DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY

2023 Edition

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Introduction

The Urban Reform Institute is pleased to present the 2023 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, for 174 major markets (metropolitan areas) for the third quarter of 2022.

Post-pandemic, the movement of households from denser urban neighborhoods to larger homes, often with large yards (gardens) in suburban and outlying areas has continued. The result has been to drive up prices at unprecedented rates in many markets. 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.

Housing affordability generally stabilized in 2022, though at higher prices than before the pandemic. In some markets there has been improvement.

Housing affordability is particularly critical due to the strong increase in remote working (telework) 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.

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DEMOGRAPHIA

Executive Summary

De*mographia United States Housing Affordability* rates middle-income housing affordability in 174 major housing markets in the United States. This edition covers the third quarter (September quarter) of 2022.

Assessing Housing Affordability:

Sometimes housing affordability is evaluated by simply comparing house prices. However, without consideration of incomes, housing affordability cannot be assessed with any real meaning for potential buyers. The very term housing "affordability" implies a relationship between housing costs and the ability to pay (or incomes).

Demographia United States Housing Affordability uses the "median multiple" to rate middle-income housing affordability. The median multiple is a price-to-income ratio, which is the median house price divided by the gross median household income (pre-tax).

Middle-income housing affordability is rated in four categories (Table ES-1):

Housing markets are metropolitan areas, which are also labor markets. In a well-functioning market, the median priced house should be affordable to a large portion of middle-income households, as was overwhelmingly the case a few decades ago.

Table ES-1 DEMOGRAPHIA 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	

Housing affordability comparisons are made, (1) *between* housing markets (such as comparison between Cincinnati and Pittsburgh) or (2) over time *within* the same housing market (such between years in Cincinnati).

The Demand Shock

The pandemic and the related dispersion of population have produced a demand shock that has led to an unprecedented deterioration in housing affordability.

US Housing Affordability in 2022

US housing affordability in 2022 is summarized by market in Table ES-2.

Table ES-2 Housing Affordability Ratings: United States		
Rating	**Median Multiple**	**# of Markets**
Severely Unaffordable	5.1 & Over	70
Seriously Unaffordable	4.1 to 5.0	51
Moderately Unaffordable	3.1 to 4.0	42
Affordable	3.0 & Under	11
Median Market/Total Markets	4.7	174

The number of markets rated "affordable" improved to 11 from 9 in 2022. Nonetheless, this is much less than 44 in 2019, before the demand shock. The most affordable markets were Utica-Rome, NY (2.0), Peoria, IL (2.4), Scranton, PA (2.6), Davenport, IA-IL and Youngstown, OH-PA (2.7), Cedar Rapids, IA and Erie, PA (2.8), as well as Canton, OH, Duluth, MN-WI, Rockford, IL and Toledo, OH (2.9).

The number of severely unaffordable markets — defined by median multiples over 5.0 — rose to five times the 14 of 2019 (the last pre-demand shock year), to 70 in 2022.

Housing Affordability and Land Use Regulation

Declining housing affordability is driving higher costs of living that threaten the future of the middle-class. In *Under Pressure: The Squeezed Middle-Class,* the OECD finds that the middle-class faces ever increasing costs of living and that rising owned house prices are the "main driver of rising middle-class expenditure."

Academic research associates the declining housing affordability over recent decades with stronger land use regulation. In particular, urban containment regulation --- planning orthodoxy --- can produce substantially higher costs. As land available for urban development is severely rationed, prices tend to rise.

In *Rethinking Urban Sprawl: Moving Toward Sustainable Cities*, OECD concludes that the urban growth boundaries and greenbelts must be accompanied by sufficient land for urban expansion to maintain affordability. This land needs to be competitively priced to keep house prices from rising disproportionately to incomes. Regrettably, this has not been achieved in an expanding number of severely unaffordable markets.

Whatever its advantages, urban containment is associated with higher housing costs, and higher costs of living. Wherever house prices rise faster than incomes, greater inequality of both opportunity and outcomes can be expected. In effect, higher house prices relative to incomes interfere

materially with equality of opportunity by putting out of reach housing that would have previously been accessible to middle and lower income households.

Potentially At-Risk Markets: A number of growing markets have become severely unaffordable, especially during the recent demand shock. These include, for example, Reno (median multiple 7.4), Las Vegas (6.9), Boise (6.3), Phoenix (6.0), Tucson (5.9), Provo (5.8), Austin (5.5), Ogden (5.4), Colorado Springs (5.6),Charlotte (5.4+), Nashville (5.3) and Raleigh (5.1). As normal market conditions return, housing affordability could improve in these markets. On the other hand, deteriorated housing affordability may not be restored, if metropolitan land use policies do not ensure a competitive market for land that restores profitable commercial construction of housing for middle-income households.

Urban containment is associated with such effects, which can be characterized as government induced inequality. This has happened, most substantially in California and Hawaii, are also being followed by other major markets such as in Washington, Oregon, Colorado.

DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY: 2023 EDITION

(Data from 3rd Quarter 2022)

Supplement to Demographia International Housing Affordability: 2023 Edition, May 2023

1: Rating Housing Affordability

Demographia United States Housing Affordability rates middle-income housing affordability in the third quarter 2022. The report is a supplement to *Demographia International Housing Affordability*,[1] the 2023 edition, which covered 94 major housing markets (1,000,000 or more population) in 8 nations (Australia, Canada, China [Hong Kong], Ireland, New Zealand, Singapore, the United Kingdom and the United States).[2] *Demographia United States Housing Affordability* provides ratings in 174 markets, including the 56 major US metropolitan areas included in the previously published *Demographia International Housing Affordability*.

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[3], 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.

Table 1 DEMOGRAPHIA 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

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1 The 2020 edition the *Demographia International Housing Affordability Survey*.

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). The 2020 Demographia International Housing Affordability Survey was featured in the <u>Global Housing Watch Newsletter</u> (April 20,2020), published by the International Monetary Fund (IMF).

3 <u>The Housing Indicators Program</u>, also see Shlomo Angel, Housing Policy Matters: A Global Analysis. Oxford University Press, 2000.

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

1.2: Price to Income Ratio: 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 ratio of 3.0 or less. As late as the 1990s. price-to-income ratios were at or below 3.0 in Australia, Ireland, New Zealand, the United Kingdom and the United States.[4]

This was before the broad implementation of strong restrictive land use policies (especially urban containment policy), which have been associated with deteriorating housing affordability (Section 5). Since then, large differences have developed in housing affordability between markets, not only internationally, but also within nations (including the United States).

1.3: Rating Housing Affordability in Metropolitan Housing Markets

Demographia United States Housing Affordability focuses at the housing market level (metropolitan area)[5] because there are substantial affordability differences *within* the nation, which has often received insufficient attention among some analysts and the media. *Demographia United States Housing Affordability* 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. between years within the same housing market (such between 2010 and 2020 in the Chicago market).

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4   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).

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

2: U.S. Housing Affordability: Recent Historic Context

After a quarter century of widespread and stable housing affordability following World War II, housing affordability began to deterioration the 1970s, as much more stringent land use regulations were imposed in some housing markets (metropolitan areas).

Median Multiples in the United States were virtually all "affordable" (3.0 or below) in today's major markets until 1969. This includes even California, where now the most unaffordable housing in the nation is concentrated, but in 1969 all its markets were rated "affordable." More than 60% of US major housing markets still had "affordable" median multiples (3.0 or lower) as late as 2000.[6] But even as other areas saw relative prices rise, California emerged as "ground zero" for the severity of its housing affordability (Figure 1).

In 1969, the difference between the least affordable and most affordable major housing markets was 1.7 median multiple points (1.7 years of median household income). By 2022, the difference was 8.7 points, more than five times that of 1969, but a small decrease from the 9.9 in 2021 (Figure 2).

Figure 1

Figure 2
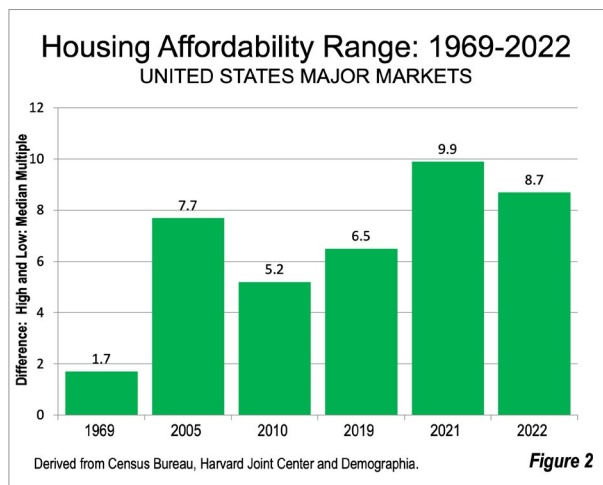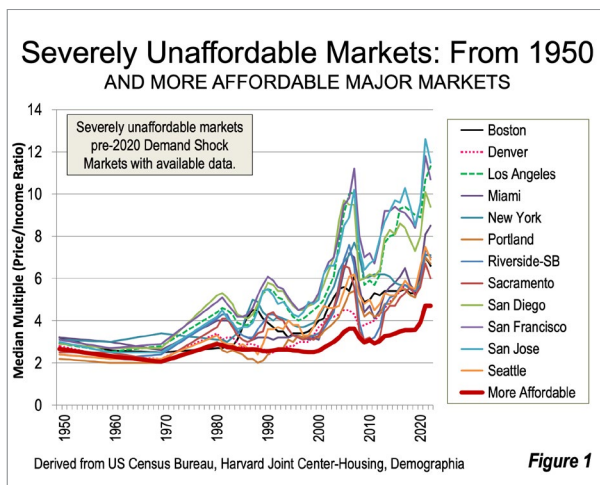
3: The Recent Demand Shock

During the pandemic, housing affordability further worsened..

Many households have sought more living space (inside and outside) during the pandemic. The increase in remote work, which was so important to maintaining national employment levels, resulted in a "demand shock" ("a sudden unexpected event that dramatically increases or decreases demand for a product or service, usually temporarily") The demand for housing rose faster than could be readily supplied by developers and builders.

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6   Derived from Harvard Joint Center for Housing Studies.

The number of severely unaffordable major markets out of 56 had increased to 15 by the pre-pandemic year of 2019 and by 2022 had since risen to 27 (Figure 3).

Severely Unaffordable Major Markets
2000-2022 (56 OVER 1M POPULATION IN 2020)

Derived from Census Bureau, Harvard Joint Center and Demographia.

Figure 3

Earlier Severely Unaffordable Major Markets
EARLIER: 2000-2022

Derived from Census Bureau, Harvard Joint Center and Demographia.
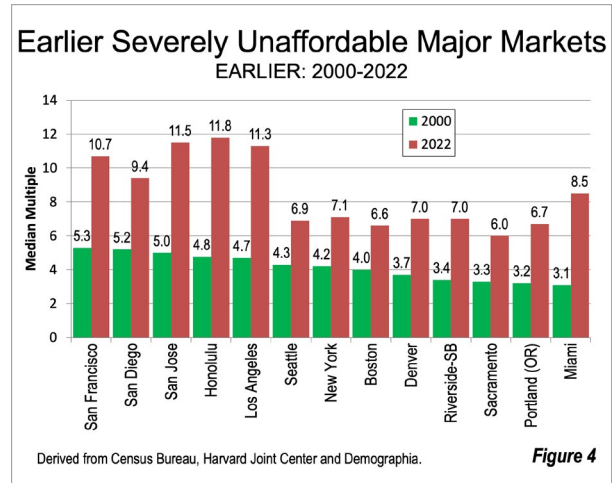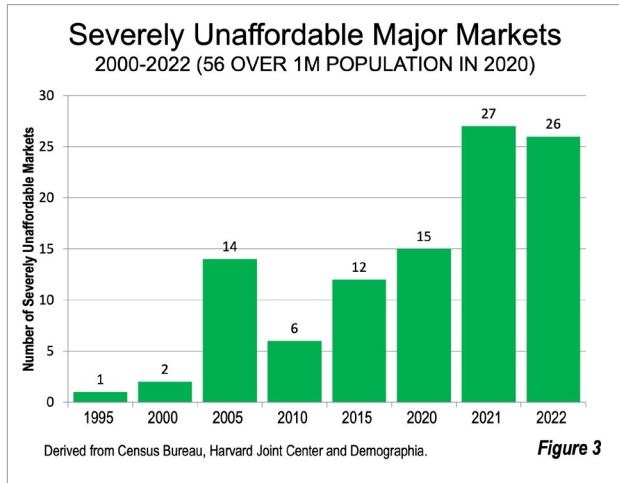
Figure 4

Housing affordability has deteriorated further in many of these expensive markets. This is illustrated in Figure 4, which compares the change in housing affordability from 2000 to 2022 in major markets that had become severely unaffordable before the pandemic (2019). In San Francisco, San Jose, Honolulu, Los Angeles, Riverside-San Bernardino, Portland (OR) and Miami, house prices more than doubled relative to household incomes.

The major markets that became severely unaffordable after 2019 experienced median multiple increases ranging from more than 75% in Providence to 175% in Jacksonville (Figure 5).

Newer Severely Unaffordable Major Markets
REACHED DURING DEMAND SHOCK (2020 OR LATER)

Derived from Census Bureau, Harvard Joint Center and Demographia.

Figure 5

Housing Affordability: 2021 v. 2012
CHANGE IN SHARE OF MARKETS: UNITED STATES

2011: 211 markets
2022: 174 markets

Figure 6
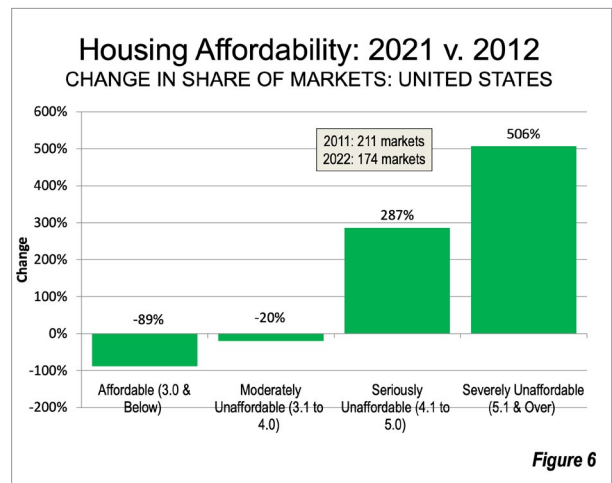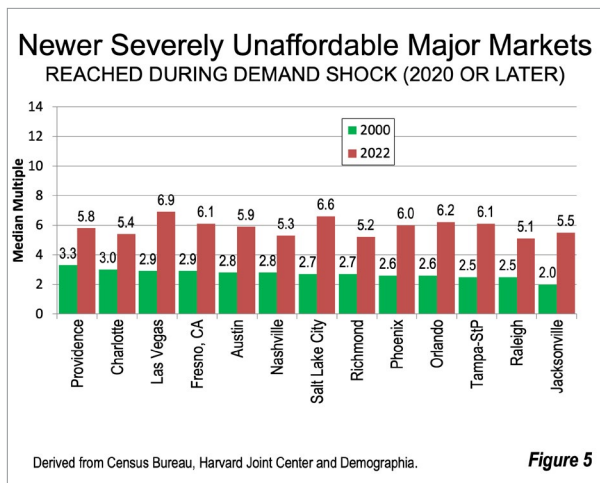
Overall Trend

There was also broad deterioration in housing affordability among all markets. Over the past 10 years, there has been a reduction of 89% in markets ranked "affordable" and a 20% reduction in markets rated "moderately unaffordable."[7]

In contrast, the share of markets rated "seriously unaffordable" has risen 287%. Severely unafford-able markets have risen 506% (Figure 6, above).

4: Housing Affordability by Housing Market

Overall, the United States has a moderately unaffordable Median Multiple of 4.6, deteriorating from last year's 3.9. Yet, remarkably the United States still has the best housing affordability among major countries in this year's edition of *Demographia International Housing Affordability*. Third quarter 2022 housing affordability ratings are summarized for US markets in Table 2.

Table 2 Housing Affordability Ratings: United States		
Rating	**Median Multiple**	**# of Markets**
Severely Unaffordable	5.1 & Over	70
Seriously Unaffordable	4.1 to 5.0	51
Moderately Unaffordable	3.1 to 4.0	42
Affordable	3.0 & Under	11
Median Market/Total Markets	4.7	174

The number of markets rated "affordable" im-proved to 11 from 9 in 2022. Nonetheless, this is a reduction from 44 in 2019, before the demand shock. The most affordable markets were Utica-Rome, NY (2.0), Peoria, IL (2.4), Scranton, PA (2.6), Davenport, IA-IL and Youngstown, OH-PA (2.7), Cedar Rapids, IA and Erie, PA (2.8), as well as Canton, OH, Duluth, MN-WI, Rockford, IL and Toledo, OH (2.9), shown in Figure 7.
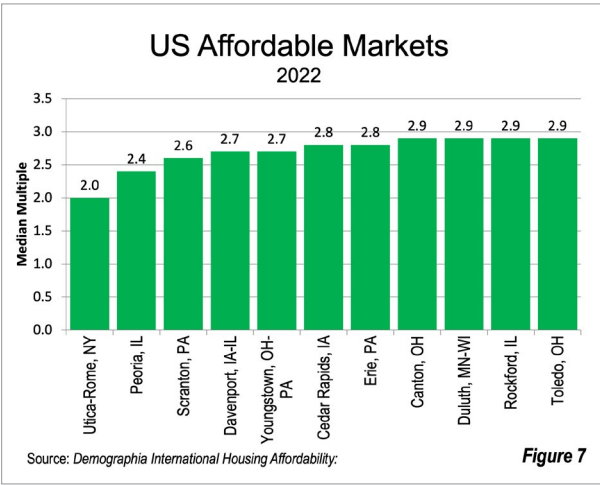
The 70 severely unaffordable markets in 2022 are nearly five times the count of 14 in pre-pandemic 2019. The most severely unaffordable markets were Honolulu (11.8),

US Affordable Markets
2022

Source: *Demographia International Housing Affordability:*

Figure 7

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[7]   2022 third quarter compared to 2011 third quarter.

San Jose (11.5), Los Angeles (11.3), Santa Cruz (11.1) and San Francisco (10.7). Twelve of the 25 least affordable markets are in California, three in Colorado, three in Florida and two in Nevada (Figure 8).

25 Most Severely Unaffordable Markets
THIRD QUARTER 2022
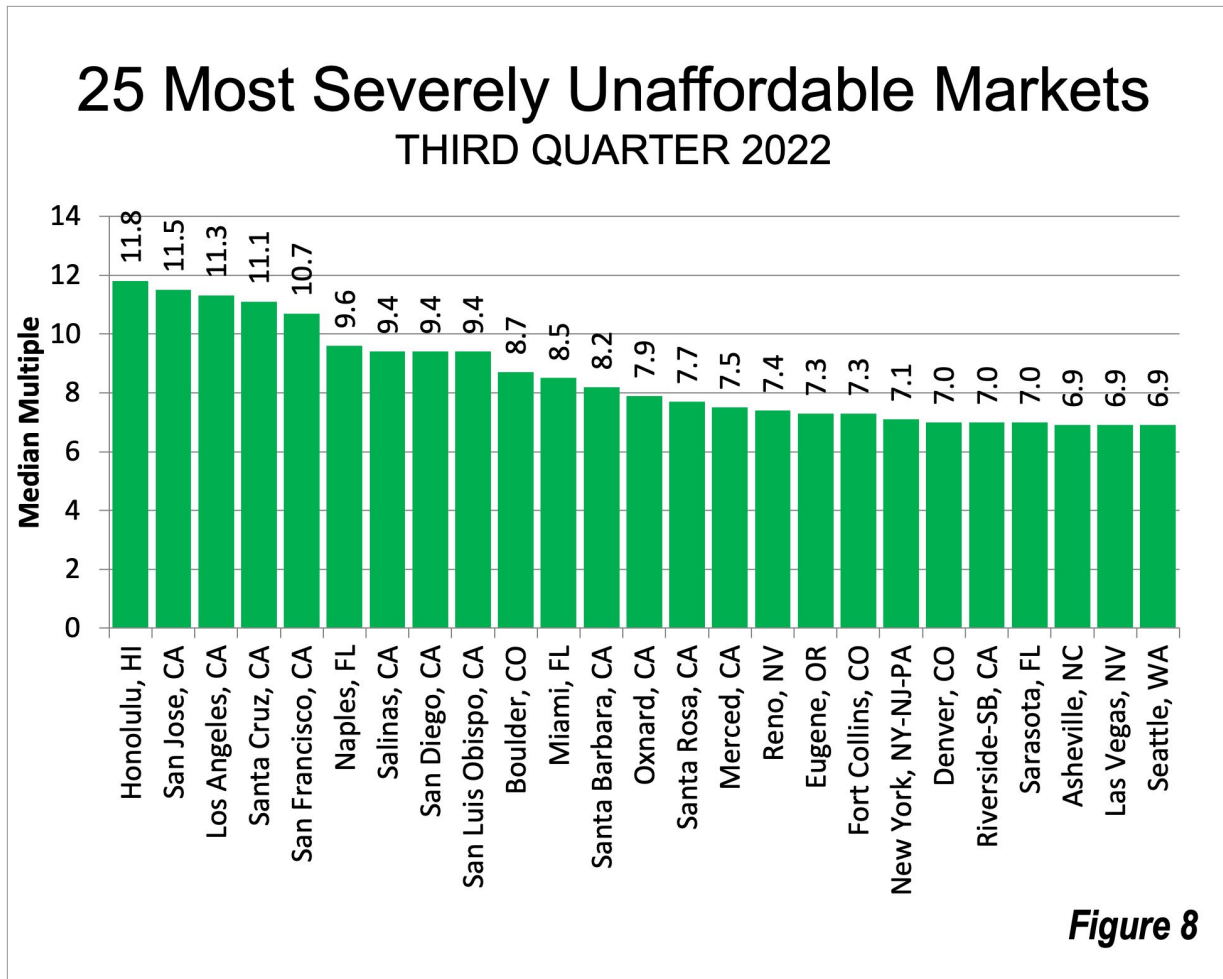
Figure 8

The severely affordable markets are shown as a percentage of the total evaluated markets, by state in Table 3. (*page 10*)

All 16 of the California markets are severely unaffordable, followed by all six in Washington, all five in Colorado, and all three in Oregon and Utah. Each of the two markets in Nevada and Arizona are severely unaffordable, along with the single markets in Hawaii, Idaho, Maine, Rhode Island, the District of Columbia,[8] and New Mexico.

Fifteen of Florida's 16 markets are severely unaffordable. All 174 markets are ranked by their housing affordability (median multiple) in Table 4 (*page 13*) and Table 5 (*page 15*) shows all markets in alphabetical order.

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8   The Washington DC-VA-MD-WV market, with its core in the District of Columbia is approximately 90% outside DC. Most of this population is in Virginia and Maryland.

State/DC	Markets Rated	# of Severely Unaffordable Markets	% Severely Unaffordable	Metropolitan Area	Median Multiple
Table 3 SEVERELY UNAFFORDABLE MARKETS BY STATE/DC: 2022					
California	16	16	100%	San Jose, CA	11.5
				Los Angeles, CA	11.3
				Santa Cruz, CA	11.1
				San Francisco, CA	10.7
				Salinas, CA	9.4
				San Diego, CA	9.4
				San Luis Obispo, CA	9.4
				Santa Barbara, CA	8.2
				Oxnard, CA	7.9
				Santa Rosa, CA	7.7
				Merced, CA	7.5
				Riverside-San Bernardino, CA	7.0
				Fresno, CA	6.1
				Sacramento, CA	6.0
				Modesto, CA	5.8
				Bakersfield, CA	5.4
Washington	6	6	100%	Seattle, WA	6.9
				Spokane, WA	6.2
				Olympia, WA	5.6
				Yakima, WA	5.6
				Bremerton, WA	5.4
				Kennewick, WA	5.4
Colorado	5	5	100.0%	Boulder, CO	8.7
				Fort Collins, CO	7.3
				Denver, CO	7.0
				Greeley, CO	5.7
				Colorado Springs, CO	5.6
Oregon	3	3	100.0%	Eugene, OR	7.3
				Portland, OR-WA	6.7
				Salem, OR	6.7
Utah	3	3	100.0%	Salt Lake City, UT	6.6
				Provo, UT	5.8
				Ogden, UT	5.6
Arizona	2	2	100.0%	Phoenix, AZ	6.0
				Tucson, AZ	5.9
Nevada	2	2	100.0%	Reno, NV	7.4
				Las Vegas, NV	6.9

			Table 3, contd. SEVERELY UNAFFORDABLE MARKETS BY STATE/DC: 2022		
State/DC	Markets Rated	# of Severely Unaffordable Markets	% Severely Unaffordable	Metropolitan Area	Median Multiple
Hawaii	1	1	100.0%	Honolulu, HI	11.8
Idaho	1	1	100.0%	Boise, ID	6.3
Maine	1	1	100.0%	Portland, ME	5.8
New Mexico	1	1	100.0%	Albuquerque, NM	5.4
Rhode Island	1	1	100.0%	Providence, RI-MA	5.8
Florida	16	14	87.5%	Naples, FL	9.6
				Miami, FL	8.5
				Sarasota, FL	7.0
				Gainesville, FL	6.2
				Orlando, FL	6.2
				Port St. Lucie, FL	6.1
				Tampa-St. Petersburg, FL	6.1
				Cape Coral, FL	6.0
				Fort Walton Beach, FL	5.9
				Daytona Beach, FL	5.8
				Lakeland, FL	5.7
				Jacksonville, FL	5.5
				Melbourne, FL	5.4
				Tallahassee, FL	5.1
North Carolina	8	5	62.5%	Asheville, NC	6.9
				Durham, NC	6.1
				Wilmington, NC	5.8
				Charlotte, NC-SC	5.4
				Raleigh, NC	5.1
South Carolina	5	3	60.0%	Myrtle Beach, SC-NC	6.0
				Charleston, SC	5.4
				Greenville, SC	5.1
Massachusetts	3	1	33.3%	Boston, MA-NH	6.6
Connecticut	4	1	25.0%	Bridgeport-Stamford, CT	6.5
Tennessee	5	1	20.0%	Nashville, TN	5.3
New York	6	1	16.7%	New York, NY-NJ-PA	7.1
Texas	13	2	15.4%	Austin, TX	5.9
				College Station, TX	5.8
Note: State assigned by location of urban core in each market.					

5: Housing Affordability and Land Use Regulation

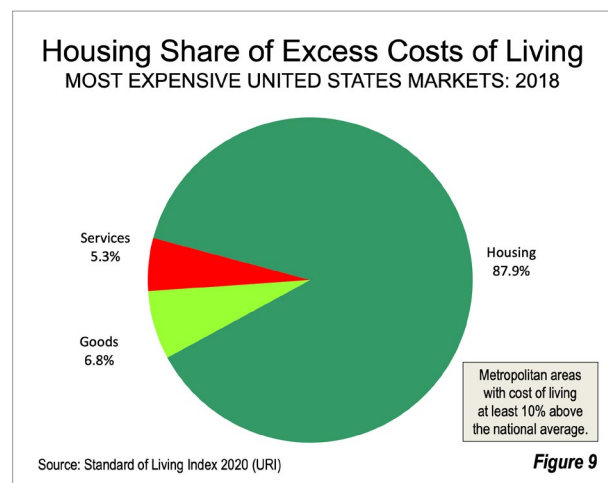There is a broad view that deteriorating housing affordability is an existential threat to the middle-class.[9]

In _Under Pressure: The Squeezed Middle-Class,_ the OECD: "finds that the middle-class faces ever rising costs relative to incomes and that its survival is threatened." Further that "..., the cost of essential parts of the middle-class lifestyle have increased faster than inflation; house prices have been growing three times faster than household median income over the last two decades." Further OECD found that "Housing has been the main driver of rising middle-class expenditure," with the largest increases in the costs of ownership (or housing affordability), rather than rents.

Urban Reform Institute Executive Director Joel Kotkin's book _The Coming of Neo-Feudalism: A Warning to the Global Middle Class_ provides a similar perspective.

5.1: Housing Costs Drive the Cost of Living

In the United States more than 85% of cost of living differences between metropolitan areas (Figure 9) are due to housing costs.[10] Similarly, Bloomberg[11] reports that nearly all of London's higher cost of living is associated with higher housing costs. Richard Florida[12] of the University of Toronto has noted "differences in living costs are basically all about housing."

A considerable body of research associates the deterioration of housing affordability of recent decades with stronger land use regulation.[13]

Housing Share of Excess Costs of Living
MOST EXPENSIVE UNITED STATES MARKETS: 2018

Services 5.3%
Goods 6.8%
Housing 87.9%

Metropolitan areas with cost of living at least 10% above the national average.

Source: Standard of Living Index 2020 (URI)

Figure 9

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9   This section is adapted from _Demographia International Housing Affordability,_ 2023 edition.

10   Wendell Cox (May 2020), _URI Standard of Living Index,_ Urban Reform Institute, https://urbanreforminstitute.org/wp-content/uploads/2020/05/URI-2020-Standard-of-Living-Index.pdf.

11   "Life after London covid era exodus isn't just for the wealthy, " Bloomberg, December 29, 2020. https://www.bloomberg.com/news/articles/2020-12-29/life-after-london-covid-era-exodus-isn-t-just-for-the-wealthy.

12   Richard Florida, Where Is the Best City to Live, Based on Salaries and Cost of Living? Bloomberg City Lab, September 5, 2019, https://www.citylab.com/life/2019/09/cost-of-living-best-worst-cities-housing-adjusted-salaries/597376.

13   See, for example, K. Herkenhoff, L. Ohanian, and E. Prescott. 2018. "Tarnishing the Golden and Empire States: Land-Use Restrictions and the U.S. Economic Slowdown." _Journal of Monetary Economics_, https://www.nber.org/system/files/working_papers/w23790/w23790.pdf, Edward Glaeser and Joseph Gyourko. 2018. "The Economic Implications of Housing Supply." _Journal of Economic Perspectives_, https://www.aeaweb.org/articles?id=10.1257/jep.32.1.3, Chang-Tai Hsieh and Enrico Moretti. 2019. "Housing Constraints and Spatial Misallocation." _American Economic Journal: Macroeconomics_, https://www.aeaweb.org/articles?id=10.1257/mac.20170388,   Wendell Cox, "A Question of Values: Middle-Income Housing Affordability and Urban Containment Policy." Frontier Centre for Public Policy, 2015, https://fcpp.org/sites/default/files/documents/Cox%20-%20A%20Question%20of%20Values.pdf.

Many housing markets have adopted particularly stringent land use regulation, in urban containment strategies (See: Urban Containment, below), which are associated with substantially higher land costs (and consequently, substantially higher house prices).

Table 4 DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY RATINGS: ALPHABETICAL Median Multiple (Median House Price/Median Household Income): 2022: Third Quarter							
Intl. Rank	**U.S. Rank**	**Housing Market**	**Median Multiple**	**Intl. Rank**	**U.S. Rank**	**Housing Market**	**Median Multiple**
	14	Akron, OH	3.2	3	28	Cleveland, OH	3.5
	30	Albany, NY	3.6		123	College Station, TX	5.8
	109	Albuquerque, NM	5.4		117	Colorado Springs, CO	5.6
	63	Allentown, PA	4.2		77	Columbia, SC	4.5
	30	Amarillo, TX	3.6	14	54	Columbus, OH	4.1
	54	Anchorage, AK	4.1		77	Corpus Christi, TX	4.5
	87	Ann Arbor, MI	4.7		130	Fort Walton Beach, FL	5.9
	150	Asheville, NC	6.9	34	95	Dallas-Fort Worth, TX	4.9
27	77	Atlanta, GA	4.5		4	Davenport, IA-IL	2.7
	84	Atlantic City, NJ	4.6		24	Dayton, OH	3.4
57	130	Austin, TX	5.9		123	Daytona Beach, FL	5.8
	109	Bakersfield, CA	5.4	73	153	Denver, CO	7.0
21	65	Baltimore, MD	4.3		30	Des Moines, IA	3.6
	74	Baton Rouge, LA	4.4	8	40	Detroit, MI	3.8
	19	Beaumont-Port Arthur, TX	3.3		8	Duluth, MN-WI	2.9
32	93	Birmingham, AL	4.8		137	Durham, NC	6.1
	144	Boise, ID	6.3		77	El Paso, TX	4.5
68	146	Boston, MA-NH	6.6		6	Erie, PA	2.8
	165	Boulder, CO	8.7		157	Eugene, OR	7.3
	109	Bremerton, WA	5.4		44	Fayetteville, NC	3.9
	145	Bridgeport-Stamford, CT	6.5		65	Fargo, ND-MN	4.3
	49	Brownsville, TX	4.0		65	Fayetteville, AR	4.3
7	38	Buffalo, NY	3.7		19	Flint, MI	3.3
	8	Canton, OH	2.9		157	Fort Collins, CO	7.3
	133	Cape Coral, FL	6.0		19	Fort Wayne, IN	3.3
	6	Cedar Rapids, IA	2.8	61	137	Fresno, CA	6.1
	109	Charleston, SC	5.4		141	Gainesville, FL	6.2
50	109	Charlotte, NC-SC	5.4	14	54	Grand Rapids, MI	4.1
	77	Chattanooga, TN-GA	4.5		121	Greeley, CO	5.7
19	63	Chicago, IL-IN-WI	4.2		40	Green Bay, WI	3.8
5	30	Cincinnati, OH-KY-IN	3.6		84	Greensboro, NC	4.6

		Table 4, contd. DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY RATINGS: ALPHABETICAL Median Multiple (Median House Price/Median Household Income): 2022: Third Quarter					
Intl. Rank	**U.S. Rank**	**Housing Market**	**Median Multiple**	**Intl. Rank**	**U.S. Rank**	**Housing Market**	**Median Multiple**
	105	Greenville, SC	5.1		169	Naples, FL	9.6
	30	Gulfport, MS	3.6	47	108	Nashville, TN	5.3
	44	Hagerstown, MD-WV	3.9		77	New Haven CT	4.5
	14	Harrisburg, PA	3.2	28	87	New Orleans. LA	4.7
11	49	Hartford, CT	4.0	76	156	New York, NY-NJ-PA	7.1
28	87	Houston, TX	4.7		153	Sarasota, FL	7.0
	49	Huntsville, AL	4.0		54	New London, CT	4.1
14	54	Indianapolis. IN	4.1		95	Ocala, FL	4.9
	65	Jackson, MS	4.3		117	Ogden, UT	5.6
53	116	Jacksonville, FL	5.5	5	30	Oklahoma City, OK	3.6
	24	Kalamazoo, MI	3.4		117	Olympia, WA	5.6
11	49	Kansas City, MO-KS	4.0		30	Omaha, NE-IA	3.6
	109	Kennewick, WA	5.4	63	141	Orlando, FL	6.2
	77	Killeen, TX	4.5		162	Oxnard, CA	7.9
	84	Kingsport, TN-VA	4.6		109	Melbourne, FL	5.4
	102	Knoxville, TN	5.0		93	Pensacola, FL	4.8
	121	Lakeland, FL	5.7		2	Peoria, IL	2.4
	30	Lancaster, PA	3.6	14	54	Philadelphia, PA-NJ-DE-MD	4.1
	14	Lansing, MI	3.2	59	133	Phoenix, AZ	6.0
	65	Laredo, TX	4.3	1	12	Pittsburgh, PA	3.1
71	150	Las Vegas, NV	6.9		123	Portland, ME	5.8
	40	Lexington-Fayette, KY	3.8	70	148	Portland, OR-WA	6.7
	49	Lincoln, NE	4.0		137	Port St. Lucie, FL	6.1
	24	Little Rock, AR	3.4	56	123	Providence, RI-MA	5.8
89	172	Los Angeles, CA	11.3		123	Provo, UT	5.8
9	44	Louisville, KY-IN	3.9	43	105	Raleigh, NC	5.1
	95	Madison, WI	4.9		19	Reading, PA	3.3
	95	Manchester, NH	4.9		159	Reno, NV	7.4
28	87	Memphis, TN-MS-AR	4.7	34	95	Richmond, VA	4.9
	160	Merced, CA	7.5	73	153	Riverside-San Bernardino, CA	7.0
81	164	Miami, FL	8.5		40	Roanoke, VA	3.8
39	102	Milwaukee, WI	5.0	2	14	Rochester, NY	3.2
14	54	Minneapolis-St. Paul, MN-WI	4.1		8	Rockford, IL	2.9
	54	Mobile, AL	4.1	59	133	Sacramento, CA	6.0
	123	Modesto, CA	5.8	3	28	St. Louis,, MO-IL	3.5
	38	Montgomery, AL	3.7		148	Salem, OR	6.7
	133	Myrtle Beach, SC-NC	6.0		166	Salinas, CA	9.4

Intl. Rank	U.S. Rank	Housing Market	Median Multiple	Intl. Rank	U.S. Rank	Housing Market	Median Multiple
	65	Salisbury, MD-DE	4.3		12	Syracuse, NY	3.1
68	146	Salt Lake City, UT	6.6		105	Tallahassee, FL	5.1
34	95	San Antonio, TX	4.9	61	137	Tampa-St. Petersburg, FL	6.1
83	166	San Diego, CA	9.4		8	Toledo, OH	2.9
87	170	San Francisco, CA	10.7		65	Trenton, NJ	4.3
90	173	San Jose, CA	11.5	57	130	Tucson, AZ	5.9
	166	San Luis Obispo, CA	9.4	9	44	Tulsa, OK	3.9
	171	Santa Cruz, CA	11.1	91	174	Honolulu, HI	11.8
	163	Santa Barbara, CA	8.2		1	Utica-Rome, NY	2.0
	161	Santa Rosa, CA	7.7	21	65	Virginia Beach-Norfolk, VA-NC	4.3
	3	Scranton, PA	2.6		74	Waco, TX	4.4
71	150	Seattle, WA	6.9	39	102	Washington, DC-VA-MD-WV	5.0
	74	Shreveport, LA	4.4		24	Wichita, KS	3.4
	54	Sioux Falls, SD	4.1		123	Wilmington, NC	5.8
	19	South Bend, IN-MI	3.3		87	Winston-Salem, NC	4.7
	65	Spartanburg, SC	4.3		95	Worcester, MA-CT	4.9
	141	Spokane, WA	6.2		117	Yakima, WA	5.6
	87	Springfield, MA	4.7		14	York, PA	3.2
	44	Springfield, MO	3.9		4	Youngstown, OH-PA	2.7

Table 4, contd.
DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY RATINGS: ALPHABETICAL
Median Multiple (Median House Price/Median Household Income): 2022: Third Quarter

Intl. Rank	U.S. Rank	Housing Market	Median Multiple	Intl. Rank	U.S. Rank	Housing Market	Median Multiple
	1	Utica-Rome, NY	2.0		12	Syracuse, NY	3.1
	2	Peoria, IL	2.4		14	Akron, OH	3.2
	3	Scranton, PA	2.6		14	Harrisburg, PA	3.2
	4	Davenport, IA-IL	2.7		14	Lansing, MI	3.2
	4	Youngstown, OH-PA	2.7	2	14	Rochester, NY	3.2
	6	Cedar Rapids, IA	2.8		14	York, PA	3.2
	6	Erie, PA	2.8		19	Beaumont-Port Arthur, TX	3.3
	8	Canton, OH	2.9		19	Flint, MI	3.3
	8	Duluth, MN-WI	2.9		19	Fort Wayne, IN	3.3
	8	Rockford, IL	2.9		19	Reading, PA	3.3
	8	Toledo, OH	2.9		19	South Bend, IN-MI	3.3
1	12	Pittsburgh, PA	3.1		24	Dayton, OH	3.4

Table 5
DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY RATINGS:
FROM MOST TO LEAST AFFORDABLE

Intl. Rank	U.S. Rank	Housing Market	Median Multiple	Intl. Rank	U.S. Rank	Housing Market	Median Multiple
		Table 5, contd. DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY RATINGS: FROM MOST TO LEAST AFFORDABLE					
	24	Kalamazoo, MI	3.4		63	Allentown, PA	4.2
	24	Little Rock, AR	3.4	19	63	Chicago, IL-IN-WI	4.2
	24	Wichita, KS	3.4	21	65	Baltimore, MD	4.3
3	28	Cleveland, OH	3.5		65	Fargo, ND-MN	4.3
3	28	St. Louis,, MO-IL	3.5		65	Fayetteville, AR	4.3
	30	Albany, NY	3.6		65	Jackson, MS	4.3
	30	Amarillo, TX	3.6		65	Laredo, TX	4.3
5	30	Cincinnati, OH-KY-IN	3.6		65	Salisbury, MD-DE	4.3
	30	Des Moines, IA	3.6		65	Spartanburg, SC	4.3
	30	Gulfport, MS	3.6		65	Trenton, NJ	4.3
	30	Lancaster, PA	3.6	21	65	Virginia Beach-Norfolk, VA-NC	4.3
5	30	Oklahoma City, OK	3.6		74	Baton Rouge, LA	4.4
	30	Omaha, NE-IA	3.6		74	Shreveport, LA	4.4
7	38	Buffalo, NY	3.7		74	Waco, TX	4.4
	38	Montgomery, AL	3.7	27	77	Atlanta, GA	4.5
8	40	Detroit, MI	3.8		77	Chattanooga, TN-GA	4.5
	40	Green Bay, WI	3.8		77	Columbia, SC	4.5
	40	Lexington-Fayette, KY	3.8		77	Corpus Christi, TX	4.5
	40	Roanoke, VA	3.8		77	El Paso, TX	4.5
	44	Fayetteville, NC	3.9		77	Killeen, TX	4.5
	44	Hagerstown, MD-WV	3.9		77	New Haven CT	4.5
9	44	Louisville, KY-IN	3.9		84	Atlantic City, NJ	4.6
	44	Springfield, MO	3.9		84	Greensboro, NC	4.6
9	44	Tulsa, OK	3.9		84	Kingsport, TN-VA	4.6
	49	Brownsville, TX	4.0		87	Ann Arbor, MI	4.7
11	49	Hartford, CT	4.0	28	87	Houston, TX	4.7
	49	Huntsville, AL	4.0	28	87	Memphis, TN-MS-AR	4.7
11	49	Kansas City, MO-KS	4.0	28	87	New Orleans. LA	4.7
	49	Lincoln, NE	4.0		87	Springfield, MA	4.7
	54	Anchorage, AK	4.1		87	Winston-Salem, NC	4.7
14	54	Columbus, OH	4.1	32	93	Birmingham, AL	4.8
14	54	Grand Rapids, MI	4.1		93	Pensacola, FL	4.8
14	54	Indianapolis. IN	4.1	34	95	Dallas-Fort Worth, TX	4.9
14	54	Minneapolis-St. Paul, MN-WI	4.1		95	Madison, WI	4.9
	54	Mobile, AL	4.1		95	Manchester, NH	4.9
	54	New London, CT	4.1		95	Ocala, FL	4.9
14	54	Philadelphia, PA-NJ-DE-MD	4.1	34	95	Richmond, VA	4.9
	54	Sioux Falls, SD	4.1	34	95	San Antonio, TX	4.9

Intl. Rank	U.S. Rank	Housing Market	Median Multiple	Intl. Rank	U.S. Rank	Housing Market	Median Multiple
		Table 5, contd. **DEMOGRAPHIA UNITED STATES HOUSING AFFORDABILITY RATINGS:** **FROM MOST TO LEAST AFFORDABLE**					
	95	Worcester, MA-CT	4.9		137	Durham, NC	6.1
	102	Knoxville, TN	5.0	61	137	Fresno, CA	6.1
39	102	Milwaukee, WI	5.0		137	Port St. Lucie, FL	6.1
39	102	Washington, DC-VA-MD-WV	5.0	61	137	Tampa-St. Petersburg, FL	6.1
	105	Greenville, SC	5.1		141	Gainesville, FL	6.2
43	105	Raleigh, NC	5.1	63	141	Orlando, FL	6.2
	105	Tallahassee, FL	5.1		141	Spokane, WA	6.2
47	108	Nashville, TN	5.3		144	Boise, ID	6.3
	109	Albuquerque, NM	5.4		145	Bridgeport-Stamford, CT	6.5
	109	Bakersfield, CA	5.4	68	146	Boston, MA-NH	6.6
	109	Bremerton, WA	5.4	68	146	Salt Lake City, UT	6.6
	109	Charleston, SC	5.4	70	148	Portland, OR-WA	6.7
50	109	Charlotte, NC-SC	5.4		148	Salem, OR	6.7
	109	Kennewick, WA	5.4		150	Asheville, NC	6.9
	109	Melbourne, FL	5.4	71	150	Las Vegas, NV	6.9
53	116	Jacksonville, FL	5.5	71	150	Seattle, WA	6.9
	117	Colorado Springs, CO	5.6	73	153	Denver, CO	7.0
	117	Ogden, UT	5.6		153	Sarasota, FL	7.0
	117	Olympia, WA	5.6	73	153	Riverside-San Bernardino, CA	7.0
	117	Yakima, WA	5.6	76	156	New York, NY-NJ-PA	7.1
	121	Greeley, CO	5.7		157	Eugene, OR	7.3
	121	Lakeland, FL	5.7		157	Fort Collins, CO	7.3
	123	College Station, TX	5.8		159	Reno, NV	7.4
	123	Daytona Beach, FL	5.8		160	Merced, CA	7.5
	123	Modesto, CA	5.8		161	Santa Rosa, CA	7.7
	123	Portland, ME	5.8		162	Oxnard, CA	7.9
56	123	Providence, RI-MA	5.8		163	Santa Barbara, CA	8.2
	123	Provo, UT	5.8	81	164	Miami, FL	8.5
	123	Wilmington, NC	5.8		165	Boulder, CO	8.7
57	130	Austin, TX	5.9		166	Salinas, CA	9.4
	130	Fort Walton Beach, FL	5.9	83	166	San Diego, CA	9.4
57	130	Tucson, AZ	5.9		166	San Luis Obispo, CA	9.4
	130	Fort Walton Beach, FL	5.9		169	Naples, FL	9.6
57	130	Tucson, AZ	5.9	87	170	San Francisco, CA	10.7
	133	Cape Coral, FL	6.0		171	Santa Cruz, CA	11.1
	133	Myrtle Beach, SC-NC	6.0	89	172	Los Angeles, CA	11.3
59	133	Phoenix, AZ	6.0	90	173	San Jose, CA	11.5
59	133	Sacramento, CA	6.0	91	174	Honolulu, HI	11.8

5.2: Urban Containment: The Planning Orthodoxy

Before the demand shock (2020), each major market in which housing became severely unafford-able in the United States followed a regime of urban containment. Now the "planning orthodoxy," this policy agenda rigidly limits urban land expansion well below demand levels, leading to higher prices.

Prominent urban planners Arthur C. Nelson and Casey J. Dawkins provide a definition: "… 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." The best known urban contain-ment policies are greenbelts and urban growth boundaries. The problem is that the amount of land available for urban development is severely rationed, which in the face of continuing demand for new housing land, forces up the prices.

A principal purpose of urban containment is to prevent the physical expansion of urban areas – that is, conversion of rural land to urban land (popularly called "urban sprawl"[14]). Urban expansion occurs organically as populations increase and people seek to raise their living standards. Urban containment, on the other hand, as Nelson and Dawkins note , "is intended" to increase land costs" inside the contained area.[15] Urban containment succeeded at increasing land values, with grave consequences for middle-income households largely by pricing them out of the market.

Urban containment makes it impossible to profitably build tracts of housing affordable to mid-dle-income households due mostly to much higher land prices. According to urban planning liter-ature: "Urban development is steered to the area inside the line and discouraged (if not prevented) outside it." Urban containment is contrasted with "…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…"[16]

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14   Judge Glock, "Sprawl is Good: The Environmental Case for Suburbs," https://thebreakthrough.org/journal/no-15-winter-2022/sprawl-is-good-green.

15   Arthur C. Nelson and Casey J. Dawkins (2004), "Urban Containment in the United States: History, Models and Techniques for Regional and Metropolitan Growth Management", American Planning Association Planning Advisory Service.

16   Arthur C. Nelson and Casey J. Dawkins (2004), "Urban Containment in the United States: History, Models and Techniques for Regional and Metropolitan Growth Management", American Planning Association Planning Advisory Service.

The impact of containment policies on land values is illustrated in Figure 10.[17] Generally, the value of urban land tends to rise from the low agricultural values outside the built up urban area to the center.[18]

With urban containment, land values are forced up dramatically near the urban growth boundary and throughout the area within it, in effect setting a floor value on land throughout the urban area (the "urban containment land value effect.)"

The OECD described how this can happen. In Rethinking Urban Sprawl: Moving Toward Sustainable Cities, the OECD cautions that housing affordability can deteriorate if sufficient developable land is not kept available within urban growth boundaries.[19] Urban expansion land must be large enough to retain the competitively priced land, a point stressed by Anthony Downs of the Brookings Institution.[20] Before the much stronger land use regulation in the most expensive markets, serviced land costs tended to be about 20% of the total house price (land and construction).[21]
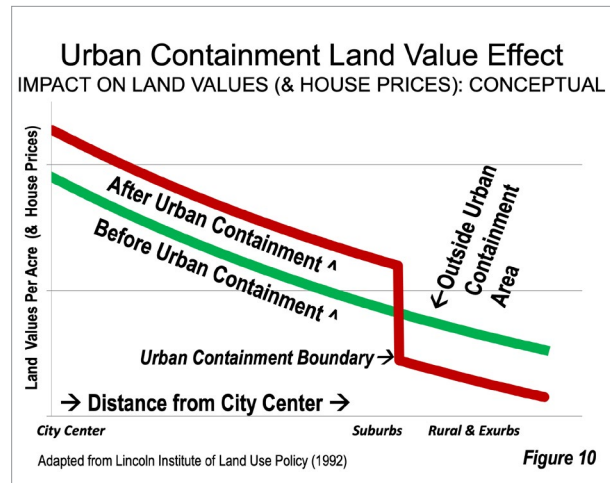
One of the world's leading urbanists, Professor Shlomo Angel, Director of the Urban Expansion Project at New York University[22] raises concerns about urban containment. Angel said: "I'm for making room. And the reason that I'm for making room is that I'm for keeping cities affordable. And if you don't make enough room, then cities are no longer affordable."[23] According to Angel, et al: "… the explicit containment of urban expansion— by greenbelts, as in Seoul, Korea or in English

Urban Containment Land Value Effect
IMPACT ON LAND VALUES (& HOUSE PRICES): CONCEPTUAL

Land Values Per Acre (& House Prices)

After Urban Containment ^
Before Urban Containment ^

← Outside Urban Containment Area

Urban Containment Boundary →

→ Distance from City Center →

City Center   Suburbs   Rural & Exurbs

Adapted from Lincoln Institute of Land Use Policy (1992)   *Figure 10*

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17 Figure is adapted from other works dealing urban growth boundaries. Other graphical representations of this relationship can be found 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. Under traditional land use regulation, where there is no urban containment boundary, the land price gradient would be smooth (the green line labeled "Before Urban Growth Boundary"). On the other hand, an abrupt increase occurs at the urban boundary in an environment with an urban containment boundary (the red line labeled "After Urban Growth Boundary").

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

19 Organization for Economic Cooperation and Development (OEDC), *Rethinking Urban Sprawl: Moving Towards Sustainable Cities*. 2018, https://www.oecd.org/publications/rethinking-urban-sprawl-9789264189881-en.htm.

20 Anthony Downs, *New Visions for Metropolitan America*, (1994), https://www.brookings.edu/book/new-visions-for-metropolitan-america/.

21 See: Edward Glaeser and Joseph Gyourko. 2018. "The Economic Implications of Housing Supply." *Journal of Economic Perspectives*.

22 Angel has advised the United nations, the World Bank, and the Inter-American Development Bank.

23 NYU Marron Newsletter, March 3, 2022. Transcript extract from https://marroninstitute.nyu.edu/blog/solly-angel-discusses-complex-challenges-of-the-development-and-expansion-of-cities.

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."[24] Angel and his research team also note that, compact city policies (which includes urban containment) dominates the approach to urban development around the world.[25]

As a result, virtually any housing market can be threatened by the imposition of urban containment policies that have the potential to extraordinarily increase house prices and reduce the standard of living.

Moreover, compact city policies are generally inconsistent with the increasingly dispersed residential demography and the shift of jobs to the periphery.

Alain Bertaud, former principal urban planner at the World Bank notes, urban growth boundaries and greenbelts put "arbitrary limits on city expansion", and that "the result is predictably higher prices." [26]

In 2019, the last year before the demand shock, *all* severely unaffordable major markets in *Demographia International Housing Affordability* were subject to urban containment. No markets without urban containment were rated severely unaffordable.

Long-time Reserve Bank of New Zealand Governor Donald Brash[27] commented on the continuing failure to restore housing affordability, despite political promises to the contrary: "One thing I can say with confidence, however, is that house prices will not return to more affordable levels until land becomes available at more reasonable prices."

5.3: Low-Income Housing

Further, excessive regulation is also associated with higher costs for both low-income owned and rental housing. Eligibility for subsidized housing generally depends on housing costs exceeding an housing cost threshold (such as 30% of household income) As the market price of housing increases, more households are unable to afford market rate housing and seek subsidies.[28]

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

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24   Shlomo Angel, Patrick Lamson-Hall, Alejandro Blei, Sharad Shingade and Suman Kumar (2022), "Densify and Expand: A Global Analysis of Urban Growth, *Sustainability,* https://www.mdpi.com/2071-1050/13/7/3835.

25   Shlomo Angel, Patrick Lamson-Hall, Alejandro Blei, Sharad Shingade and Suman Kumar (2022), "Densify and Expand: A Global Analysis of Urban Growth, *Sustainability,* https://www.mdpi.com/2071-1050/13/7/3835.

26   Bertaud, Order without Design.

27   Governor Brash contributed the Introduction to the *4th Annual Demographia International Housing Affordability Survey* (2008).

28   For example, see US Department of Housing and Urban Development, "HUD's housing subsidy program," https://www.hud.gov/topics/rental_assistance/phprog.

Government Induced Inequality

Whatever its advantages, urban containment is associated with higher costs housing costs, and higher costs of living. Wherever house prices rise faster than incomes, greater inequality of both opportunity and outcomes can be expected. This occurs by raising house prices out of reach to middle and low income households that were previously been accessible to middle and lower income households. This government induced inequality is typical of urban containment. The worst examples are in California, Oregon, Washington and Colorado, along with markets around the world such as Sydney (Australia), Vancouver (BC), Toronto, Auckland (New Zealand) and London.

French economist Thomas Piketty's analysis showed significantly inreasing inequality around the world.[29] Much of greater inequality Piketty described is attributable to owned house values, which have risen strongly above household incomes, according to research by Matthew Rognlie, now at Northwestern University.[30] In a Bank for International Settlements (Berne) paper, Reserve Bank of Australia economist Giani La Cava found that rising inequality in the United States was largely associated with increased housing values in markets with more severe housing supply constraints.[31]

Rognlie suggests that "A natural first step to combat the increasing role of housing wealth would be to reexamine these regulations and expand the housing supply."[32] Undoing the increasing inequality of recent decades depends, in large measure, on restoring housing affordability.

Potentially At-Risk Markets: A number of growing markets have become severely unaffordable, especially during the recent demand shock. These include, for example, Reno (median multiple 7.4), Las Vegas (6.9), Boise (6.3), Phoenix (6.0), Tucson (5.9), Provo (5.8), Colorado Springs (5.6) Austin (5.5), Ogden (5.4), Charlotte (5.4), Nashville (5.3) and Raleigh (5.1). As normal market conditions return, housing affordability could improve in these markets. On the other hand, this deteriorated housing affordability may not be restored, especially if metropolitan land use policies are too inflexible to permit the efficient operation of a competitive market for land. Such operation was typical before urban containment and housing was affordable. Five decades ago, UK legendary planner Peter Hall et al. indicated that "perhaps the biggest single failure" of urban containment has been its failure to prevent losses in housing affordability.[33]

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29   Thomas Piketty, (2014). *Capital in the Twenty-First Century*.

30   Matthew Rognlie, "A note on Piketty and diminishing returns to capital," June 15, 2014. Available online at http://mattrognlie.com/piketty_diminishing_returns.pdf.

31   Gianni La Cava, Housing Prices, "Mortgage Interest Rates and the Rising Share of Capital Income in the United States," *BIS Working Paper No. 572*, Reserve Bank of Australia (July 2016). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2814142.

32   Matthew Rognlie, "A note on Piketty and diminishing returns to capital," June 15, 2014. Available online at http://mattrognlie.com/piketty_diminishing_returns.pdf.

33   Peter Geoffrey Hall, Ray Thomas, Harry Gracey and Roy Drewett, *The Containment of Urban England: The Planning System: Objectives, Operations*, Impacts Vol. 2, Allen & Unwin [for] PEP, 1973.

Generally, the following policies should be implemented to maintain and restore housing affordability.

- Restoring an affordable and competitive land market on the urban fringe where housing has become severely unaffordable, and

- Avoiding policies that lead to a less affordable market for land (principally urban containment) where housing remains more affordable.

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 metropolitan area median income indicators are generally unavailable for the first pandemic year (2020), 2019 income estimates are used and adjusted to reflect the *national* change in median incomes. More reliable data should be available for next year, new metropolitan area data from the American Community Survey.

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