies that increase urban development density and intensity."[15] Housing affordability was to be preserved by expanding urban containment boundaries "to accommodate projected growth over a specified

10 "Urban sprawl" is an ill-defined term often used to criticize lower density urban areas in the United States or other high-income countries. However, the term is used to describe urbanization that is anything but low-density. For example, Dhaka, Bangladesh is the densest large urban area in the world, but is routinely referred to as having "urban sprawl," such as in Ershad Ahmed, "The urbanist's guide to Dhaka, Bangladesh: 'an unplanned sprawl'"(August 29, 2014), The Guardian, https://www.theguardian.com/cities/2014/aug/19/an-urbanists-guide-to-dhaka-an-unplanned-urban-sprawl. Hong Kong is the densest large urban area in the high-income world, yet is often characterized as having urban sprawl, such as in Raj Sapru,Sustainable urban growth: Is Hong Kong an example for China? https://www.bsr.org/en/our-insights/blog-view/sustainable-urban-growth-is-hong-kong-a-model-for-china. (Current urban area densities are in *Demographia World Urban Areas*, http://www.demographia.com/db-worldua.pdf).

11 Derived from US Census, 2010.

12 Arthur C. Nelson and Casey J. Dawkins, Urban Containment in the United States: History, Models and Techniques for Regional and Metropolitan Growth Management, American Planning Association Planning Advisory Service, https://www.researchgate.net/publication/288101674_Urban_containment_in_the_United_States_History_models_and_techniques

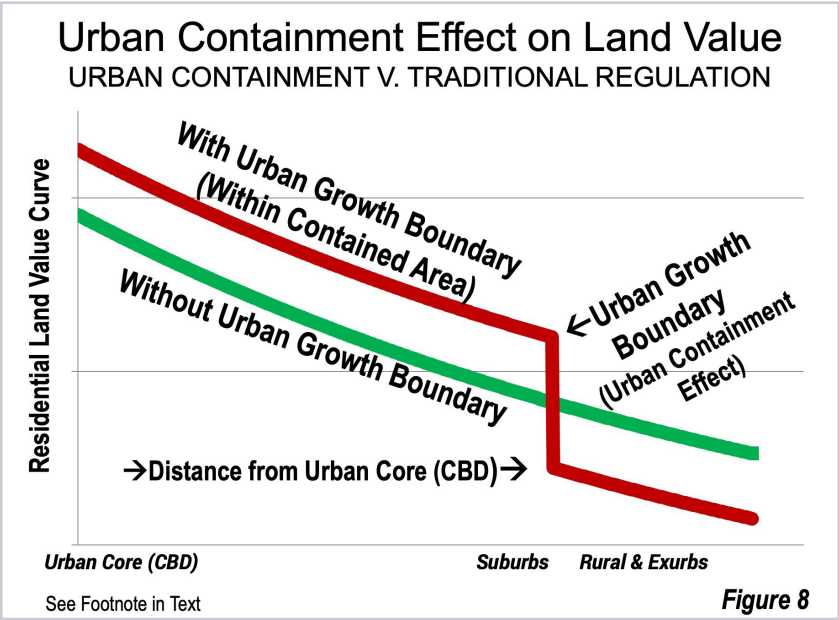
13 Arthur C. Nelson, Thomas W. Sanchez and Casey J. Dawkins (2004), "The Effect of Urban Containment and Mandatory Housing Elements on Racial Segregation in the United States," *Journal of Urban Affairs*. https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.521.4467&rep=rep1&type=pdf

14 Arthur C. Nelson and Casey J. Dawkins, Urban Containment in the United States: History, Models and Techniques for Regional and Metropolitan Growth Management, American Planning Association Planning Advisory Service (2004), https://www.researchgate.net/publication/288101674_Urban_containment_in_the_United_States_History_models_and_techniques_for_regional_and_metropolitan_growth_management

15 Arthur C. Nelson and Casey J. Dawkins, Urban Containment in the United States: History, Models and Techniques for Regional and Metropolitan Growth Management, American Planning Association Planning Advisory Service, https://www.researchgate.net/publication/288101674_Urban_containment_in_the_United_States_History_models_and_techniques_for_regional_and_metropolitan_growth_management (2004).

future time period, typically 10 to 20 years."[16] Yet in reality housing affordability has deteriorated in markets with urban containment.

Dynamics of Urban Land Markets: Harvard University's William Alonso demonstrated that the value of land tends to rise from the low agricultural ("floor") values outside the built up urban area to the center.[17] This is illustrated in Figure 8.[18] Normally, without urban containment, land values tend to rise gradually, as distances increase from the urban fringe (the green line). As noted above, with urban containment, abrupt land value increases are expected at the urban fringe, such as at urban growth boundaries (the red line). Moreover, the abrupt land value increase occurs **throughout the entire area of urban containment**. Economic research has identified the abrupt land cost increase at urban containment boundaries (such as urban growth boundaries and greenbelts) of five to twenty times (or more) that of adjacent land on which development is banned.[19]



16 Nelson Casey J. Dawkins (2004).

17 William Alonso (1964), Location and Land Use: *Toward a General Theory of Land Rent* (Cambridge, Massachusetts, Harvard University Press).

18 The figure illustrates impact of an urban containment boundary on land values, consistent with treatments in Gerrit Knaap and Arthur C. Nelson, *The Regulated Landscape: Lessons on State Land Use Planning from Oregon*, Cambridge, Massachusetts: Lincoln Institute of Land Policy, 1992; William A. Fischel, *Zoning Rules! The Economics of Land-use Regulation*, Lincoln Institute of Land Policy, 2015; Gerard Mildner, "Public Policy & Portland's Real Estate Market," Quarterly and Urban Development Journal, 4th Quarterly 2009: 1-16, and others. Similar impact on house prices have been typically documented in the economic research (see: ***A Question of Values: Urban Containment Policy and Middle-Income Housing Affordability***).

19 Calculated from data in Mariano Kulish, Anthony Richards and Christian Gillitzer, "Urban Structure and Housing Prices: Some Evidence from Australian Cities," Research Discussion Paper, Reserve Bank of Australia, September 2011. http://www.rba.gov.au/publications/rdp/2011/pdf/rdp2011-03.pdf, Arthur Grimes and Yun Liang (2008). "Spatial Determinants of Land Prices: Does Auckland's Metropolitan Urban Limit Have an Effect?" *Applied Spatial Analysis and Policy*. https://link.springer.com/article/10.1007/s12061-008-9010-8; Gerard Mildner (2009), "Public Policy & Portland's Real Estate Market," Quarterly and Urban Development Journal (Fourth Quarter), https://web.archive.org/web/20150620083722/www.pdx.edu/sites/www.pdx.edu.realestate/files/1Q10-4A-Mildner-UGB-1-31-10.pdf; and Kate Barker, *Barker Review of Land Use Planning*, Norwich, England: Her Majesty's Stationary Office, 2006. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228605/0118404857.pdf.

One of the world's leading urbanists, Professor Shlomo Angel,Director of the Urban Expansion Project at New York University[20] raises concerns about prohibiting urban expansion. Angel said: 'I'm for making room. And the reason that I'm for making room is that I'm for keeping cities affordable. And if you don't make enough room, then cities are no longer affordable."[21] According to Angel, et al: "...the explicit containment of urban expansion— by greenbelts, as in Seoul, Korea or in English cities, by urban growth boundaries, as in Portland, Oregon, or by environmental restrictions as in California—has inevitably been associated with declines in housing affordability." [22]

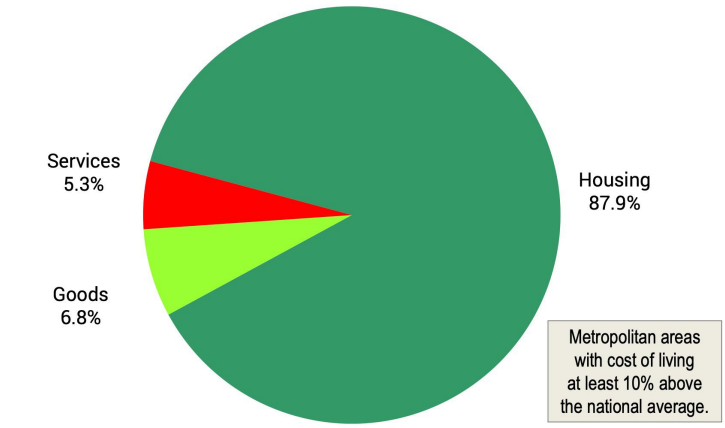
Angel, et al also note that, the compact city paradigm (which includes urban containment) dominates thinking about urban development.[23] Today virtually any market can be threatened by the imposition of urban containment policy, or other strong land use policies that have the potential to increase middle-income housing prices relative to incomes and drive lower-income households into the already much overburdened queue for subsidized housing (Section 6).

5: Housing Affordability and the Cost of Living

Housing costs are generally the largest item in household budgets. Housing costs are even higher for households living in severely unaffordable markets. These higher housing costs drive both the cost of living and thus the standard of living.

In the United States, **88% of the cost of living differences** attributable in higher cost metropolitan areas are due to the difference in housing costs (Figure 9, *below*). Other goods and services account for only 6% and 7% respectively of the difference. **Richard Florida of the University of Toronto** has noted "differences in living costs are basically all about housing."

20 Angel has advised the United Nations, the World Bank and the Inter-American Development Bank.
21 NYU Marron Newsletter, March 3, 2021. Transcript extract from https://marroninstitute.nyu.edu/blog/solly-angel-discusses-complex-challenges-of-the-development-and-expansion-of-cities (podcast in English).
22 Shlomo Angel, Patrick Lamson-Hall, Alejandro Blei, Sharad Shingade and Suman Kumar (2021), "Densify and Expand: A Global Analysis of Urban Growth, Sustainability, https://www.mdpi.com/2071-1050/13/7/3835.
23 Shlomo Angel, Patrick Lamson-Hall, Alejandro Blei, Sharad Shingade and Suman Kumar (2021), "Densify and Expand: A Global Analysis of Urban Growth, Sustainability, https://www.mdpi.com/2071-1050/13/7/3835.



Source: *URI Standard of Living Index*

Figure 9

6 Subsidized Housing: The Market Rate Nexus

Household eligibility for subsidized housing generally requires housing costs exceeding 30% of household income. As the market price of housing increases, more households are unable to afford market rate housing, increasing the number of households eligible for housing subsidies.

Unlike market rate housing, subsidized housing is often not readily available. Yet households in need of subsidized housing need readily available and adequate housing. Many such households are placed on waiting lists, because there is not enough subsidized housing to serve the legally defined need .

In fact, the most effective strategy for controlling the need for subsidized housing is to keep market rate house prices from rising faster than incomes. Improving middle-income housing affordability, can reduce the number of households eligible for housing subsidies, allowing governments to focus on those who are most in need, while the market meets the needs of those who would be priced out by wrong-headed policies.

7 Prospects

Stronger land use regulation and much higher house prices, also has a detrimental effect on job creation, because households have less discretionary income to purchase goods and services that are less essential than housing. Perhaps the “unkindest cut” of all is the impact on lower income households, who must often rely on subsidized housing, or pay higher rents, often sharing space with many others, a particularly daunting prospect during the pandemic

Continued housing affordability deterioration, which leads to higher costs of living, is reaching crisis levels especially in markets with urban containment, with its structural inflation of residential land and housing prices. As an alternative public officials should require evaluation of all proposed housing, land use and zoning (both regional and municipal) proposals for their potential impact on housing affordability in metropolitan areas.

Table 3 HOUSING AFFORDABILITY United States Markets: Third Quarter 2020							
Intl. Major Market Rank	National Rank	Housing Market	Median Multiple*	Intl. Major Market Rank	National Rank	Housing Market	Median Multiple
	49	Akron, OH	3.2		45	Des Moines, IA	3.1
	49	Albany, NY	3.2	11	71	Detroit, MI	3.6
	130	Albuquerque, NM	4.5		25	Duluth, MN-WI	2.9
	66	Allentown, PA-NJ	3.5		149	Durham, NC	5.0
	85	Amarillo, TX	3.8		89	El Paso, TX	3.9
	89	Anchorage, AK	3.9		18	Erie, PA	2.8
	112	Ann Arbor, MI	4.2		164	Eugene, OR	5.7
11	143	Asheville, NC	4.8		7	Evansville, IN-KY	2.5
	71	Atlanta, GA	3.6		66	Fayetteville, AR	3.5
	97	Atlantic City, NJ	4.0		71	Fayetteville, NC	3.6
36	18	Augusta, GA-SC	2.8		25	Flint, MI	2.9
	120	Austin, TX	4.3		159	Fort Collins, CO	5.5
33	135	Bakersfield, CA	4.6		15	Fort Smith, AR-OK	2.7
	112	Baltimore, MD	4.2		171	Fort Walton Beach, FL	5.9
	66	Baton Rouge, LA	3.5		18	Fort Wayne, IN	2.8
21	49	Beaumont-Port Arthur, TX	3.2	64	164	Fresno, CA	5.7
	89	Birmingham, AL	3.9		155	Gainesville, FL	5.1
71	167	Boise, ID	5.8	8	57	Grand Rapids, MI	3.3
	174	Boston, MA-NH	6.1		143	Greeley, CO	4.8
	179	Boulder, CO	7.3		45	Green Bay, WI	3.1
	130	Bremerton, WA	4.5		104	Greensboro, NC	4.1
	167	Bridgeport-Stamford, CT	5.8		76	Greenville, SC	3.7
3	37	Brownsville, TX	3.0		49	Gulfport, MS	3.2
	25	Buffalo, NY	2.9		89	Hagerstown, MD-WV	3.9
	25	Canton, OH	2.9		25	Harrisburg, PA	2.9
	130	Cape Coral, FL	4.5	10	60	Hartford, CT	3.4
	11	Cedar Rapids, IA	2.6		15	Hickory, NC	2.7
45	143	Charleston, SC	4.8	84	186	Honolulu, HI	9.1
	135	Charlotte, NC-SC	4.6	25	97	Houston, TX	4.0
25	112	Chattanooga, TN-GA	4.2		7	Huntington, WV-KY-OH	2.5
8	97	Chicago, IL-IN-WI	4.0		57	Huntsville, AL	3.3
	57	Cincinnati, OH-KY-IN	3.3	13	76	Indianapolis. IN	3.7
6	25	Clarksville, TN-KY	2.9		60	Jackson, MS	3.4
	49	Cleveland, OH	3.2	36	120	Jacksonville, FL	4.3
	104	College Station, TX	4.1		49	Kalamazoo, MI	3.2
	157	Colorado Springs, CO	5.2	17	85	Kansas City, MO-KS	3.8
	76	Columbia, SC	3.7		127	Kennewick, WA	4.4
17	18	Columbus, GA-AL	2.8		60	Killeen, TX	3.4
	85	Columbus, OH	3.8		25	Kingsport, TN-VA	2.9
36	104	Corpus Christi, TX	4.1		120	Knoxville, TN	4.3
	120	Dallas-Fort Worth, TX	4.3		25	Lafayette, LA	2.9
	2	Davenport, IA-IL	2.2		130	Lakeland, FL	4.5
	37	Dayton, OH	3.0		60	Lancaster, PA	3.4

Table 3 HOUSING AFFORDABILITY United States Markets: Third Quarter 2020							
Intl. Major Market Rank	National Rank	Housing Market	Median Multiple*	Intl. Major Market Rank	National Rank	Housing Market	Median Multiple
	37	Laredo, TX	3.0	56	146	Providence, RI-MA	4.9
60	159	Las Vegas, NV	5.5		135	Provo, UT	4.6
	60	Lexington-Fayette, KY	3.4	21	89	Raleigh, NC	3.9
	66	Lincoln, NE	3.5		18	Reading, PA	2.8
	25	Little Rock, AR	2.9		167	Reno, NV	5.8
83	184	Los Angeles, CA	8.9	29	104	Richmond, VA	4.1
13	76	Louisville, KY-IN	3.7	64	164	Riverside-San Bernardino, CA	5.7
	11	Lubbock, TX	2.6		37	Roanoke, VA	3.0
	25	Lynchburg, VA	2.9	1	11	Rochester, NY	2.6
	112	Madison, WI	4.2		5	Rockford, IL	2.3
	120	Manchester, NH	4.3	61	162	Sacramento, CA	5.6
	1	McAllen, TX	2.1		149	Salem, OR	5.0
	135	Melbourne, FL	4.6		180	Salinas, CA	7.4
33	112	Memphis, TN-MS-AR	4.2		85	Salisbury, MD-DE	3.8
	149	Merced, CA	5.0	50	142	Salt Lake City, UT	4.7
73	175	Miami, FL	6.3	13	76	San Antonio, TX	3.7
29	104	Milwaukee,WI	4.1	81	183	San Diego, CA	8.0
21	89	Minneapolis-St. Paul, MN-WI	3.9	85	187	San Francisco, CA	9.6
	45	Mobile, AL	3.1	85	187	San Jose, CA	9.6
	159	Modesto, CA	5.5		182	San Luis Obispo, CA	7.8
	37	Montgomery, AL	3.0		180	Santa Barbara, CA	7.4
	104	Myrtle Beach, SC-NC	4.1		184	Santa Cruz, CA	8.9
	162	Naples, FL	5.6		178	Santa Rosa, CA	7.2
33	112	Nashville, TN	4.2		149	Sarasota, FL	5.0
	97	New Haven CT	4.0		49	Savannah, GA	3.2
	76	New London, CT	3.7		7	Scranton, PA	2.5
29	104	New Orleans. LA	4.1	75	176	Seattle, WA	6.6
67	171	New York, NY-NJ-PA	5.9			Shreveport, LA	3.7
	76	Ocala, FL	3.7			Sioux Falls, SD	3.5
	104	Ogden, UT	4.1			South Bend, IN-MI	2.8
6	49	Oklahoma City, OK	3.2			Spartanburg, SC	3.4
	97	Olympia, WA	4.0			Spokane, WA	4.9
	37	Omaha, NE-IA	3.0			Springfield, MA	4.0
56	146	Orlando, FL	4.9		71	Springfield, MO	3.6
	177	Oxnard, CA	6.8	4	37	St. Louis,, MO-IL	3.0
	127	Pensacola, FL	4.4		158	Stockton, CA	5.3
	2	Peoria, IL	2.2		7	Syracuse, NY	2.5
21	89	Philadelphia, PA-NJ-DE-MD	3.9		112	Tallahassee, FL	4.2
45	135	Phoenix, AZ	4.6	36	120	Tampa-St. Petersburg, FL	4.3
1	11	Pittsburgh, PA	2.6		15	Toledo, OH	2.7
	127	Port St. Lucie, FL	4.4		89	Trenton, NJ	3.9
	155	Portland, ME	5.1	36	120	Tucson, AZ	4.3
67	171	Portland, OR-WA	5.9	5	45	Tulsa, OK	3.1

Table 3 HOUSING AFFORDABILITY United States Markets: Third Quarter 2020							
Intl. Major Market Rank	National Rank	Housing Market	Median Multiple*	Intl. Major Market Rank	National Rank	Housing Market	Median Multiple
	2	Utica-Rome, NY	2.2		149	Wilmington, NC	5.0
	149	Vallejo, CA	5.0		71	Winston-Salem, NC	3.6
13	76	Virginia Beach-Norfolk, VA-NC	3.7		112	Worcester, MA-CT	4.2
	97	Visalia, CA	4.0		130	Yakima, WA	4.5
	37	Waco, TX	3.0		25	York, PA	2.9
45	135	Washington, DC-VA-MD-WV	4.6		6	Youngstown, OH-PA	2.4
	18	Wichita, KS	2.8				
International rank from *Demographia International Housing Affordability*							

Table 4 HOUSING AFFORDABILITY RATINGS United States Markets: Third Quarter 2020							
Intl. Major Market Rank	National Rank	Housing Market	Median Multiple*	Intl. Major Market Rank	National Rank	Housing Market	Median Multiple
	1	McAllen, TX	2.1		25	Canton, OH	2.9
	2	Davenport, IA-IL	2.2		25	Clarksville, TN-KY	2.9
	2	Peoria, IL	2.2		25	Duluth, MN-WI	2.9
	2	Utica-Rome, NY	2.2		25	Flint, MI	2.9
	5	Rockford, IL	2.3		25	Harrisburg, PA	2.9
	6	Youngstown, OH-PA	2.4		25	Kingsport, TN-VA	2.9
	7	Evansville, IN-KY	2.5		25	Lafayette, LA	2.9
	7	Huntington, WV-KY-OH	2.5		25	Lansing, MI	2.9
	7	Scranton, PA	2.5		25	Little Rock, AR	2.9
	7	Syracuse, NY	2.5		25	Lynchburg, VA	2.9
	11	Cedar Rapids, IA	2.6		25	York, PA	2.9
	11	Lubbock, TX	2.6		37	Brownsville, TX	3.0
1	11	Pittsburgh, PA	2.6		37	Dayton, OH	3.0
1	11	Rochester, NY	2.6		37	Laredo, TX	3.0
	15	Fort Smith, AR-OK	2.7		37	Montgomery, AL	3.0
	15	Hickory, NC	2.7		37	Omaha, NE-IA	3.0
	15	Toledo, OH	2.7		37	Roanoke, VA	3.0
	18	Augusta, GA-SC	2.8	4	37	St. Louis,, MO-IL	3.0
	18	Columbus, GA-AL	2.8		37	Waco, TX	3.0
	18	Erie, PA	2.8		45	Des Moines, IA	3.1
	18	Fort Wayne, IN	2.8		45	Green Bay, WI	3.1
	18	Reading, PA	2.8		45	Mobile, AL	3.1
	18	South Bend, IN-MI	2.8	5	45	Tulsa, OK	3.1
	18	Wichita, KS	2.8		49	Akron, OH	3.2
3	25	Buffalo, NY	2.9		49	Albany, NY	3.2

HOUSING AFFORDABILITY RATINGS, *contd.*							
Intl. Major Market Rank	National Rank	Housing Market	Median Multiple*	Intl. Major Market Rank	National Rank	Housing Market	Median Multiple
	49	Beaumont-Port Arthur, TX	3.2		89	Trenton, NJ	3.9
6	49	Cleveland, OH	3.2		97	Atlantic City, NJ	4.0
	49	Gulfport, MS	3.2	25	97	Chicago, IL-IN-WI	4.0
	49	Kalamazoo, MI	3.2	25	97	Houston, TX	4.0
6	49	Oklahoma City, OK	3.2		97	New Haven CT	4.0
	49	Savannah, GA	3.2		97	Olympia, WA	4.0
8	57	Cincinnati, OH-KY-IN	3.3		97	Springfield, MA	4.0
8	57	Grand Rapids, MI	3.3		97	Visalia, CA	4.0
	57	Huntsville, AL	3.3		104	College Station, TX	4.1
10	60	Hartford, CT	3.4		104	Corpus Christi, TX	4.1
	60	Jackson, MS	3.4		104	Greensboro, NC	4.1
	60	Killeen, TX	3.4	29	104	Milwaukee,WI	4.1
	60	Lancaster, PA	3.4		104	Myrtle Beach, SC-NC	4.1
	60	Lexington-Fayette, KY	3.4	29	104	New Orleans. LA	4.1
	60	Spartanburg, SC	3.4		104	Ogden, UT	4.1
	66	Allentown, PA-NJ	3.5	29	104	Richmond, VA	4.1
	66	Baton Rouge, LA	3.5		112	Ann Arbor, MI	4.2
	66	Lincoln, NE	3.5	33	112	Baltimore, MD	4.2
	66	Sioux Falls, SD	3.5		112	Chattanooga, TN-GA	4.2
11	71	Atlanta, GA	3.5		112	Madison, WI	4.2
11	71	Detroit, MI	3.6	33	112	Memphis, TN-MS-AR	4.2
	71	Fayetteville, NC	3.6	33	112	Nashville, TN	4.2
	71	Springfield, MO	3.6		112	Tallahassee, FL	4.2
	71	Winston-Salem, NC	3.6		112	Worcester, MA-CT	4.2
	76	Columbia, SC	3.6	36	120	Austin, TX	4.3
	76	Greenville, SC	3.7	36	120	Dallas-Fort Worth, TX	4.3
13	76	Indianapolis. IN	3.7	36	120	Jacksonville, FL	4.3
13	76	Louisville, KY-IN	3.7		120	Knoxville, TN	4.3
	76	New London, CT	3.7		120	Manchester, NH	4.3
	76	Ocala, FL	3.7	36	120	Tampa-St. Petersburg, FL	4.3
13	76	San Antonio, TX	3.7	36	120	Tucson, AZ	4.3
	76	Shreveport, LA	3.7		127	Kennewick, WA	4.4
13	76	Virginia Beach-Norfolk, VA-NC	3.7		127	Pensacola, FL	4.4
	85	Amarillo, TX	3.7		127	Port St. Lucie, FL	4.4
17	85	Columbus, OH	3.8		130	Albuquerque, NM	4.5
17	85	Kansas City, MO-KS	3.8		130	Bremerton, WA	4.5
	85	Salisbury, MD-DE	3.8		130	Cape Coral, FL	4.5
	89	Anchorage, AK	3.9		130	Lakeland, FL	4.5
21	89	Birmingham, AL	3.9		130	Yakima, WA	4.5
	89	El Paso, TX	3.9		135	Bakersfield, CA	4.6
	89	Hagerstown, MD-WV	3.9	45	135	Charlotte, NC-SC	4.6
21	89	Minneapolis-St. Paul, MN-WI	3.9		135	Daytona Beach, FL	4.6
21	89	Philadelphia, PA-NJ-DE-MD	3.9		135	Melbourne, FL	4.6
21	89	Raleigh, NC	3.9	45	135	Phoenix, AZ	4.6

HOUSING AFFORDABILITY RATINGS, *contd.*							
Intl. Major Market Rank	National Rank	Housing Market	Median Multiple*	45	National Rank	Housing Market	Median Multiple
	135	Provo, UT	4.6	64	164	Riverside-San Bernardino, CA	5.7
45	135	Washington, DC-VA-MD-WV	4.6		167	Boise, ID	5.8
50	142	Salt Lake City, UT	4.7		167	Bridgeport-Stamford, CT	5.8
	143	Asheville, NC	4.8	66	167	Denver, CO	5.8
	143	Charleston, SC	4.8		167	Reno, NV	5.8
	143	Greeley, CO	4.8		171	Fort Walton Beach, FL	5.9
56	146	Orlando, FL	4.9	67	171	New York, NY-NJ-PA	5.9
56	146	Providence, RI-MA	4.9	67	171	Portland, OR-WA	5.9
	146	Spokane, WA	4.9	71	174	Boston, MA-NH	6.1
	149	Durham, NC	5.0	73	175	Miami, FL	6.3
	149	Merced, CA	5.0	75	176	Seattle, WA	6.6
	149	Salem, OR	5.0		177	Oxnard, CA	6.8
	149	Sarasota, FL	5.0		178	Santa Rosa, CA	7.2
	149	Vallejo, CA	5.0		179	Boulder, CO	7.3
	149	Wilmington, NC	5.0		180	Salinas, CA	7.4
	155	Gainesville, FL	5.1		180	Santa Barbara, CA	7.4
	155	Portland, ME	5.1		182	San Luis Obispo, CA	7.8
	157	Colorado Springs, CO	5.2	81	183	San Diego, CA	8.0
	158	Stockton, CA	5.3	83	184	Los Angeles, CA	8.9
	159	Fort Collins, CO	5.5		184	Santa Cruz, CA	8.9
60	159	Las Vegas, NV	5.5	84	186	Honolulu, HI	9.1
	159	Modesto, CA	5.5	85	187	San Francisco, CA	9.6
	162	Naples, FL	5.6	85	187	San Jose, CA	9.6
61	162	Sacramento, CA	5.6				
	164	Eugene, OR	5.7				
64	164	Fresno, CA	5.7				

International rank from *Demographia International Housing Affordability*

Sources and Methods

House price data is estimated from published government and real estate industry sources reporting on housing sectors representing the majority of existing dwellings.

Median incomes are estimated from official government sources, and updated by more general economic data as necessary to develop a figure for the year reported upon. Because median income indicators are generally unavailable for the pandemic year (2020), 2019 income estimates are used. It seems clear that median incomes will show declines from 2019, so even that is likely to understate the seriousness emerging housing unaffordability trends on middle-income households. More reliable data should be available over the next year

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