



Housing Market Overview 2018 Q1

Zillow Economic Research

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About Zillow Economic Research

In-depth research and monthly reports

www.zillow.com/research



Real Estate Metrics

- Zillow Home Value Index
- Zillow Rent Index
- Zillow Home Value Forecast
- Zillow Rent Forecast
- Negative Equity
- For-Sale Inventory
- Age of Inventory
- List Prices
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- Home Value/Square Foot (\$)
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Data is available for download at:

www.zillow.com/data

Zillow Economic Research



Dr. Svenja Gudell, Chief Economist
@SvenjaGudell

Svenja joined Zillow in 2011 and leads the company's industry-leading economic research team, a recognized voice of impartial, data-driven economic analysis on the U.S. housing market. Under Svenja's leadership, Zillow produces monthly reports on housing trends for more than 450 metros nationwide, with data often available down to the ZIP-code level. In addition, Svenja and her team publish original research on various real estate topics, ranging from rental and mortgage affordability, negative equity and forecasting, to policy, generational and mortgage research. Svenja has presented to various federal agencies and at numerous industry conferences, and has been widely quoted in national and local media.

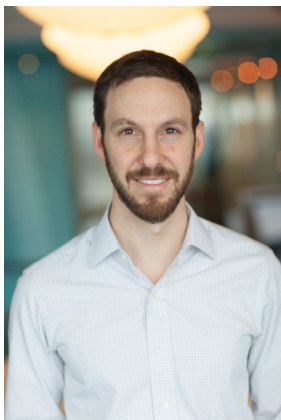
Prior to joining Zillow, Svenja did economic, financial and strategy consulting for Analysis Group and was an Assistant Economist in the Research Group of the Federal Reserve Bank of New York. Svenja has a Bachelor of Arts in economics from the University of Rochester, a Master of Arts in economics from New York University, a Master of Science in business administration from the University of Rochester, and a Ph.D. in finance from the University of Rochester. Contact Svenja at svenjag@zillow.com

Zillow Economic Research



Dr. Skylar Olsen, Senior Economist

Skylar joined Zillow in the summer of 2012. Her research is used by consumers, policy makers, and other researchers to understand the real estate markets and make better decisions. While authoring numerous research projects such as *A House Divided - How Race Colors the Path to Homeownership*, she also creates many of Zillow's real estate metrics, including the Buyer-Seller Index and the Buy-Rent Breakeven Horizon. She holds a Ph.D. in Economics from the University of Washington and specializes in the spatial patterns of housing and demographic change.



Aaron Terrazas, Senior Economist
@AaronTerraz

Aaron is a Senior Economist at Zillow where his research focuses primarily on mortgage and rental markets. Previously he was an economist at the United States Treasury Department's Office of Economic Policy, and a policy analyst at the Migration Policy Institute in Washington, D.C. He received his bachelor's degree in international relations from Georgetown University and his master's degree in applied economics from Johns Hopkins University.

Zillow Economic Research



Sarah Mikhitarian, Economist

Sarah joined Zillow in October 2015, working on unveiling current real estate market conditions, interesting patterns in the housing market and past and future market trends. Prior to joining Zillow, Sarah worked at the Institute for Health Metrics and Evaluation, where she conducted research aimed at understanding and improving national and global health and evaluating the performance of health systems. She received her undergraduate degree in both economics and Hispanic studies from Scripps College, and was awarded a Master of Arts in economics with a specialization in applied microeconometrics from the University of Washington.



Alexander Casey, Policy Advisor

Alexander joined Zillow as a policy analyst in the summer of 2016. He works on the Economic Research team, using Zillow's research to contribute to current public policy concerning housing and the overall economy. Alexander is involved with a variety of policy issues including housing assistance, land use, finance and transportation. Prior to joining Zillow, Alexander worked at the Minnesota Attorney General's Office on consumer protection issues. Alexander holds an M.P.A. from the Evans School of Public Policy and Governance at the University of Washington, and a B.A. in Sociology from the University of Minnesota.

Zillow Group



Dr. Stan Humphries, Chief Analytics Officer
@StanHumphries

Dr. Stan Humphries is the chief analytics officer of Zillow Group, a portfolio of the largest and most vibrant real estate and home-related brands on Web and mobile. Stan is the co-author of the New York Times Best Seller “Zillow Talk: Rewriting the Rules of Real Estate.”

As chief analytics officer, Stan oversees Zillow Group financial planning and analysis, corporate strategy, economic research, data science and engineering, marketing and business analytics, and pricing analytics. Stan was one of Zillow’s earliest pre-launch employees and is the creator of the Zestimate and its first algorithm.

Stan also serves as chief economist for Zillow Group. He has built out the industry-leading economics and analytics team at Zillow, a recognized voice of impartial, data-driven economic analysis on the U.S. housing market. Stan is a member of Fannie Mae’s Affordable Housing Advisory Council and the Commerce Department’s Data Advisory Council. Stan also serves on the Visiting Committee of the Department of Economics at the University of Washington.

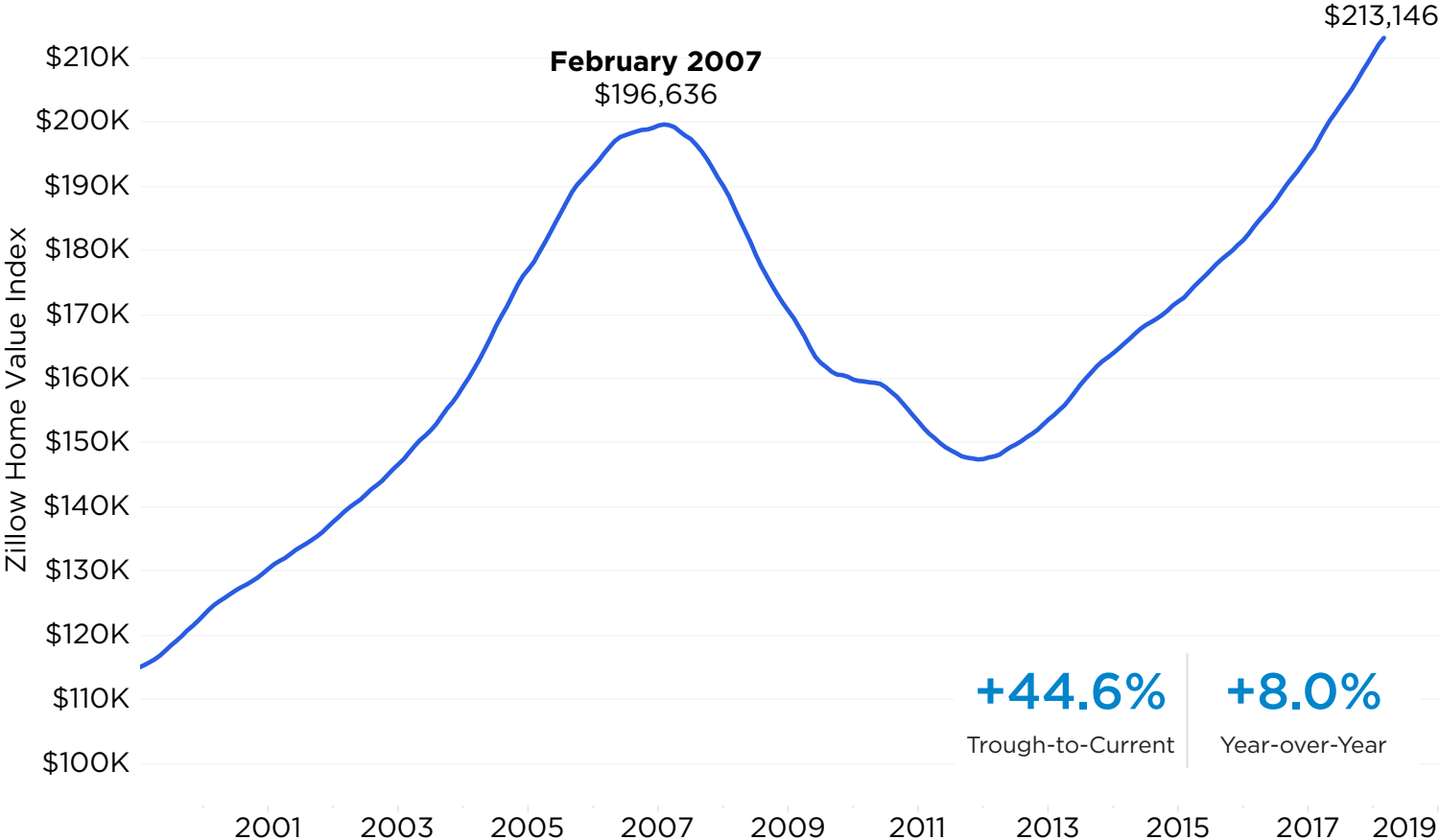
Prior to joining Zillow, Stan spent five years at Expedia, where he ran the advanced analytics team. Before Expedia, Stan served as a researcher and faculty member at the University of Virginia, and was previously a Presidential Management Fellow where he served at NASA, the Office of Science and Technology Policy in the Executive Office of the President, and the Technology Administration within the Department of Commerce. Stan has also served in the United States Peace Corps, where he taught high school physics and chemistry in the West African country of Benin. Stan has a Bachelor of Arts from Davidson College, a Master of Science in foreign service from Georgetown University and a Ph.D. in government from the University of Virginia.

HOME VALUES AND RENTS

- U.S. home values are growing at a steady pace, and have surpassed pre-recession highs nationally and in a number of large markets. Driven largely by limited inventory and high demand, home values are growing fastest at the bottom end of the market.
- Regionally, markets in the Pacific Northwest, Texas, Florida and parts of the Southwest continue to outperform slower-moving markets in the Midwest and Mid-Atlantic.
- Growth in rents nationwide has largely flattened and cooled considerably. Pockets of strong rent appreciation remain in the Pacific Northwest and California.

Zillow Home Value Index

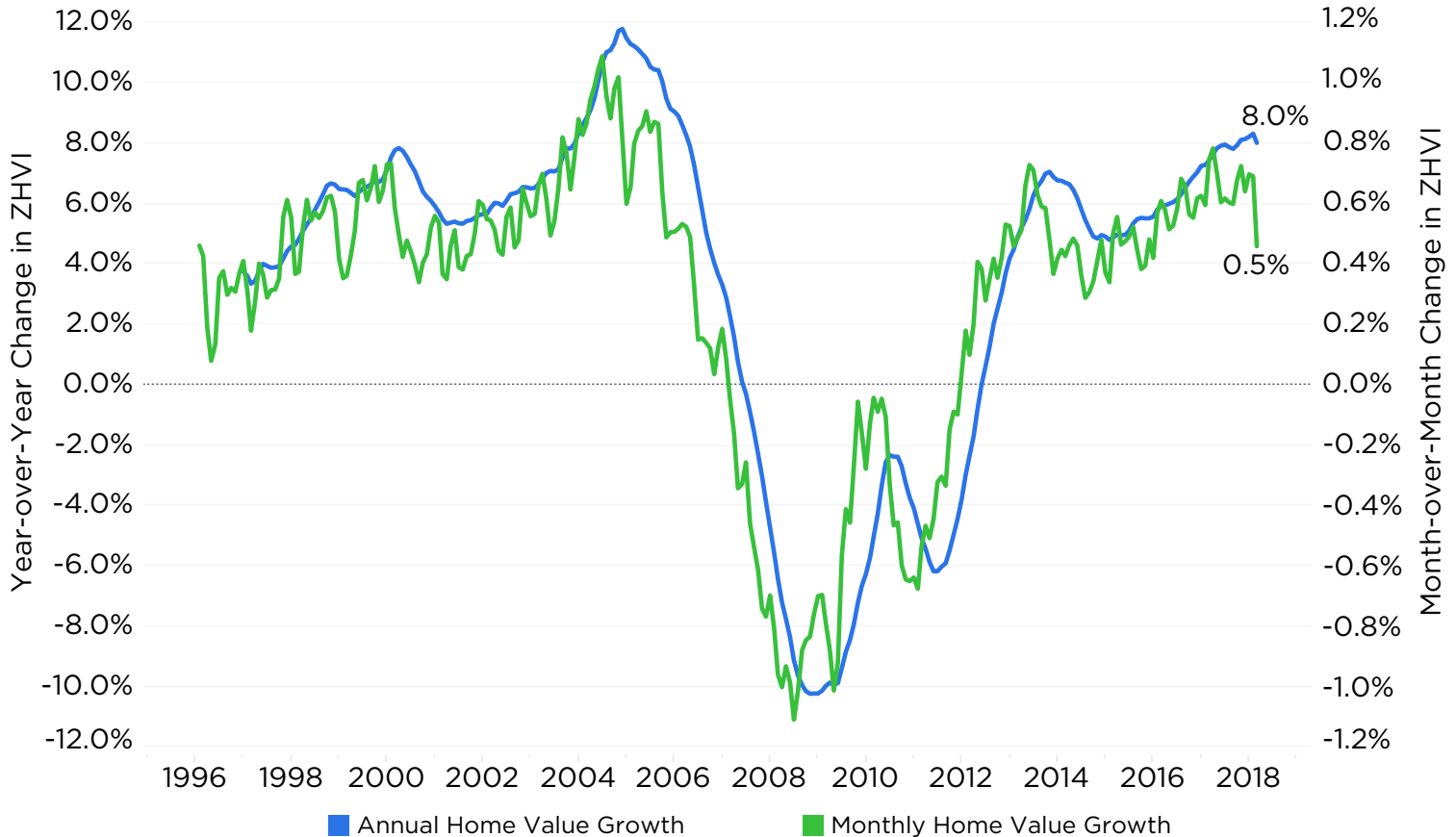
U.S. home values have surpassed pre-recession highs.



Source: Zillow Home Value Index (March 2018).

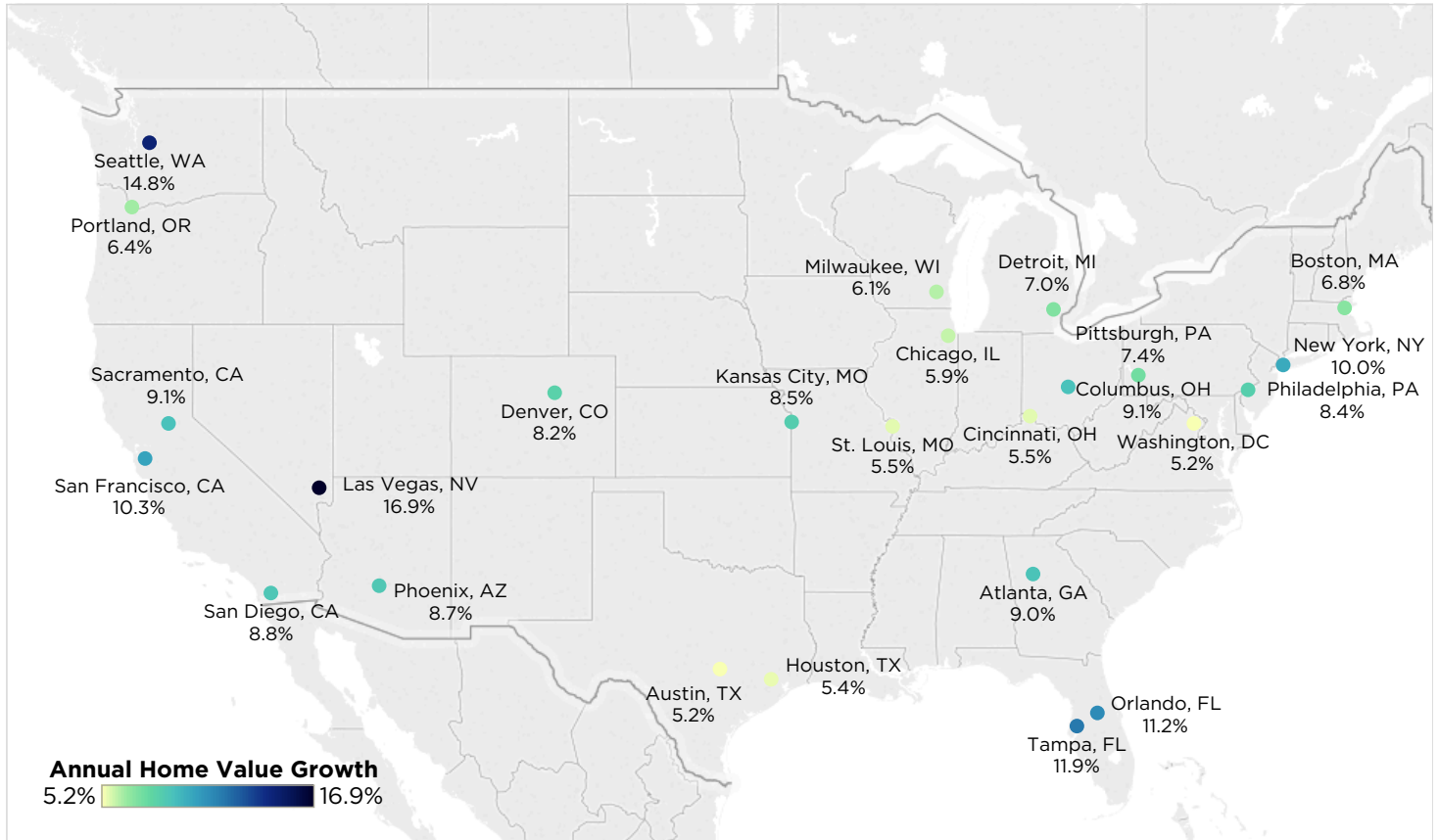
Zillow Home Value Index, Annual and Monthly Growth

Annual U.S. home value appreciation has accelerated.



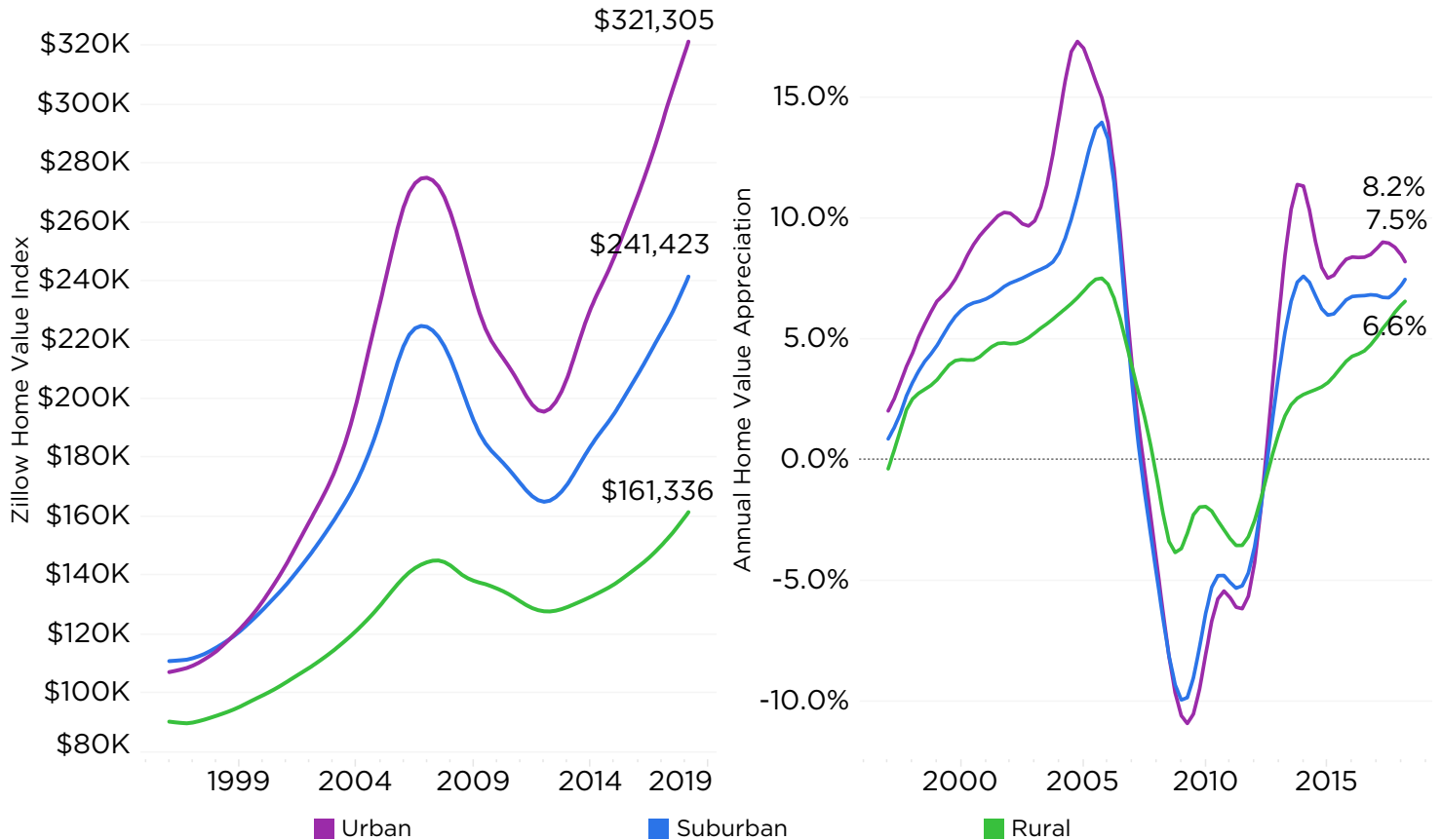
Annual Home Value Growth

Markets in the Pacific Northwest, Texas and Florida continue to outperform slower-moving markets in the Midwest and Mid-Atlantic.



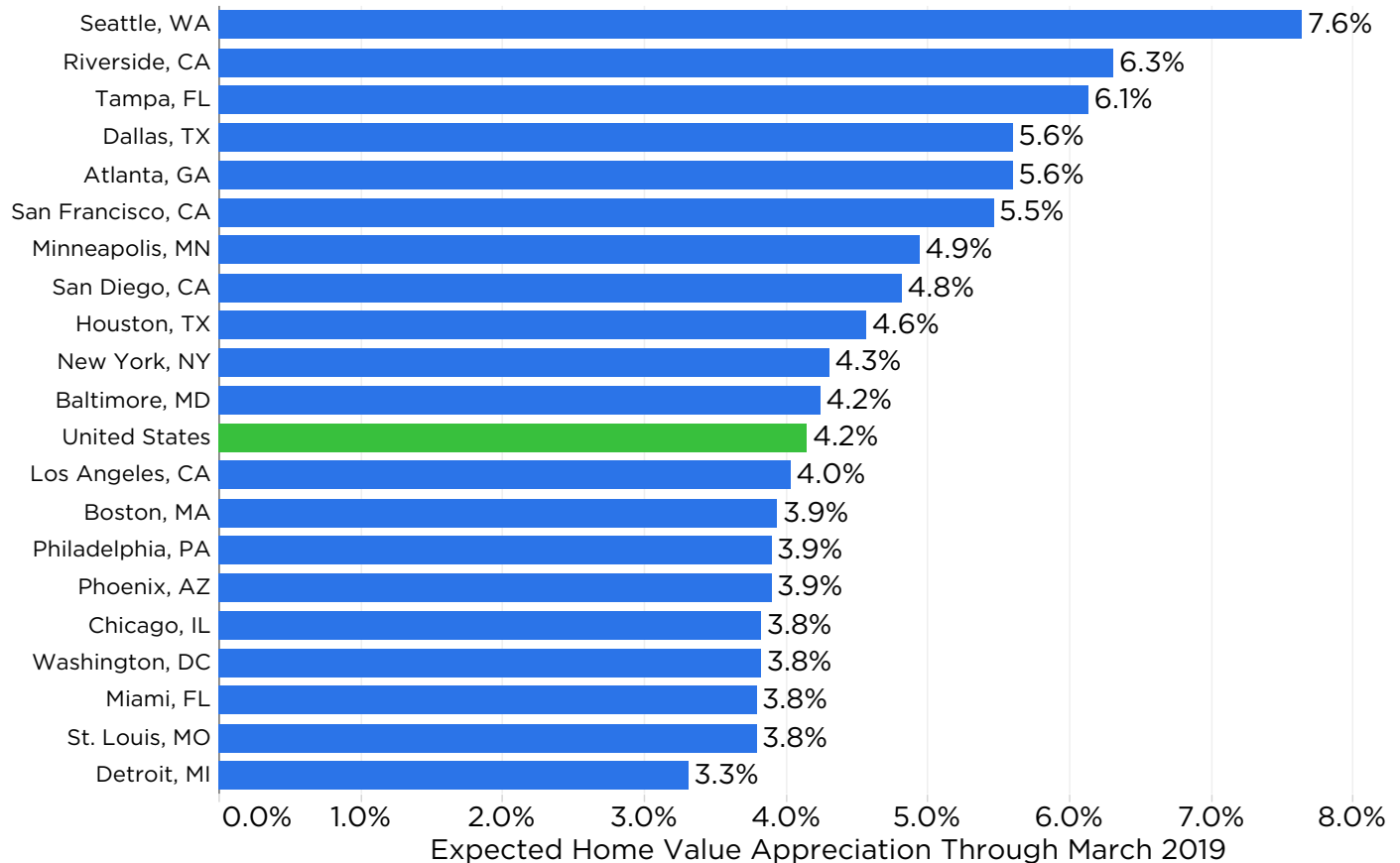
Urban, Suburban and Rural Home Values

Urban homes are worth more than suburban homes and their values are growing at a faster pace.

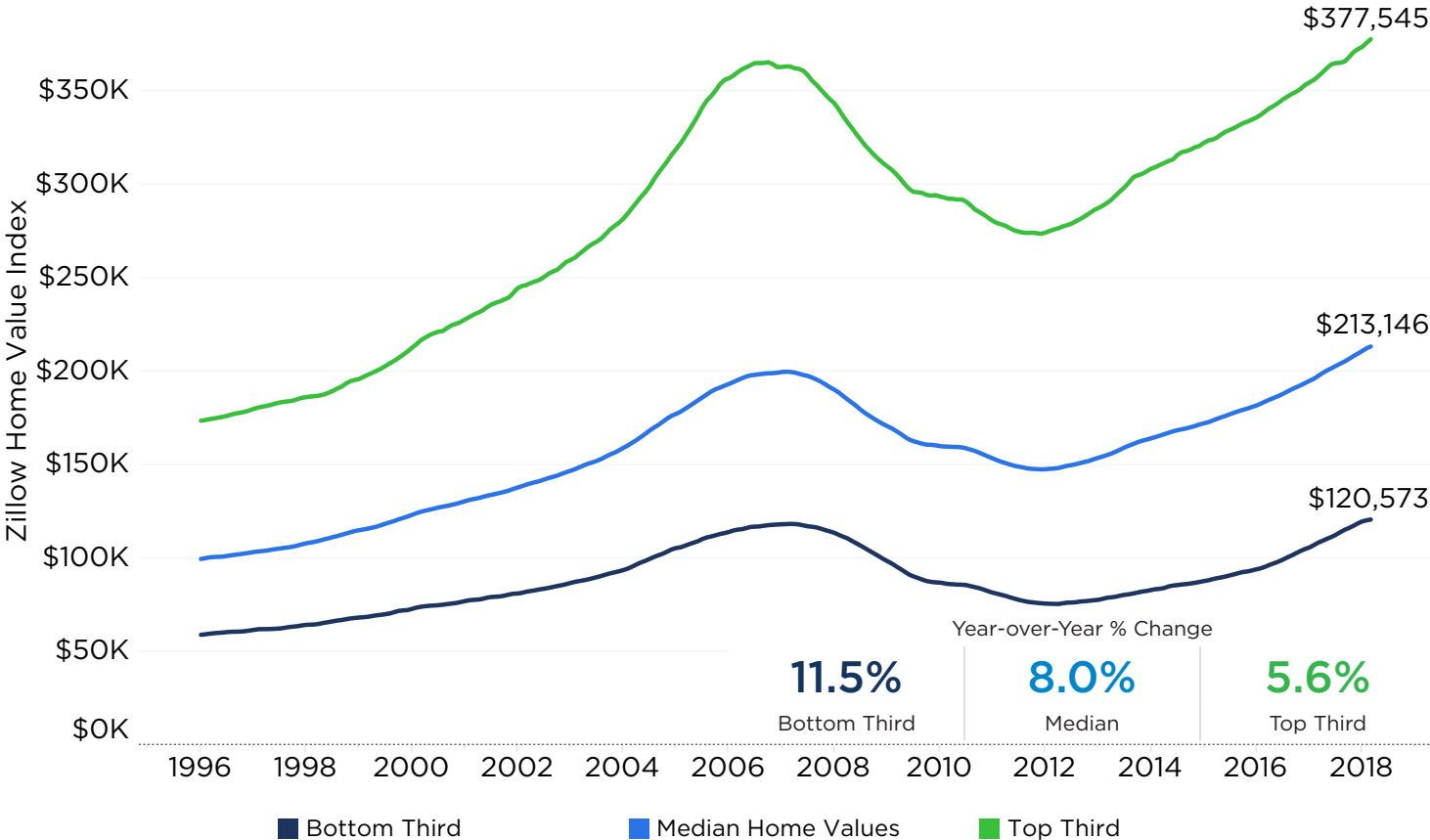


Zillow Home Value Forecast

Home value growth is expected to slow through 2018 Q4



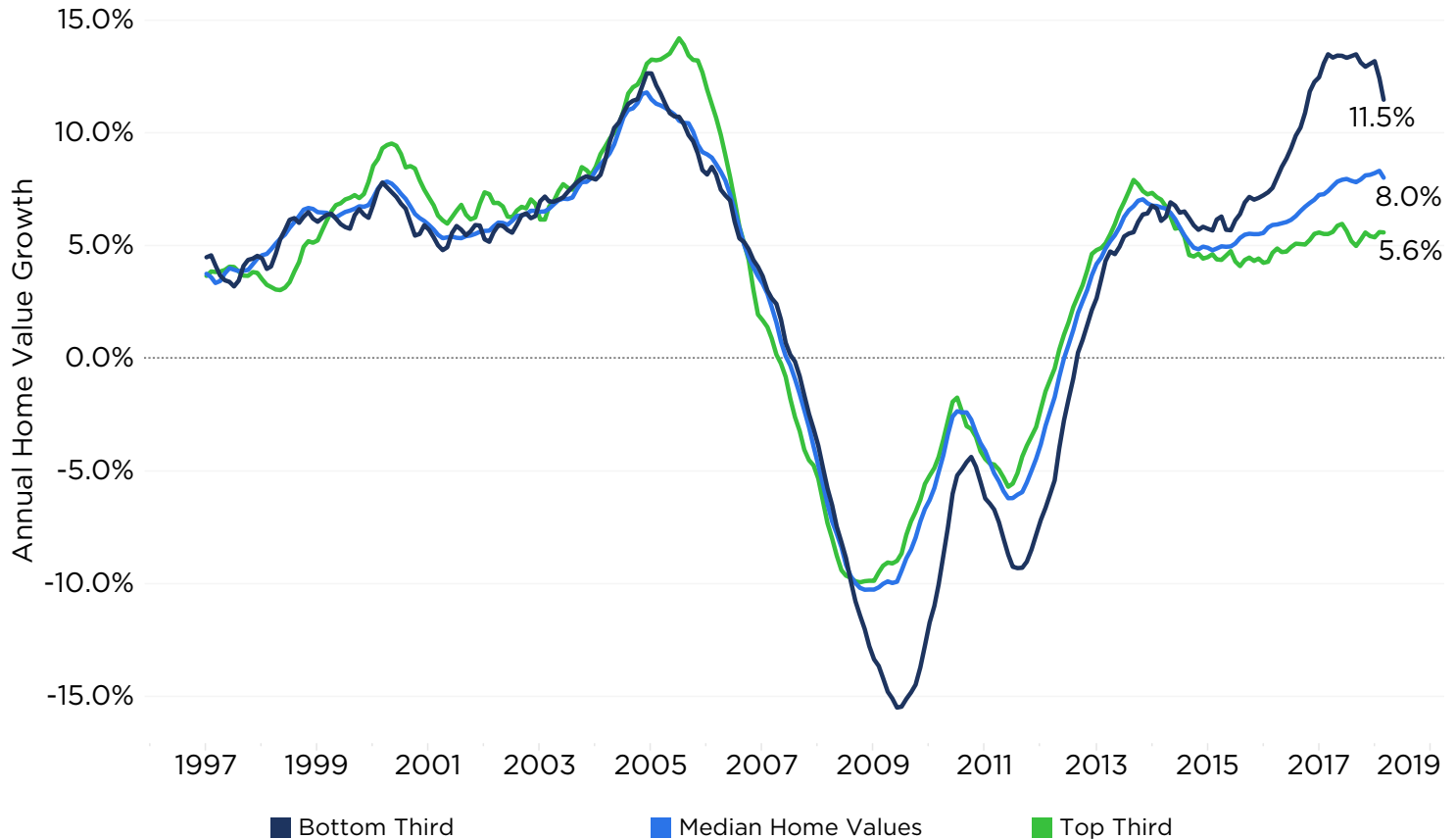
Zillow Home Value Index, by Thirds



Source: Zillow Home Value Index (March 2018).

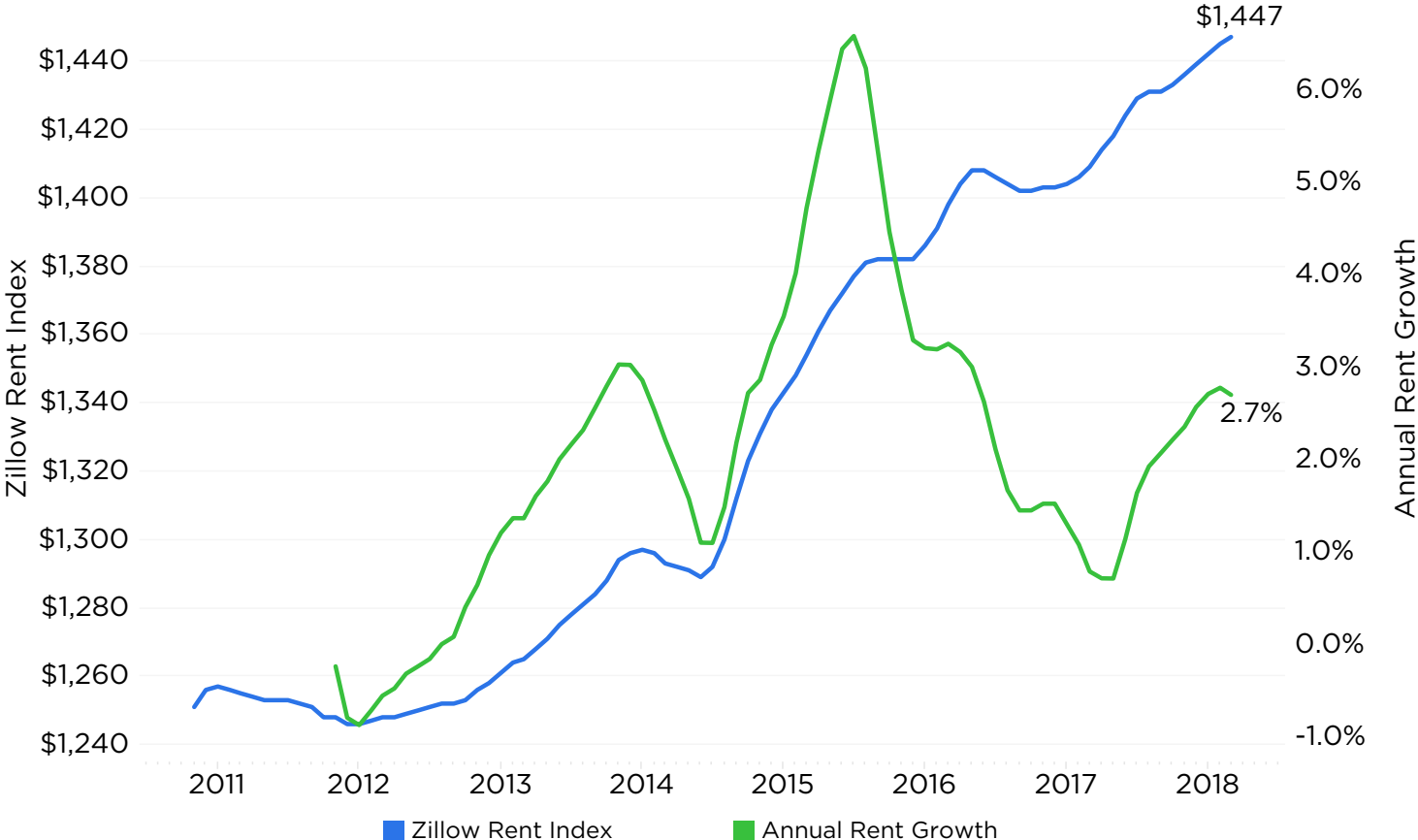
Annual Home Value Appreciation, by Thirds

Home value appreciation for bottom-third homes continues to outpace home value growth in other segments.



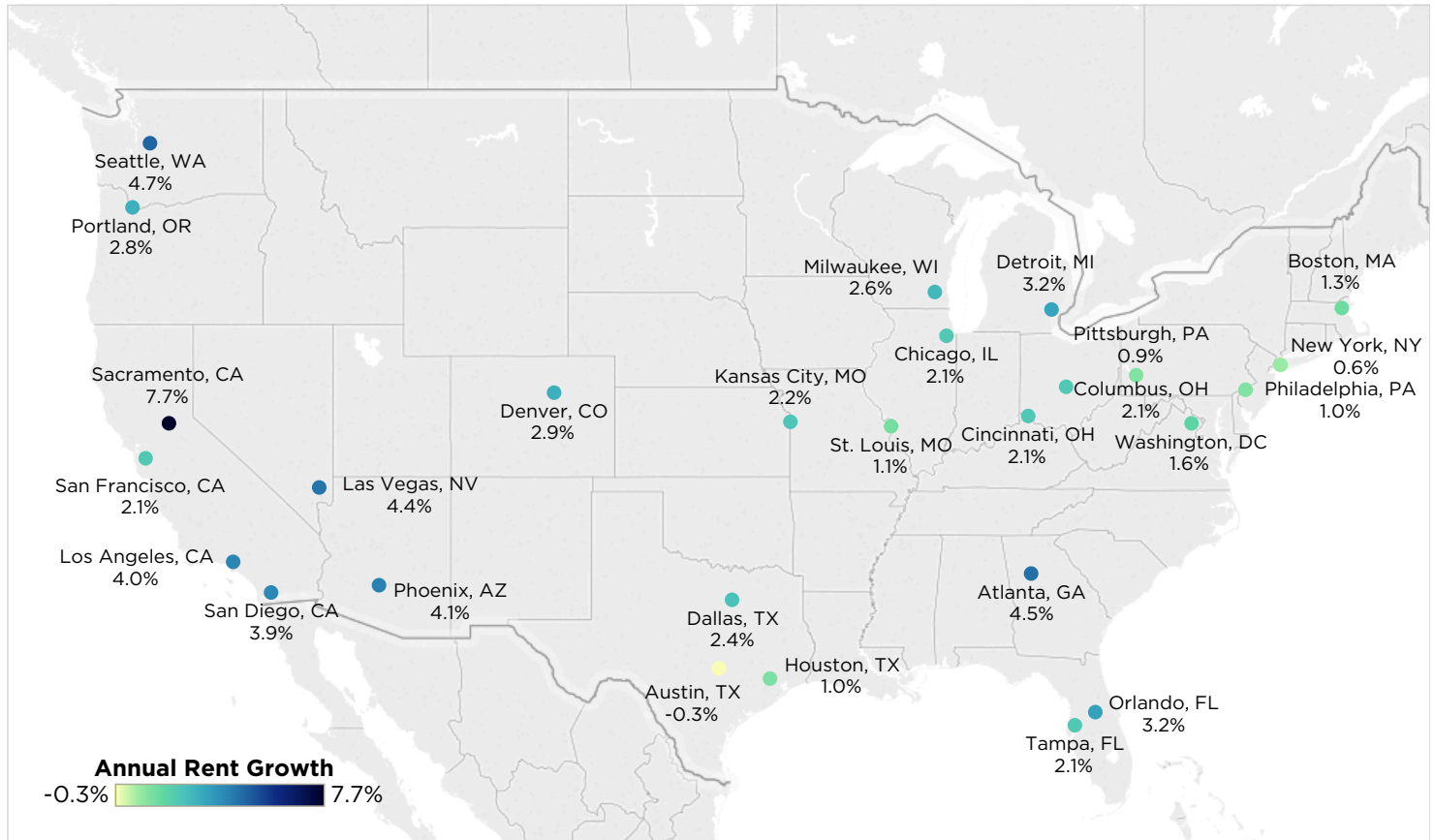
Zillow Rent Index

Annual growth in rents picked up somewhat in the first half of 2017, but remains slow.



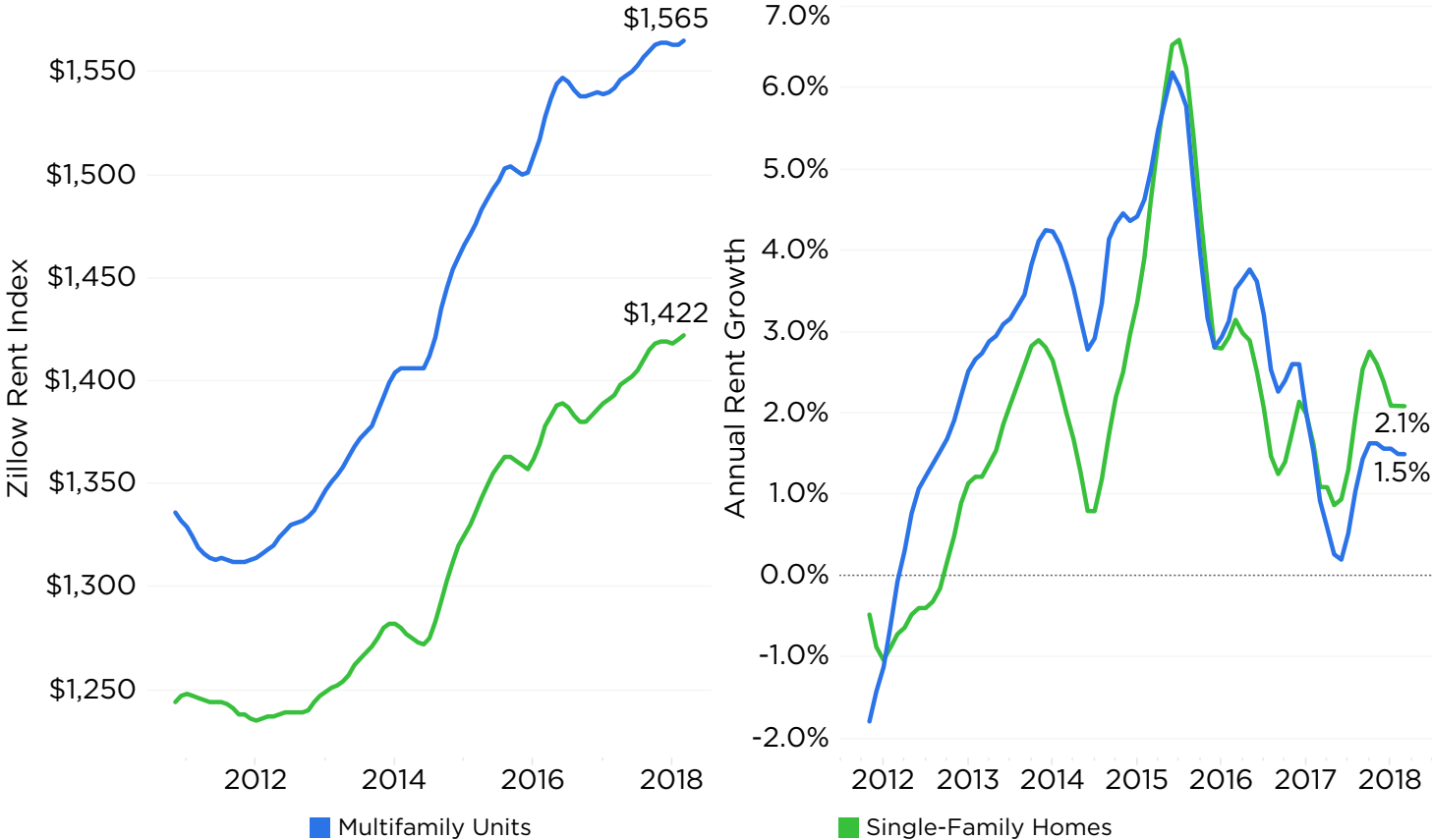
Annual Rent Appreciation

Rent is falling in several large markets nationwide.



Multifamily and Single-Family Home Rents

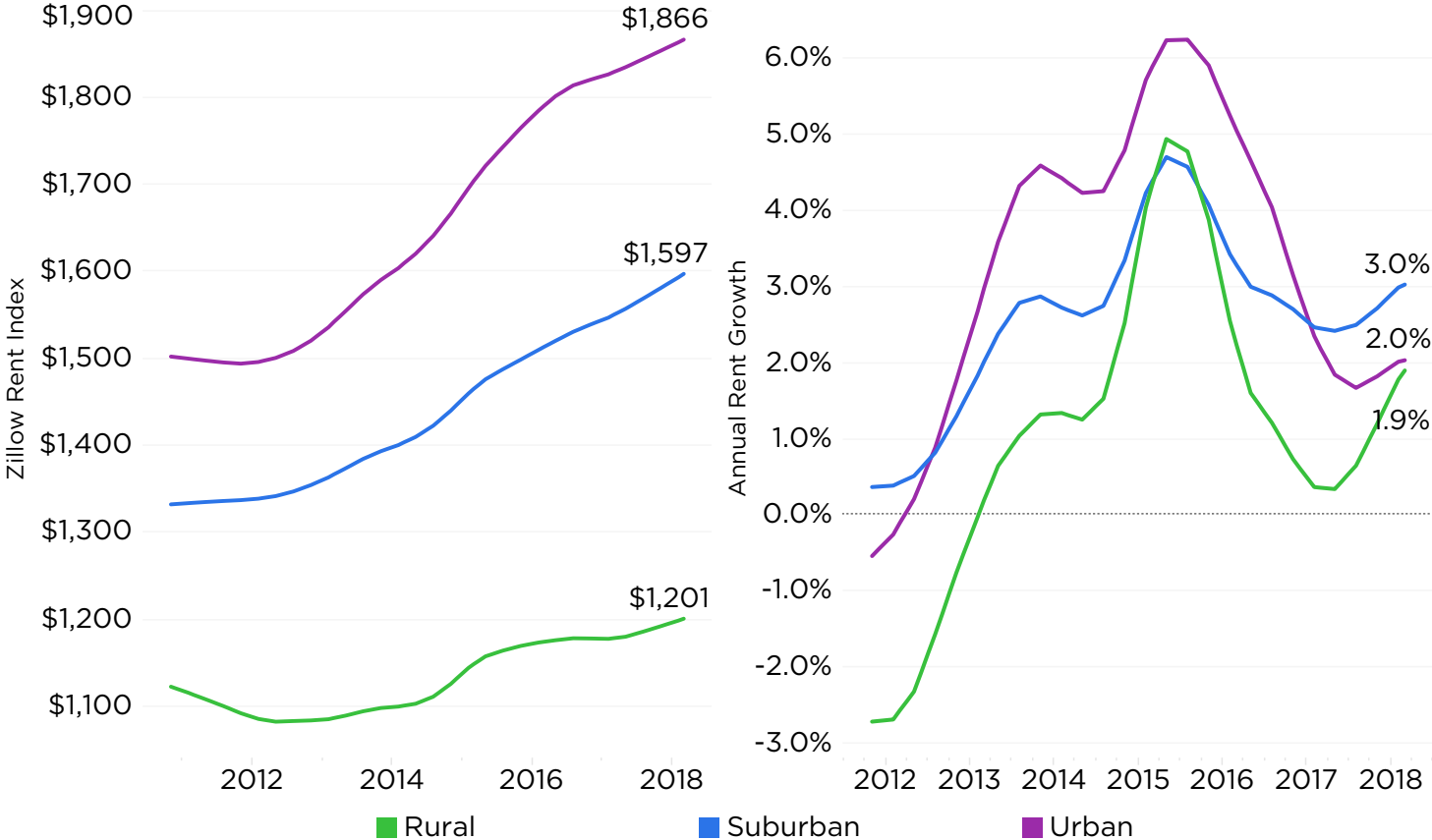
Rents for single-family homes and units in larger multifamily buildings share similar trends.



Source: Zillow Rent Index (March 2018).

Urban, Suburban and Rural Rents

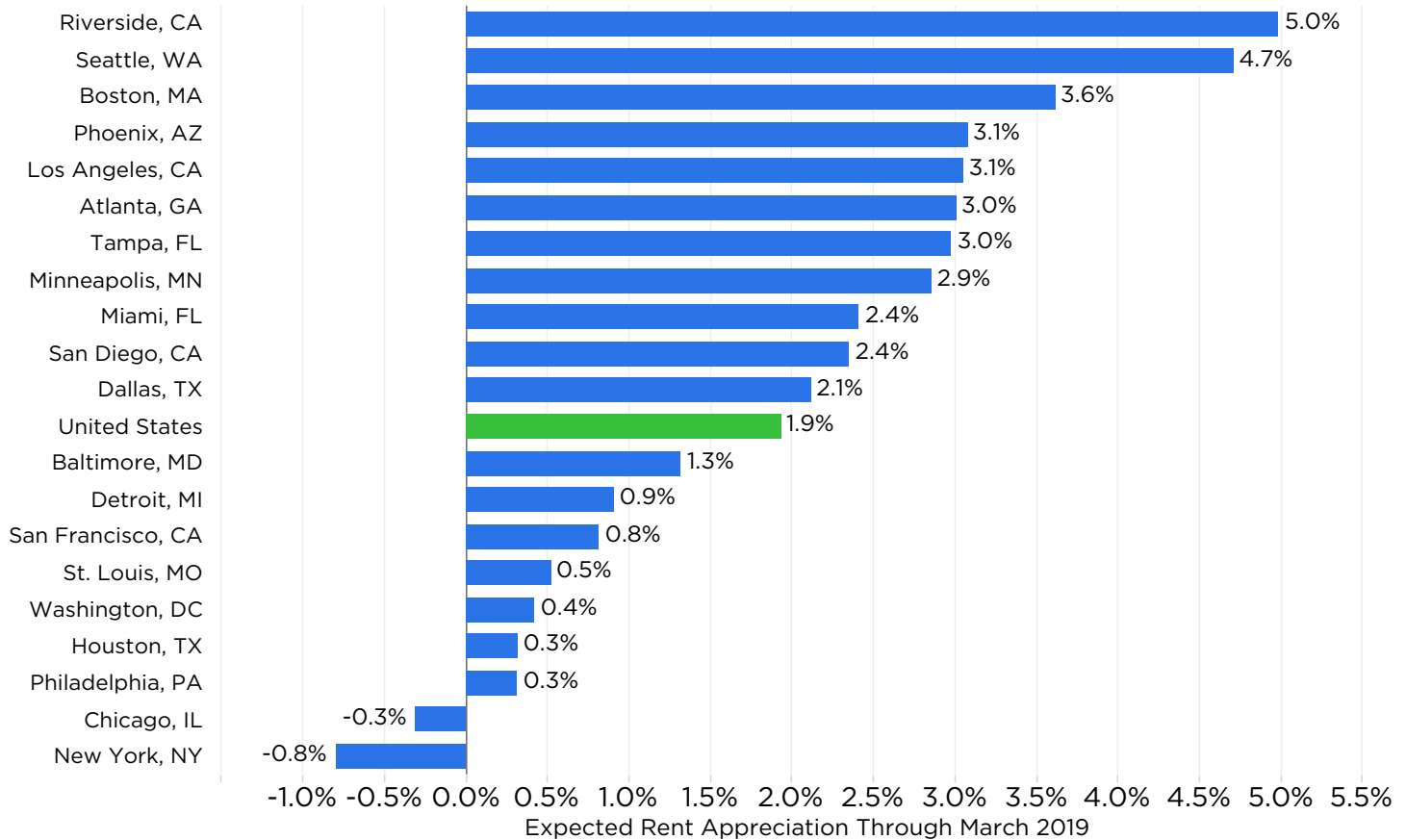
Rents in the city are higher than rents in the suburbs, but suburban rent is growing more quickly.



Source: Zillow Rent Index (March 2018).

Zillow Rent Forecast

Rental appreciation is expected to accelerate over the next year.



Rising Rents and Homelessness

Rising rents contribute to rising homelessness. This connection is strongest in LA, New York, Seattle and DC.

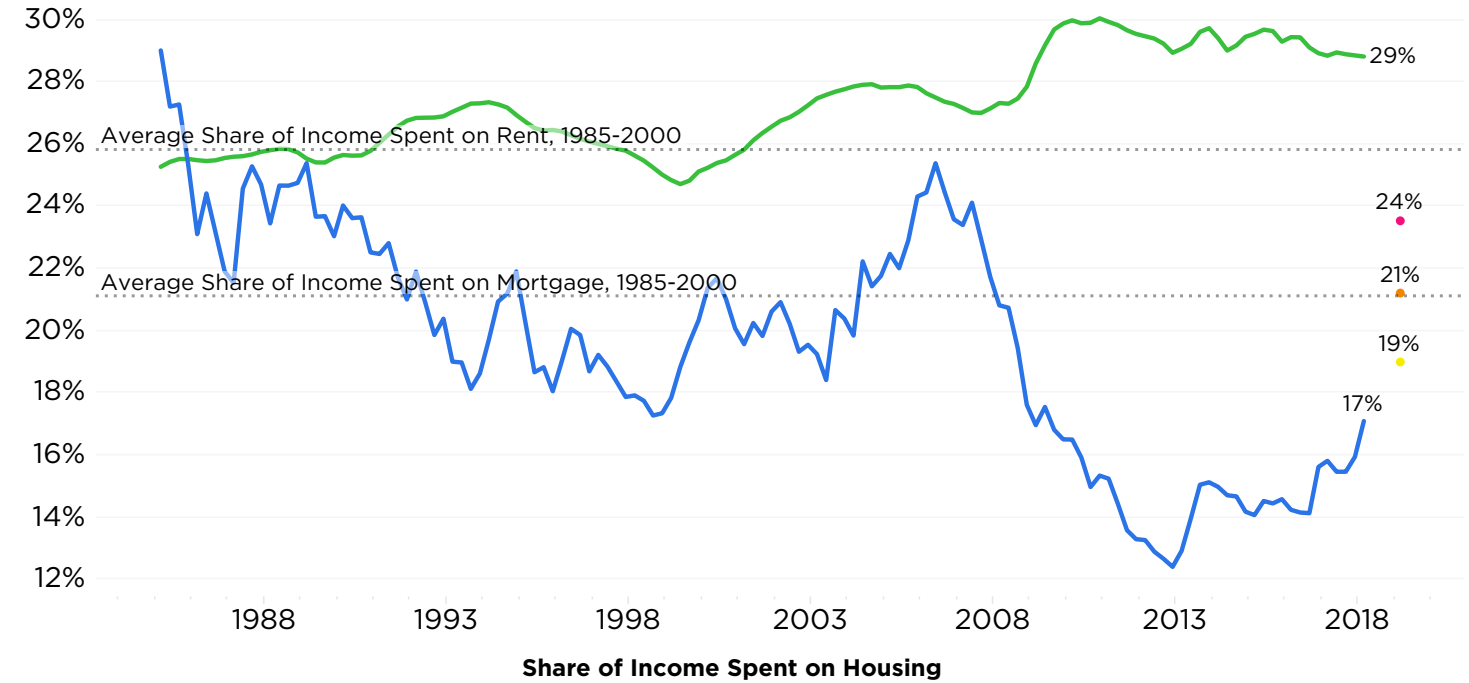
If Rents Increase:	Forecasted Increase in Homeless Population in:			
	Los Angeles	New York	Seattle	Washington
1%	378 people	609 people	52 people	30 people
2%	773	1,196	103	78
3%	1,180	1,787	154	126
4%	1,584	2,383	206	174
5%	1,993	2,982	258	224
6%	2,402	3,586	311	272
7%	2,814	4,197	363	322
8%	3,230	4,811	416	372
9%	3,650	5,428	469	423
10%	4,072	6,048	523	474

MORTGAGE AND RENT AFFORDABILITY

- Overall, mortgage affordability – the share of income necessary to afford a typical mortgage payment – looks reasonable in most markets. But affordability is suffering, especially at the bottom end of the market, as home values rise and incomes fail to keep pace.
- As mortgage interest rates rise, mortgage affordability will also suffer, although there's some headroom for rates to rise before this really becomes problematic.
- Unlike mortgage affordability, rental affordability is much worse today than it was historically, though the recent slowdown in rent growth has helped somewhat.
- Poor rent affordability is worrisome, as more money devoted to rent makes it more difficult to save for homeownership.

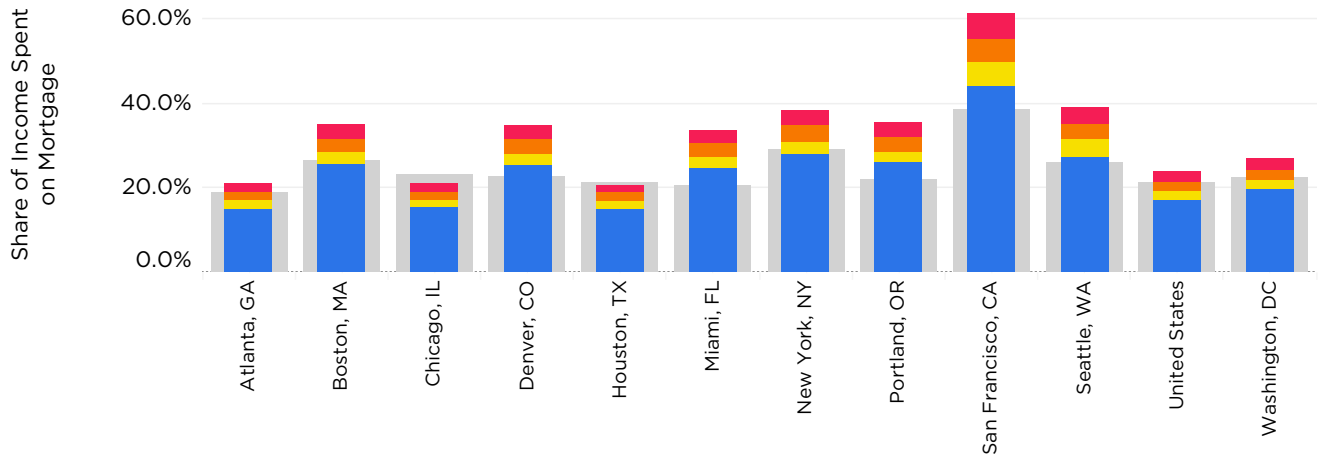
Zillow Mortgage and Rent Affordability

Nationwide, the share of income spent on a mortgage is well below historic norms.



Share of Income Spent on Mortgage, 1985-2000	Share of Income Spent on Mortgage, 2018 Q1	Forecasted at 5%	Forecasted at 6%	Forecasted at 7%	Share of Income Spent on Rent, 1985-2000	Share of Income Spent on Rent, 2018 Q1
21%	17%	19%	21%	24%	26%	29%

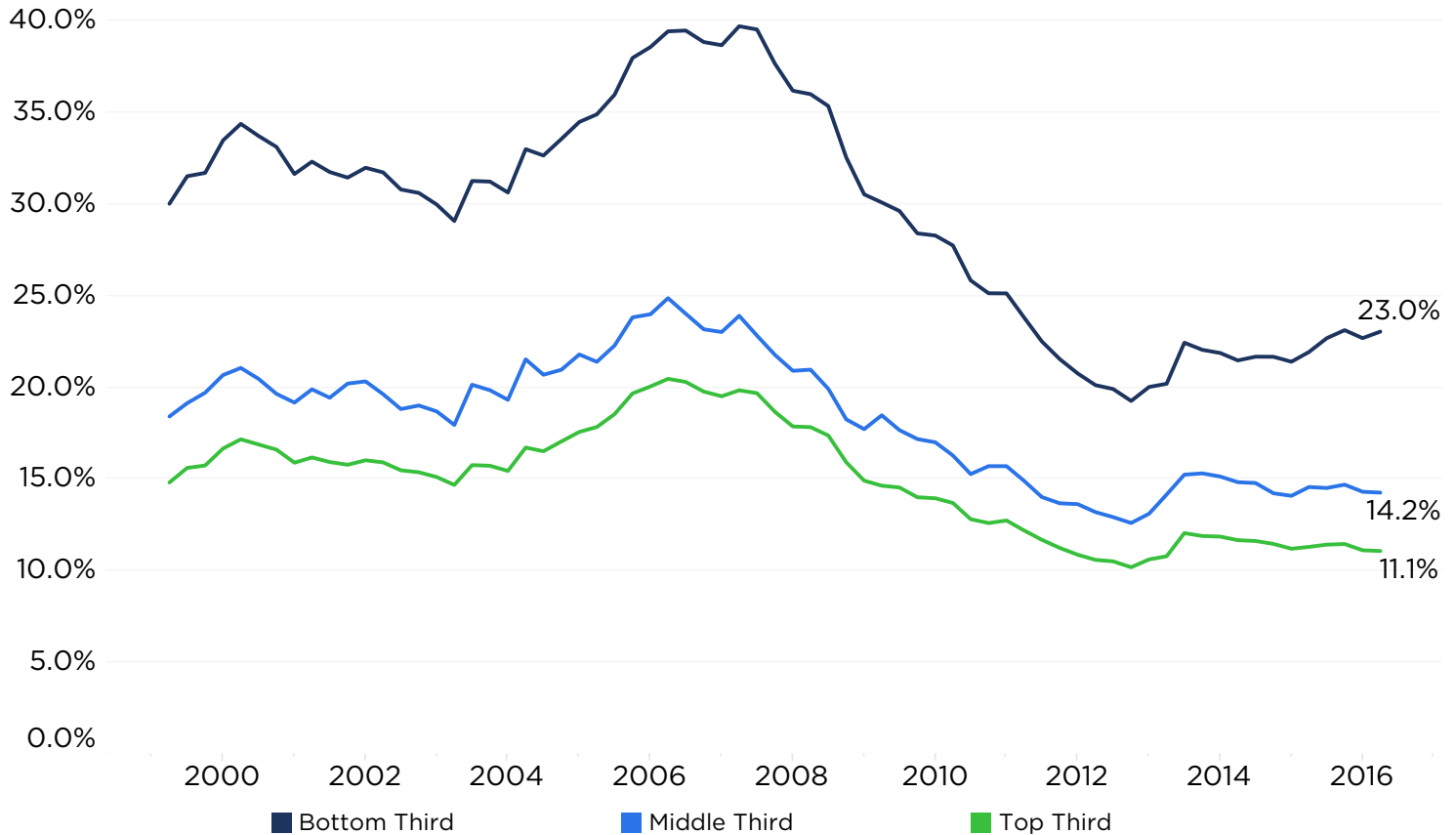
Mortgage Affordability by Metro



Share of Income Spent on Mortgage, 2018 Q1	15%	25%	15%	25%	15%	24%	28%	26%	44%	27%	17%	19%
Average Share of Incomes Spent on Mortgage, 1985-2000	19%	27%	23%	23%	21%	20%	29%	22%	38%	26%	21%	22%
Forecasted at 5% Rates	17%	28%	17%	28%	17%	27%	31%	28%	49%	31%	19%	22%
Forecasted at 6% Rates	19%	32%	19%	31%	19%	30%	34%	32%	55%	35%	21%	24%
Forecasted at 7% Rates	21%	35%	21%	35%	21%	34%	38%	35%	61%	39%	24%	27%

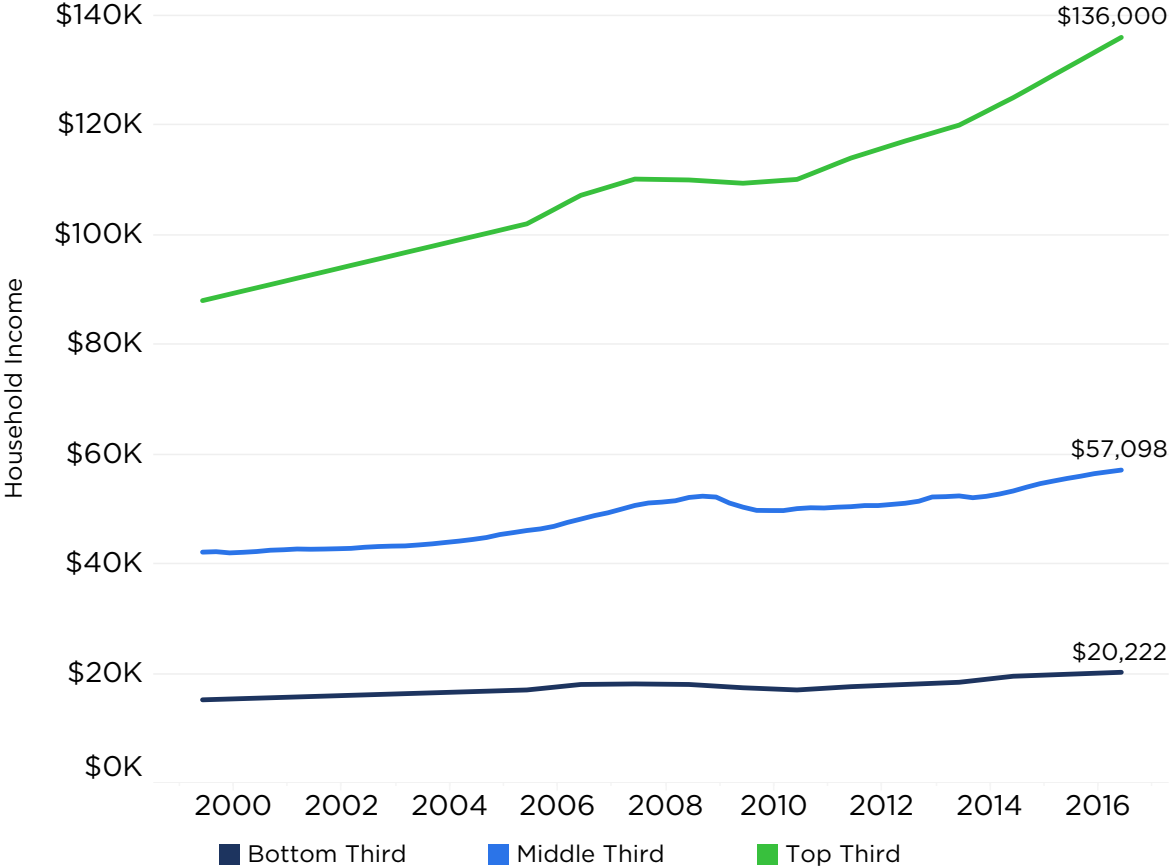
Zillow Mortgage Affordability, by Thirds

Weak income growth and rapid appreciation, even with very low mortgage interest rates, means homes are becoming more unaffordable, more quickly for bottom-third home buyers.



Household Income, by Thirds

Income growth for the lowest earners has been especially weak.



Nominal Income Growth, 2000-2016

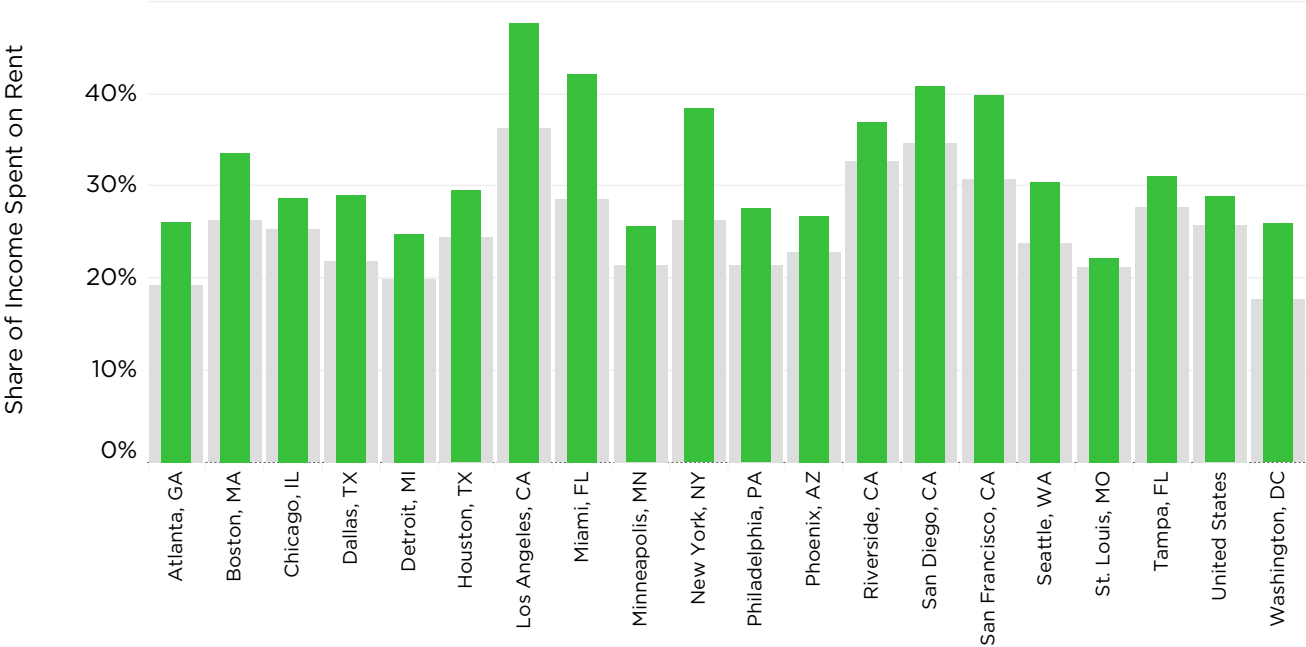
Top Third
50.5%

Middle Third
35.2%

Bottom Third
30.5%

Rent Affordability by Metro

The share of income spent on rent is higher than the historic average in the nation's 20 largest metros.

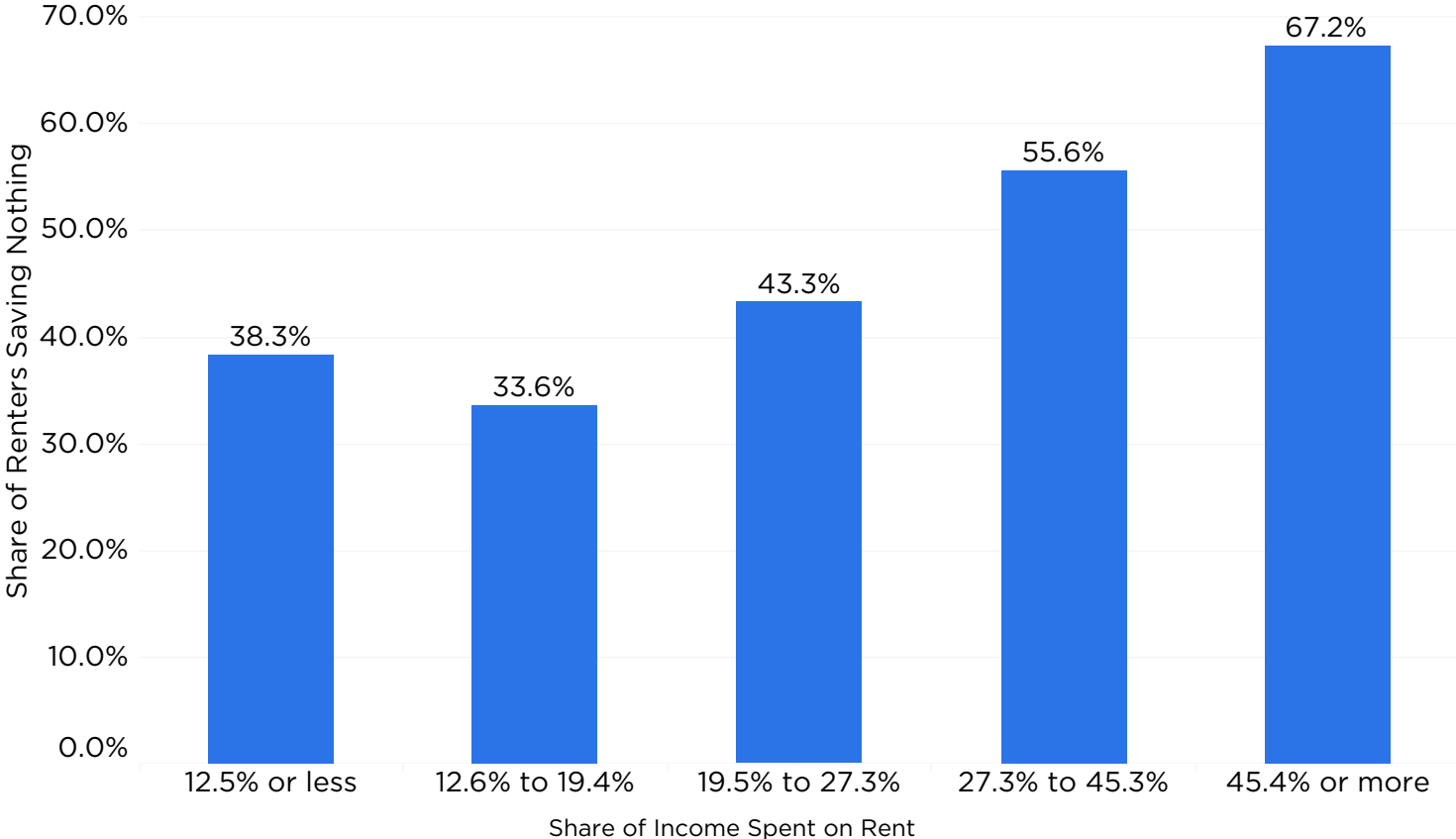


Share of Income Spent on Rent, 2018 Q1	26%	33%	29%	29%	25%	29%	48%	42%	25%	38%	28%	27%	37%	41%	40%	30%	22%	31%	29%	26%
Average Share of Income Spent on Rent, 1985-2000	19%	26%	25%	22%	20%	24%	36%	29%	21%	26%	21%	23%	33%	35%	31%	24%	21%	28%	26%	18%

■ Share of Income Spent on Rent, 2018 Q1
■ Average Share of Income Spent on Rent, 1985-2000

Renters With No Savings

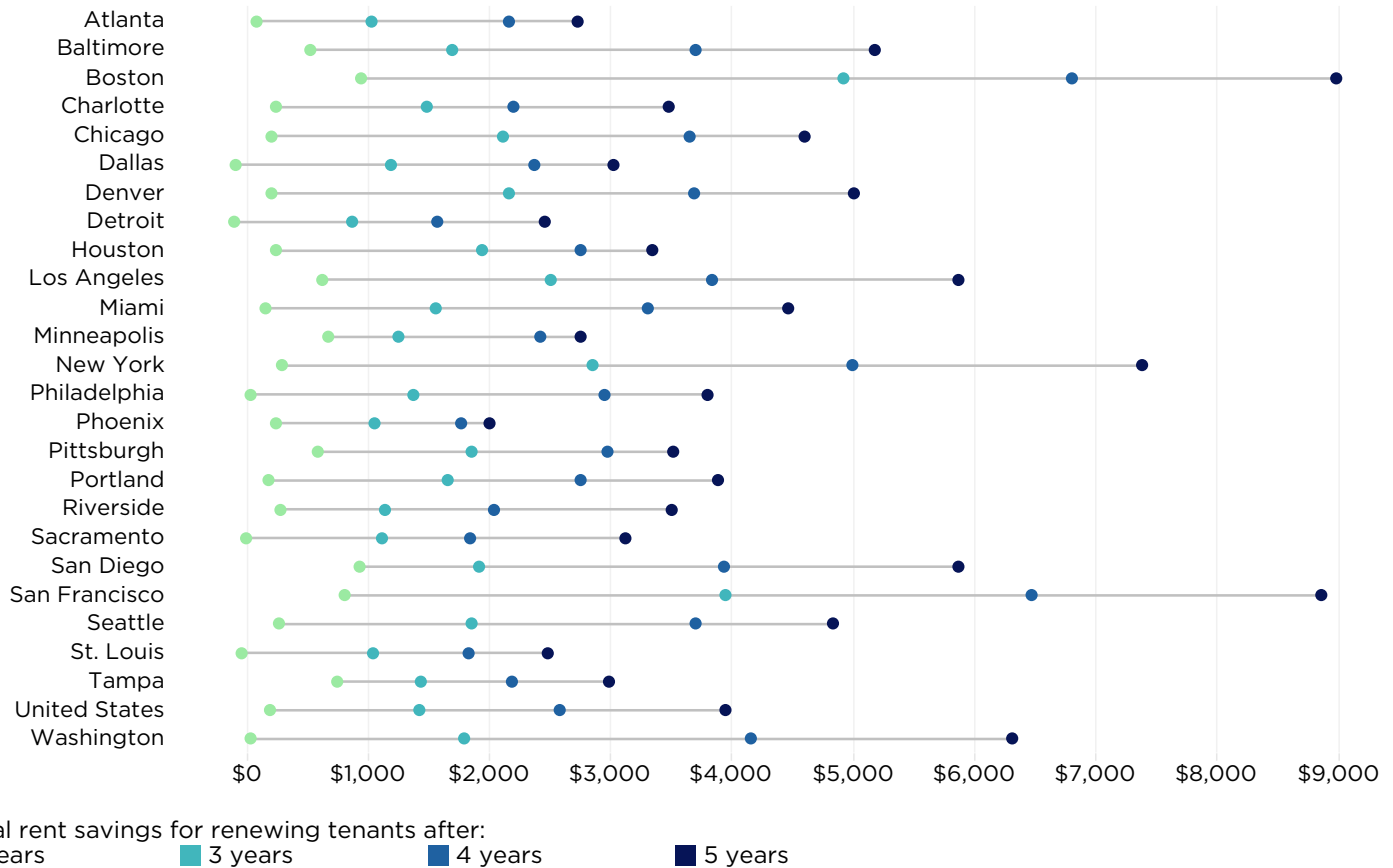
As the share of income spent on rent rises, more renters report saving nothing.



Source: Zillow analysis of data from the Federal Reserve Board, Survey of Household Economics and Decisionmaking 2015 and 2016, and the U.S. Census Bureau, ACS, IPUMS.

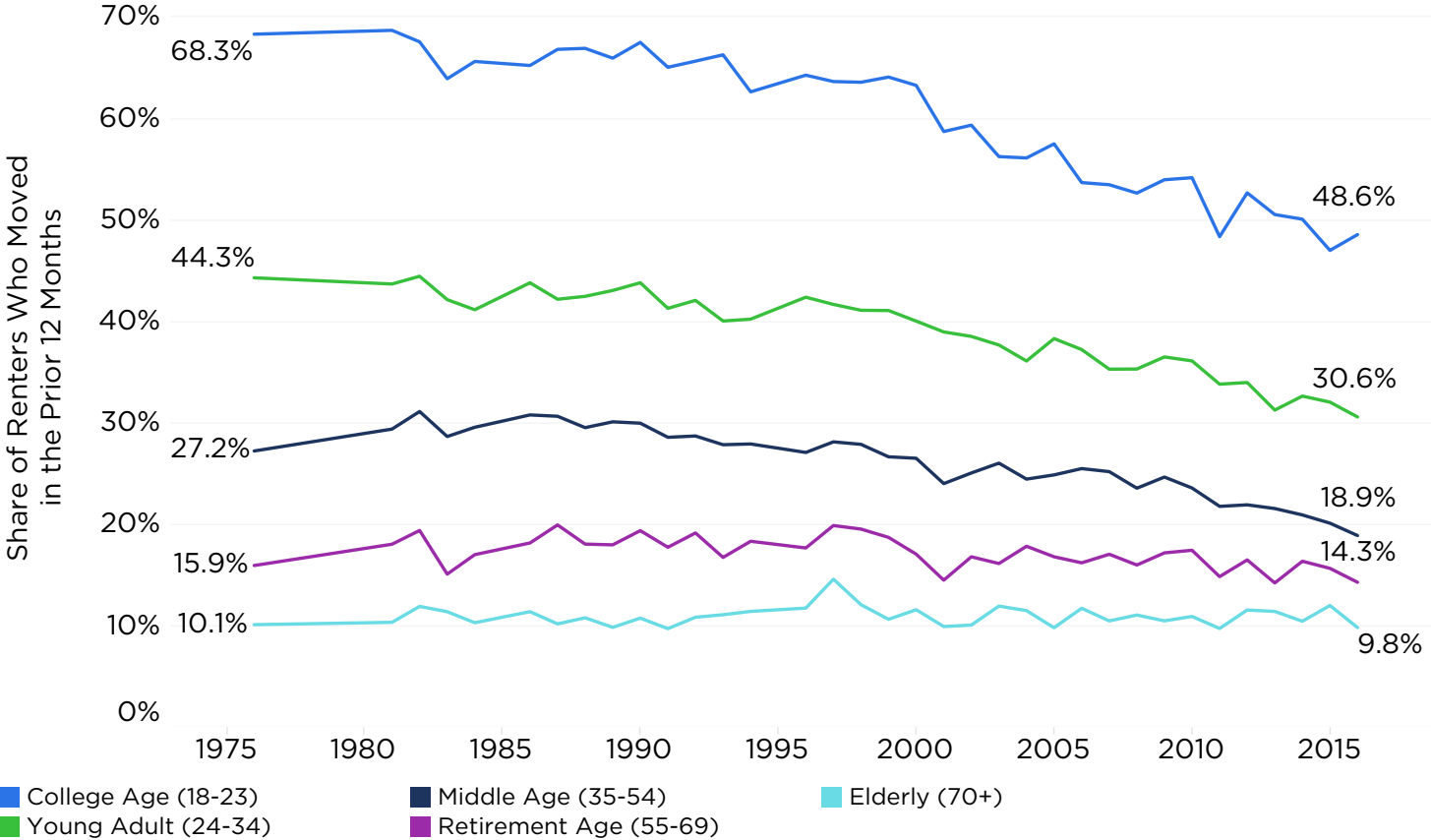
Renter Renewal Savings

Rising rents make renewing a better investment than moving



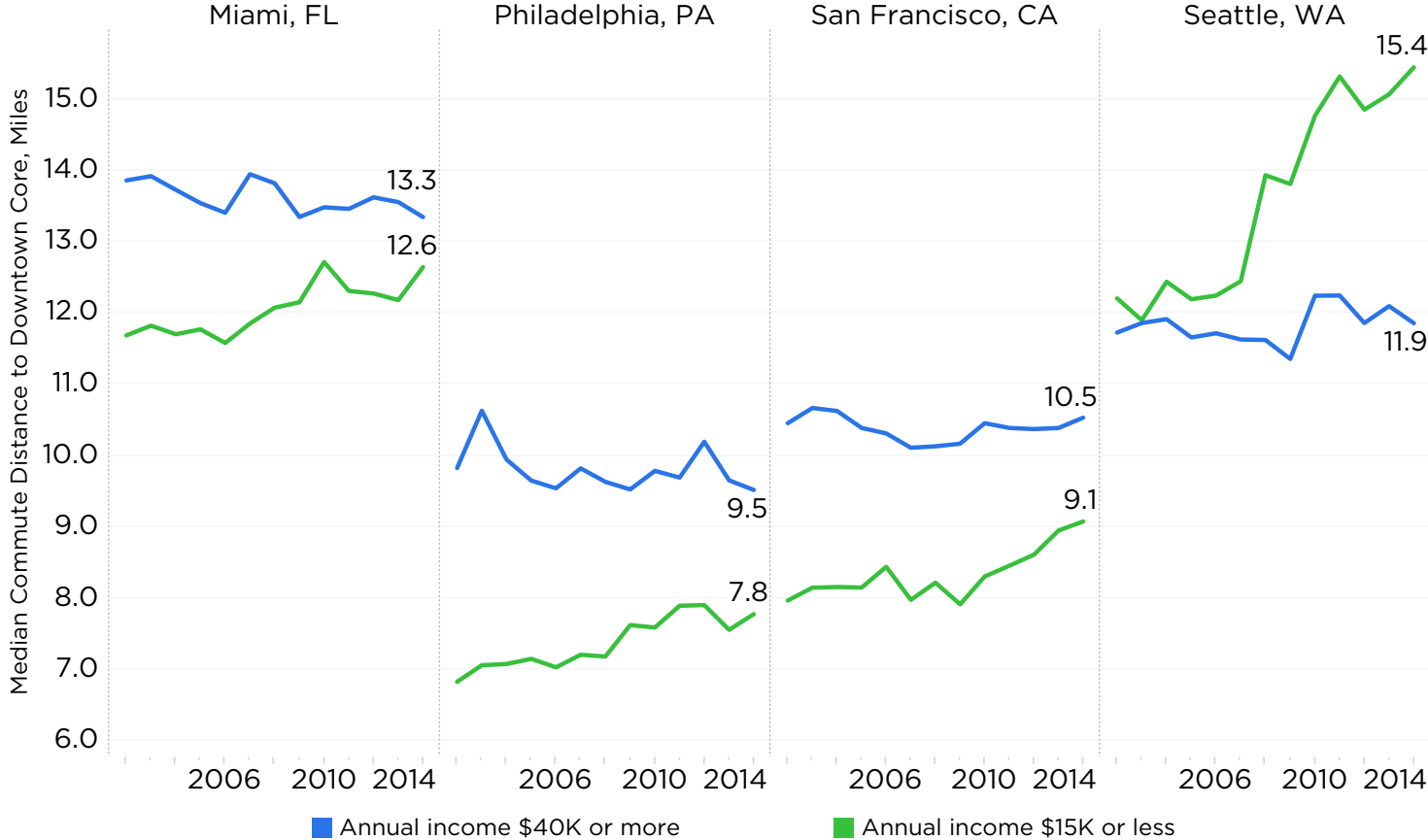
Renters Are Moving Less

Across all age groups, fewer renters are moving today than in prior decades.



Commute Distances

Lower-income workers with jobs in major downtown cores have steadily moved farther away from city centers, sacrificing distance for affordability.



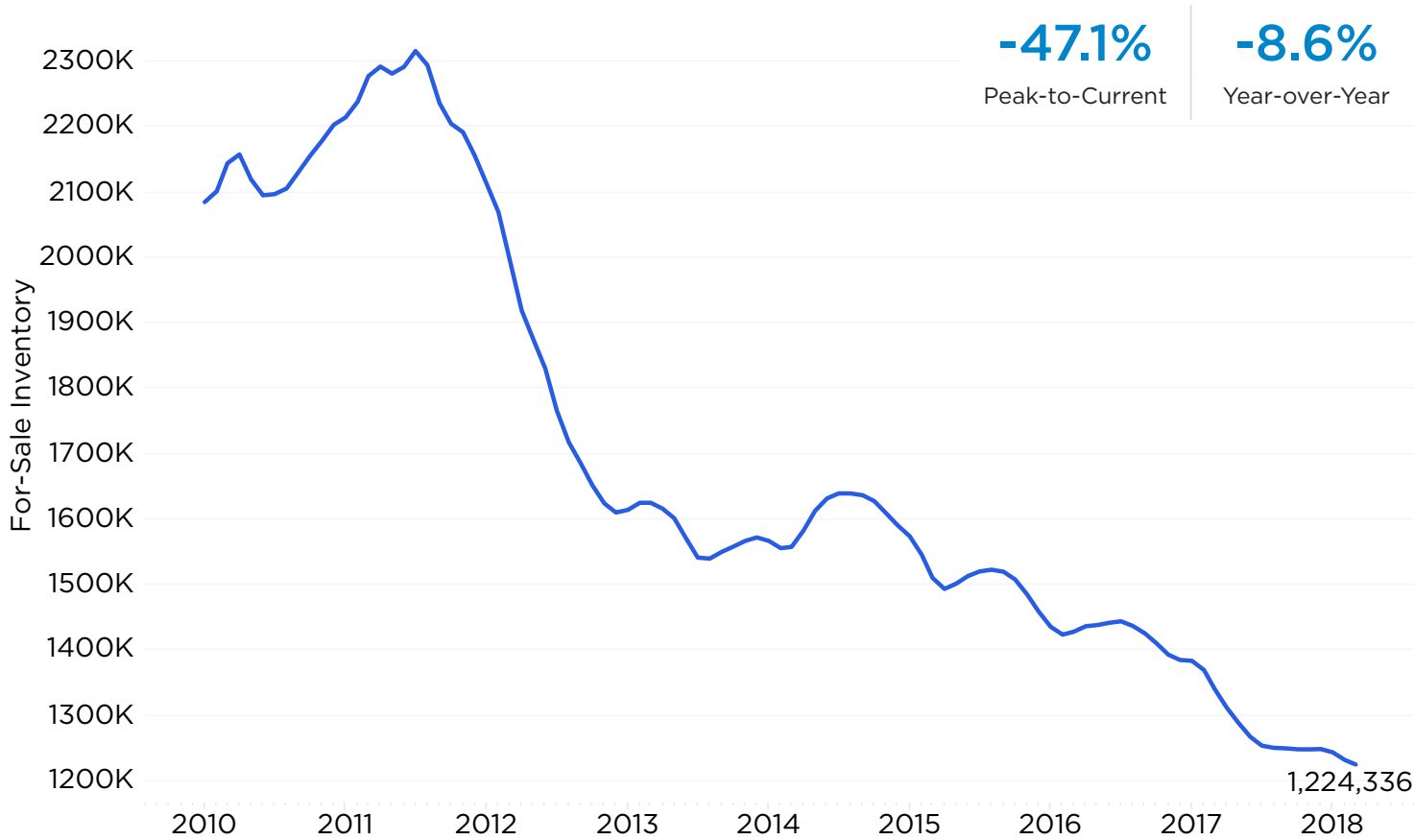
Source: Zillow analysis of U.S. Census Bureau, Longitudinal Employer-Household Dynamics, Origin-Destination Employment Statistics, 2002-2014.

INVENTORY, CONSTRUCTION AND DEMOGRAPHICS

- Inventory of homes for sale is very low, and getting lower. Inventory constraints are particularly acute among entry-level and median homes – the exact homes sought by first-time homebuyers and young families.
- New construction has thus far failed to get back to pre-recession levels, especially for single-family homes.
- A lack of inventory overall means those homes that are on the market are selling faster – currently, homes spend about a week less on the market before selling than they did a year ago.
- Millennials do value homeownership, but many are finding it difficult to attain, and more young adults are living with their parents.

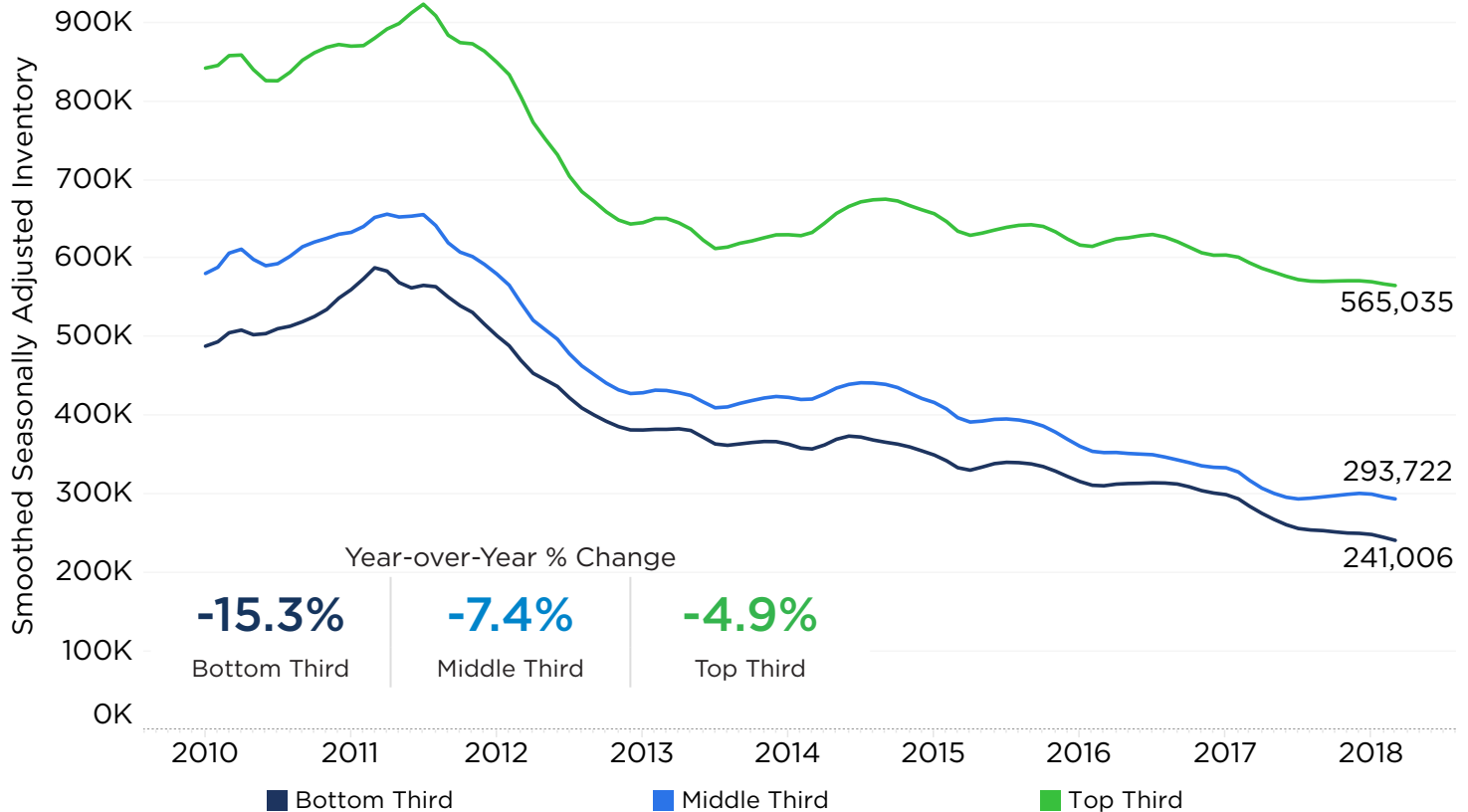
Zillow For-Sale Inventory

The number of U.S. homes for sale is low, and falling.



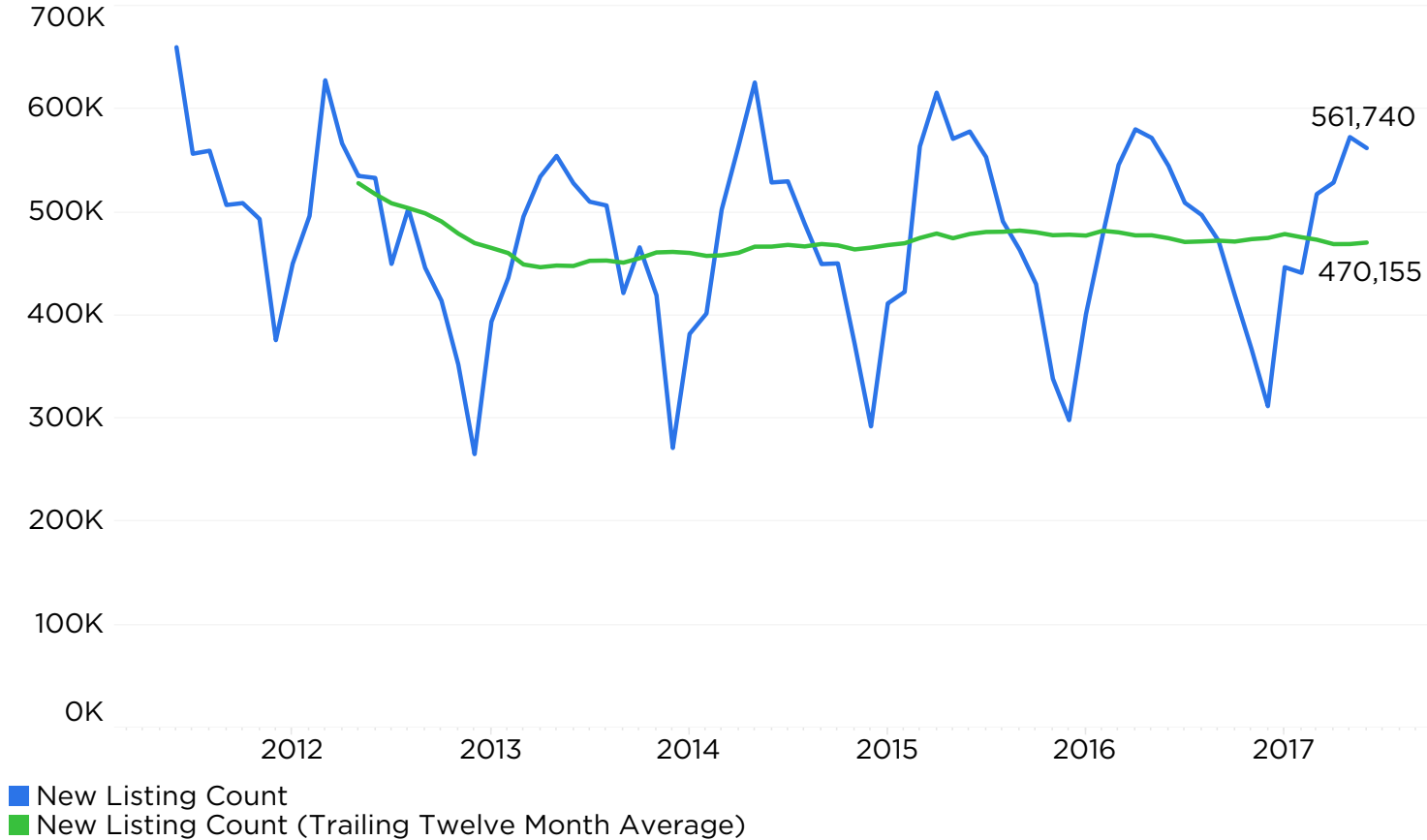
Zillow For-Sale Inventory, by Thirds

Inventory shortages are particularly acute among bottom- and middle-third homes.



New Homes Listed For Sale

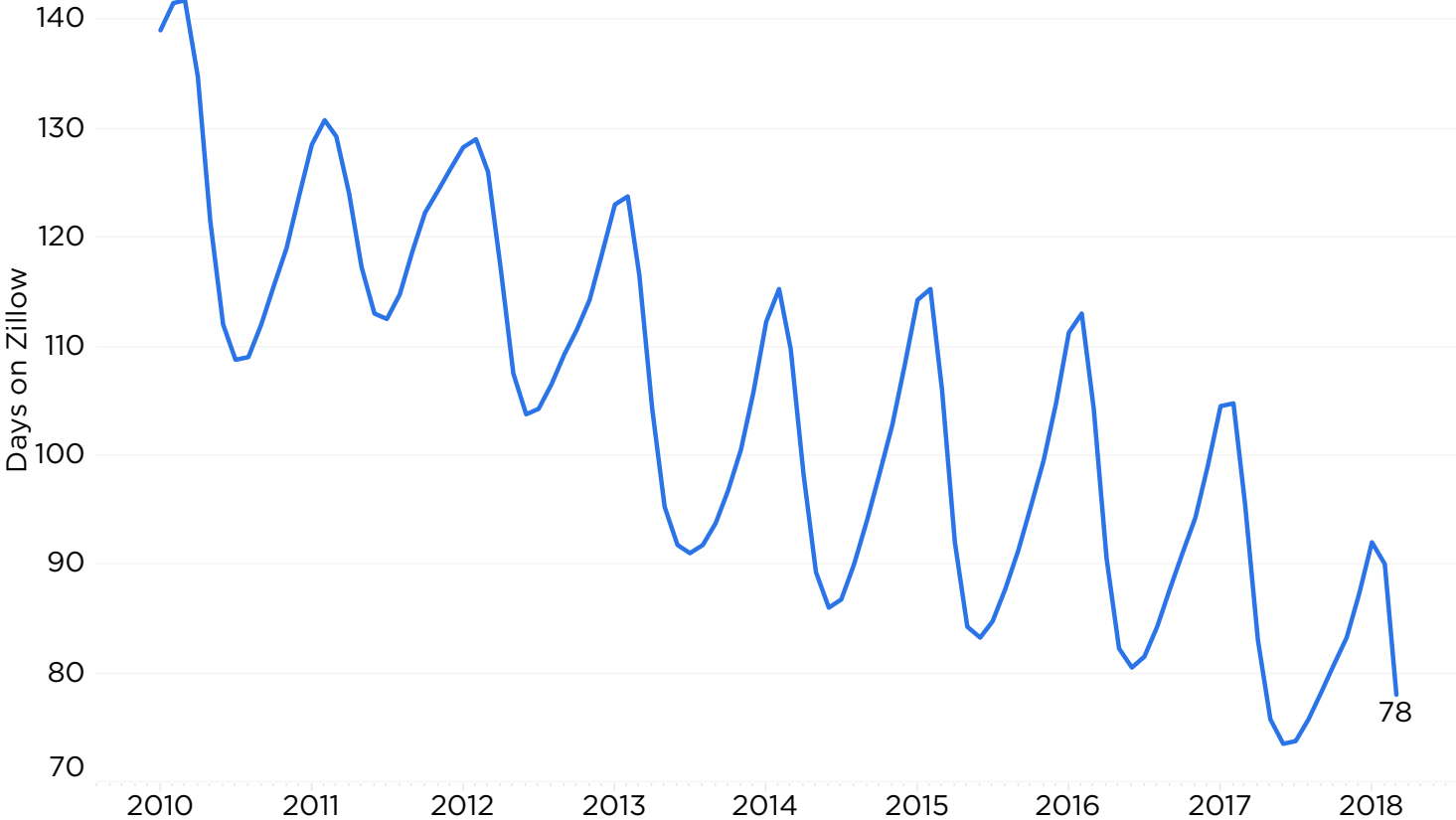
The number of listings hitting the market has remained consistent



Source: Zillow Listing Data (June 2017).

Days on Zillow

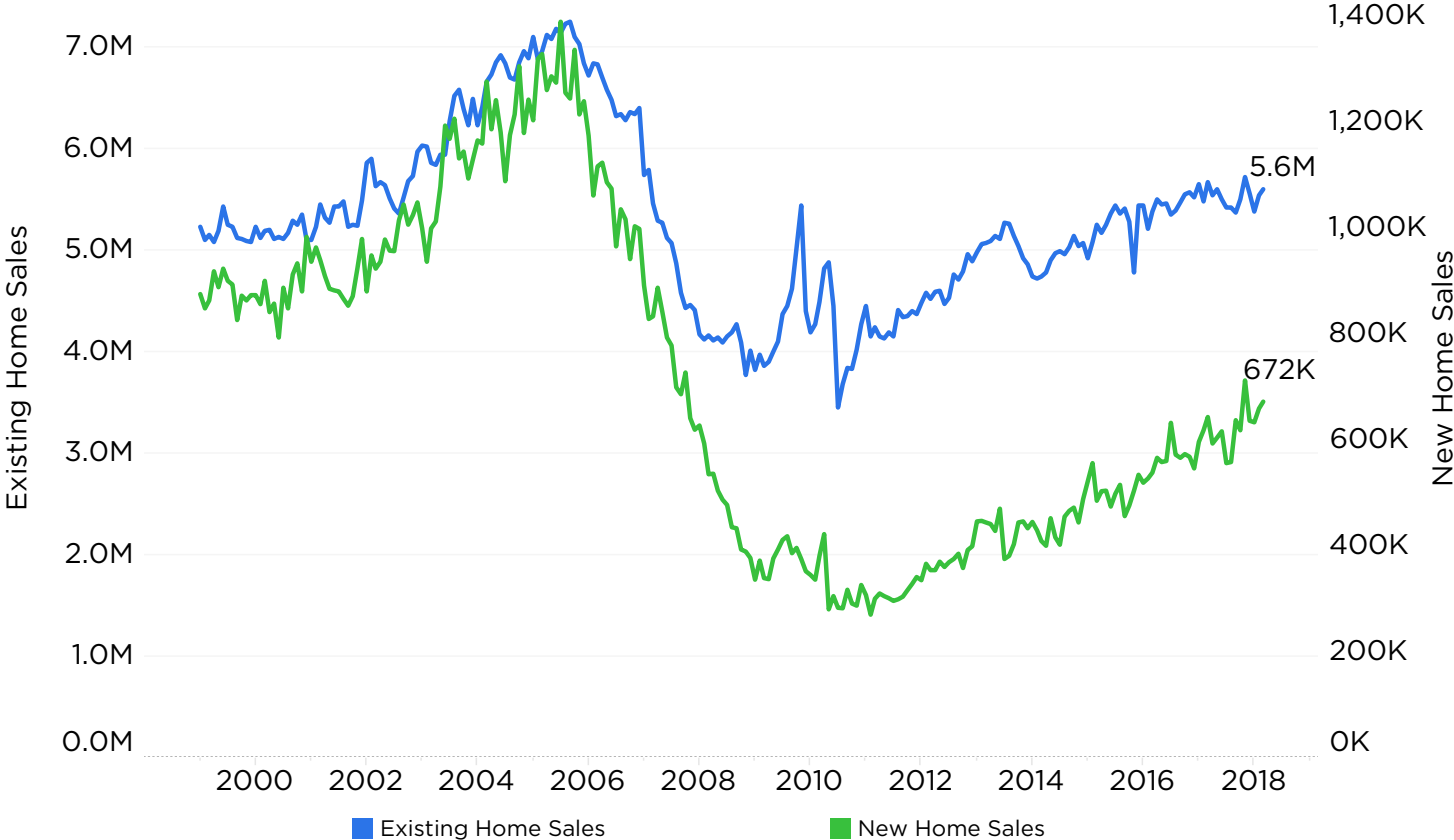
Homes listed for sale are selling more quickly than in the past few years.



Source: Zillow Days on Zillow, Including REOs (March 2018).

Home Sales

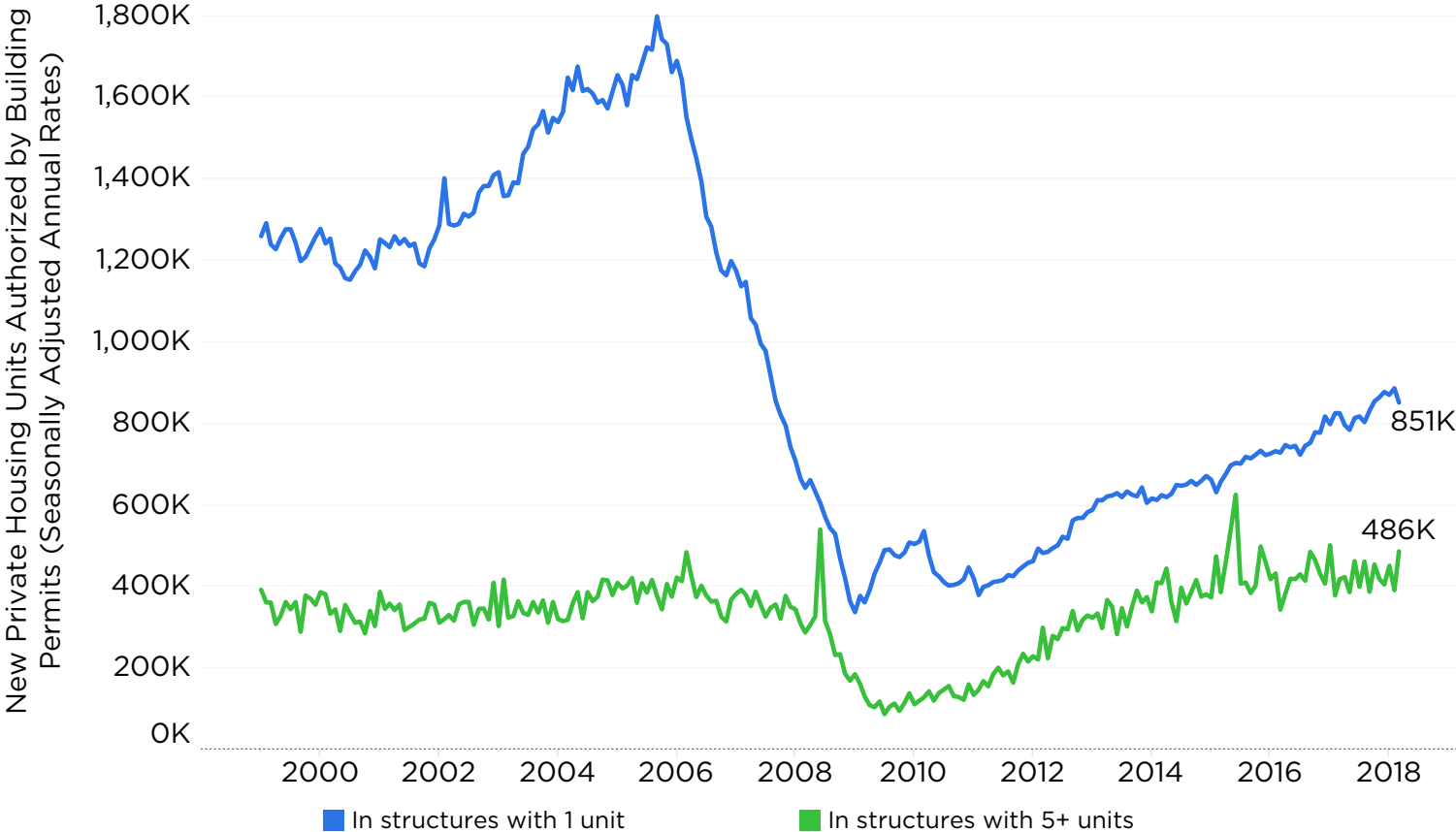
Sales of new homes in particular have struggled to get back to pre-recession levels.



Source: National Association of Realtors Existing Home Sales: Single-Family & Condo & Co-op, U.S. Census Bureau New Residential Sales (March 2018).

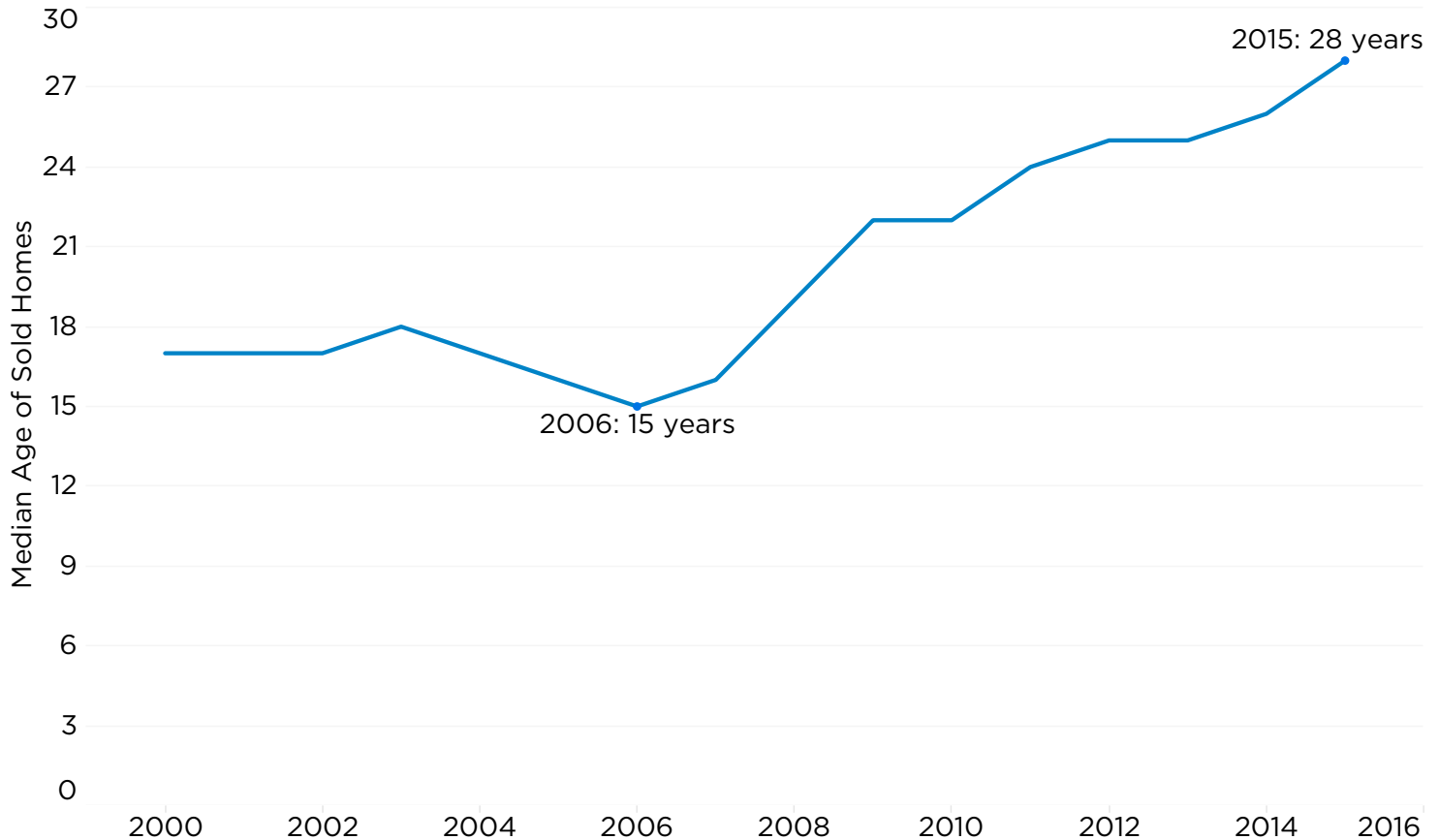
New Residential Construction Permits

Permits for new multifamily projects are near pre-recession levels, while single-family permits remain low.



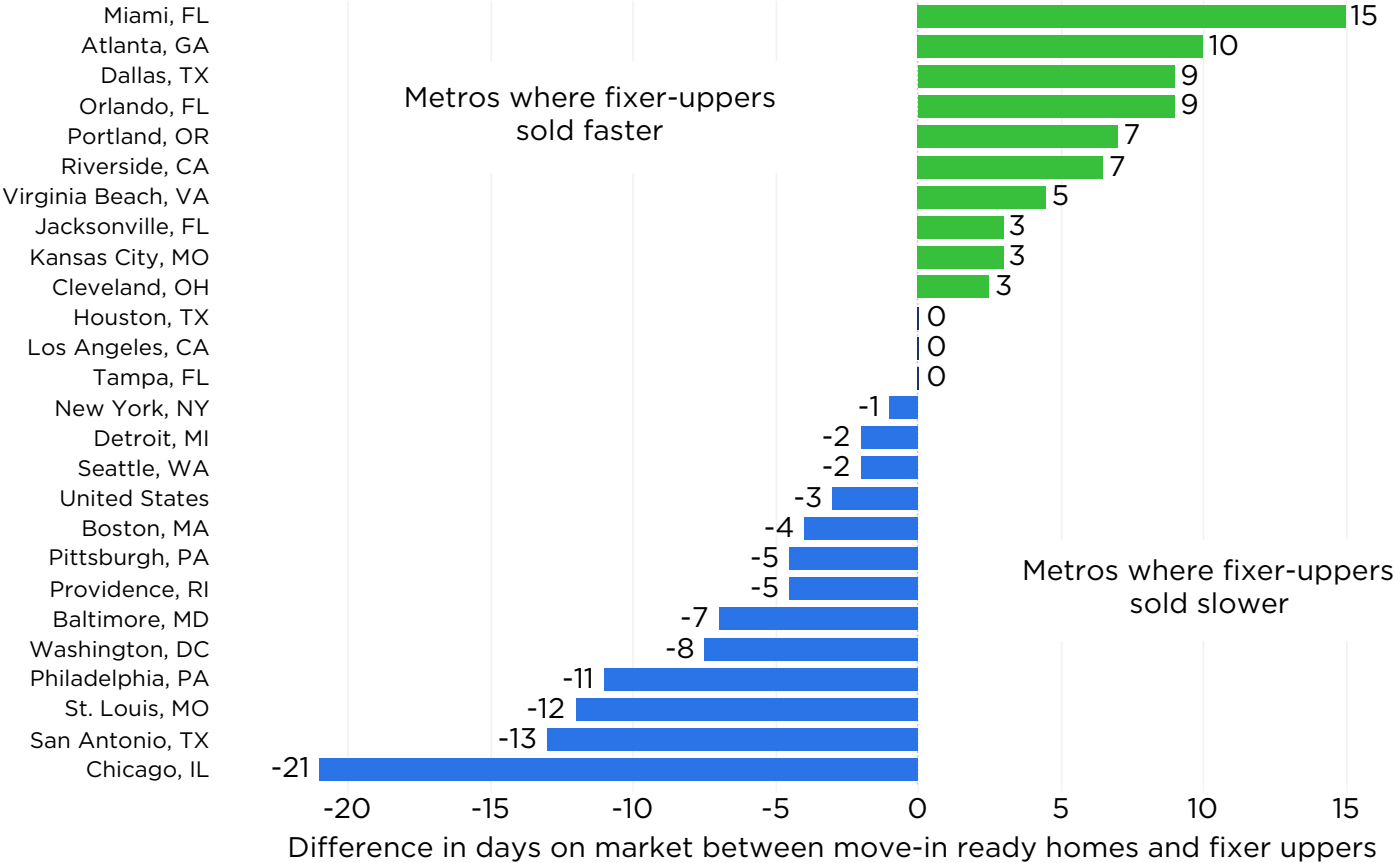
Age of Sold Homes

The age of sold homes has almost doubled since the housing collapse, largely because of a lack of new construction.



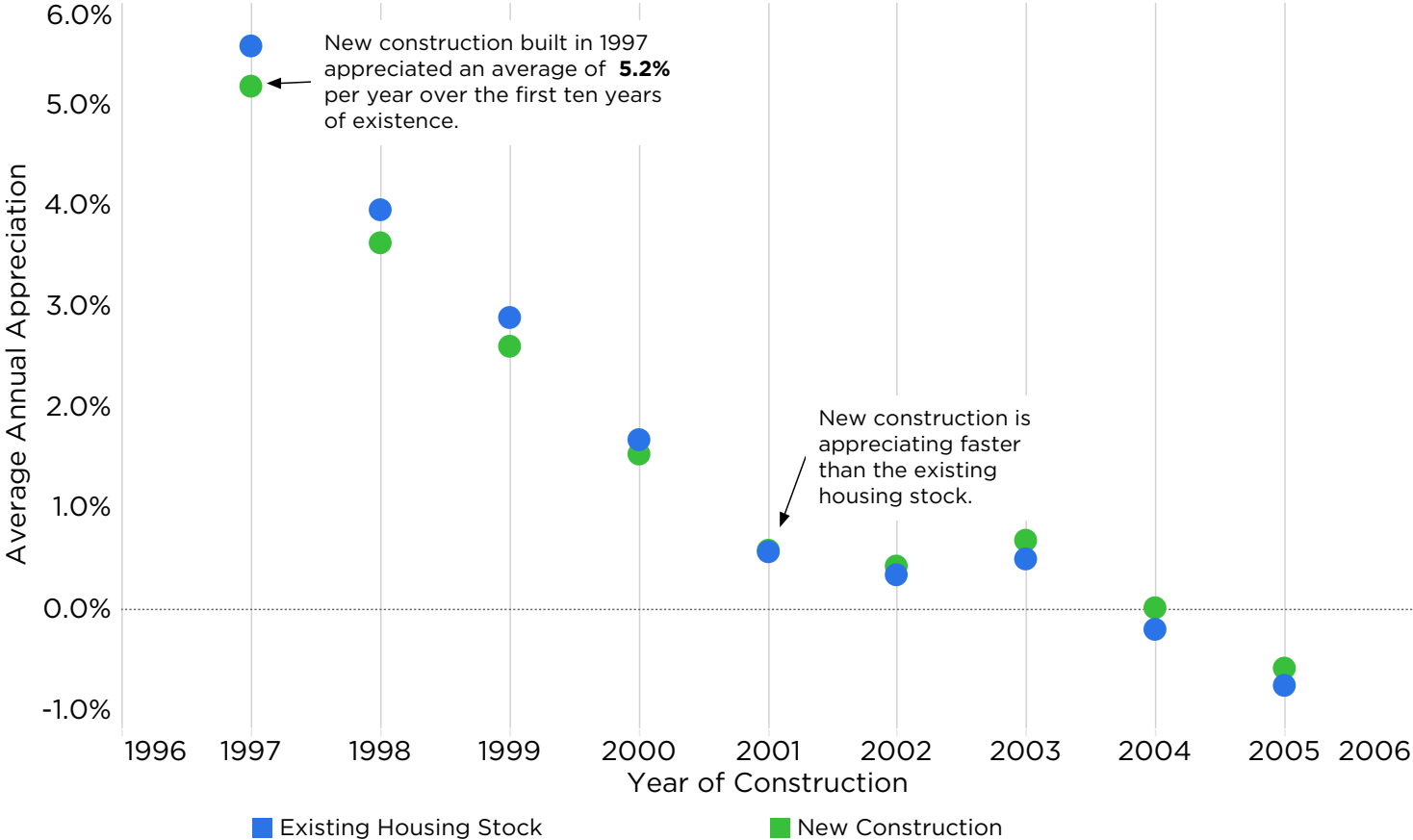
Fixer-Uppers

In many markets, fixer-uppers sold just as fast or faster than move-in ready homes.



New Construction Appreciation by Decade

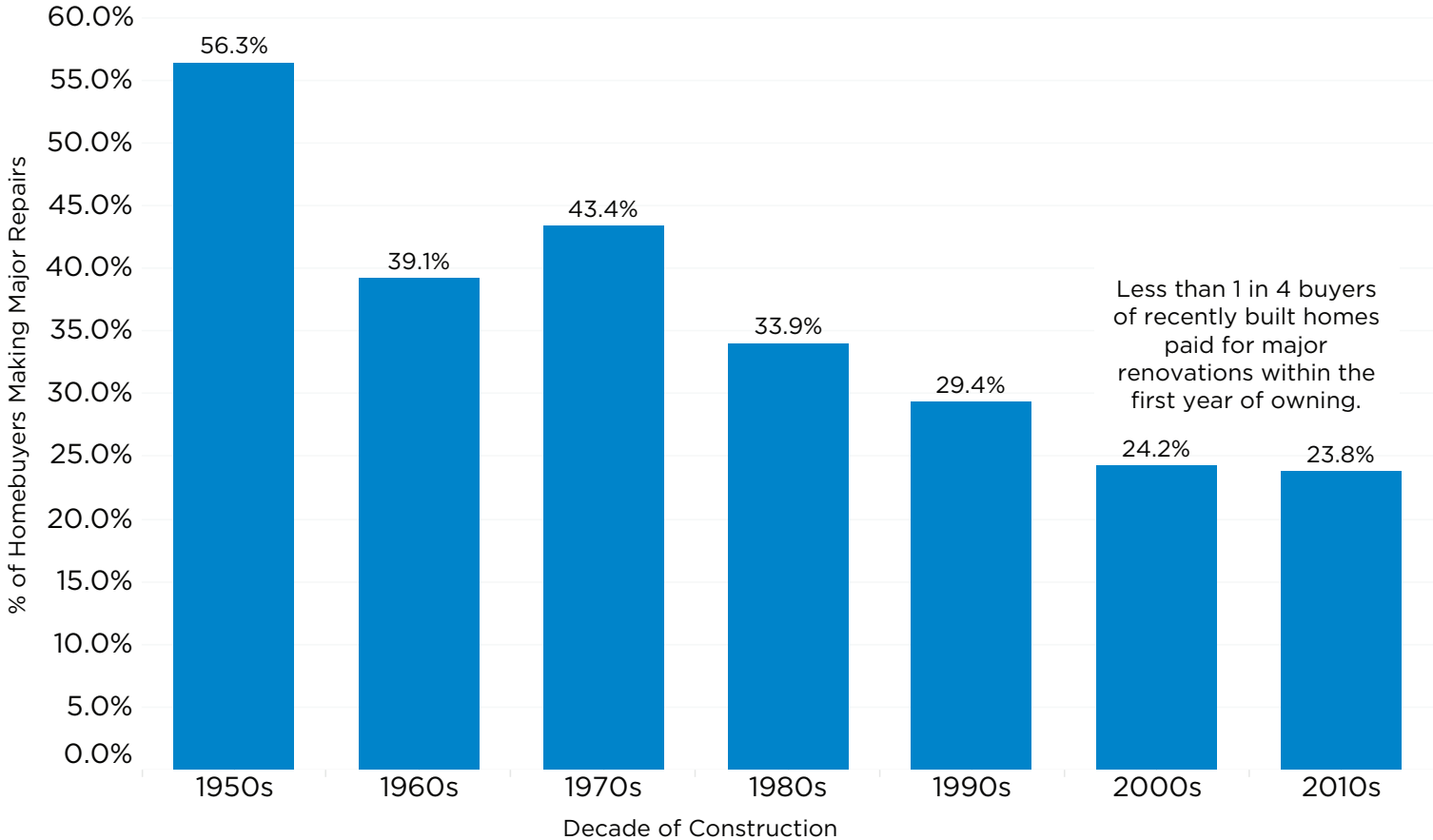
Newly constructed homes held their value better during the recession.



Source: Zillow analysis of home values (Zestimates) appreciation of new and existing homes over time.

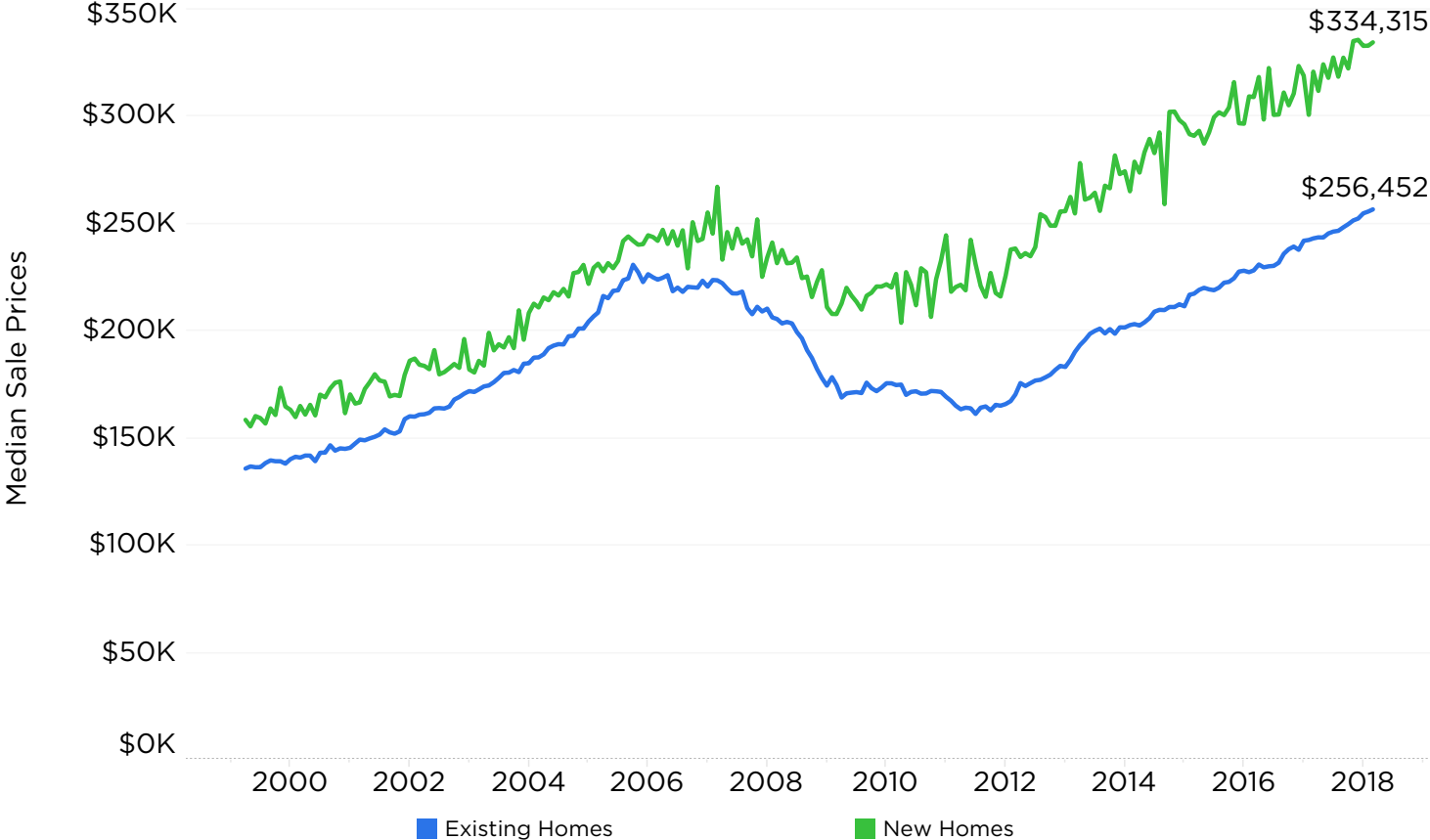
Repairs on New Construction Homes

Buyers of newly constructed homes also pay less in repairs after moving in.



Home Sale Prices

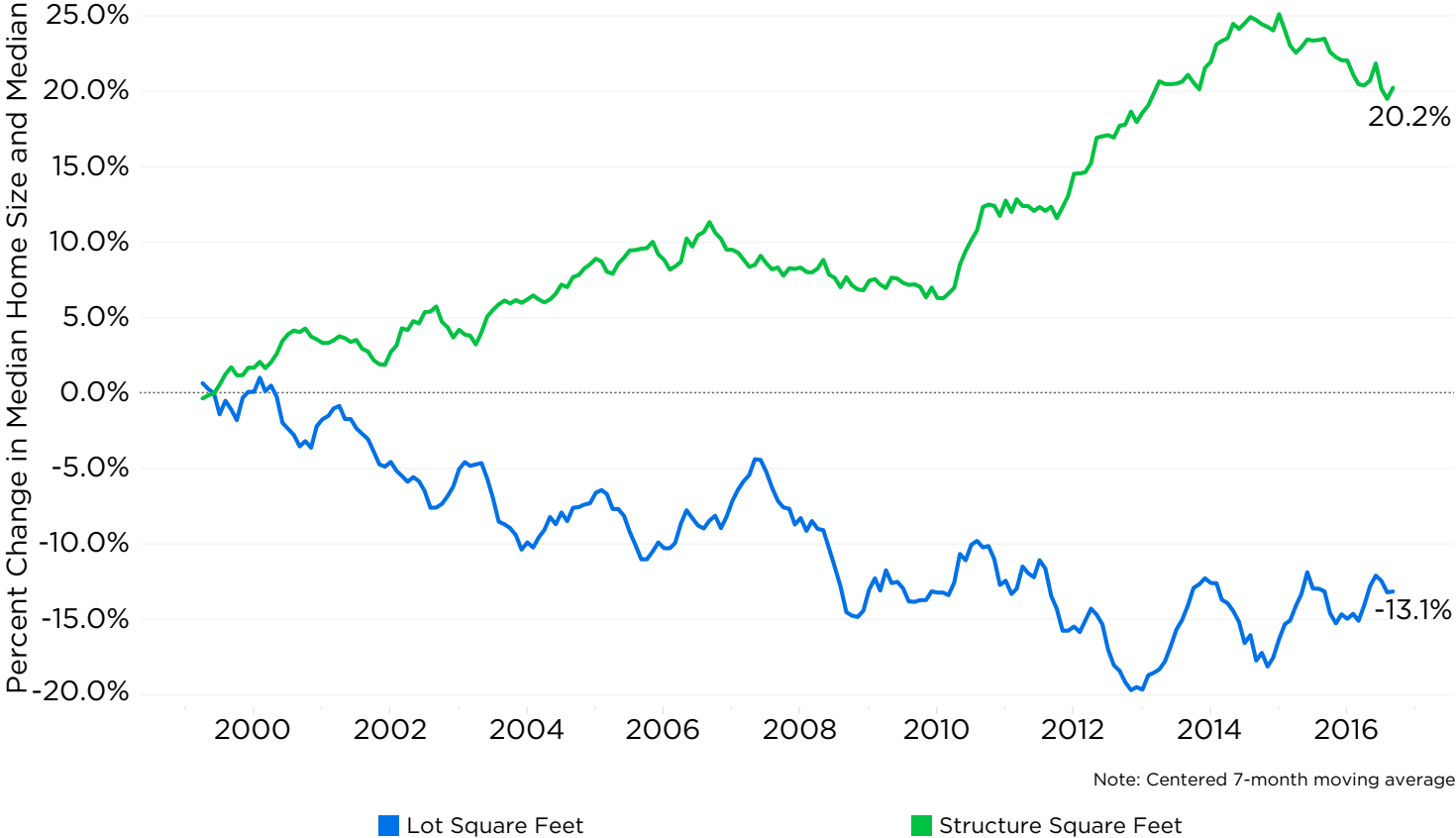
The price gap between newly built and existing homes is widening.



Source: National Association of Realtors and U.S. Census Bureau Construction Review (March 2018).

Home and Lot Sizes

Since 1999, homes have gotten larger while lots have gotten smaller.



Typical Buyer Profile

Existing Homes

Income

\$70K

Marital Status

56.6% married

Have At Least One Child

40%

Millennial Share

30%

Typical Commute Time

20 minutes

New Construction

Income

\$95K

Marital Status

75.5% married

Have At Least One Child

46.1%

Millennial Share

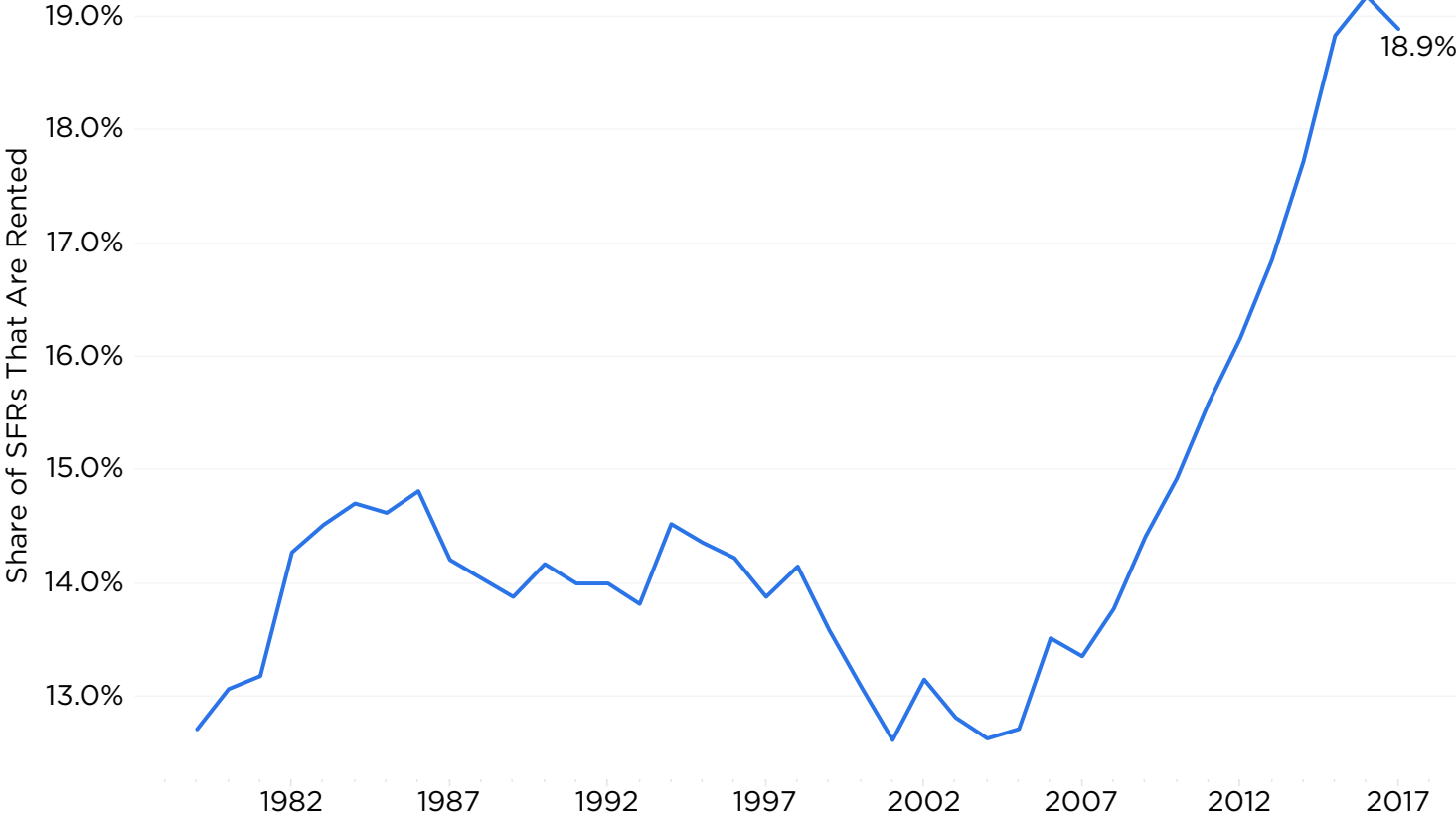
26.2%

Typical Commute Time

25 minutes

Single-Family Residence Rentals

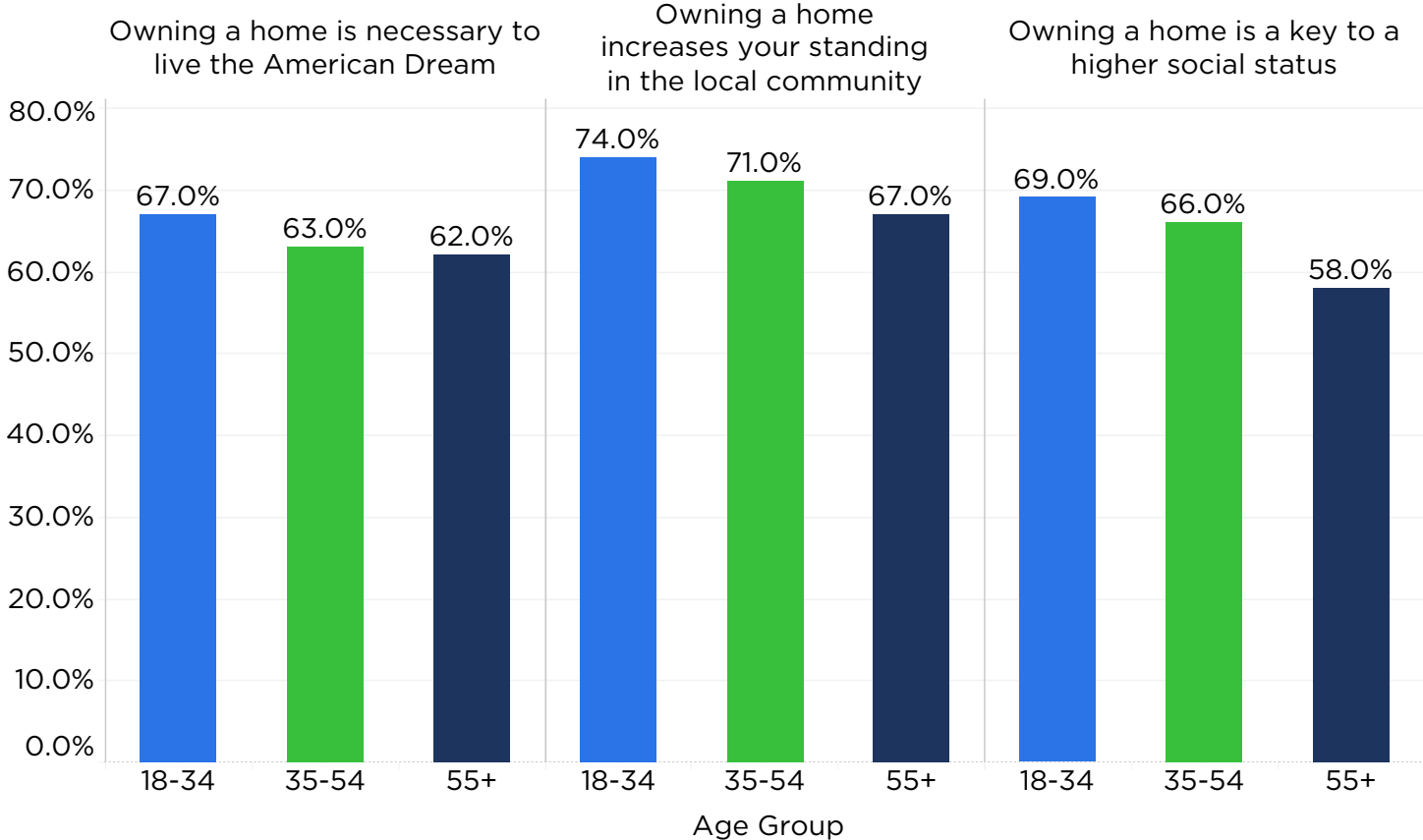
Renting single-family homes is increasingly popular.



Source: Zillow analysis of U.S. Census Bureau, Current Population Survey 2017, made available by University of Minnesota, IPUMS-USA.

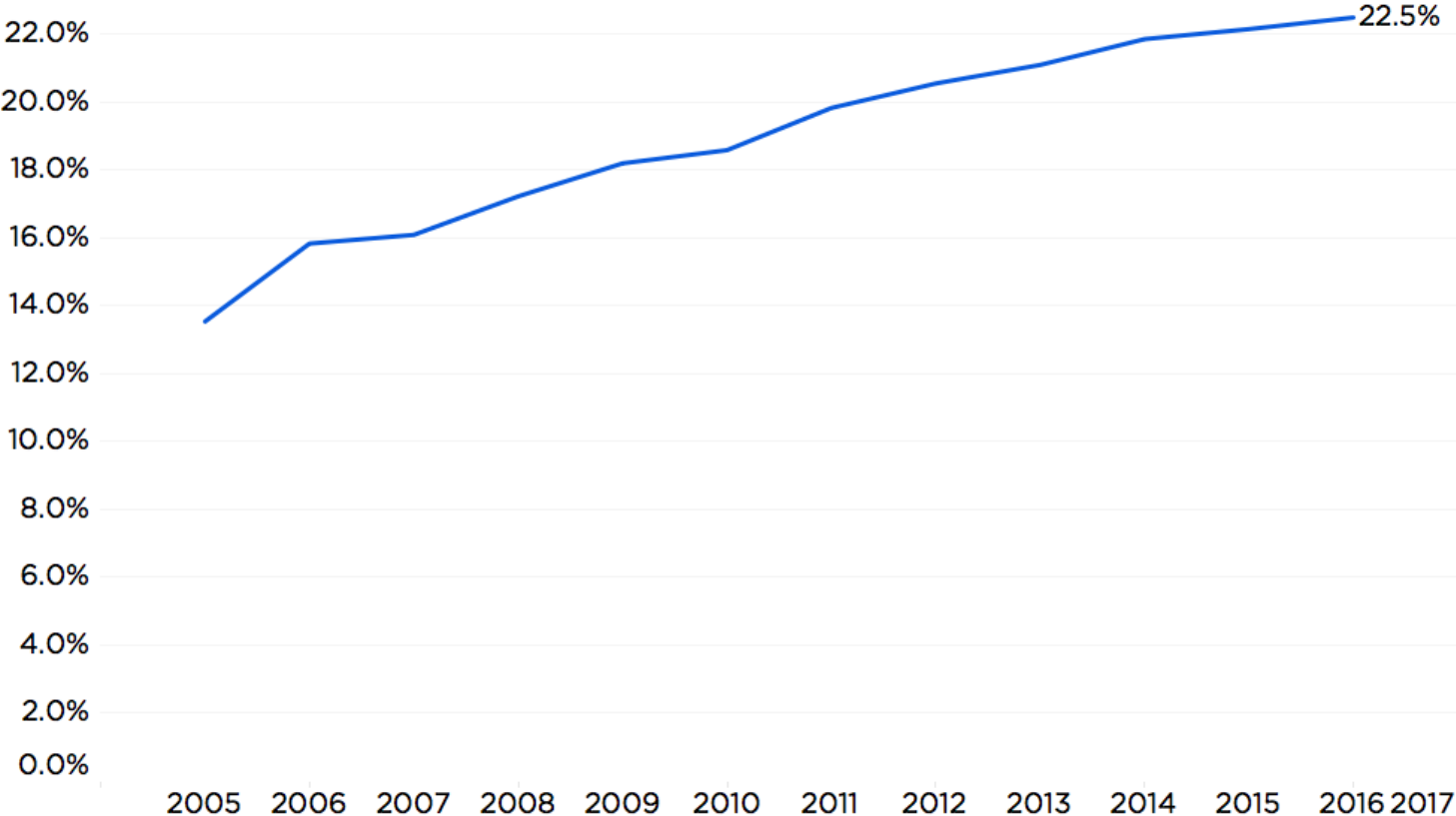
Homeownership Views by Age

Millennials do have positive views of homeownership.



Share of Millennials Living With Their Parents

The share of millennials (age 18-34) living with their parents has increased sharply in the past decade.



Source: Zillow analysis of U.S. Census, American Community Survey, 2005-2016, made available by the University of Minnesota, IPUMS-USA.

Comparing First-Time Buyers Now and Then (mid 1970s)

Today's first-time home buyer is more than three years older and typically rents longer before making the jump into homeownership compared to previous generations.

1975-1979

Average age

29 years old

Household size

2.6 people

Years renting before buying

4.6 years

Home value in today's dollars

\$99K

Income in today's dollars

\$55K

2010-2013

Average age

32.5 years old

Household size

2 people

Years renting before buying

6 years

Home value in today's dollars

\$140K

Income in today's dollars

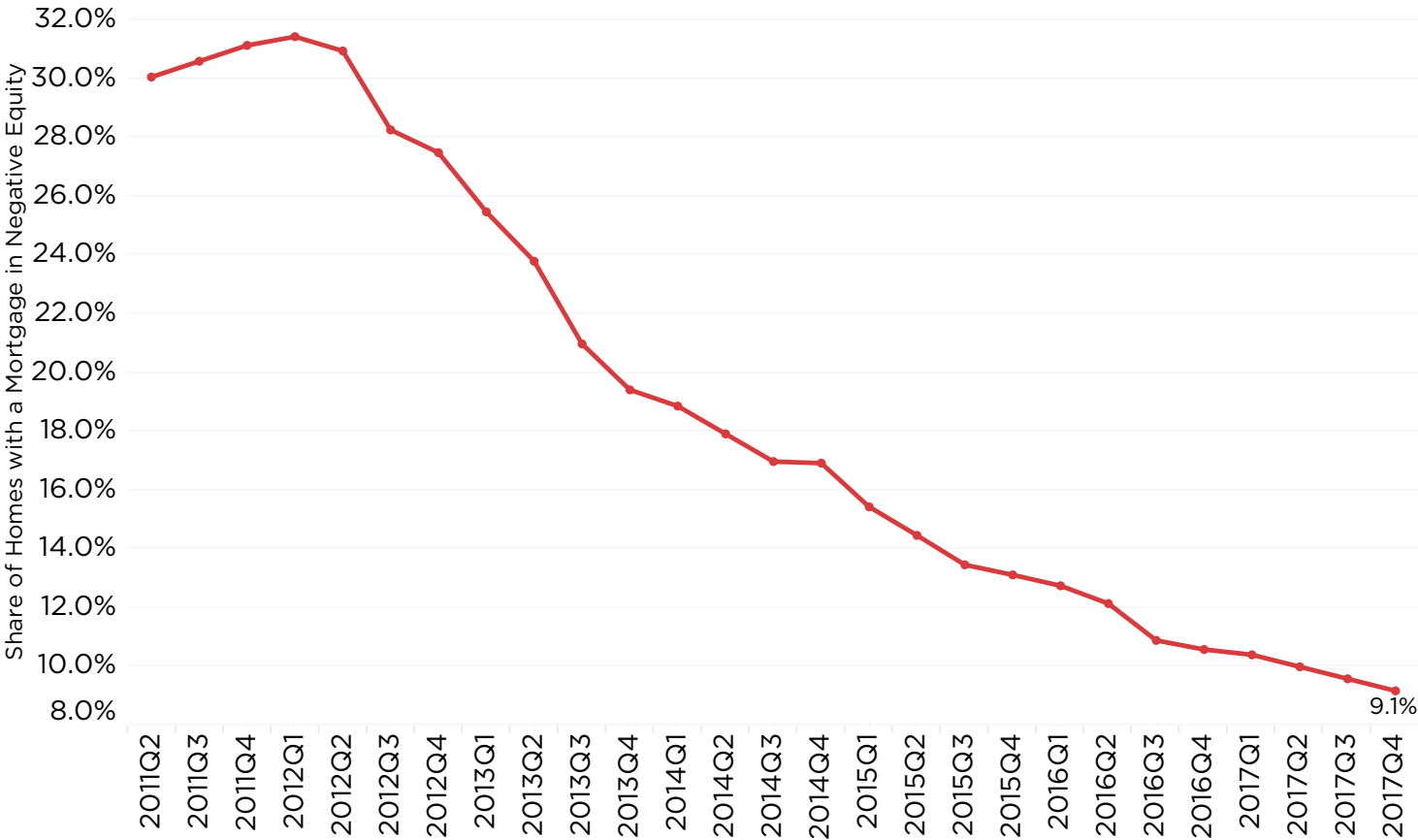
\$54K

NEGATIVE EQUITY, FOREIGN INVESTMENT AND THE ECONOMY

- The U.S. negative equity rate has fallen consistently for four years, but more than 4 million homeowners remain trapped underwater. These homeowners are more likely to live in less expensive homes, contributing to inventory shortages.
- The homeownership rate is at multi-decade lows, as renters stay renting longer and would-be buyers find it difficult to enter the market.
- Foreign buyers of U.S. homes tend to focus on the higher end of the market, with some much more sensitive to currency fluctuations than others.

Negative Equity

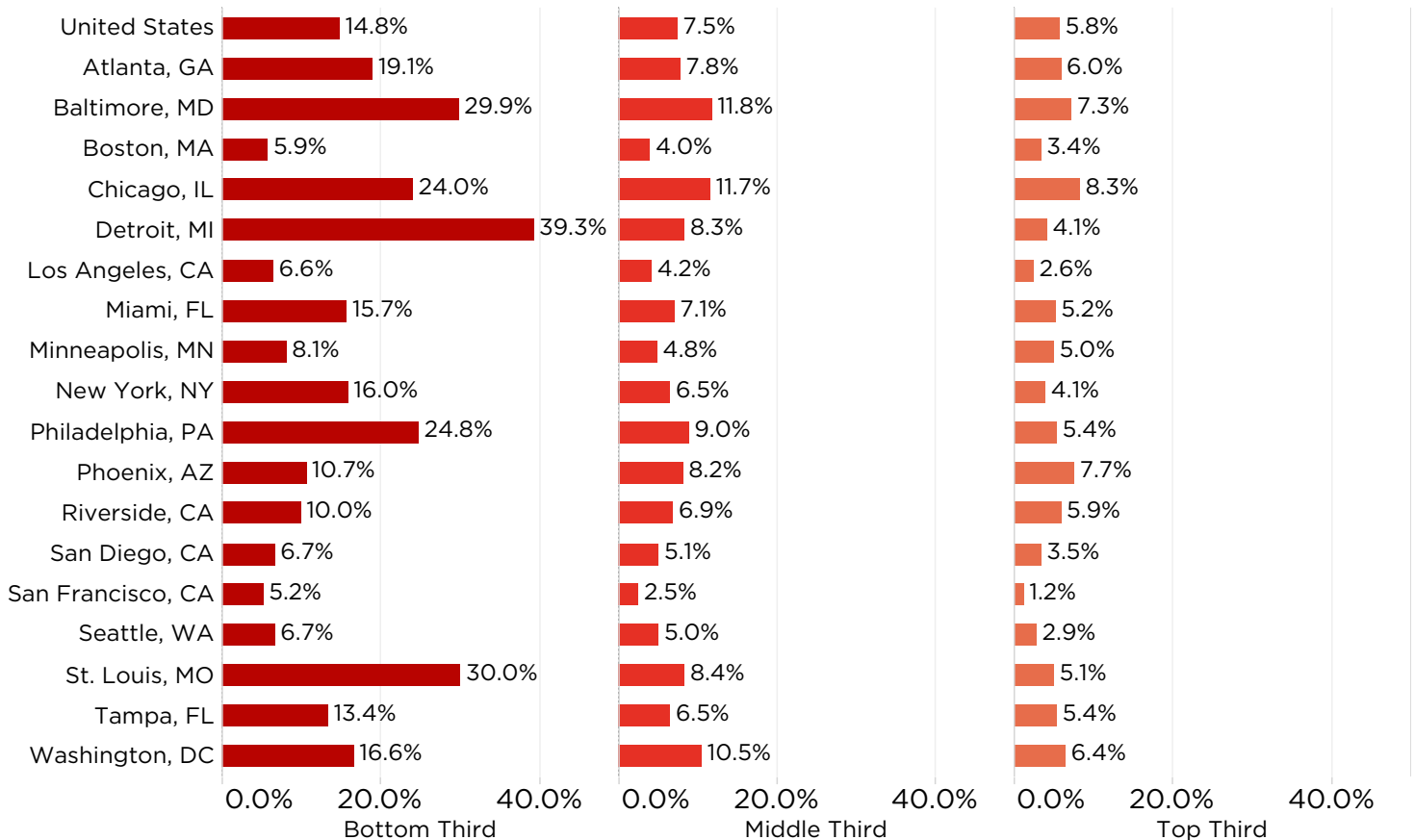
Negative equity has declined steadily since early 2012.



Source: Zillow Negative Equity (2017 Q4).

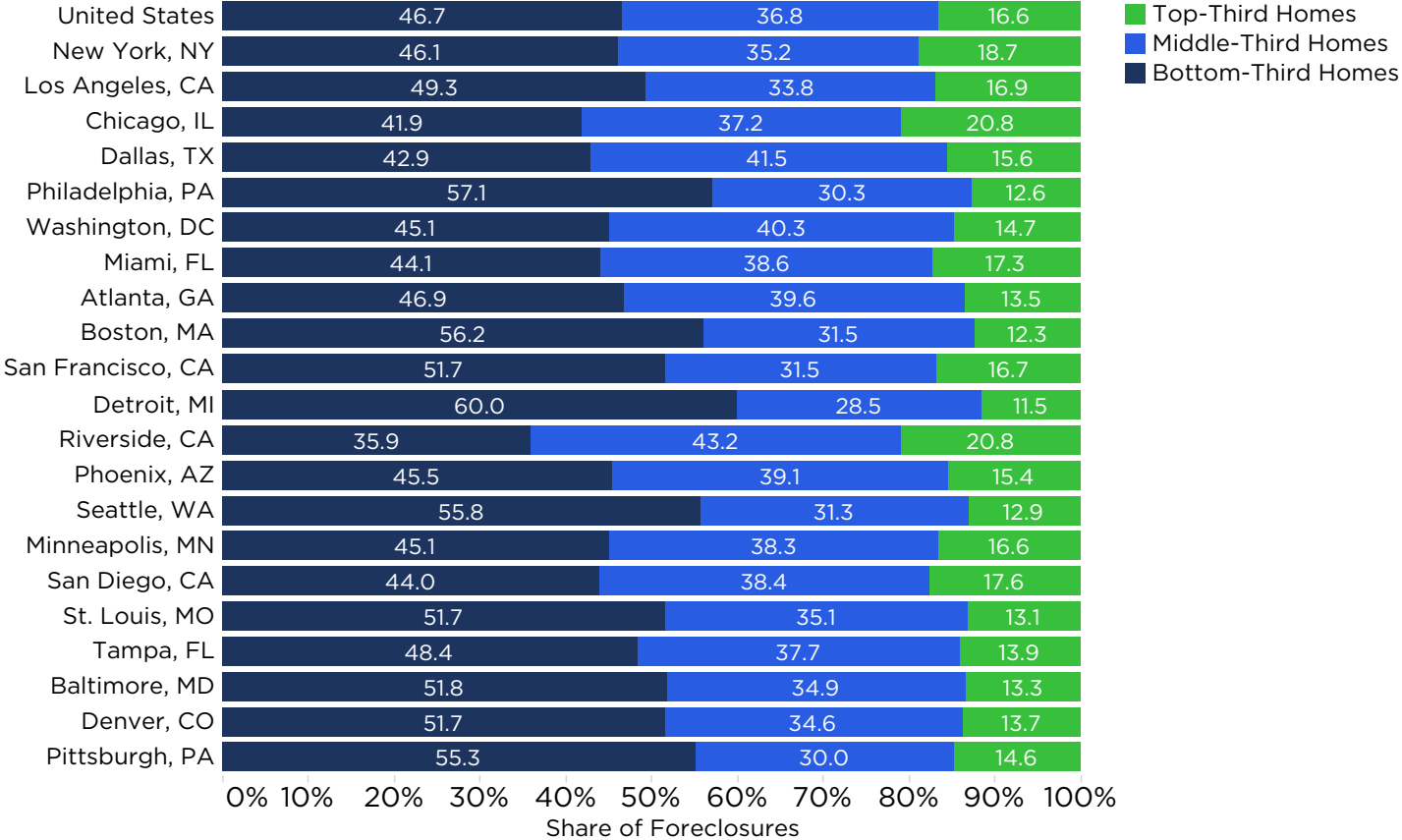
Negative Equity, by Thirds

Negative equity is worst among bottom-third homes.



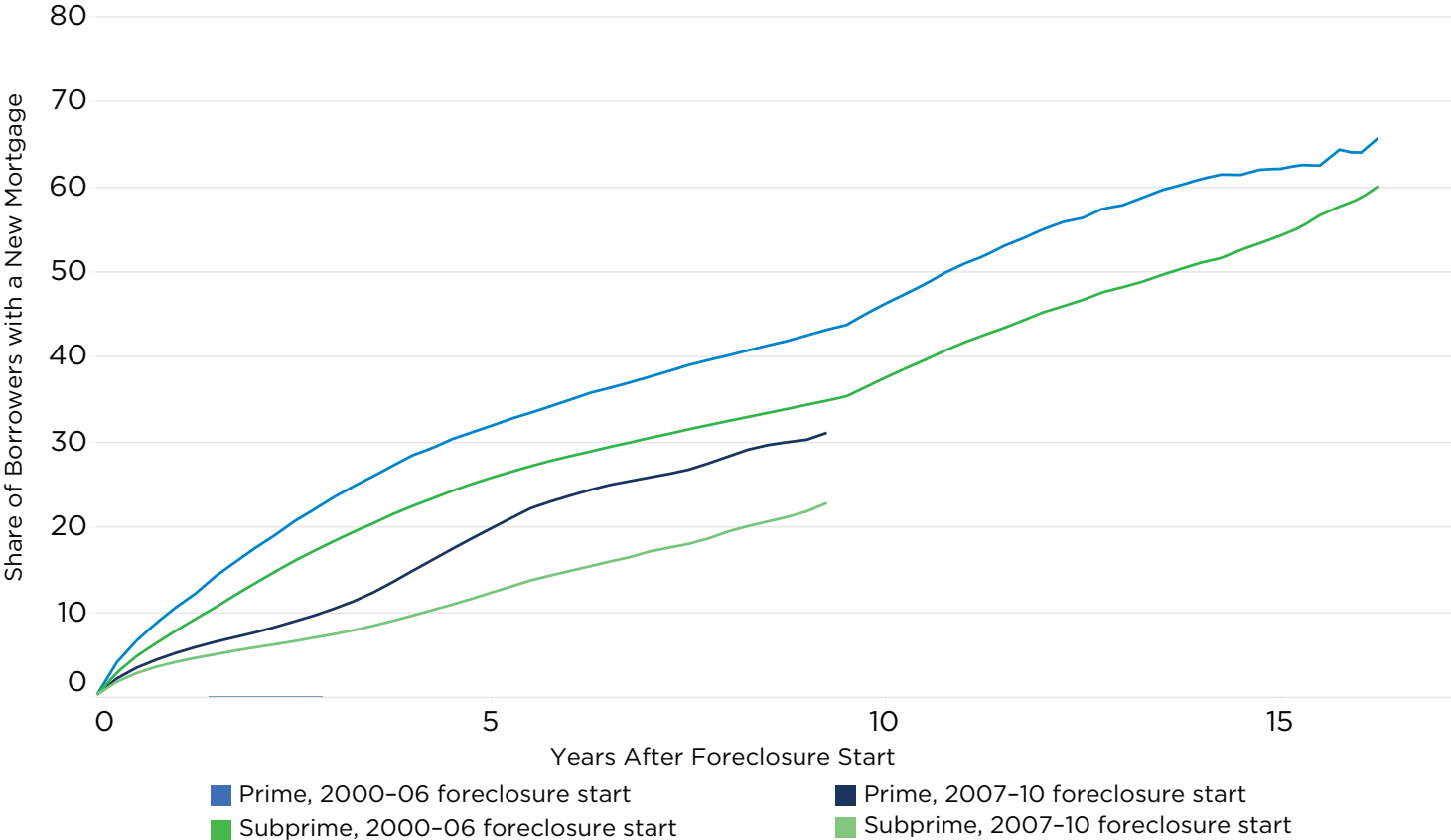
Foreclosure Thirds

Owners of the least expensive homes were hit hardest by the foreclosure crisis.



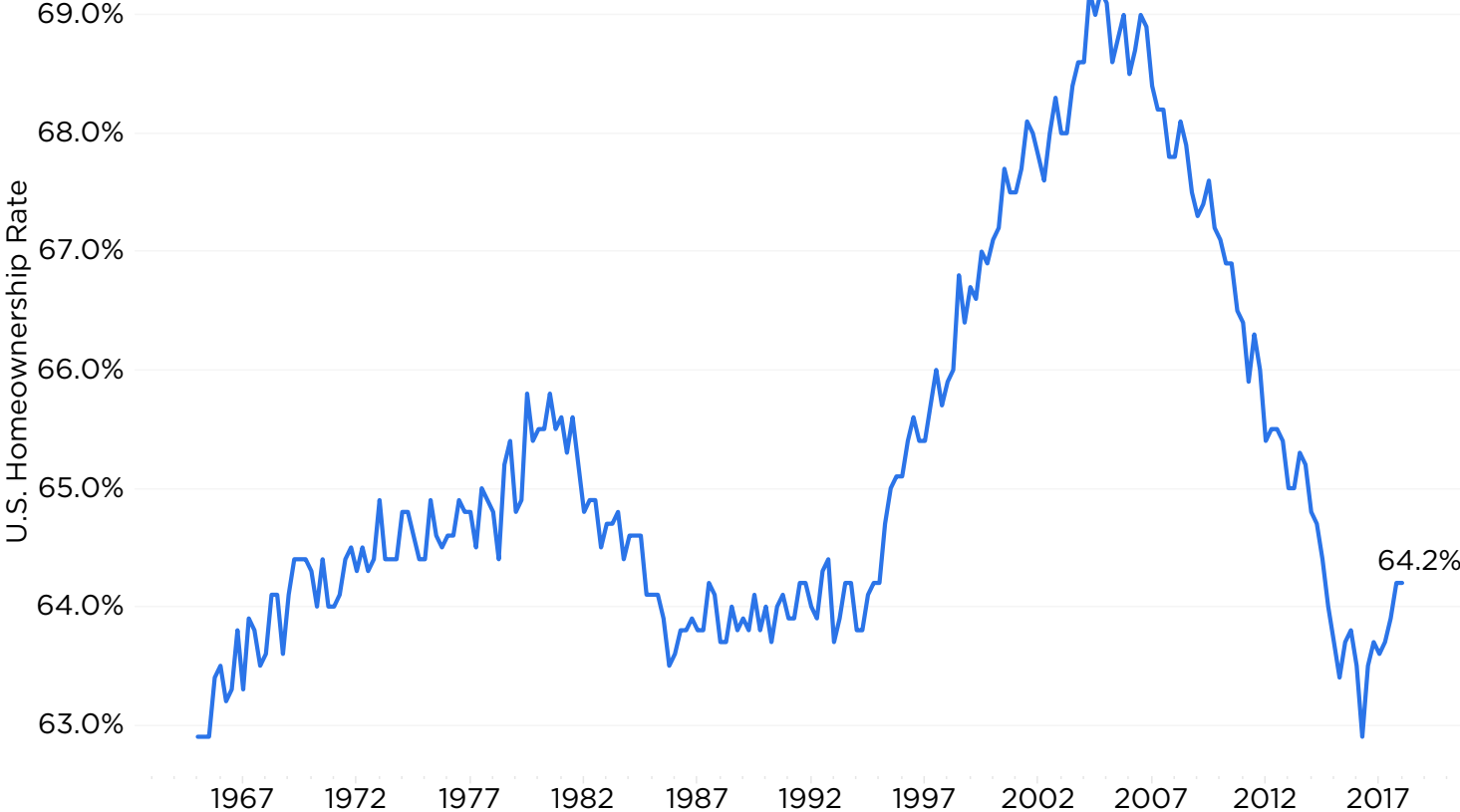
Boomerang Buyers

Homeownership rates for individuals foreclosed upon during the recession have been slower to recover than for those foreclosed upon before the recession.



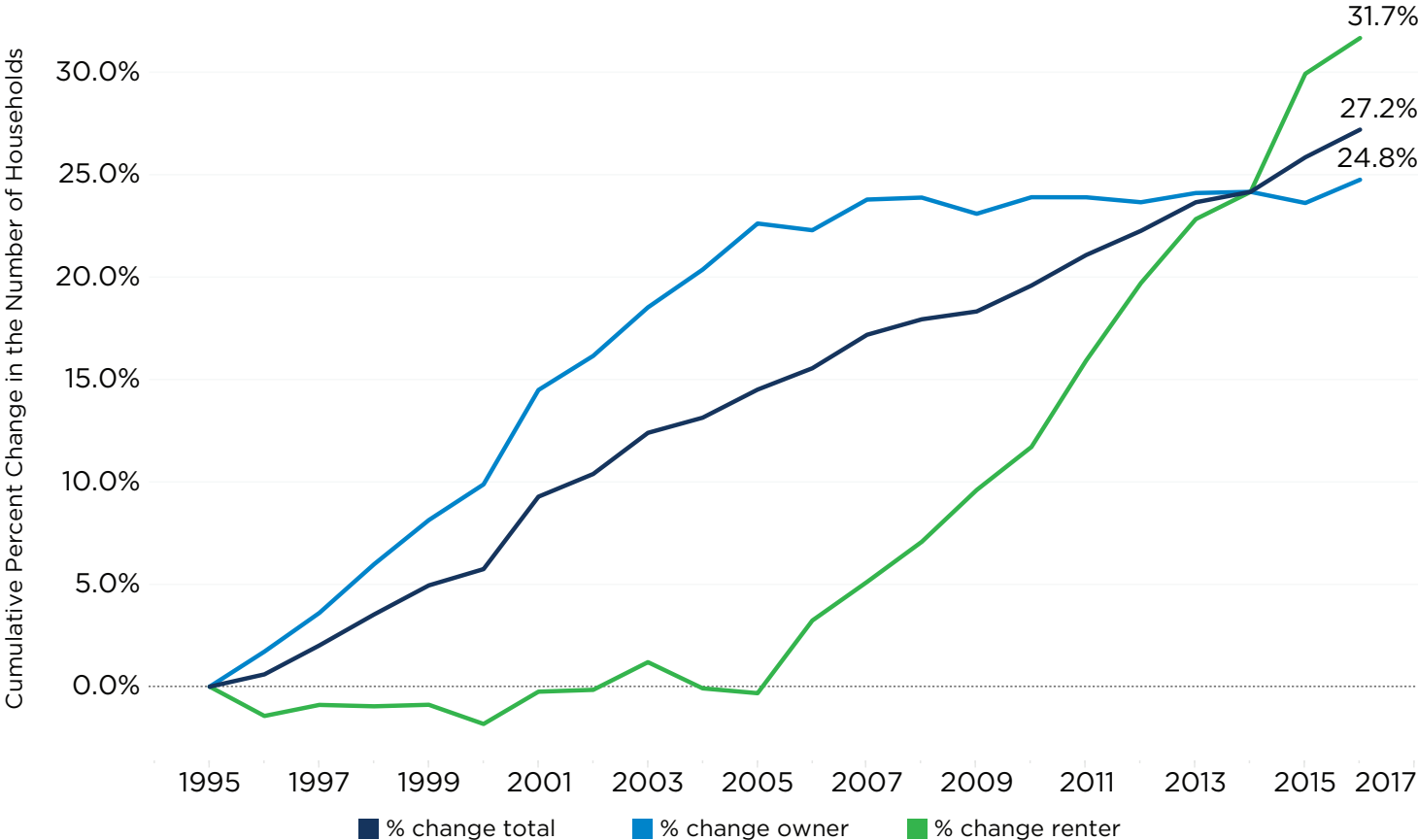
U.S. Homeownership Rate

The U.S. homeownership rate is near historic lows.



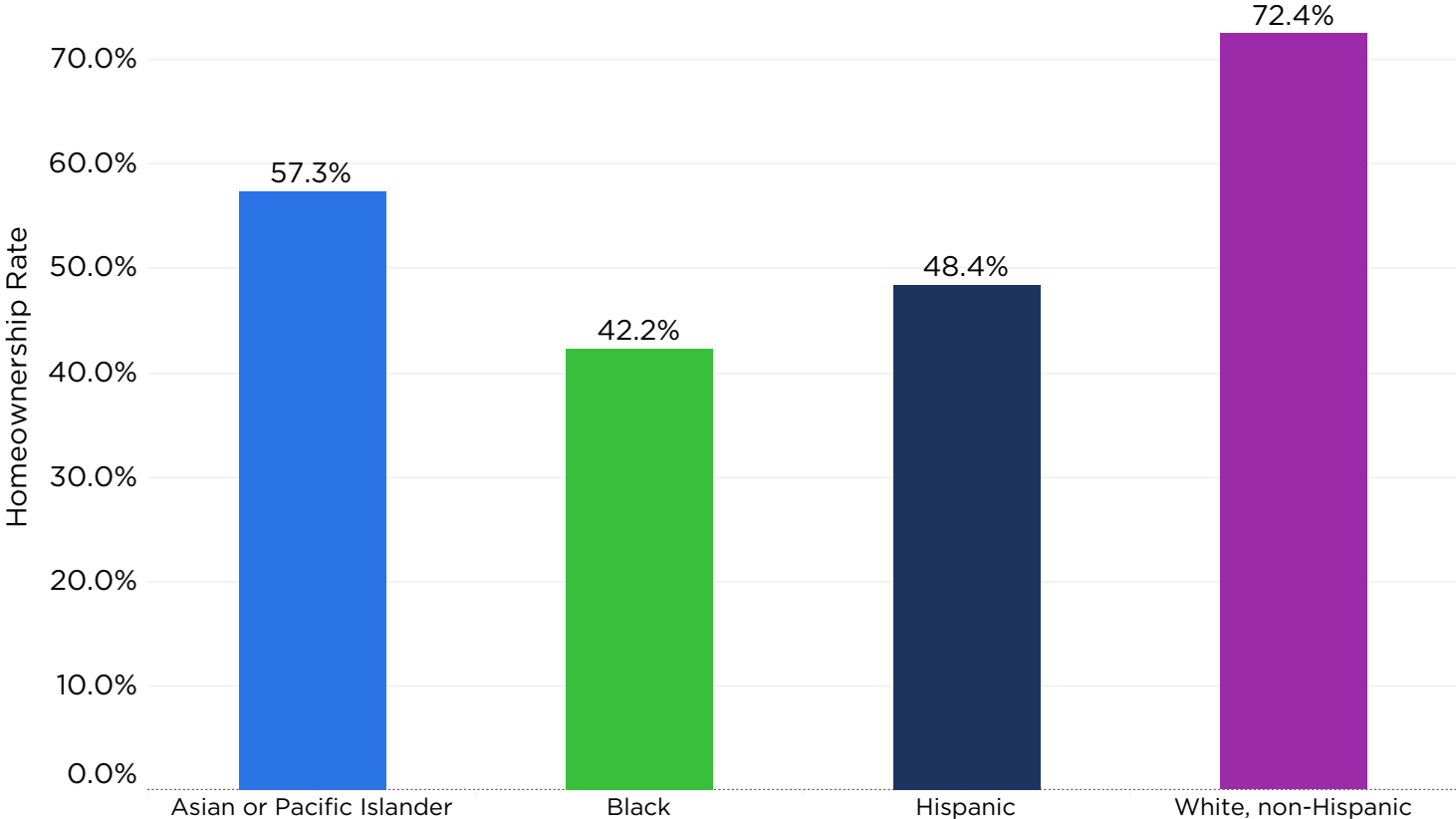
Newly Formed Households

Since 2005, newly formed households have tended to rent.



U.S. Homeownership Rate, by Race

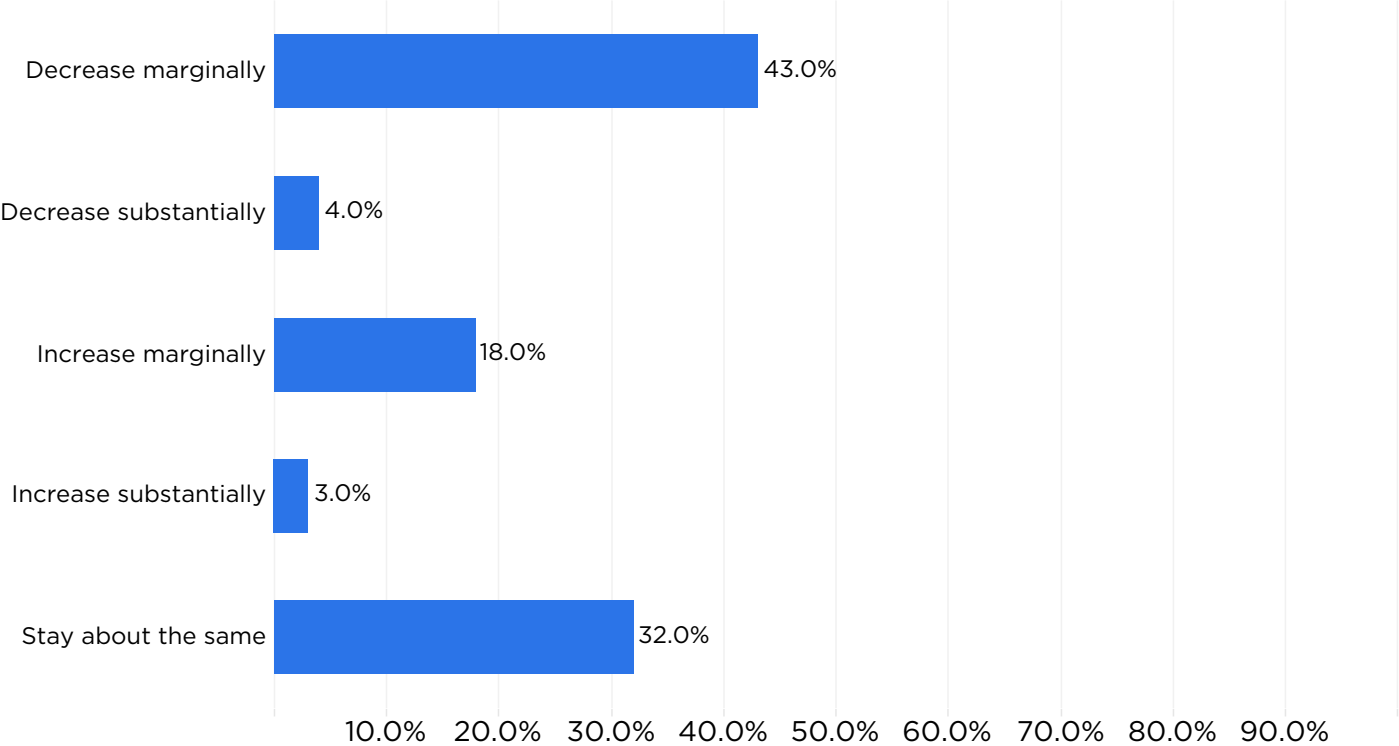
Blacks have the lowest homeownership rate.



Experts: Foreign Investment

A majority of experts polled by Zillow say foreign investment is unlikely to increase over the next year.

Given prevailing economic and geopolitical conditions in the U.S. and abroad, which of the following choices best reflects your expectations concerning foreign investment in the U.S. residential real estate market in the coming year? I expect foreign investment will:



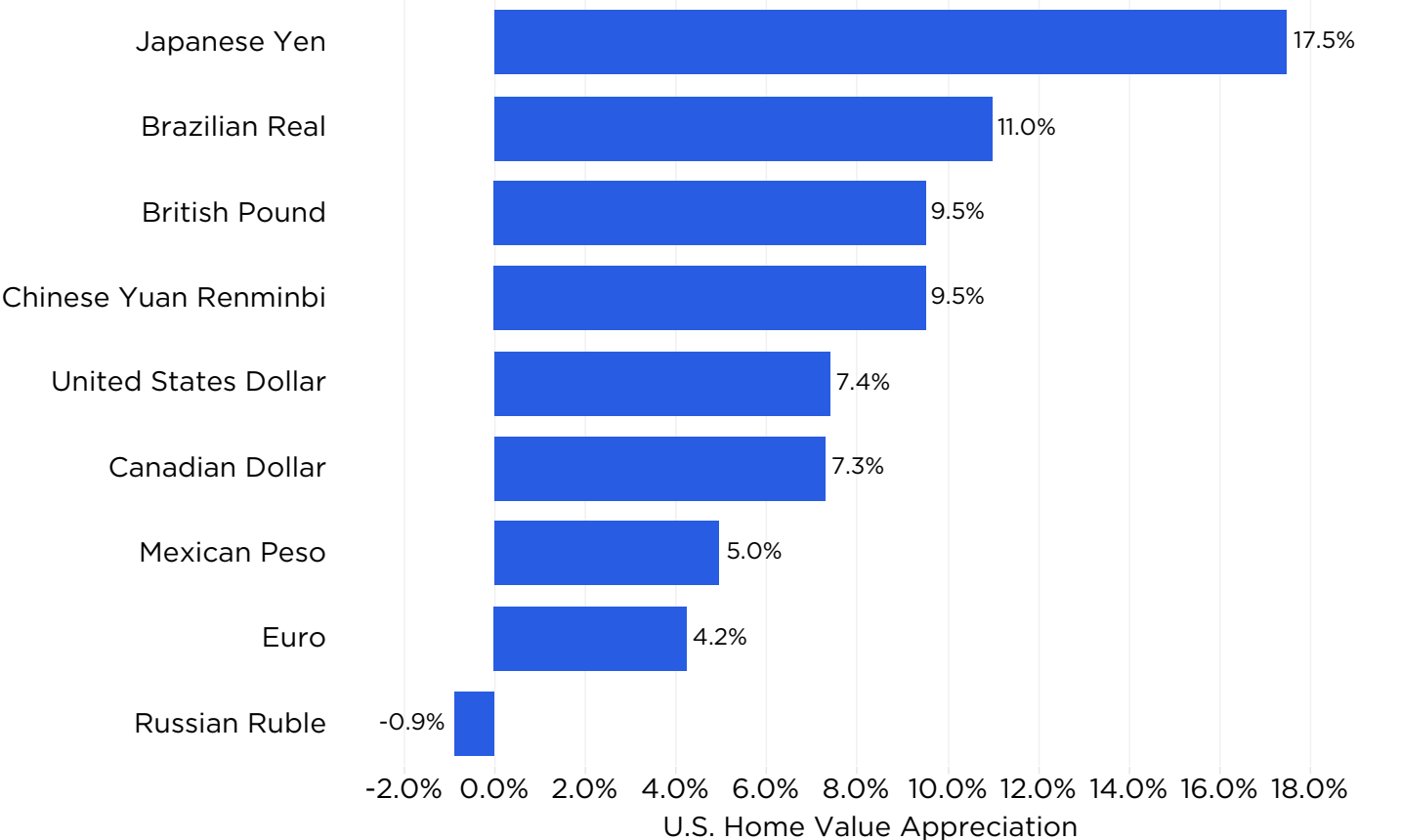
Top Markets for International Home Shoppers

Foreign buyers searching for homes in the United States tend to focus their search on warmer and/or coastal markets.

Canada	China	Europe	Latin America
Buffalo, NY	San Jose, CA	Los Angeles, CA	Miami, FL
Miami, FL	San Francisco, CA	San Francisco, CA	Orlando, FL
Tampa, FL	Seattle, WA	San Jose, CA	San Diego, CA
San Jose, CA	Los Angeles, CA	San Diego, CA	Los Angeles, CA
Los Angeles, CA	San Diego, CA	Orlando, FL	San Francisco, CA

Exchange Rates

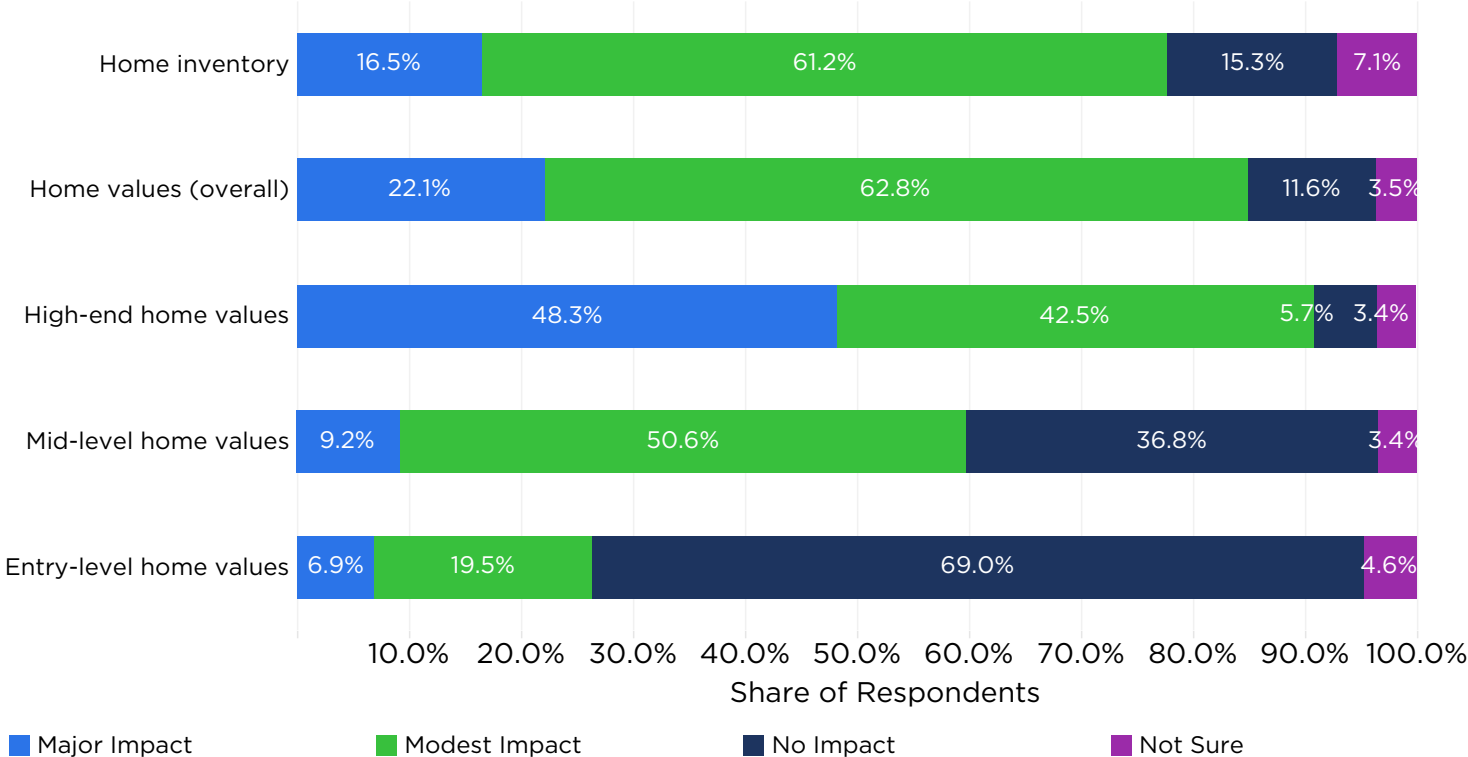
Japanese and Brazilian buyers have seen their purchasing power reduced the most over the past year, thanks to fluctuating exchange rates.



Experts: Impact of Foreign Investment

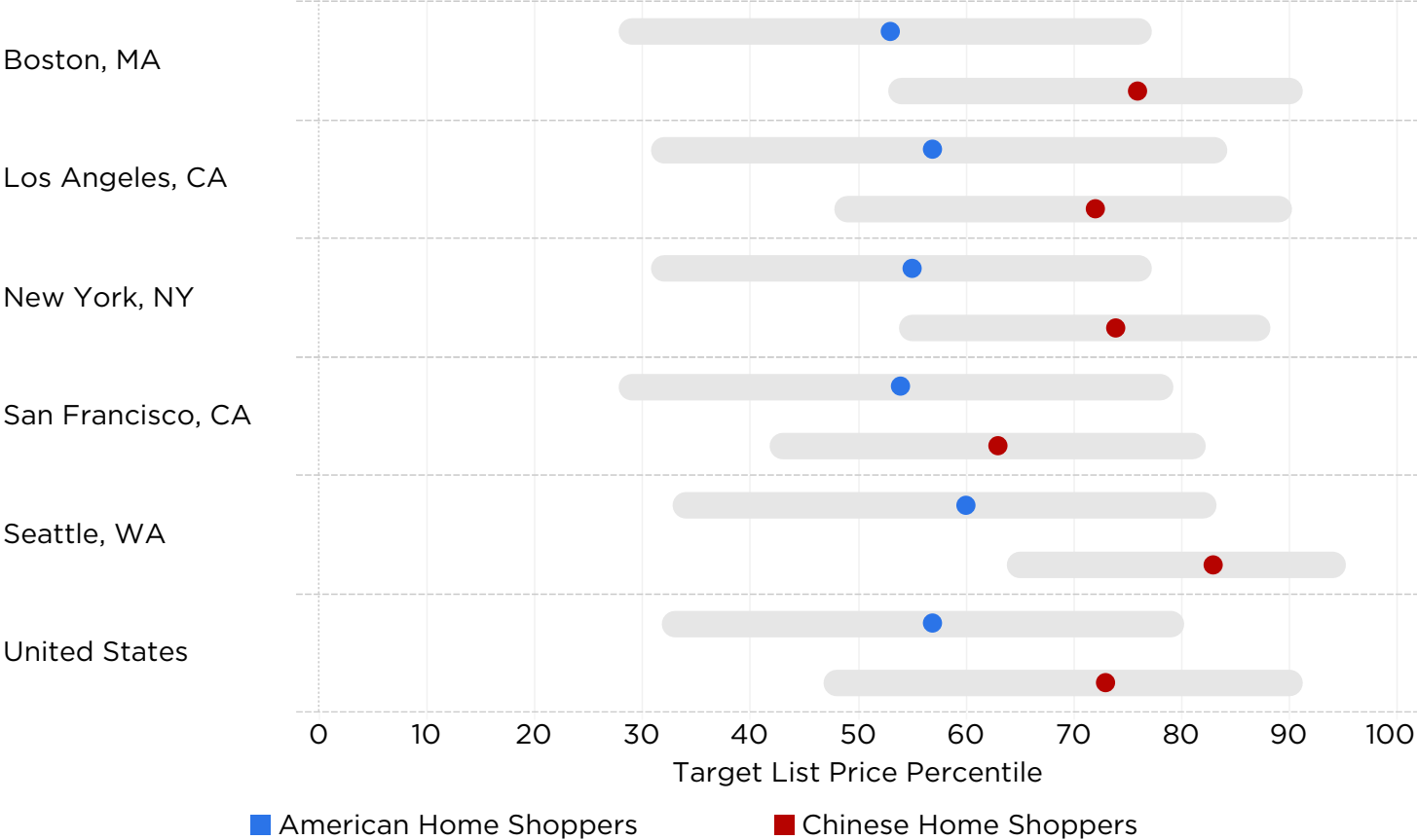
Experts polled by Zillow said home purchase activity by foreign buyers is likely to have the most impact on high end home values, and a modest impact on overall inventory of homes for sale.

In your opinion, what impact is the current level of foreign home purchase activity having, if any, on each of the following factors within those markets experiencing above-average levels of foreign home buyer activity (i.e., San Francisco, Seattle, New York, Miami)?



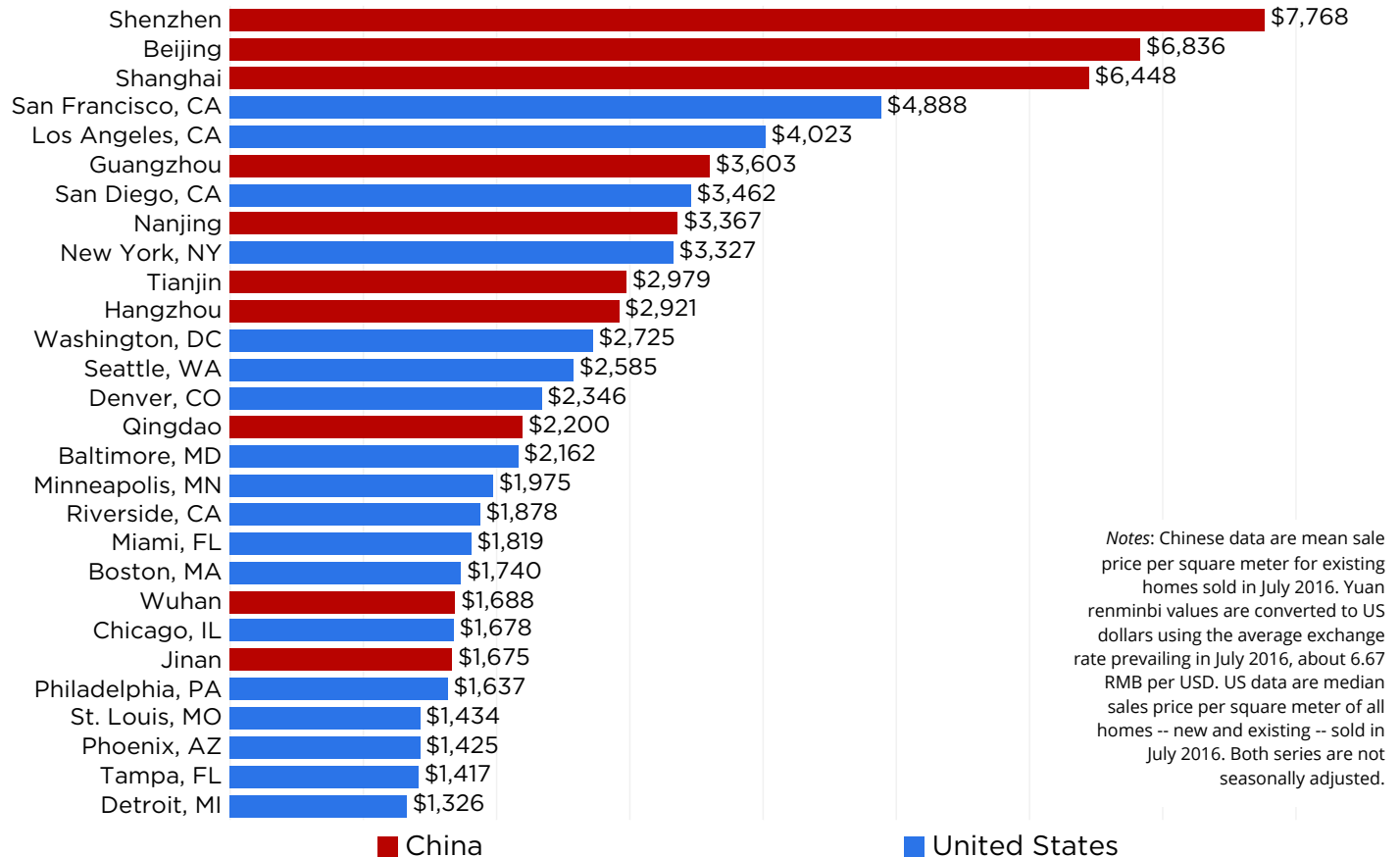
Chinese Buyers

The median American home shopper on Zillow in 2016 was looking at a home priced at the 57th percentile of homes for sale in a given metro market, while the median Chinese home shopper on Zillow was looking at a home priced at the 73rd percentile.



Chinese and U.S. Real Estate

Homes sold last July in China's most expensive metros - Shenzhen, Beijing, and Shanghai - cost thousands of dollars more per square meter than homes sold in the priciest U.S. metro areas.



Notes: Chinese data are mean sale price per square meter for existing homes sold in July 2016. Yuan renminbi values are converted to US dollars using the average exchange rate prevailing in July 2016, about 6.67 RMB per USD. US data are median sales price per square meter of all homes -- new and existing -- sold in July 2016. Both series are not seasonally adjusted.

About Zillow

Zillow is the leading real estate and rental marketplace dedicated to empowering consumers with data, inspiration and knowledge around the place they call home, and connecting them with great real estate professionals. In addition, Zillow operates an industry-leading economics and analytics bureau led by Zillow Group's Chief Economist Dr. Svenja Gudell. Dr. Gudell and her team of economists and data analysts produce extensive housing data and research covering more than 450 markets at Zillow Real Estate Research. Zillow also sponsors the quarterly Zillow Home Price Expectations Survey, which asks more than 100 leading economists, real estate experts and investment and market strategists to predict the path of the Zillow Home Value Index over the next five years. Launched in 2006, Zillow is owned and operated by Zillow Group, Inc. (NASDAQ:Z and ZG), and headquartered in Seattle.

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