AEI Housing Center Announces Ten Best and Worst Metro Areas to Live in for Science, Technology, Engineering, and Math (STEM) Jobs

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New AEI study ranks the 30 metros with the highest number of Science, Technology, Engineering, and Math (STEM) jobs in 2018 in terms of economic vitality and affordability. Besides the number of STEM jobs that a metro had in 2018, the study also took into account total job growth since 1990 and affordability for first time buyers in 2017. Dallas-Fort Worth was ranked the best and Los Angeles and Sacramento were tied for the worst.

To rank the 30 STEM metros, the AEI Housing Center started with the 30 metros with the highest number of Science, Technology, Engineering, and Math (STEM) jobs in 2018. It then took into account two other important factors. The first is total employment growth of any type since 1990, since a growing employment market is indicative of work opportunities generally and in the STEM sector. Second, the relative affordability for first time buyers (FTBs) is included because it is an important consideration for new and recent STEM graduates. FTB affordability also acts as a proxy for cost of living.

On one hand, some metro areas with relatively high home prices are desirable places to live in terms of jobs and local amenities. On the other hand, house prices may be higher than they really need to be due to local policies that needlessly drive up the price of land and thereby constrain the amount of new housing. Households should be aware of these tradeoffs.

To rank the 30 top STEM metros, three metrics were used:

- For STEM employment, we found and ranked the 30 metros with the largest number of STEM employees, based on Bureau of Labor Statistics data.¹

¹ See Occupational Employment Statistics “Metropolitan and nonmetropolitan area” table for May 2018 from the Bureau of Labor Statistics. STEM employment is defined as being one of the following Bureau of Labor Statistics Occupational Codes: Computer and Information Systems Managers (detailed), Architectural and Engineers Managers (detailed), Natural Sciences Managers (detailed), Computer and Mathematical Occupations (major),
Affordability for FTBs in these 30 STEM metros was based on the AEI Housing Center’s ranking of a metro’s median home price to median income ratio in 2017.

Metro rankings for each of these three metrics were given equal weight. The results were then ranked from best (Dallas-Fort Worth was number 1 with an average ranking score of 6.7) to worst (Los Angeles and Sacramento were tied at 29 with an average ranking score of 20.3).

Dallas-Fort Worth earned the number 1 spot as the best metro among the 30 largest STEM employment centers, by having a top ten ranking on all three metrics:

- STEM employment of 250,000 earned a 7th place ranking, better than Seattle and San Jose, and just below San Francisco.
- Overall employment growth of 77% since 1990 earned a 4th place ranking, more than double the national average of 33%.
- A FTB median home price to median income affordability ratio of 2.9 landed a 9th place finish.

Los Angeles and Sacramento were tied for 29th place at bottom of the rankings.

- While Los Angeles scored 3rd in total STEM jobs, its overall job growth of 10% since 1990, was less than a third of the national average, which gave it a dismal 29th place in this metric. It also placed 29th for FTBs, with a median home price to median income affordability ratio of 4.6.
- While Sacramento scored 28th in total STEM jobs, job growth was a healthy 50%, well above the national average of 33%, giving it 10th place in this metric. It placed 23rd for FTBs, with a median home price to median income affordability ratio of 4.0.

Of the ten best STEM metros, 3 are in Texas (#2 Houston and #4 Austin in addition to #1 Dallas-Fort Worth), 2 are out West (#9 Seattle and #5 Phoenix), 2 are in the South (#3 Atlanta and #7 Charlotte), 2 are in the Midwest (#5 Chicago and #9 Columbus), and 1 is in the Northeast (#7 Washington, DC). Of the ten worst STEM metros, 6 are in the West (#28 San Diego, #26 San Jose, #23 Portland, and #23 San Francisco in addition to #29 LA and #29 Sacramento), 2 are in the Midwest (#21 Cincinnati and #21 St. Louis), and 2 in the Northeast (#23 Pittsburgh and #27 Baltimore).

Architecture and Engineering Occupations (major), Life, Physical and Social Science Occupations (major), Technical Writers (detailed), Sales Engineers (detailed).

2 See Regional Data on GDP and Personal Income table, “Personal Income and Employment by Major Component” from the Bureau of Economic Analysis.

3 See http://www.aei.org/feature/best-and-worst-metro-areas-to-be-a-first-time-homebuyer/. Since this report was published, data for the Atlanta metro are now available. Atlanta has a median home price to median income ratio of 3.1, tied with Tampa.
Average Score for STEM

Note: Calculated as the average of each metros rankings for total STEM employment in May 2018, overall employment growth from 1990-2017, and first-time buyer affordability based on AEI report. See text for full details.

Key findings

- While total STEM employment is important, total employment growth and relative affordability for first time buyers (FTBs) are also key in ranking STEM-employment heavy metro areas. Total employment growth of any type since 1990 is a useful metric, since a robust job market is generally indicative of employment opportunities of all types, including STEM jobs. The relative affordability for first time buyers (FTBs) is also important, since this is a consideration for many recent STEM graduates. The FTB metric is also a good proxy for cost of living generally.

- While the San Francisco, San Jose, and Seattle (SF, SJ, & S) metros are usually top of mind for their high numbers of STEM jobs, the New York City, Washington, DC, Los Angeles, Boston, and Chicago metros all had more STEM jobs than did SF, SJ, & S, and the Dallas-Fort Worth and Houston metros had about the same number as SF, SJ, & S.

- The Dallas-Fort Worth and Houston metros respectively garnered the #1 and #2 overall rankings for best STEM metros. This was due to each scoring in the top 10 on all three metrics - total STEM employment, total employment growth and relative affordability for first time buyers (FTBs).

- Los Angeles (#29), San Francisco (#23), and San Jose (#26) all lagged in the overall rankings. While high in total STEM employment ((Los Angeles (#3), San Francisco (#6), and San Jose (#8)), all were at the bottom in terms of FTB affordability ((Los Angeles (#29), San Francisco (#28), and San Jose (#30)). Los Angeles also scored poorly in overall employment growth (#29), while San Francisco (#20) and San Jose (#19) both had below average overall employment growth.

- For recent grads and younger STEM employees, FTB affordability is a key concern. Four of the top 10 STEM employment metros also rank in the top 10 in terms of FTB affordability (Columbus (#4), Houston (#6), Chicago (#8), and Dallas (#9), with Charlotte being close at #11).

- As noted in the individual metro thumbnails below, a vibrant new home construction sector is key to supporting a high rate of employment growth and achieving FTB affordability. For example, Dallas, ranked #1 overall, has seen employment grow at more than twice the national average since 1990 (ranked #4) and maintained FTB affordability (ranked #9). New construction sales in Dallas accounted for 24.6% of all home sales in the 4th quarter of 2018, well above the national rate of 11.2%. The same was true for new construction sales at both the entry-level and move-up home segments. Further, between 2013 and 2018, new construction has added 5.5% to the Dallas, TX metro housing stock. This is one-fifth
the rate for Dallas and half the rates for the nation, for which the new construction contribution over the same time period was 2.2%.

- **The relative restrictiveness of land use regulation separates many of the metros with high rate of employment growth and good FTB affordability from those which lag on these metrics.** Seven of the 10 Best Metro Areas for STEM jobs had top half FTB rankings combined with less restrictive land use regulations as ranked by Demographia:⁴
  - Dallas-Fort Worth (FTB #9),
  - Houston (FTB #6),
  - Atlanta (FTB #12),
  - Austin (FTB #14)
  - Chicago (FTB #8)
  - Charlotte (FTB #11)
  - Columbus (FTB #4)

Six of the 10 Worst Metro Areas for STEM jobs all had bottom third FTB rankings combined with more restrictive land use regulations as ranked by Demographia:
  - San Francisco/San Jose (FTB #28 & #30),
  - Portland (FTB #24),
  - San Diego (FTB #27)
  - Los Angeles (FTB #29)
  - Sacramento (FTB #23)

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10 Best and Worst Metro Areas to Live in for STEM Jobs

**10 Best Areas**
1. Dallas-Fort Worth, TX
2. Houston, TX
3. Atlanta, GA
4. Austin, TX
5. Chicago, IL
6. Phoenix, AZ
7. Charlotte, NC
8. Washington, DC
9. Columbus, OH
10. Seattle, WA

**10 Worst Areas**
29. Los Angeles, CA
29. Sacramento, CA
28. San Diego, CA
27. Baltimore, MD
26. San Jose, CA
23. San Francisco, CA
23. Portland, OR
23. Pittsburgh, PA
21. St. Louis, MO
21. Cincinnati, OH

The 10 Best Metro Areas for Science, Technology, Engineering, and Math (STEM) Jobs

#1: Dallas-Fort Worth earned the number 1 spot among the 30 largest STEM employment centers by having a top ten ranking on all three metrics:

- STEM employment of 250,000 earned a 7th place ranking, better than Seattle and San Jose, and just below San Francisco.
- Overall employment growth of 77% since 1990 earned a 4th place ranking, more than double the national average of 33%.
- A FTB median home price to median income affordability ratio of 2.9 landed a 9th place finish.

A vibrant new home construction sector helps Dallas-Fort Worth maintain both a high rate of employment growth and FTB affordability. New construction sales accounted for 24.6% of all home sales in the 4th quarter of 2018, well above the national rate of 11.2%. For the entry-level home segment, the new construction share was 15.1%, also well above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Dallas-Fort Worth’s share was 40.3%, again well above the 19.6% rate for the national move-up home segment.\(^5\)

#2: Houston earned the number 2 spot among the 30 largest STEM employment centers by also having top ten ranking on all three metrics:

- STEM employment of 207,000 earned a 10th place ranking, just below Seattle.
- Overall employment growth of 70% since 1990 earned a 6th place ranking, more than double the national average of 33%.
- A FTB median home price to median income affordability ratio of 2.7 landed a 6th place finish.

A vibrant new home construction sector helps Houston maintain both a high rate of employment growth and FTB affordability. New construction sales accounted for 25.5% of all home sales in the 4th quarter of 2018, well above the national rate of 11.2%. For the entry-level home segment, the new construction share was 16.1%, also well above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Houston’s share was 42.3%, again well above the 19.6% rate for the national move-up home segment.

#3: Atlanta earned the number 3 spot among the 30 largest STEM employment centers by having a top 12 or better showing on all three metrics:

- STEM employment of 199,000 earned a 11th place ranking, just below Houston and Seattle.

• Overall employment growth of 66% since 1990 earned an 8th place ranking, double the national average of 33%.
• A FTB median home price to median income affordability ratio of 3.1 landed a 12th place finish.

A vibrant new home construction sector helps Atlanta maintain both a high rate of employment growth and FTB affordability. New construction sales accounted for 17.8% of all home sales in the 4th quarter of 2018, well above the national rate of 11.2%. For the entry-level home segment, the new construction share was 11%, also well above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Atlanta’s share was 27.4%, above the 19.6% rate for the national move-up home segment.

#4: Austin earned the number 4 spot among the 30 largest STEM employment centers by having its #19 rank of STEM employment bolstered by the #1 spot for overall employment growth and a #14 rank for FTB affordability:

• STEM employment of 103,000 earned a 19th place ranking
• Overall employment growth of 154% since 1990 earned a 1st place ranking, nearly 5 times the national average of 33%.
• A FTB median home price to median income affordability ratio of 3.2 landed a 14th place finish.

A vibrant new home construction sector helps Austin maintain both a high rate of employment growth and FTB affordability. New construction sales accounted for 33.9% of all home sales in the 4th quarter of 2018, well above the national rate of 11.2%. For the entry-level home segment, the new construction share was 26.9%, also well above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Austin’s share was 41.8%, again well above the 19.6% rate for the national move-up home segment.

#5 (tied): Chicago secured the number 5 (tied) spot among the 30 largest STEM employment centers by having a top 10 showing for two of the three metrics:

• STEM employment of 270,000 earned a 5th place ranking, above the San Francisco, San Jose, and Seattle metros.
• Overall employment growth of 16% since 1990 earned a 24th place ranking, only about half the national average of 33%.
• A FTB median home price to median income affordability ratio of 2.9 landed an 8th place finish.

Chicago’s slow pace of employment growth and large housing stock helps it maintain FTB affordability without much new construction. New construction sales accounted for only 4.3% of all home sales in the 4th quarter of 2018, well below the national rate of 11.2%. For the entry-level home segment, the new construction share was 2.3%, also well below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Chicago’s share was 8.1%, again well below the 19.6% rate for the national move-up home segment.
#5 (tied): Phoenix earned the number 5 (tied) spot among the 30 largest STEM employment centers by having a #3 showing for total employment growth and middle-of-the-pack rankings for the other two metrics:

- STEM employment of 137,000 earned a 16th place ranking
- Overall employment growth of 94% since 1990 earned a 3rd place ranking, nearly 3 times the national average of 33%.
- A FTB median home price to median income affordability ratio of 3.5 landed an 18th place finish.

A weak new home construction sector relative to Phoenix’s strong employment growth results in a middling FTB affordability ratio. New construction sales accounted for 14.9% of all home sales in the 4th quarter of 2018, not much above the national rate of 11.2%. For the entry-level home segment, the new construction share was 9%, also not much above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Phoenix’s share was 21.0%, on par with the 19.6% rate for the national move-up home segment.

#7: Washington, DC secured the number 7 spot among the 30 largest STEM employment centers by having the #2 rank for total STEM jobs, along with middle-of-the-pack rankings for the other two metrics:

- STEM employment of 392,000 earned a 2nd place ranking, only behind New York City.
- Overall employment growth of 33% since 1990 earned a 18th place ranking, the same rate as the national average
- A FTB median home price to median income affordability ratio of 3.8 landed a 21st place finish.

A weak new home construction sector relative to Washington’s average employment growth results in a relatively poor FTB affordability ratio. New construction sales accounted for only 13.2% of all home sales in the 4th quarter of 2018, just above the national rate of 11.2%. For the entry-level home segment, the new construction share was 8.2%, again just above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Washington’s share was 20.1%, just about at the 19.6% rate for the national move-up home segment.

#7 (tied): While ranking 23rd in total STEM employment, Charlotte pulled down the number 7 (tied) spot among the 30 largest STEM employment centers by having a top ten ranking on total employment growth, combined with an 11th place ranking on FTB affordability:

- STEM employment of 81,000 earned a 23rd place ranking.
- Overall employment growth of 68% since 1990 earned a 7th place ranking, being more than double the national average of 33%.
- A FTB median home price to median income affordability ratio of 3.1 landed an 11th place finish.
A vibrant new home construction sector helps Charlotte maintain both a high rate of employment growth and FTB affordability. New construction sales accounted for 21.4% of all home sales in the 4th quarter of 2018, well above the national rate of 11.2%. For the entry-level home segment, the new construction share was 11.4%, also well above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Charlotte’s share was 35.6%, again well above the 19.6% rate for the national move-up home segment.

#9 (tied): Seattle earned the number 9 (tied) spot among the 30 largest STEM employment centers by having 2 top 10 rankings for number of STEM jobs and total employment growth, but its poor FTB affordability hurt its overall ranking:

- STEM employment of 228,000 earned a 9th place ranking
- Overall employment growth of 50% since 1990 earned a 10th place ranking, handily beating the national average of 33%.
- A FTB median home price to median income affordability ratio of 4.1 landed a 25th place finish.

A weak new home construction sector relative to Seattle’s strong employment growth results in a poor FTB affordability ratio. New construction sales accounted for 9.7% of all home sales in the 4th quarter of 2018, below the national rate of 11.2%. For the entry-level home segment, the new construction share was 4.8%, below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Seattle’s share was 14.6%, well below the 19.6% rate for the national move-up home segment.

#9 (tied): While ranking 26th in total STEM employment, Columbus pulled down the number 10 (tied) spot among the 30 largest STEM employment centers by having a top ten ranking on FTB affordability, combined with a 14th place ranking on overall employment growth:

- STEM employment of 78,000 earned a 26th place ranking.
- Overall employment growth of 43% since 1990 earned a 14th place ranking, being somewhat above the national average of 33%.
- A FTB median home price to median income affordability ratio of 2.7 landed a 4th place finish.

An average new home construction sector helped Columbus maintain about an average rate of employment growth and high FTB affordability. New construction sales accounted for 10.9% of all home sales in the 4th quarter of 2018, near the national rate of 11.2%. For the entry-level home segment, the new construction share was 3.0%, well below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Columbus’s share was 24.6%, somewhat above the 19.6% rate for the national move-up home segment.
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#21 (tied): St. Louis’ rank of 21st (tied) was due to poor rankings of 22nd in total STEM employment and 27th in overall employment growth, somewhat helped by a 3rd place finish in FTB affordability:

- STEM employment of 85,000 earned a 22nd place ranking.
- Overall employment growth of 13% since 1990 earned a 27th place ranking, being well below the national average of 33%.
- A FTB median home price to median income affordability ratio of 2.6 landed an 3rd place finish.

Notwithstanding St. Louis’s low level of new construction, its slow pace of employment growth combined with a large existing housing stock helps it maintain FTB affordability. New construction sales accounted for only 6.5% of all home sales in the 4th quarter of 2018, well below the national rate of 11.2%. For the entry-level home segment, the new construction share was 3.6%, also well below the 6.2% rate for the national entry-level home segment. In the move-up home segment, St. Louis’ share was 13.3%, below the 19.6% rate for the national move-up home segment.

#21 (tied): Cincinnati’s rank of 21st (tied) was due to poor rankings of 29th in total STEM employment and 21st in overall employment growth, somewhat helped by a 2nd place finish in FTB affordability:

- STEM employment of 69,000 earned a 29th place ranking.
- Overall employment growth of 26% since 1990 earned a 21th place ranking, being below the national average of 33%.
- A FTB median home price to median income affordability ratio of 2.6 landed a 2nd place finish.

Cincinnati’s slow pace of employment growth combined with a moderate amount of new construction and a large existing housing stock helps it maintain FTB affordability. New construction sales accounted for 9.6% of all home sales in the 4th quarter of 2018, slightly below the national rate of 11.2%. For the entry-level home segment, the new construction share was 3.2%, well below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Cincinnati’s share was 21.8%, slightly above the 19.6% rate for the national move-up home segment.

#23 (tied): Notwithstanding San Francisco’s #6 rank in total STEM employment, its overall rank of 23rd (tied) was due to poor rankings of 20th in overall employment growth and 28th in FTB affordability:

- STEM employment of 269,000 earned a 6th place ranking.
• Overall employment growth of 27% since 1990 earned a 20th place ranking, being just below the national average of 33%.
• A FTB median home price to median income affordability ratio of 4.6 landed a 28th place finish.

San Francisco’s meager amount of new construction combined with near average employment growth has resulted in one of the most unaffordable FTB markets in the country. New construction sales accounted for 7.3% of all home sales in the 4th quarter of 2018, well below the national rate of 11.2%. For the entry-level home segment, the new construction share was 3.4%, well below the 6.2% rate for the national entry-level home segment. In the move-up home segment, San Francisco’s share was 9%, also well below the 19.6% rate for the national move-up home segment.

#23 (tied): Pittsburgh’s rank of 23rd (tied) was due to poor rankings of 25th in total STEM employment and 28th in overall employment growth, somewhat helped by its 1st place finish in FTB affordability:

• STEM employment of 79,000 earned a 25th place ranking.
• Overall employment growth of 12% since 1990 earned a 28th place ranking, being about half the national average of 33%.
• A FTB median home price to median income affordability ratio of 2.3 landed a 1st place finish.

Notwithstanding Pittsburgh’s low level of new construction, its slow pace of employment growth combined with a large existing housing stock helps it maintain FTB affordability. New construction sales accounted for 6.9% of all home sales in the 4th quarter of 2018, well below the national rate of 11.2%. For the entry-level home segment, the new construction share was 1.3%, well below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Pittsburgh’s share was 15.8%, below the 19.6% rate for the national move-up home segment.

#23 (tied): Portland’s overall rank of #23 (tied), notwithstanding its #9 rank in overall employment growth, was the result of poor rankings of 21st in total STEM employment and 24th in FTB affordability:

• STEM employment of 101,000 earned a 21st place ranking.
• Overall employment growth of 60% since 1990 earned a 9th place ranking, nearly double the national average of 33%.
• A FTB median home price to median income affordability ratio of 4.0 landed a 24th place finish.

Portland’s moderate amount of new construction combined with strong employment growth has resulted in one of the most unaffordable FTB markets in the country. New construction sales accounted for 13.5% of all home sales in the 4th quarter of 2018, only slightly above the national rate of 11.2%. For the entry-level home segment, the new construction share was 9.8%, moderately above the 6.2% rate for the national entry-level home segment. In the move-up home
segment, Portland’s share was 17.8%, slightly below the 19.6% rate for the national move-up home segment.

#26: Notwithstanding San Jose’s #8 rank in total STEM employment, its overall rank of 26th resulted from poor rankings of 19th in overall employment growth and last place (30th) in FTB affordability:

- STEM employment of 229,000 earned an 8th place ranking.
- Overall employment growth of 28% since 1990 earned a 19th place ranking, being below the national average of 33%.
- A FTB median home price to median income affordability ratio of 5.0 landed a 30th and last place finish.

Overtime, San Jose’s new additions to single-family housing stock has failed to keep up with the 28% growth in employment since 1990. Between 2013 and 2018, new construction has added 1.5% to the San Jose, CA metro housing stock. This is lower than the nation, for which the new construction contribution over the same time period was 2.2%. In 2018, San Jose had a moderate level of new construction. New construction sales accounted for 12.7% of all home sales in the 4th quarter of 2018, near the national rate of 11.2%. For the entry-level home segment, the new construction share was 9.4%, above the 6.2% rate for the national entry-level home segment. In the move-up home segment, San Jose’s share was 13.2%, well below the 19.6% rate for the national move-up home segment. As a result, San Jose is the most unaffordable FTB market in the country.

#27: Baltimore’s rank of 27th was due to an average ranking of 18th in total STEM employment and 17th in FTB affordability, offset by a 23rd place showing in overall employment growth:

- STEM employment of 120,000 earned an 18th place ranking.
- Overall employment growth of 19% since 1990 earned a 23rd place ranking, being well below the national average of 33%.
- A FTB median home price to median income affordability ratio of 3.4 earned a 17th place finish.

Notwithstanding Baltimore’s modest level of new construction, its slow pace of employment growth combined with a large existing housing stock helps it maintain moderate FTB affordability, particularly given its Northeast location. New construction sales accounted for 10.3% of all home sales in the 4th quarter of 2018, just below the national rate of 11.2%. For the entry-level home segment, the new construction share was 4.4%, below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Baltimore’s share was 22.5%, just above the 19.6% rate for the national move-up home segment.

#28: San Diego had an overall rank of 28th, notwithstanding its #17 ranking in total STEM employment and #15 rank in overall employment growth. Its poor showing of 27th in FTB affordability brought down its overall rating:
- STEM employment of 134,000 earned a 17th place ranking.
- Overall employment growth of 38% since 1990 earned a 15th place ranking, being above the national average of 33%.
- A FTB median home price to median income affordability ratio of 4.5 landed a 27th place finish.

In 2018, San Diegos weak level of new construction, combined with above average employment growth, has resulted in one of the most unaffordable FTB markets in the country. New construction sales accounted for 8.8% of all home sales in the 4th quarter of 2018, below the national rate of 11.2%. For the entry-level home segment, the new construction share was 4.9%, also below the 6.2% rate for the national entry-level home segment. In the move-up home segment, San Diegos share was 12.8%, well below the 19.6% rate for the national move-up home segment.

#29 (tied): Los Angeles tied Sacramento for the worst overall rank of 29th, notwithstanding its #3 ranking in total STEM employment. Its overall last place rank was due to its extremely poor showings for overall employment growth (#29 rank) and FTB affordability (#29 rank):

- STEM employment of 360,000 earned a 3rd place ranking.
- Overall employment growth of 10% since 1990 earned a 29th place ranking, being well below the national average of 33%.
- A FTB median home price to median income affordability ratio of 4.6 landed a 29th place finish.

In 2018, Los Angeles’ weak level of new construction, combined with above average employment growth, has resulted in one of the most unaffordable FTB markets in the country. New construction sales accounted for 6.5% of all home sales in the 4th quarter of 2018, well below the national rate of 11.2%. For the entry-level home segment, the new construction share was 2.6%, also far below the 6.2% rate for the national entry-level home segment. In the move-up home segment, Los Angeles’ share was 9.2%, far below the 19.6% rate for the national move-up home segment.

#29 (tied): Sacramento tied Los Angeles for the worst overall rank of 29th, notwithstanding its #10 ranking in overall employment growth. This level of employment growth was unable to mitigate Sacramento’s poor showings for total STEM employment (#28 rank) and FTB affordability (#23 rank):

- STEM employment of 71,000 earned a 28th place ranking.
- Overall employment growth of 50% since 1990 earned a 10th place ranking, being well above the national average of 33%.
- A FTB median home price to median income affordability ratio of 4.0 landed a 23rd place finish.

In 2018, Sacramento’s weak level of new construction, relative to its strong employment growth, resulted in an unaffordable FTB market. New construction sales accounted for 14.2% of all home
sales in the 4th quarter of 2018, above the national rate of 11.2%. For the entry-level home segment, the new construction share was 7.1%, also above the 6.2% rate for the national entry-level home segment. In the move-up home segment, Sacramento’s share was 23.5%, above the 19.6% rate for the national move-up home segment.