



center for opportunity urbanism

POLICY BRIEF

The Center for Opportunity Urbanism (COU) Standard of Living Index

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The COU Standard of Living Index

The Center for Opportunity Urbanism (www.opportunityurbanism.org) has developed a Standard of Living Index that estimates the 2015 pay per job, adjusted for the cost of living in the 106 metropolitan areas with more than 500,000 population. The methodology is described, in “COU Standard of Living Index: Methods,” below.

The COU Standard of Living Index is unique in estimating pay per job adjusted for the cost of living differences between metropolitan that would be faced by new residents in both the rental and owned housing markets.

Cost of Living Differences Between Metropolitan Areas

There are substantial differences in the cost of living between the nation’s metropolitan areas (cities). In 2014, the US Department of Commerce Bureau of Economic Analysis cost of living index (“Regional Price Parities” or RPP’s) indicated that the most expensive city out of 381 (Honolulu) had a cost of living 55 percent higher than that of the lowest cost city (Beckley, West Virginia).¹

The RPP’s include three components, goods, rents² and service other than rents. BEA does not include personal taxes, such as federal, state and local income taxes in the RPP’s.³ Metropolitan area data is not readily available for these items, which could materially alter cost of living estimates. Hopefully, in the future, we will be able to develop some useful metrics that include taxation.

The cost of housing (rents, which are used in the RPPs) dominates the difference. The range in rents is *13 times* that of goods, *eight times* that of services other than rents and *five times* that of the overall cost of living.

¹ Honolulu, Hawaii (123.5) and Beckley, West Virginia (79.7), respectively.

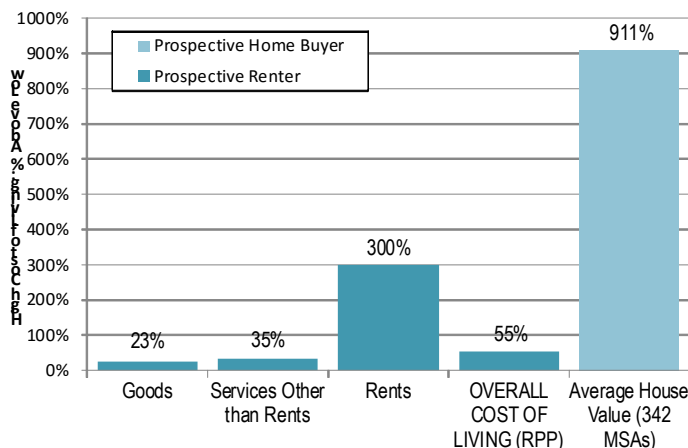
² BEA uses rents (average gross rents) as its housing component. BEA is reviewing strategies for including owner costs as well as rents in the future. Gross rents are defined by the US Census Bureau as follows: “The amount of the contract rent plus the estimated average monthly cost of utilities (electricity, gas, and water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid for by the renter (or paid for the renter by someone else). Gross rent is intended to eliminate differentials which result from varying practices with respect to the inclusion of utilities and fuels as part of the rental payment.” (<https://ask.census.gov/faq.php?id=5000&faqId=6613>)

³ Bureau of Economic Analysis, *Frequently Asked Questions: What is included in personal taxes?* http://www.bea.gov/faq/index.cfm?faq_id=550

However, the differences are far greater for households planning to purchase houses, at 911 percent (9.1 times) in 2014 (Figure 1).⁴ The range in average house prices (911 percent) for households purchasing houses is was more than *three times* the range in apartment rents (300 percent) in 2014 could be nearly three times that of apartment rents and *17 times* that of the BEA cost of living range (55 percent).⁵

In recent decades there has been a marked increase in the differences in cost-of-living between the nation's major metropolitan areas, though until publication of the RPP's (for 2008) there was no US government cost-of-living index. However, for decades the range in household housing expenditures has widened much more than cost of living differences in other goods and services in the 53 major metropolitan areas (Figure 2).⁶

Cost of Living: Low to High Range 2014 381 METROPOLITAN AREAS

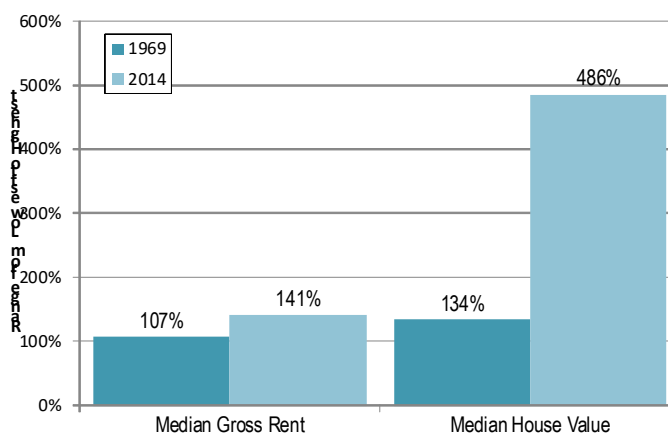


Derived from ACS: 2010-4: City Sector Model 2015 Revision

Figure 1

- Until the 1970 Census,⁷ there was a smaller range in gross rents among the metropolitan areas now with more than 1 million population. The highest cost rental market was 107 percent above that of the lowest cost market, as measured by median gross rent. By 2015, the highest cost market had a median gross rent 141 percent above that of the lowest cost market.
- The 1970 census also indicated a somewhat larger range in median house values, at 134 percent (1.34 times). By 2014, the highest cost market had a median value 486 percent (4.86 times) that of the lowest market. This 342 percentage point increase in the range of house values is more than 10 times the increase in rentals since the 1970 census.

Change in Housing Cost Range 1969-2014 53 MAJOR METROPOLITAN AREAS



Derived from 1970 Census & 2014 American Community Survey

Figure 2

The top to bottom range among apartment rentals has risen significantly, but has been

⁴ In the 342 metropolitan areas for which the American Community Survey reported data to calculate average house value.

⁵ The average house value is generally reflective of the difference in monthly mortgage payments between metropolitan area markets for houses purchased at about the same time. This does not include expenditures differences in property taxes, house insurance rates or energy.

⁶ Metropolitan areas with more than 1,000,000 residents in 2015.

⁷ Which collected rent and owned housing data for 1969. Median used because average house prices are not available from published 1970 Census data.

dwarfed by the increase in house values. Among the larger group of 106 largest metropolitan areas, the range from the lowest rent to the highest even higher, at 210 percent in 2014. The range in house values was more than three times as high, at 775 percent.

Summary of Results

The top 10 includes four metropolitan areas in terms of real pay --- defined as income relative to cost of living --- from the South, three from the Northeast, two from the West and one from the Midwest. Eight of the top 10 metropolitan areas have more than 1 million population.

The highest COU Standard of Living is in San Jose, the heart of the world's leading information technology hub, the Silicon Valley. The estimated cost of living adjusted pay per job was approximately \$68,900 (Table). This is considerably below the nominal pay per job of \$112,300. San Jose's high cost of living reduces the real value of its high pay but is still high enough to place it in first place. Once California's high rate of taxation on incomes is included, this may not be the case, but this is outside the realm of this study.

Houston ranks second with an estimated real pay job of \$62,300 followed Durham, North Carolina and Bridgeport – Stamford, Connecticut, the only two in the top 20 with less than 1 million population. Hartford ranks fifth, followed by Boston, Atlanta and Detroit, Dallas-Fort Worth and Seattle (Figure 3).

The West dominates the bottom 10 in real pay per job. Seven of the bottom 10 are in the West and three in the south. Five of the bottom 10 are in California, as are nine of the bottom 20.

California metropolitan areas occupied nine of the bottom 20 positions. The lowest real pay job was in Honolulu at \$33,900. Santa Rosa had the second lowest real paper job, followed by McAllen Texas, Daytona Beach, Florida, and Riverside – San Bernardino (Figure 4).

Conclusion

The COU Standard of Living Index provides a “snapshot” comparison between Metropolitan areas for single year (2015). Rankings will change in the future, perhaps decisively.

Nonetheless, the year-to-year changes in rankings are likely to be modest without major changes in the principal driving factors of the COU Standard of Living Index. These are changes at the metropolitan area level in the relative pay per job and changes in the relative costs of owned housing.

For example, San Jose's top ranking is principally the result of its high nominal pay per job, at 123 percent above the metropolitan average. However, San Jose's high cost of living, largely the result of its high housing costs,⁸ reduces San Jose's COU Standard of Living Index advantage to approximately 40 percent. For San

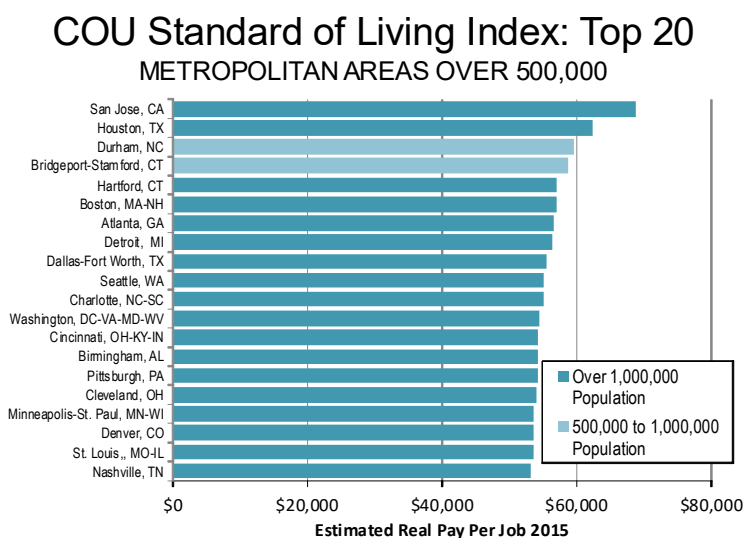


Figure 3

⁸ The 12th Annual Demographia International Housing Affordability Survey rates San Jose as the fourth most unaffordable major metropolitan area of 87 in 9 nations. <http://www.demographia.com/dhi.pdf>

Jose, the key to retaining its composition will be retention of its lucrative pay per job, while avoiding further relative increases in its housing costs. However, continued housing cost increases are a potential threat, having nearly doubled relative to incomes since 2000.

For second-ranked Houston, the challenge is much different. Houston's average pay per job is 30 percent above the metropolitan average, which converts to a near duplicate 29 percent higher COU Standard of Living Index, when adjusted for the cost of living. Houston's future success will require retention its favorable housing affordability and high pay per job. The upheavals in the energy industry could result in lower pay per job in the future.

Other metropolitan areas could see improvement or degradation in their cost-of-living or pay per job.

There is clearly a relationship between the standards of living, for example, and domestic migration.

COU Standard of Living Index: Bottom 20 METROPOLITAN AREAS OVER 500,000

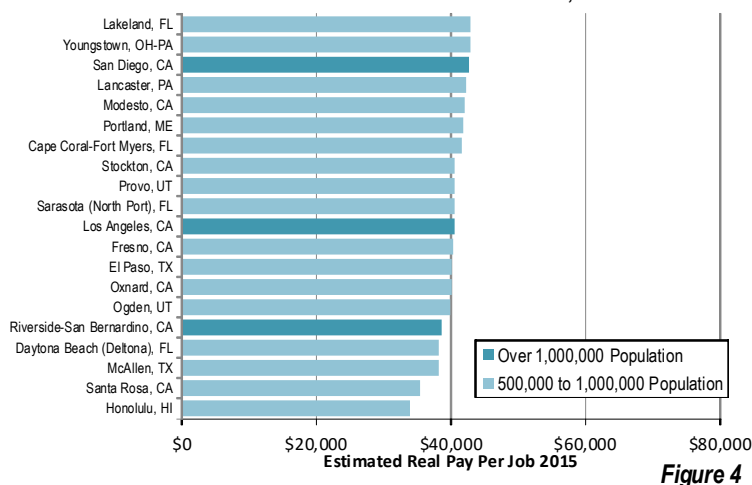


Figure 4

COU Standard of Living Index: Methods

The COU Standard of Living Index rates the nation's 106 metropolitan areas (cities) with more than 500,000 population based on a per job adjusted for the cost of living.

Pay per Job data is from the US Department of Labor Bureau of Labor Statistics for 2015, which is adjusted for metropolitan area cost of living differences, as described below. Cost of living indexes are developed for renters and prospective home buyers and then combined into a COU Composite Cost of Living Index, as follows.

(a) The cost of living for renters is based on the US Department of Commerce Bureau of Economic Analysis (BEA) Regional Price Parities for 2014. The cost of living for homebuyers is estimated using the same Regional Price Parities for 2014, substituting an estimate for the cost of homeownership for the cost of renting in the BEA data (see below).⁹

(b) The renters and prospective home buyers indexes are adjusted to account for 2014 to 2015 cost changes in gross rents and owned housing (mortgage payments, including real estate taxes¹⁰ from the American Community Survey for 2015 and mortgage insurance), which dominate the differences in cost of living between cities.¹¹

(c) The cost of living for renters and homebuyers is weighted based on the national distribution of 63.0 percent homeowners and 37.0 percent renters, resulting in the COU Composite Cost of Living Index.

⁹ The individual rent component for each metropolitan area is modeled from the RPP 2014 data.

¹⁰ Real estate taxes are included, since BEA's gross rent measure includes the real estate taxes of landlords. No source was found for metropolitan area energy or house insurance expenditures.

¹¹ This is consistent with the Census Bureau's Supplemental Poverty Measure, which adjusts poverty rates between states using a single variable, housing costs.

Background: Estimating Prospective Costs of Purchased Housing: Housing represents the largest expenditure item for households. As noted above, housing is the dominant element in the cost of living difference between metropolitan areas.

The BEA RPPs portray cost of living differences for renters between metropolitan areas. They do not, however include specific data for the cost of owned housing, though BEA intends to revise the RPPs when an acceptable measure of owned housing costs is developed.¹²

But, even when the RPPs are revised to include appropriate owned housing weights, they will not be reflective of prospective home buyer costs of living. This is because any broad cost of living indicator must take account of the fact that many home owners, often older people, do not have mortgages. However, Most households purchasing houses do so with mortgages and related interest. The COU Standard of Living Index provides cost of living estimates for *new* entrants to metropolitan markets, including both prospective home buyers with mortgages, as well as renters.

¹² Bettina Aten, Eric Figueroa and Troy Martin, “How can the American Community Survey (ACS) be used to improve the imputation of Owner-Occupied Rent Expenditures?”, United States Department of Commerce, Bureau of Economic Analysis, 2011, http://www.bea.gov/papers/pdf/WP_ACS_OORE_020112.pdf.

Table 1
COU Standard of Living Index: 2015
By Ranking

Rank (of 106)	Metropolitan Area	COU Standard of Living Index (Real Pay per Job 2015)	2015 COU Composite Cost of Living Index
1	San Jose, CA	\$68,855	163.1
2	Houston, TX	\$62,305	104.7
3	Durham, NC	\$59,526	101.0
4	Bridgeport-Stamford, CT	\$58,704	145.5
5	Hartford, CT	\$57,050	109.7
6	Boston, MA-NH	\$56,979	126.9
7	Atlanta, GA	\$56,647	98.1
8	Detroit, MI	\$56,421	99.4
9	Dallas-Fort Worth, TX	\$55,529	104.4
10	Seattle, WA	\$55,123	119.8
11	Charlotte, NC-SC	\$55,122	97.0
12	Washington, DC-VA-MD-WV	\$54,525	131.2
13	Cincinnati, OH-KY-IN	\$54,265	93.3
14	Birmingham, AL	\$54,256	91.7
15	Pittsburgh, PA	\$54,168	97.8
16	Cleveland, OH	\$54,059	92.8
17	Minneapolis-St. Paul, MN-WI	\$53,668	108.8
18	Denver, CO	\$53,526	111.9
19	St. Louis,, MO-IL	\$53,519	93.6
20	Nashville, TN	\$53,144	97.8
21	Des Moines, IA	\$53,115	98.2
22	Kansas City, MO-KS	\$53,009	95.8
23	Austin, TX	\$53,002	106.3
24	Memphis, TN-MS-AR	\$52,911	92.8
25	Columbus, OH	\$52,319	96.9
26	Philadelphia, PA-NJ-DE-MD	\$51,912	114.2
27	Fayetteville (Bentonville), AR-MO	\$51,876	93.2
28	San Francisco, CA	\$51,723	158.8
29	Baton Rouge, LA	\$51,492	95.2
30	Chicago, IL-IN-WI	\$51,425	114.5
31	Raleigh, NC	\$50,980	100.4
32	Tulsa, OK	\$50,798	93.0
33	Indianapolis. IN	\$50,781	94.9
34	Akron, OH	\$50,578	91.5
35	Harrisburg, PA	\$50,483	98.6
36	Louisville, KY-IN	\$50,390	94.4
37	Richmond, VA	\$50,053	100.1
38	Oklahoma City, OK	\$50,018	94.1
39	New York, NY-NJ-PA	\$49,760	146.2
40	New Orleans. LA	\$49,739	99.5
41	Albany, NY	\$49,578	104.8
42	Phoenix, AZ	\$49,403	101.4
43	Sacramento, CA	\$49,323	112.1
44	Portland, OR-WA	\$49,262	110.6
45	Dayton, OH	\$49,203	92.6
46	Winston-Salem, NC	\$49,079	92.2

47	Knoxville, TN	\$49,060	93.8
48	Milwaukee, WI	\$49,022	102.7
49	Baltimore, MD	\$48,771	115.3
50	Toledo, OH	\$48,705	91.1
51	Wichita, KS	\$48,608	91.6
52	Melbourne (Palm Bay), FL	\$48,230	95.8
53	Augusta, GA-SC	\$48,065	89.9
54	Omaha, NE-IA	\$47,956	97.5
55	San Antonio, TX	\$47,910	96.6
56	Little Rock, AR	\$47,900	92.2
57	Chattanooga, TN-GA	\$47,877	93.7
58	Jacksonville, FL	\$47,810	98.5
59	Madison, WI	\$47,510	105.6
60	Rochester, NY	\$47,486	100.7
61	Grand Rapids, MI	\$47,459	95.7
62	Salt Lake City, UT	\$47,368	105.3
63	Syracuse, NY	\$47,239	98.8
64	Greensboro, NC	\$47,013	92.4
65	Greenville, SC	\$46,762	91.7
66	Buffalo, NY	\$46,500	97.4
67	Columbia, SC	\$46,437	92.4
68	Tampa-St. Petersburg, FL	\$46,410	101.0
69	Allentown, PA-NJ	\$46,141	105.1
70	Springfield, MA	\$45,585	103.3
71	Providence, RI-MA	\$45,323	109.2
72	Worcester, MA-CT	\$45,236	112.5
73	Jackson, MS	\$45,196	91.8
74	Colorado Springs, CO	\$45,017	102.9
75	New Haven CT	\$44,848	121.6
76	Charleston, SC	\$44,613	100.5
77	Miami, FL	\$44,589	112.5
78	Orlando, FL	\$44,527	98.9
79	Virginia Beach-Norfolk, VA-NC	\$44,290	101.5
80	Las Vegas, NV	\$44,265	101.7
81	Spokane, WA	\$43,770	99.9
82	Albuquerque, NM	\$43,486	100.4
83	Tucson, AZ	\$43,484	100.3
84	Bakersfield, CA	\$43,464	101.6
85	Boise, ID	\$43,103	98.6
86	Scranton, PA	\$43,082	94.2
87	Lakeland, FL	\$42,907	91.7
88	Youngstown, OH-PA	\$42,766	89.9
89	San Diego, CA	\$42,716	135.9
90	Lancaster, PA	\$42,227	102.8
91	Modesto, CA	\$42,034	104.1
92	Portland, ME	\$41,902	109.7
93	Cape Coral-Fort Myers, FL	\$41,547	98.5
94	Stockton, CA	\$40,512	107.1
95	Provo, UT	\$40,473	102.5
96	Sarasota (North Port), FL	\$40,434	102.5
97	Los Angeles, CA	\$40,432	145.9
98	Fresno, CA	\$40,226	101.4
99	El Paso, TX	\$40,074	91.3

100	Oxnard, CA	\$40,049	134.7
101	Ogden, UT	\$39,966	99.7
102	Riverside-San Bernardino, CA	\$38,598	112.0
103	Daytona Beach (Deltona), FL	\$38,242	96.0
104	McAllen, TX	\$38,182	85.4
105	Santa Rosa, CA	\$35,370	139.7
106	Honolulu, HI	\$33,903	144.1

Table 2

COU Standard of Living Index: 2015

Alphabetical Listing

1,000,000+ Metropolitan Areas, Followed by 500,000 - 1,000,000 Metropolitan Areas

Rank (of		COU Standard of	Rank Among 53	2015 COU	BLS Nominal Pay
106)	Metropolitan Area	Living Index (Real Pay per Job 2015)	Metropolitan Areas Over 1,000,000 Population	Composite Cost of Living Index	per Job 2015
7	Atlanta, GA	\$56,647	5	98.1	\$55,565
23	Austin, TX	\$53,002	20	106.3	\$56,364
49	Baltimore, MD	\$48,771	39	115.3	\$56,252
14	Birmingham, AL	\$54,256	12	91.7	\$49,760
6	Boston, MA-NH	\$56,979	4	126.9	\$72,283
66	Buffalo, NY	\$46,500	46	97.4	\$45,305
11	Charlotte, NC-SC	\$55,122	9	97.0	\$53,483
30	Chicago, IL-IN-WI	\$51,425	25	114.5	\$58,887
13	Cincinnati, OH-KY-IN	\$54,265	11	93.3	\$50,653
16	Cleveland, OH	\$54,059	14	92.8	\$50,141
25	Columbus, OH	\$52,319	22	96.9	\$50,687
9	Dallas-Fort Worth, TX	\$55,529	7	104.4	\$57,952
18	Denver, CO	\$53,526	16	111.9	\$59,870
8	Detroit, MI	\$56,421	6	99.4	\$56,079
61	Grand Rapids, MI	\$47,459	44	95.7	\$45,435
5	Hartford, CT	\$57,050	3	109.7	\$62,595
2	Houston, TX	\$62,305	2	104.7	\$65,239
33	Indianapolis, IN	\$50,781	27	94.9	\$48,175
58	Jacksonville, FL	\$47,810	42	98.5	\$47,084
22	Kansas City, MO-KS	\$53,009	19	95.8	\$50,783
80	Las Vegas, NV	\$44,265	53	101.7	\$45,013
97	Los Angeles, CA	\$40,432	58	145.9	\$58,997
36	Louisville, KY-IN	\$50,390	29	94.4	\$47,563
24	Memphis, TN-MS-AR	\$52,911	21	92.8	\$49,113
77	Miami, FL	\$44,589	50	112.5	\$50,178
48	Milwaukee, WI	\$49,022	38	102.7	\$50,323
17	Minneapolis-St. Paul, MN-WI	\$53,668	15	108.8	\$58,370
20	Nashville, TN	\$53,144	18	97.8	\$51,988
40	New Orleans, LA	\$49,739	33	99.5	\$49,506
39	New York, NY-NJ-PA	\$49,760	32	146.2	\$72,763
38	Oklahoma City, OK	\$50,018	31	94.1	\$47,059
78	Orlando, FL	\$44,527	51	98.9	\$44,036
26	Philadelphia, PA-NJ-DE-MD	\$51,912	23	114.2	\$59,286
42	Phoenix, AZ	\$49,403	35	101.4	\$50,108
15	Pittsburgh, PA	\$54,168	13	97.8	\$53,001
44	Portland, OR-WA	\$49,262	37	110.6	\$54,464

71	Providence, RI-MA	\$45,323	49	109.2	\$49,494
31	Raleigh, NC	\$50,980	26	100.4	\$51,180
37	Richmond, VA	\$50,053	30	100.1	\$50,120
102	Riverside-San Bernardino, CA	\$38,598	59	112.0	\$43,227
60	Rochester, NY	\$47,486	43	100.7	\$47,824
43	Sacramento, CA	\$49,323	36	112.1	\$55,313
19	St. Louis,, MO-IL	\$53,519	17	93.6	\$50,106
62	Salt Lake City, UT	\$47,368	45	105.3	\$49,892
55	San Antonio, TX	\$47,910	41	96.6	\$46,304
89	San Diego, CA	\$42,716	57	135.9	\$58,069
28	San Francisco, CA	\$51,723	24	158.8	\$82,123
1	San Jose, CA	\$68,855	1	163.1	\$112,316
10	Seattle, WA	\$55,123	8	119.8	\$66,018
68	Tampa-St. Petersburg, FL	\$46,410	47	101.0	\$46,874
83	Tucson, AZ	\$43,484	55	100.3	\$43,620
79	Virginia Beach-Norfolk, VA-NC	\$44,290	52	101.5	\$44,972
12	Washington, DC-VA-MD-WV	\$54,525	10	131.2	\$71,555
34	Akron, OH	\$50,578		91.5	\$46,254
41	Albany, NY	\$49,578		104.8	\$51,980
82	Albuquerque, NM	\$43,486		100.4	\$43,678
69	Allentown, PA-NJ	\$46,141		105.1	\$48,495
53	Augusta, GA-SC	\$48,065		89.9	\$43,207
84	Bakersfield, CA	\$43,464		101.6	\$44,142
29	Baton Rouge, LA	\$51,492		95.2	\$48,999
85	Boise, ID	\$43,103		98.6	\$42,502
4	Bridgeport-Stamford, CT	\$58,704		145.5	\$85,400
93	Cape Coral-Fort Myers, FL	\$41,547		98.5	\$40,933
76	Charleston, SC	\$44,613		100.5	\$44,832
57	Chattanooga, TN-GA	\$47,877		93.7	\$44,837
74	Colorado Springs, CO	\$45,017		102.9	\$46,329
67	Columbia, SC	\$46,437		92.4	\$42,912
45	Dayton, OH	\$49,203		92.6	\$45,543
103	Daytona Beach (Deltona), FL	\$38,242		96.0	\$36,699
21	Des Moines, IA	\$53,115		98.2	\$52,170
3	Durham, NC	\$59,526		101.0	\$60,126
99	El Paso, TX	\$40,074		91.3	\$36,573
27	Fayetteville (Bentonville), AR-MO	\$51,876		93.2	\$48,333
98	Fresno, CA	\$40,226		101.4	\$40,790
64	Greensboro, NC	\$47,013		92.4	\$43,448
65	Greenville, SC	\$46,762		91.7	\$42,875
35	Harrisburg, PA	\$50,483		98.6	\$49,793
106	Honolulu, HI	\$33,903		144.1	\$48,838
73	Jackson, MS	\$45,196		91.8	\$41,508
47	Knoxville, TN	\$49,060		93.8	\$45,998
87	Lakeland, FL	\$42,907		91.7	\$39,364
90	Lancaster, PA	\$42,227		102.8	\$43,416
56	Little Rock, AR	\$47,900		92.2	\$44,147
59	Madison, WI	\$47,510		105.6	\$50,169
104	McAllen, TX	\$38,182		85.4	\$32,599
52	Melbourne (Palm Bay), FL	\$48,230		95.8	\$46,198
91	Modesto, CA	\$42,034		104.1	\$43,756
75	New Haven CT	\$44,848		121.6	\$54,530
101	Ogden, UT	\$39,966		99.7	\$39,850

54	Omaha, NE-IA	\$47,956	97.5	\$46,767
100	Oxnard, CA	\$40,049	134.7	\$53,930
92	Portland, ME	\$41,902	109.7	\$45,950
95	Provo, UT	\$40,473	102.5	\$41,497
105	Santa Rosa, CA	\$35,370	139.7	\$49,399
96	Sarasota (North Port), FL	\$40,434	102.5	\$41,452
86	Scranton, PA	\$43,082	94.2	\$40,567
81	Spokane, WA	\$43,770	99.9	\$43,740
70	Springfield, MA	\$45,585	103.3	\$47,070
94	Stockton, CA	\$40,512	107.1	\$43,405
63	Syracuse, NY	\$47,239	98.8	\$46,692
50	Toledo, OH	\$48,705	91.1	\$44,362
32	Tulsa, OK	\$50,798	93.0	\$47,232
51	Wichita, KS	\$48,608	91.6	\$44,534
46	Winston-Salem, NC	\$49,079	92.2	\$45,270
72	Worcester, MA-CT	\$45,236	112.5	\$50,900
88	Youngstown, OH-PA	\$42,766	89.9	\$38,438
	Average	\$48,135		\$50,338