Zillow®

Housing Market Overview 2017 Q4

Zillow Economic Research

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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.
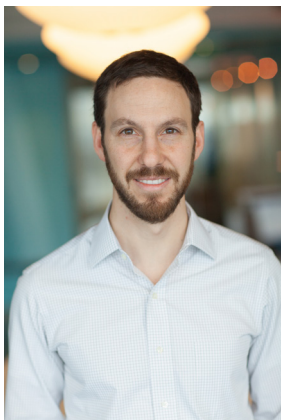
Aaron Terrazas, Senior Economist
@AaronTerraz

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.

April 2007
$196,600

$206,300

+36.5% | **+6.5%**
Trough-to-Current | Year-over-Year

Zillow Home Value Index, Annual and Monthly Growth

Annual U.S. home value appreciation has accelerated.

Legend: ■ Annual Home Value Growth ■ Monthly Home Value Growth
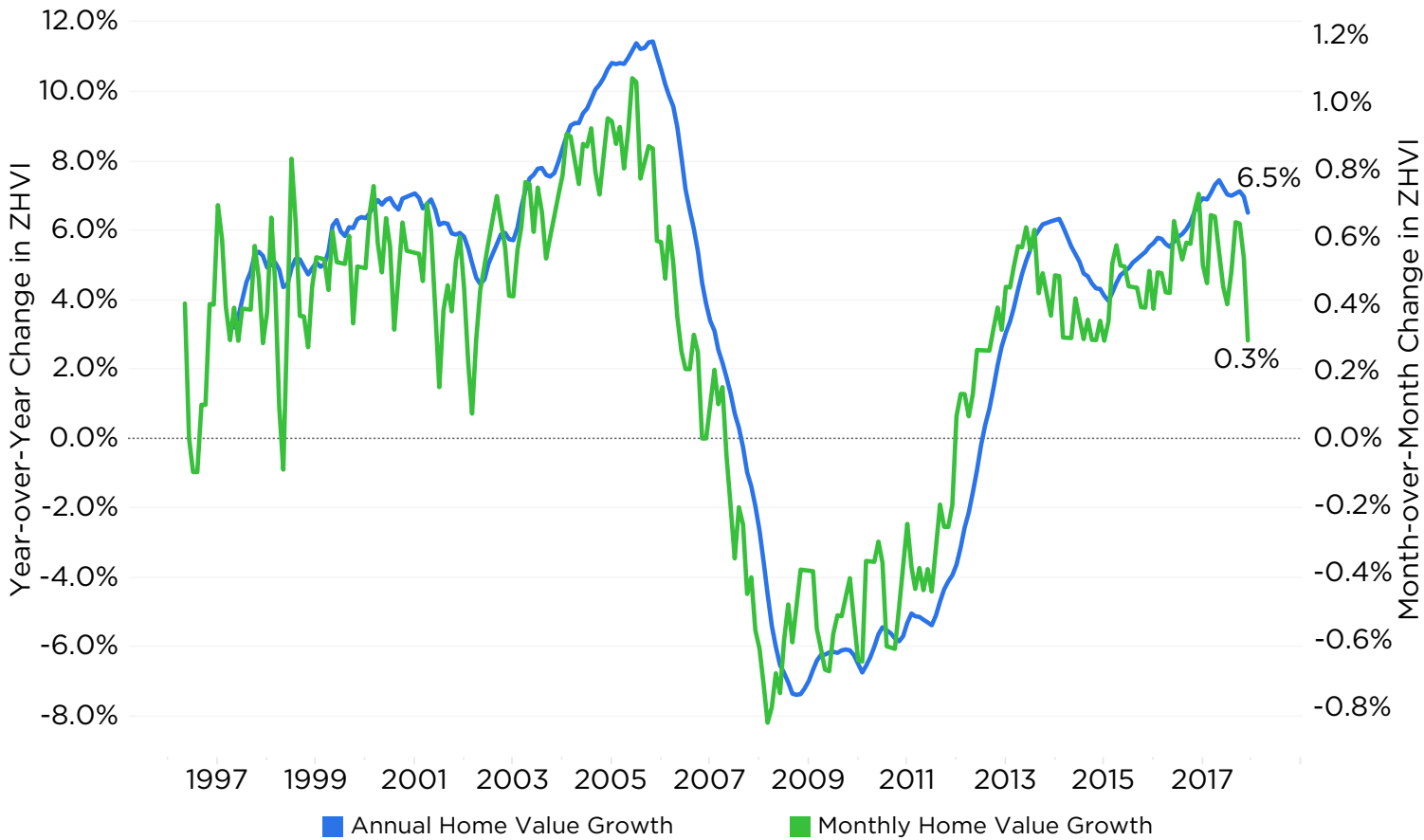
Annual Home Value Growth

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

Seattle, WA
12.5%

Portland, OR
5.6%

Minneapolis, MN
5.1%

Detroit, MI
7.0%

Boston, MA
6.8%

Pittsburgh, PA
5.1%

New York, NY
6.9%

Sacramento, CA
8.2%

Kansas City, MO
8.6%

Chicago, IL
4.6%

Columbus, OH
6.8%

Philadelphia, PA
4.1%

Denver, CO
6.7%

St. Louis, MO
1.2%

Cincinnati, OH
5.5%

Washington, DC
1.6%

San Francisco, CA
9.5%

Las Vegas, NV
14.3%

Los Angeles, CA
6.7%

Phoenix, AZ
6.5%

Atlanta, GA
7.7%

San Diego, CA
7.1%

Dallas, TX
9.3%

Austin, TX
7.0%

Houston, TX
5.6%

Orlando, FL
7.8%

Tampa, FL
8.0%

Miami, FL
7.0%

Annual Home Value Growth
1.2%   14.3%

Urban, Suburban and Rural Home Values

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

Left chart — Zillow Home Value Index: Urban $315,988, Suburban $234,443, Rural $157,451 (x-axis years 1999, 2004, 2009, 2014, 2019).

Right chart — Annual Home Value Appreciation: Urban 8.8%, Suburban 6.0%, Rural 5.5% (x-axis years 2000, 2005, 2010, 2015).

Legend: ■ Urban ■ Suburban ■ Rural
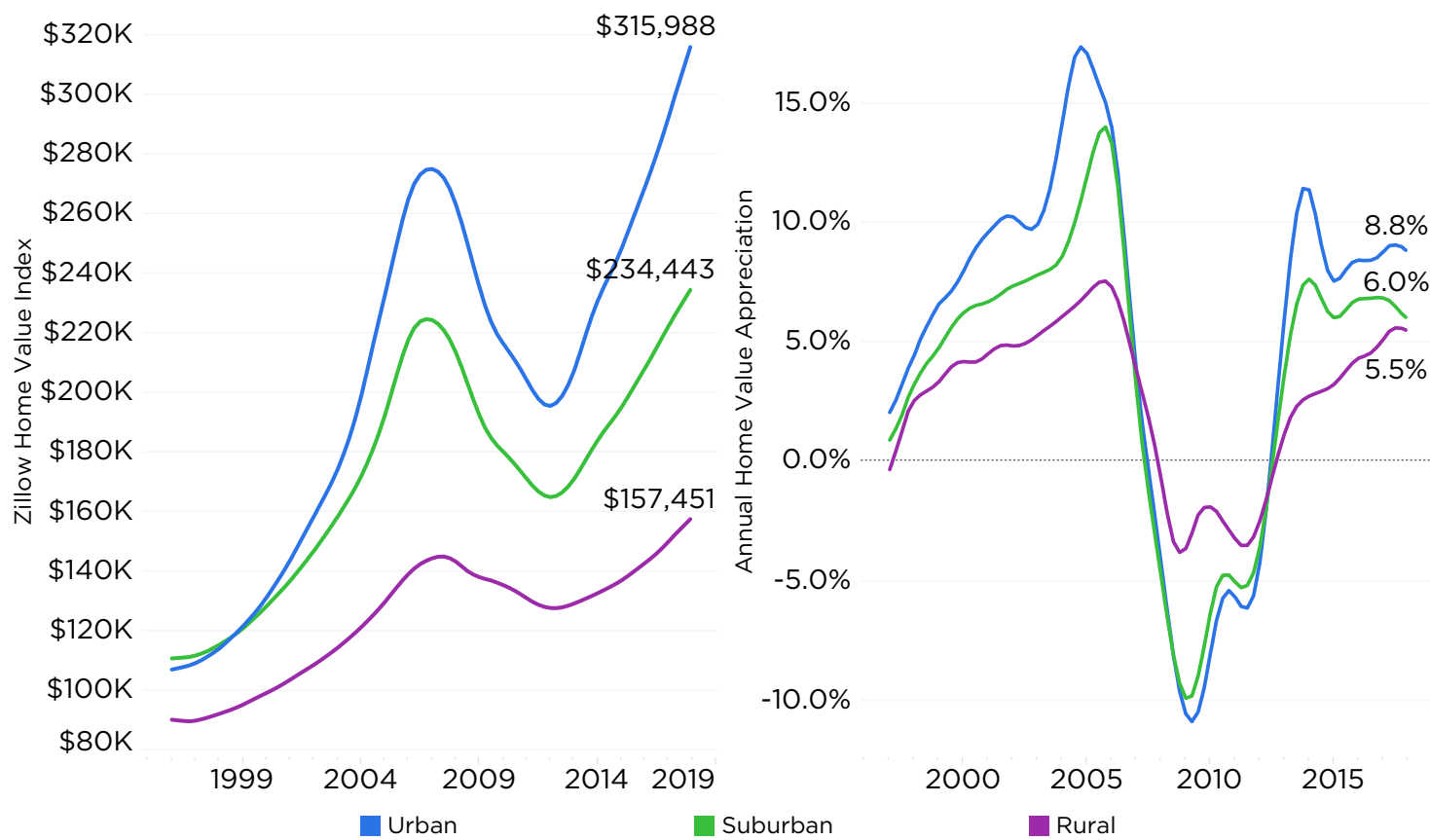
Zillow Home Value Forecast

Home value growth is expected to slow through 2018 Q4

Metro	Expected Home Value Appreciation
San Francisco, CA	5.1%
Seattle, WA	5.0%
Riverside, CA	4.8%
Dallas, TX	4.8%
Atlanta, GA	4.5%
Houston, TX	3.6%
San Diego, CA	3.5%
Boston, MA	3.5%
Detroit, MI	3.1%
Minneapolis, MN	3.1%
United States	3.0%
Tampa, FL	3.0%
St. Louis, MO	2.9%
Philadelphia, PA	2.9%
Los Angeles, CA	2.8%
New York, NY	2.4%
Chicago, IL	2.4%
Phoenix, AZ	2.1%
Baltimore, MD	1.1%
Washington, VA	0.8%
Miami, FL	0.3%

Expected Home Value Appreciation through December 2018

Source: Zillow Home Value Forecast, Top 20 Metros (December 2017).

Zillow Home Value Index, by Thirds

Zillow Home Value Index

- $350K
- $300K
- $250K
- $200K
- $150K
- $100K
- $50K
- $0K

1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017 2019

$363,000

$206,300

$120,100

Year-over-Year % Change

8.5% Bottom Third   **6.5%** Median   **3.6%** Top Third

■ Bottom Third   ■ Median Home Values   ■ Top Third
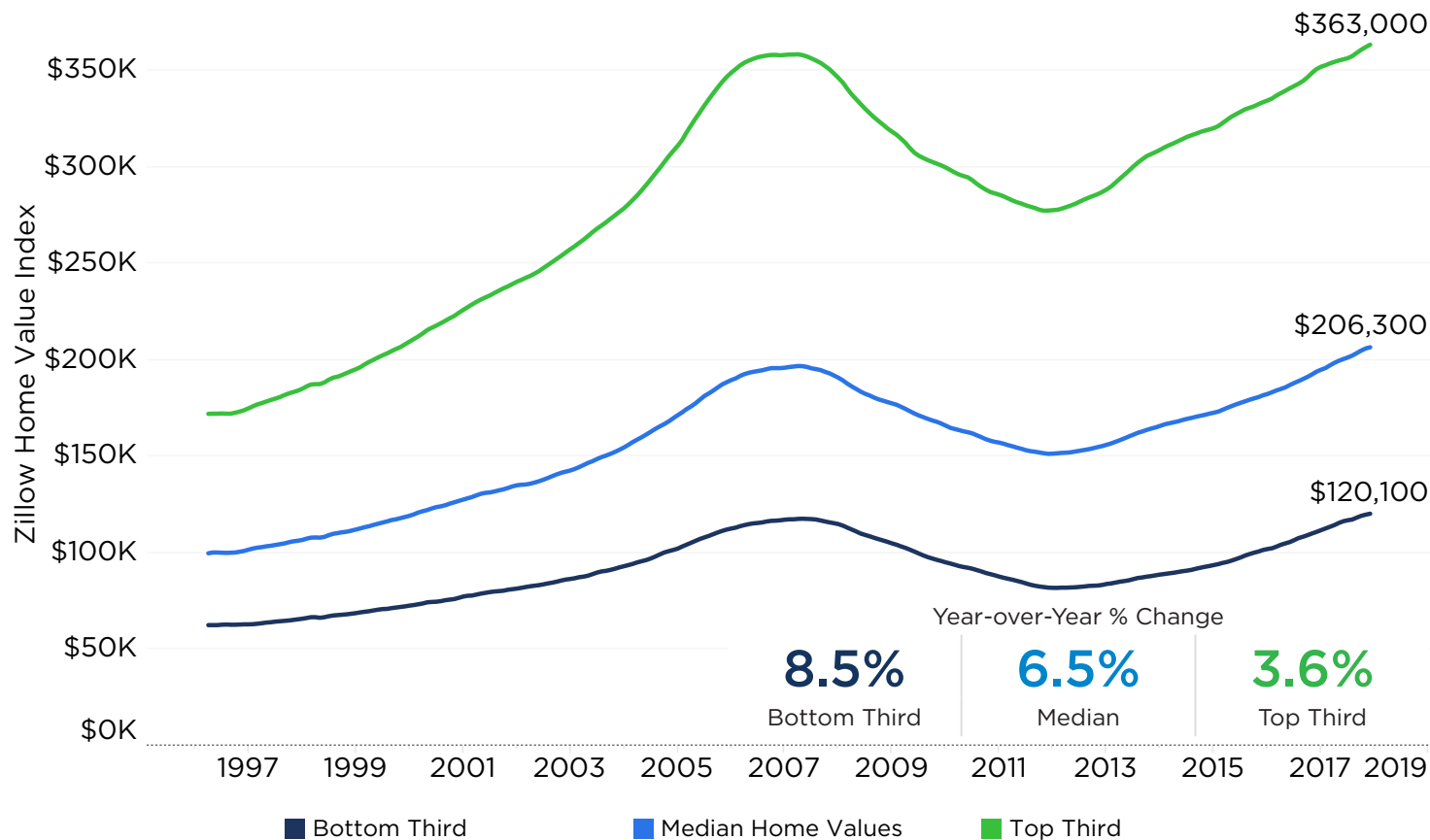
Annual Home Value Appreciation, by Thirds

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

Bottom Third — **Median Home Values** — **Top Third**
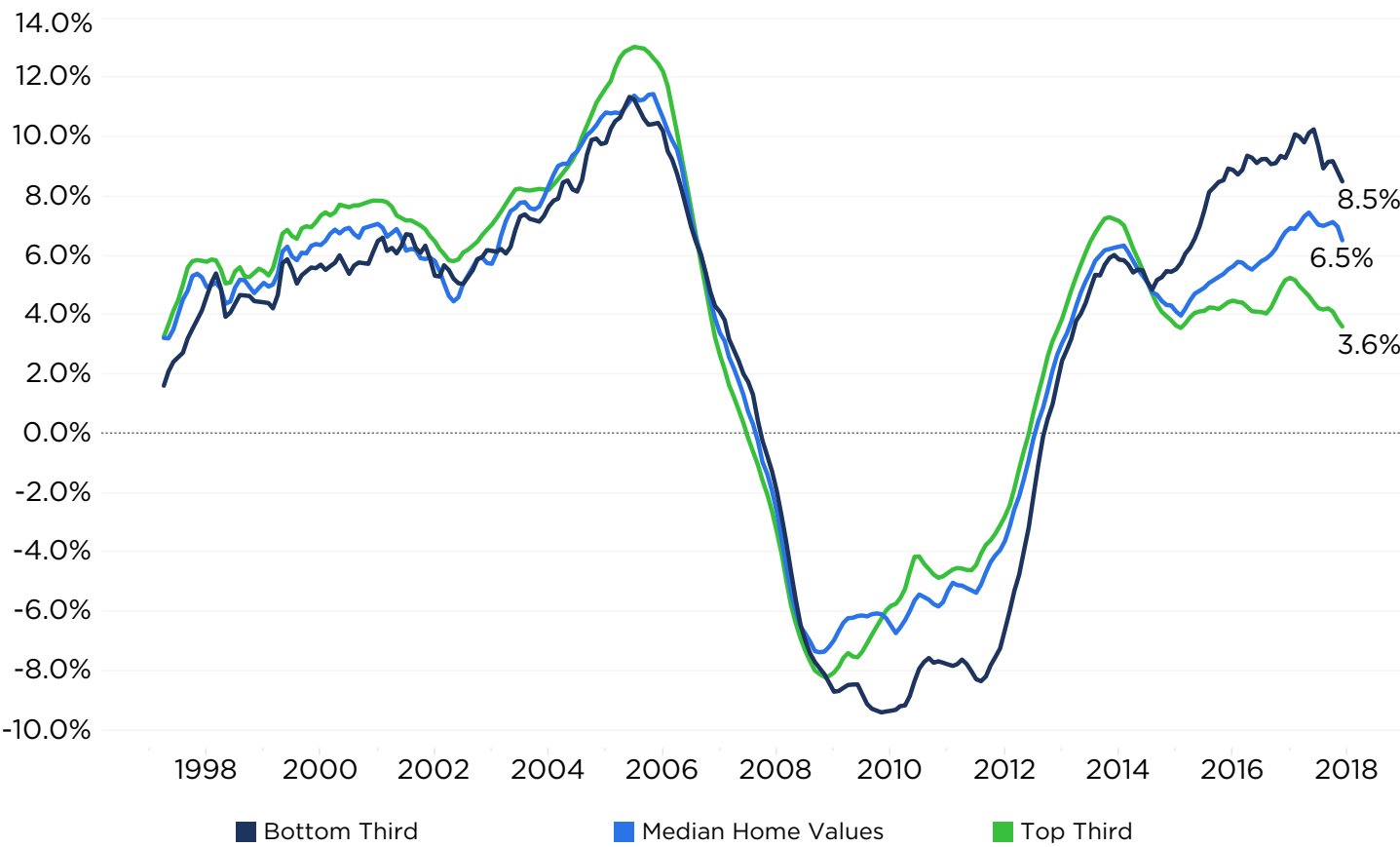
Zillow Rent Index

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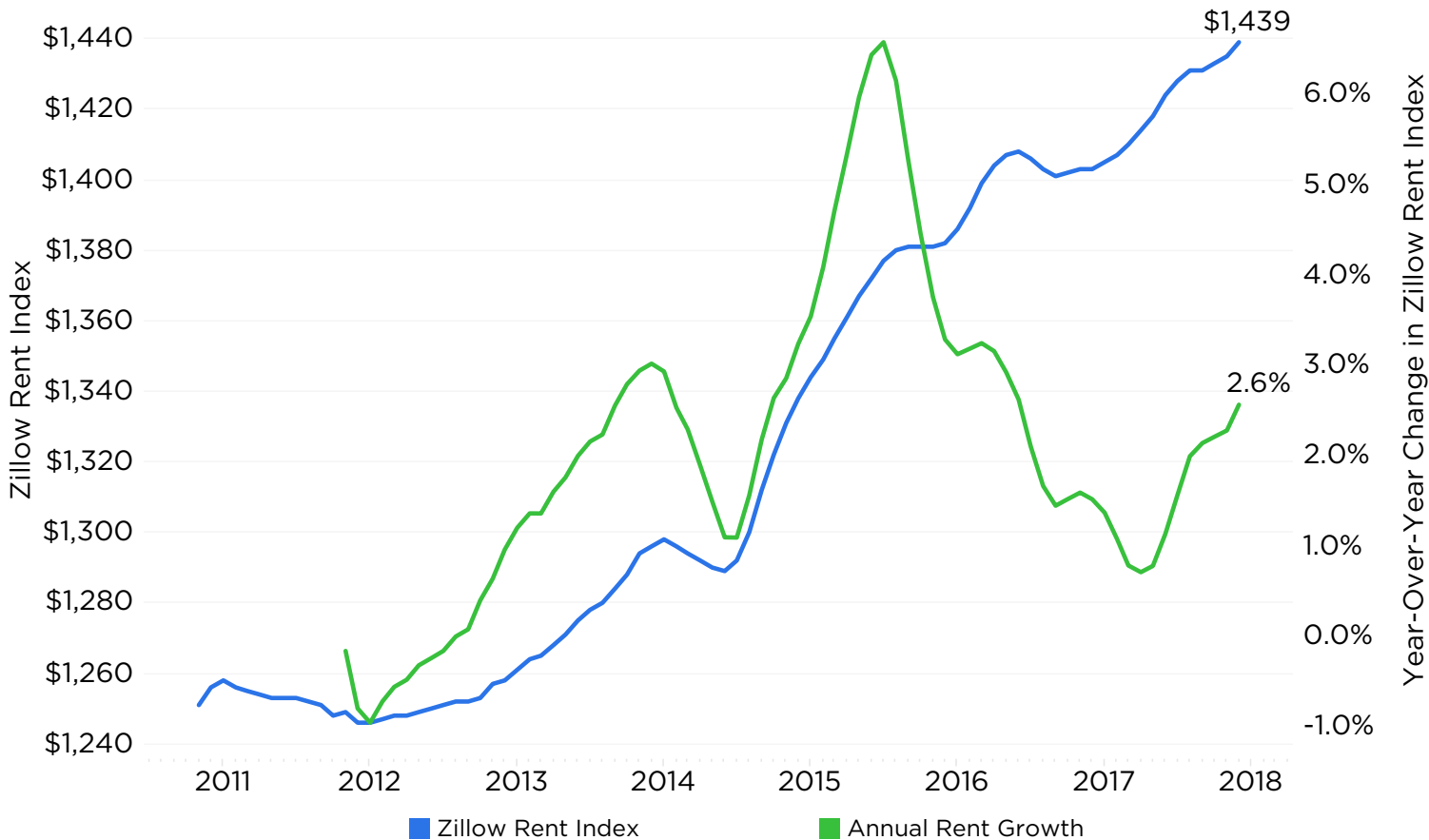
Annual Rent Appreciation

Rent is falling in several large markets nationwide.

Seattle, WA
5.2%

Portland, OR
4.3%

Minneapolis, MN
4.7%

Detroit, MI
2.2%

Boston, MA
1.7%

Chicago, IL
1.2%

Pittsburgh, PA
-2.1%

New York, NY
0.8%

Sacramento, CA
7.9%

Kansas City, MO
2.3%

Columbus, OH
2.3%

Philadelphia, PA
0.5%

Denver, CO
2.0%

St. Louis, MO
1.3%

Cincinnati, OH
2.3%

Washington, DC
0.8%

San Francisco, CA
1.0%

Las Vegas, NV
4.1%

Los Angeles, CA
4.0%

Phoenix, AZ
3.8%

Dallas, TX
2.7%

Atlanta, GA
4.2%

San Diego, CA
4.3%

Austin, TX
-0.5%

Houston, TX
-0.5%

Orlando, FL

Tampa, FL
1.3%

Miami, FL
-0.6%

Annual Rent Growth
-2.1% ▭ 7.9%

Multifamily and Single-Family Home Rents

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

Multifamily Units

Single-Family Homes
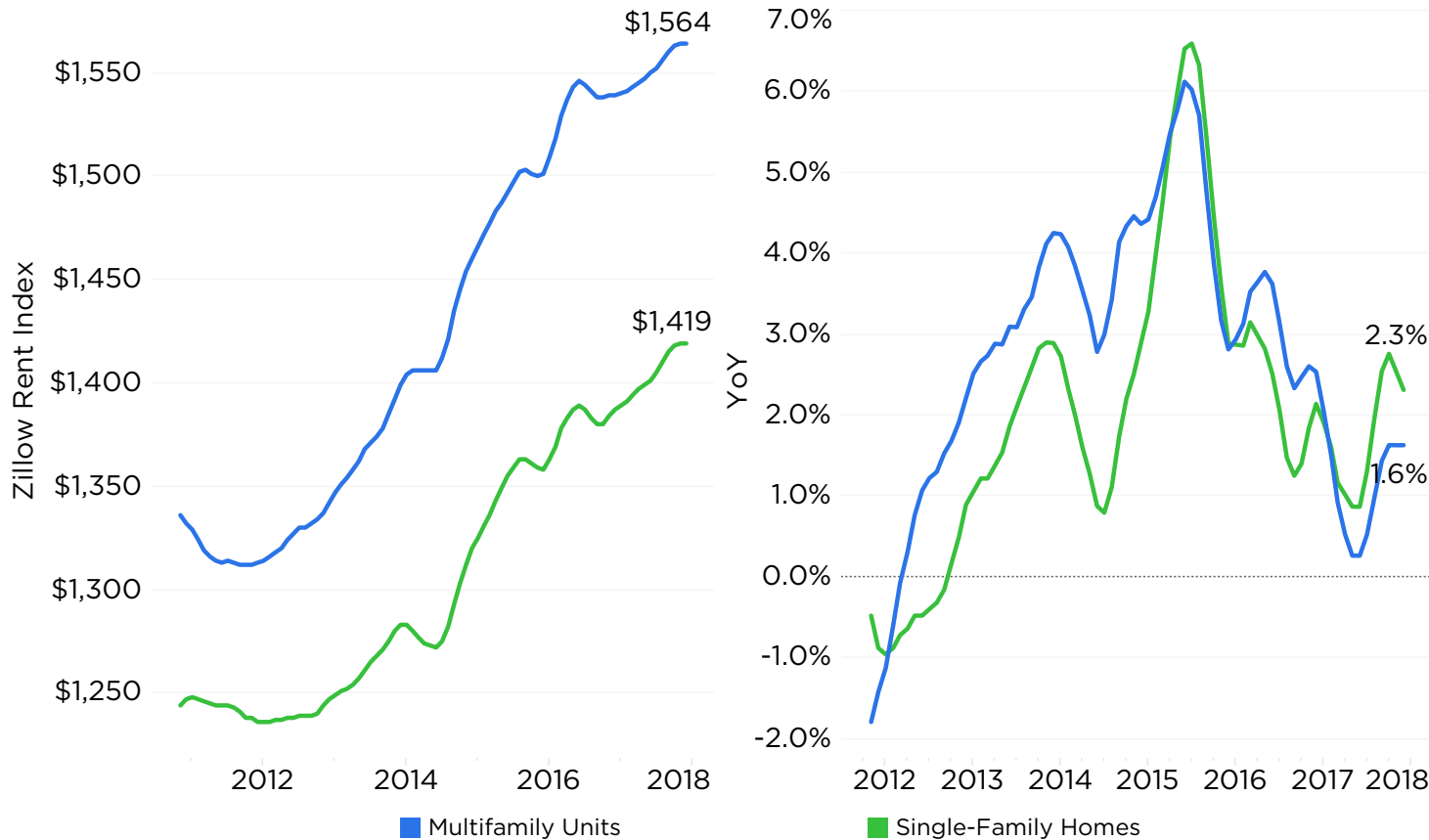
Urban, Suburban and Rural Rents

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

$1,859

$1,583

$1,189

Zillow Rent Index

$1,900
$1,800
$1,700
$1,600
$1,500
$1,400
$1,300
$1,200
$1,100

2012   2014   2016   2018

Annual Rent Appreciation

6.0%
5.0%
4.0%
3.0%
2.0%
1.0%
0.0%
-1.0%
-2.0%
-3.0%

2.7%
2.0%
0.9%

2012 2013 2014 2015 2016 2017 2018

■ Urban   ■ Suburban   ■ Rural
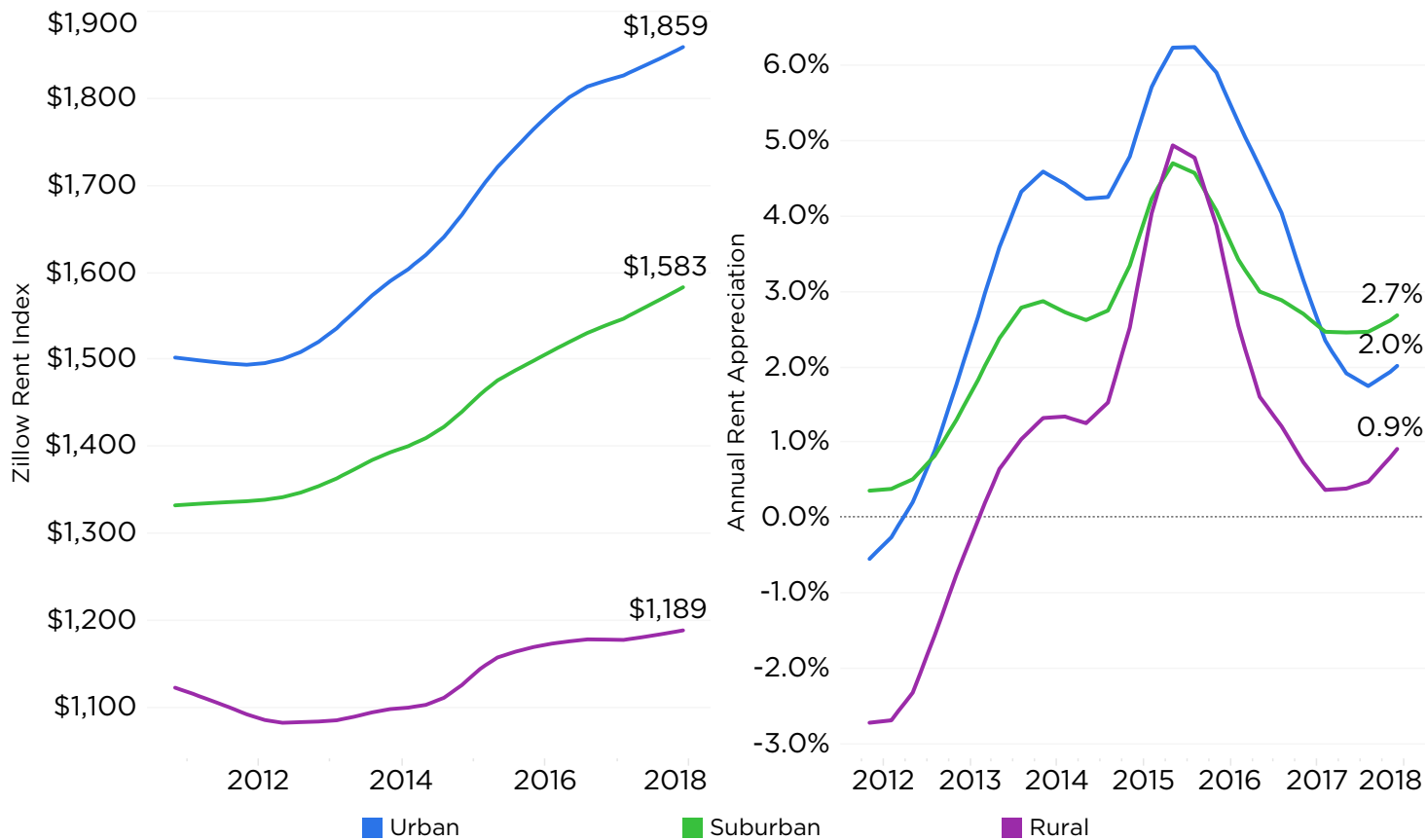
Zillow Rent Forecast

Rental appreciation is expected to accelerate over the next year.

City	Expected Rent Appreciation Through December 2018
Seattle, WA	5.0%
Atlanta, GA	4.0%
Riverside, CA	3.6%
Los Angeles, CA	3.1%
Phoenix, AZ	2.8%
Dallas, TX	2.5%
Miami, FL	2.4%
Minneapolis, MN	2.3%
San Diego, CA	2.2%
Boston, MA	1.9%
United States	1.6%
Detroit, MI	1.2%
New York, NY	1.0%
Baltimore, MD	0.9%
Philadelphia, PA	0.6%
Washington, DC	0.5%
Houston, TX	0.3%
San Francisco, CA	0.3%
Saint Louis, MO	-0.1%
Chicago, IL	-0.1%
Tampa, FL	-0.1%

Expected Rent Appreciation Through December 2018

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

Source: Zillow analysis of Homeless Population Counts.

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.

Average Share of Income Spent on Rent, 1985-2000

Average Share of Income Spent on Mortgage, 1985-2000

28.9%

15.7%

Share of Income Spent on Housing

Mortgage Affordability, 1985-2000	Mortgage Affordability, 2017 Q4	Forecasted at 5% Rates	Forecasted at 6% Rates	Forecasted at 7% Rates	Rent Affordability, 1985-2000	Rent Affordability, 2017 Q4
21%	**16%**	**18%**	**20%**	**23%**	**26%**	**29%**

Mortgage Affordability by Metro

	Atlanta, GA	Boston, MA	Chicago, IL	Denver, CO	Houston, TX	Miami, FL	New York, NY	Portland, OR	San Francisco, CA	Seattle, WA	United States	Washington, DC
Share of Income Spent on Mortgage, 2017 Q2	13%	24%	14%	23%	13%	23%	26%	24%	41%	25%	16%	18%
Average Share of Incomes Spent on Mortgage, 1985-2000	19%	26%	23%	22%	15%	20%	30%	23%	38%	25%	21%	22%
Forecasted at 5% Rates	16%	27%	17%	27%	16%	26%	31%	28%	48%	30%	18%	20%
Forecasted at 6% Rates	17%	31%	18%	30%	18%	29%	34%	31%	54%	33%	20%	23%
Forecasted at 7% Rates	19%	34%	20%	33%	19%	32%	38%	35%	60%	37%	23%	25%

Zillow Mortgage Affordability, by Thirds

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

Bottom Third • Middle Third • Top Third

23.0%
14.2%
11.1%
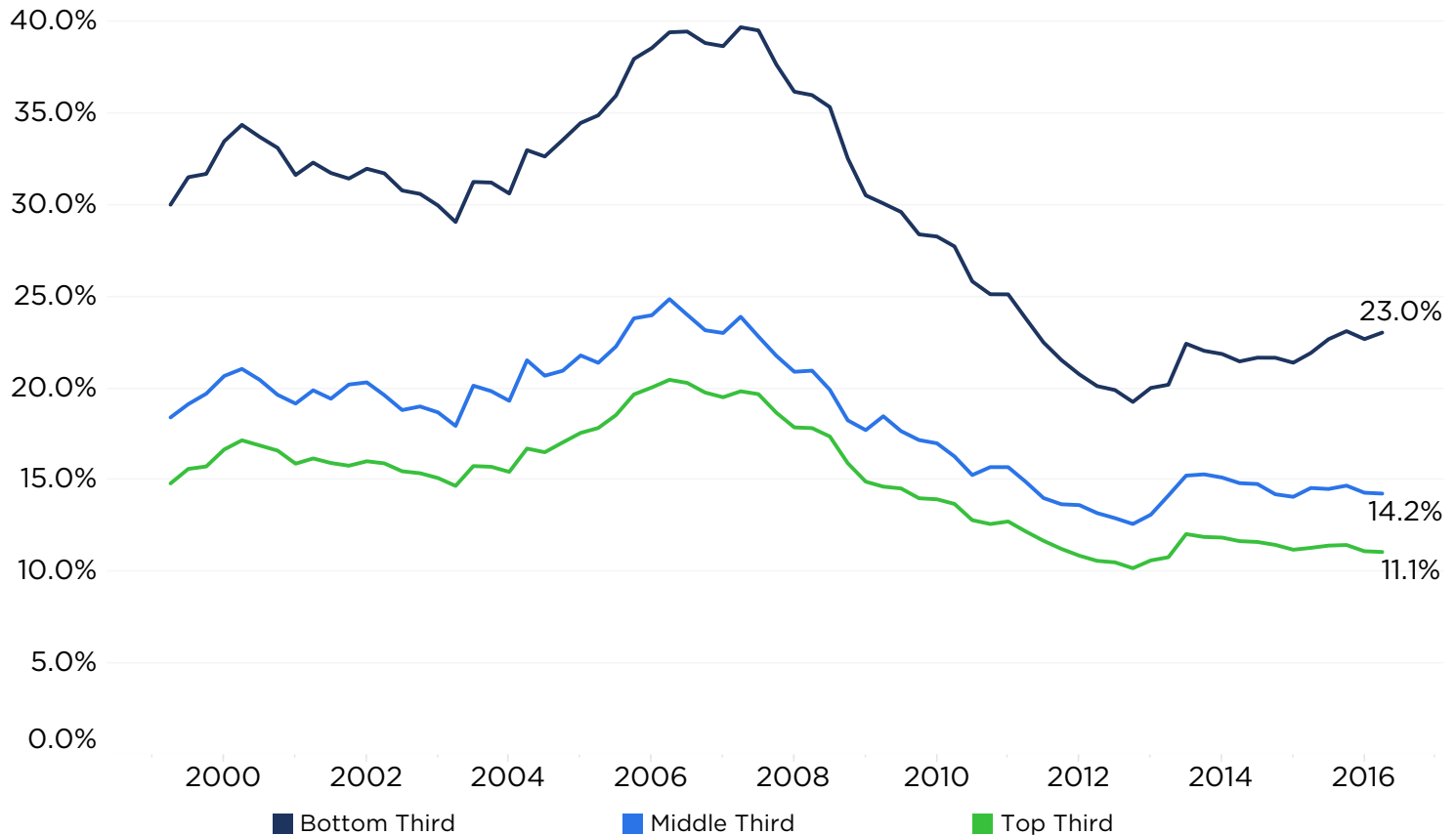
Household Income, by Thirds

Income growth for the lowest earners has been especially weak.
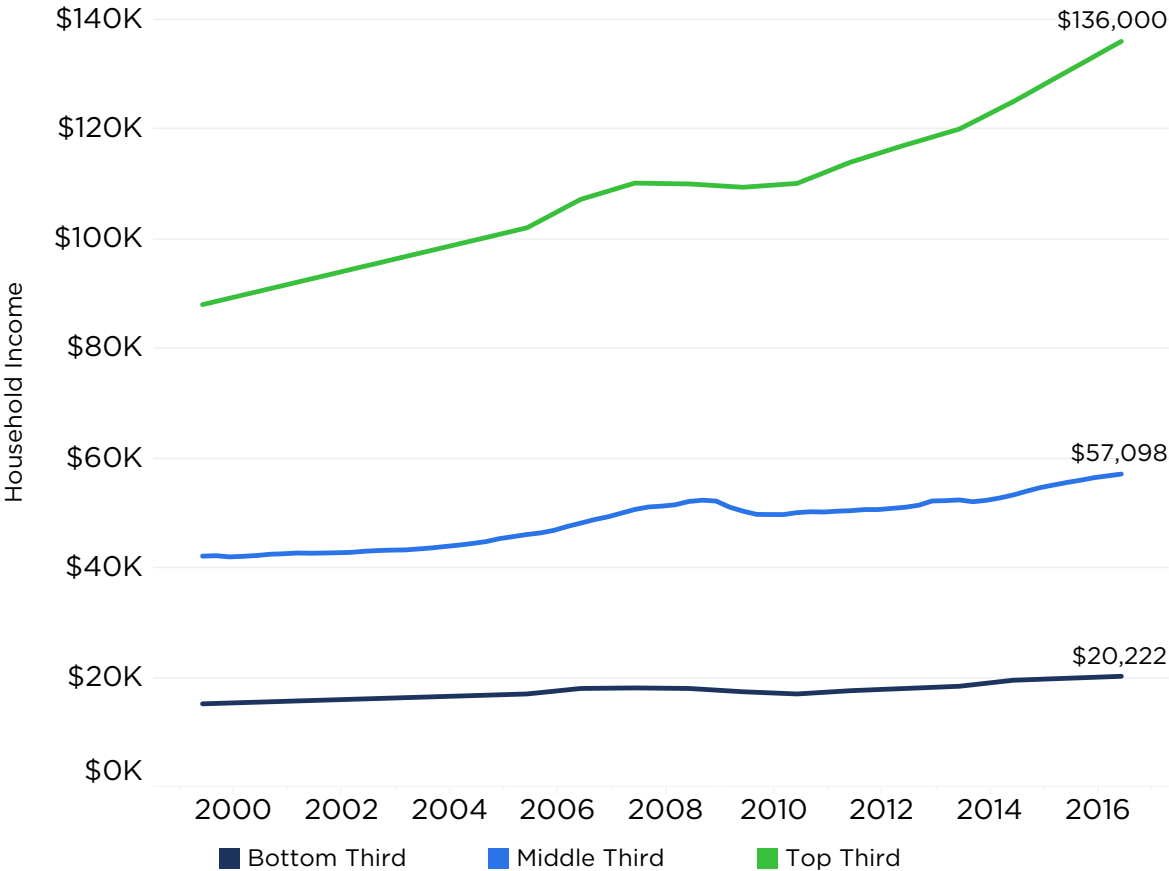
Nominal Income
Growth,
2000-2016

Top Third
50.5%

Middle Third
35.2%

Bottom Third
30.5%

$140K
$120K
$100K
$80K
$60K
$40K
$20K
$0K

Household Income

$136,000

$57,098

$20,222

2000 2002 2004 2006 2008 2010 2012 2014 2016

■ Bottom Third   ■ Middle Third   ■ Top Third

Rent Affordability by Metro

The share of income spent on rent is higher than the historic average in the nation's 20 largest metros.
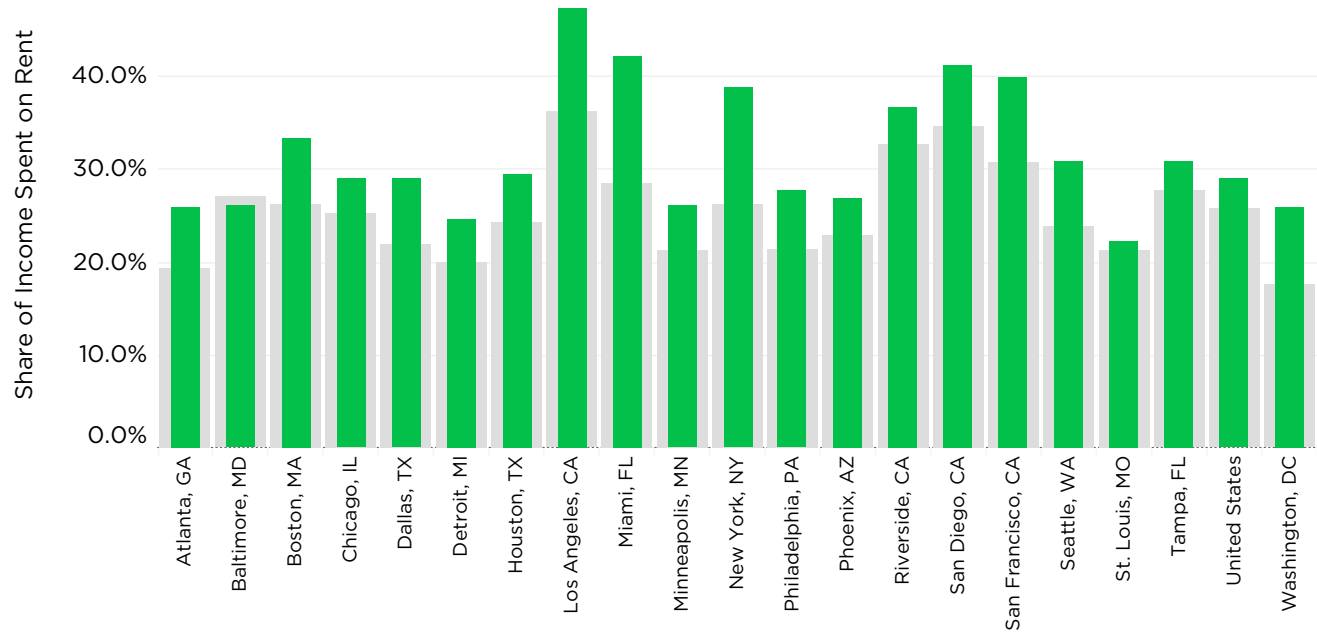
	Atlanta, GA	Baltimore, MD	Boston, MA	Chicago, IL	Dallas, TX	Detroit, MI	Houston, TX	Los Angeles, CA	Miami, FL	Minneapolis, MN	New York, NY	Philadelphia, PA	Phoenix, AZ	Riverside, CA	San Diego, CA	San Francisco, CA	Seattle, WA	St. Louis, MO	Tampa, FL	United States	Washington, DC
Share of Income Spent on Rent, 2017 Q3	26%	26%	33%	29%	29%	25%	29%	47%	42%	26%	39%	28%	27%	37%	41%	40%	31%	22%	31%	29%	26%
Average Share of Income Spent on Rent, 1985-2000	19%	27%	26%	25%	22%	20%	24%	36%	29%	21%	26%	21%	23%	33%	35%	31%	24%	21%	28%	26%	18%

■ Rent Affordability, 2017 Q4
▢ Average Rent Affordability, 1985-2000

Renters With No Savings

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

Share of Renters Saving Nothing

- 12.5% or less: 38.3%
- 12.6% to 19.4%: 33.6%
- 19.5% to 27.3%: 43.3%
- 27.3% to 45.3%: 55.6%
- 45.4% or more: 67.2%

Share of Income Spent on Rent
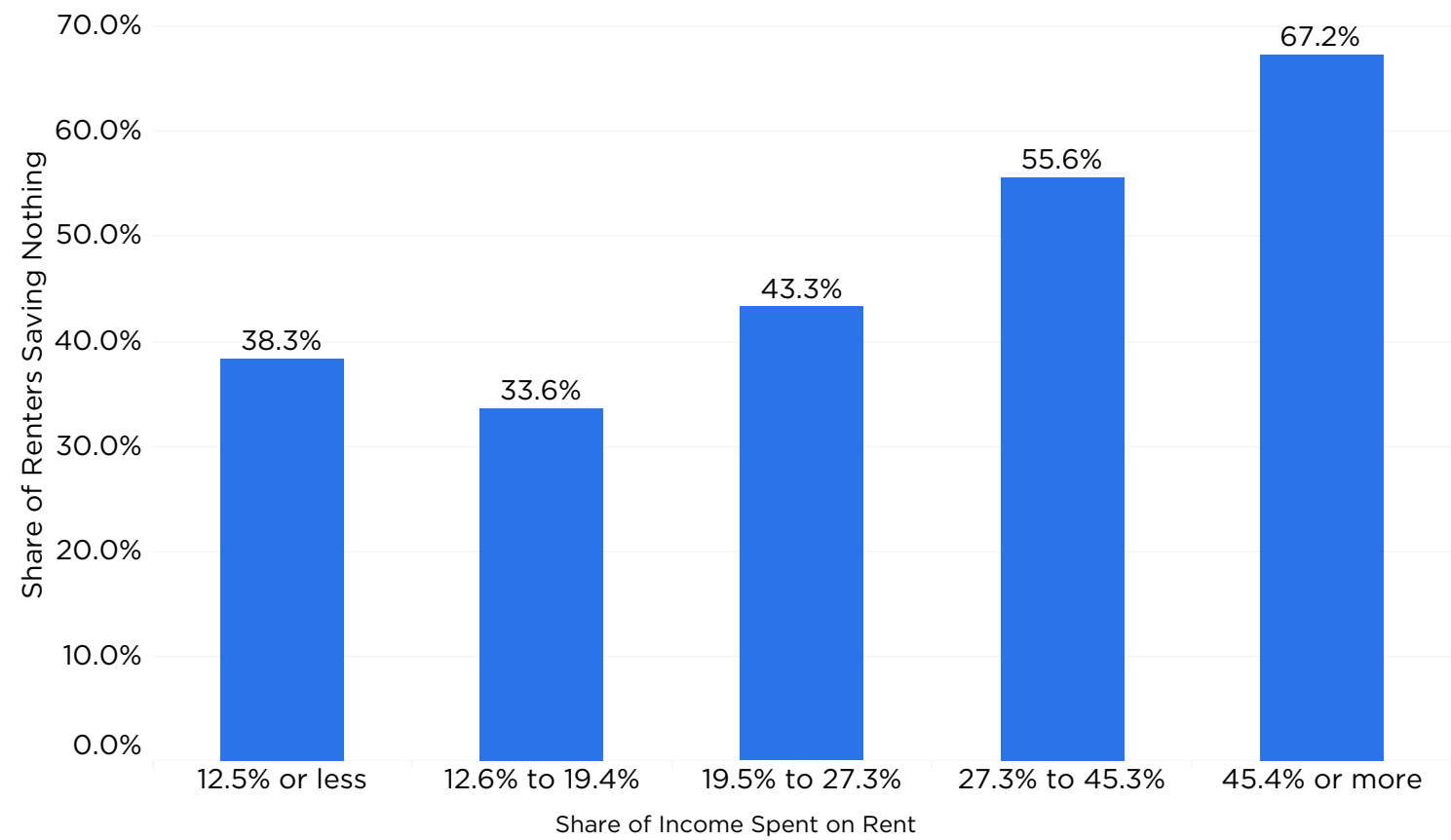
Renter Renewal Savings

Rising rents make renewing a better investment than moving
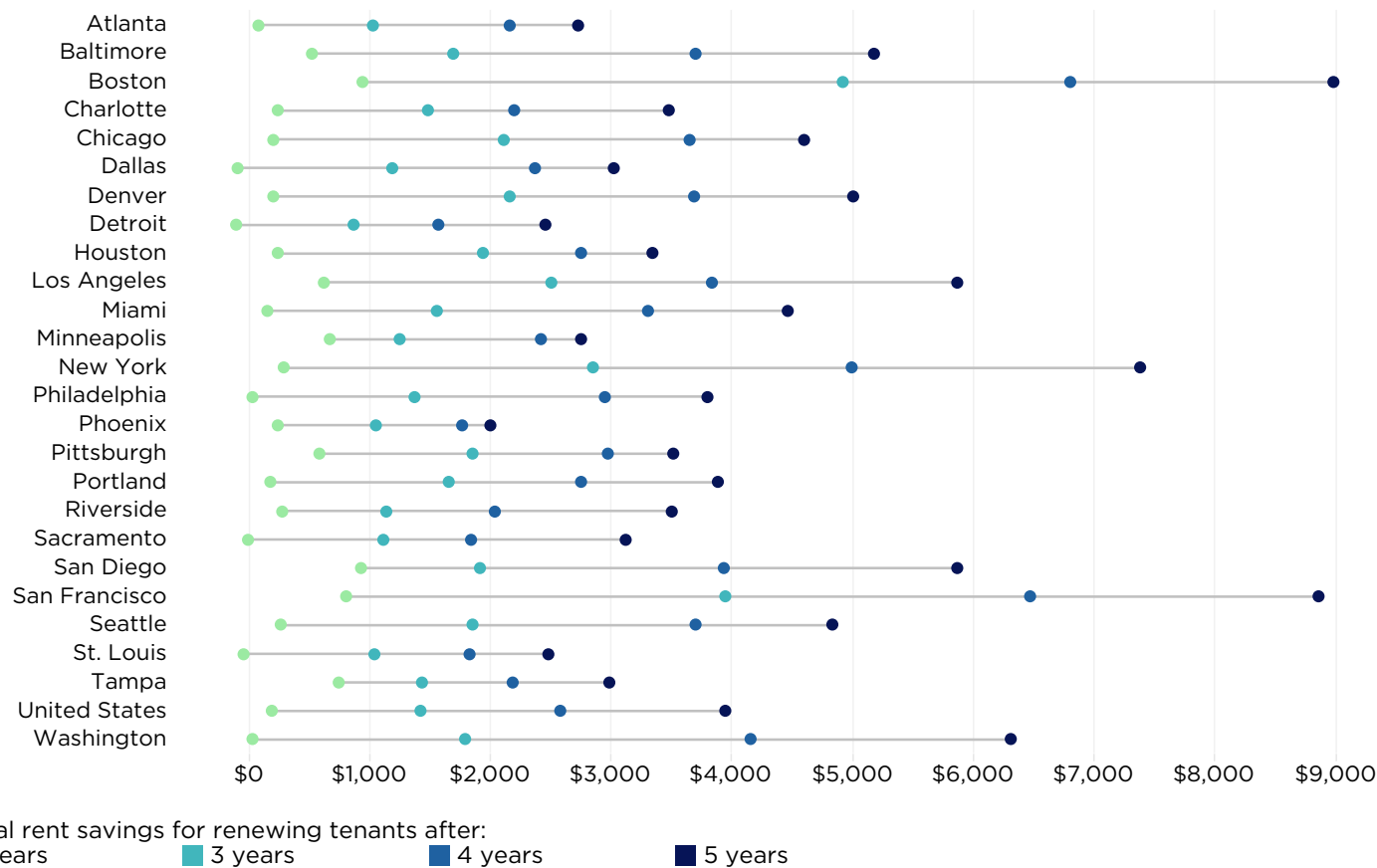
Annual rent savings for renewing tenants after:
- 2 years
- 3 years
- 4 years
- 5 years

Renters Are Moving Less

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

Y-axis: Share of Renters Who Moved in the Prior 12 Months

College Age (18-23): 68.3% → 48.6%
Young Adult (24-34): 44.3% → 30.6%
Middle Age (35-54): 27.2% → 18.9%
Retirement Age (55-69): 15.9% → 14.3%
Elderly (70+): 10.1% → 9.8%

Legend:
- College Age (18-23)
- Young Adult (24-34)
- Middle Age (35-54)
- Retirement Age (55-69)
- Elderly (70+)
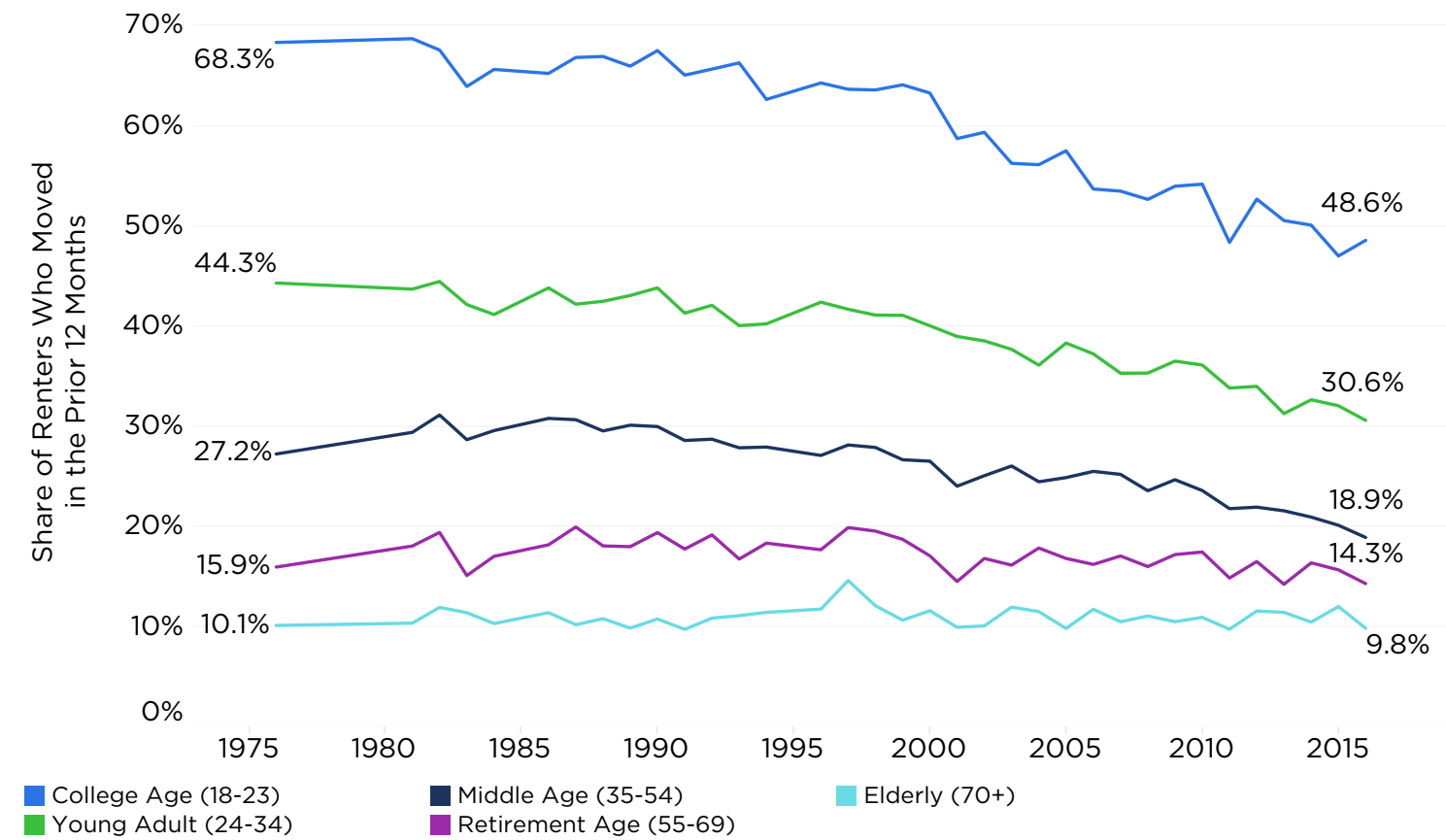
Commute Distances

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

Median Commute Distance to Downtown Core, Miles

Miami, FL — 13.3, 12.6
Philadelphia, PA — 9.5, 7.8
San Francisco, CA — 10.5, 9.1
Seattle, WA — 15.4, 11.9

■ Annual income $40K or more   ■ Annual income $15K or less
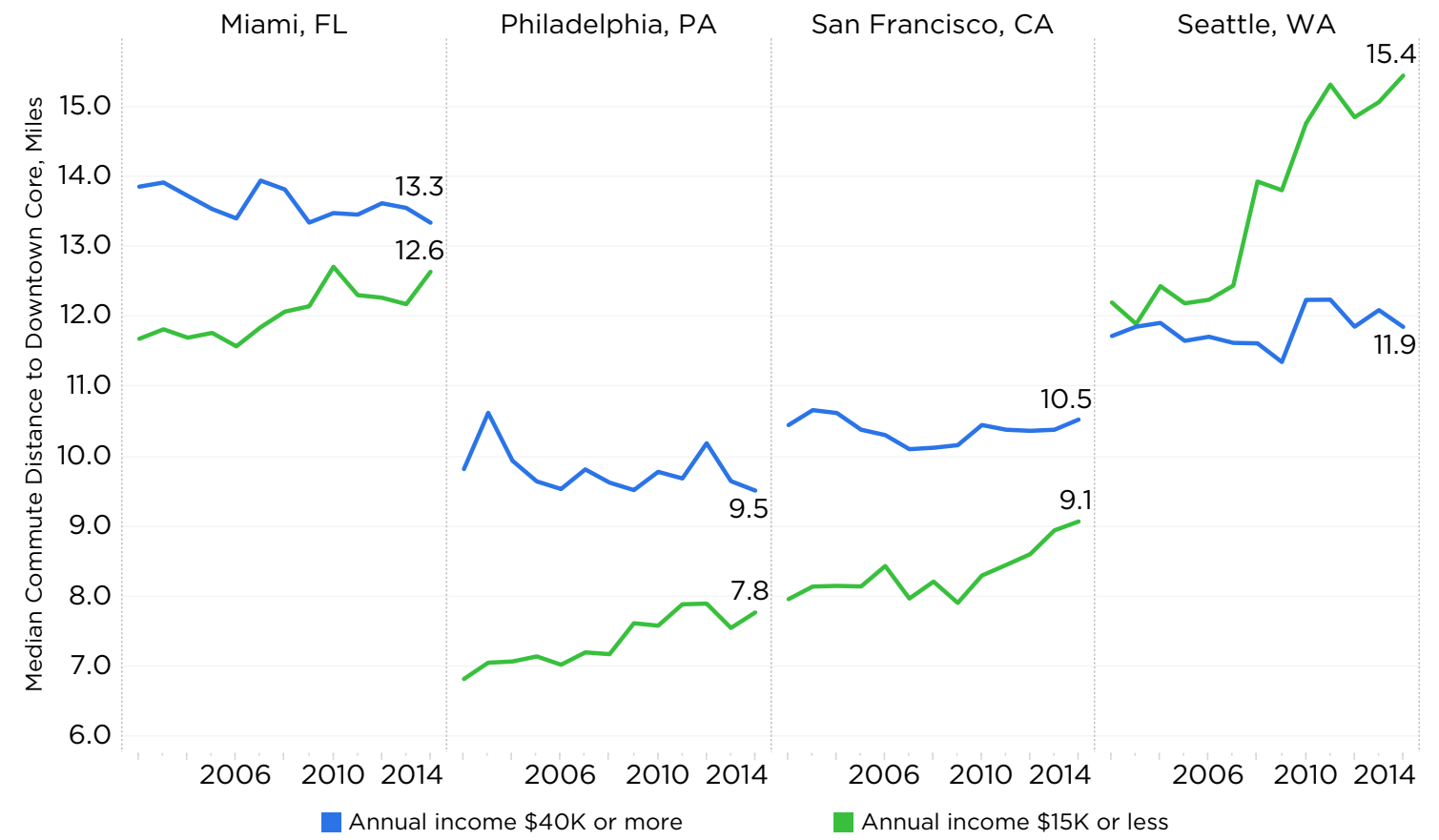
INVENTORY, CONSTRUCTION AND DEMOGRAPHICS

- 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.
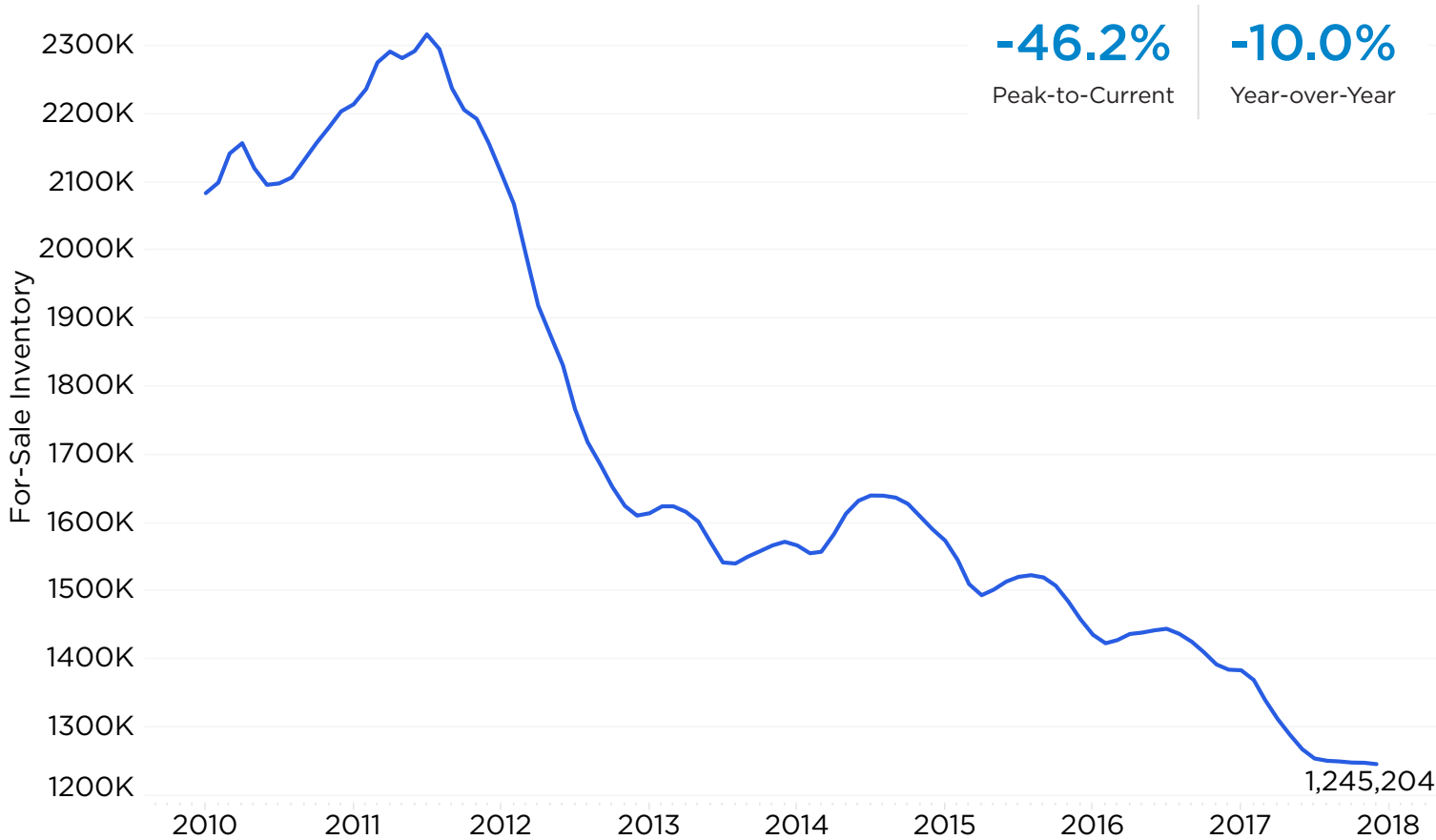
-46.2%
Peak-to-Current

-10.0%
Year-over-Year

1,245,204

Y-axis: For-Sale Inventory (2300K, 2200K, 2100K, 2000K, 1900K, 1800K, 1700K, 1600K, 1500K, 1400K, 1300K, 1200K)

X-axis: 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

Zillow For-Sale Inventory, by Thirds

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

Y-axis: Smoothed Seasonally Adjusted Inventory (0K – 900K)

X-axis: 2010 – 2018

Data labels: 573,836 (Top Tier, green); 297,870 (Middle Tier, blue); 247,640 (Bottom Tier, dark)

Year-over-Year % Change

-17.7%	-10.7%	-4.9%
Bottom Third	Middle Third	Top Third

Legend: ■ Bottom Tier ■ Middle Tier ■ Top Tier
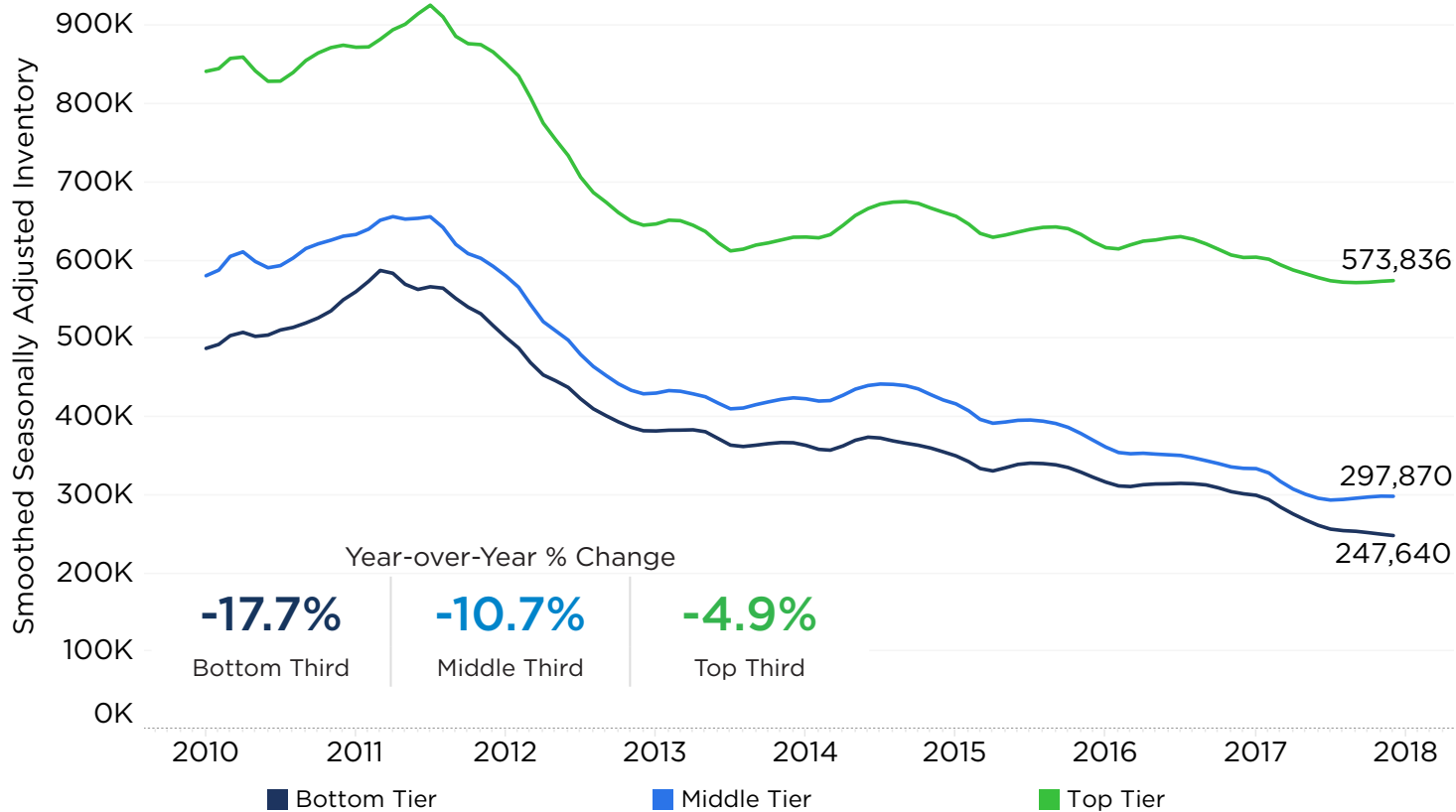
New Homes Listed For Sale

The number of listings hitting the market has remained consistent

- New Listing Count
- New Listing Count (Trailing Twelve Month Average)
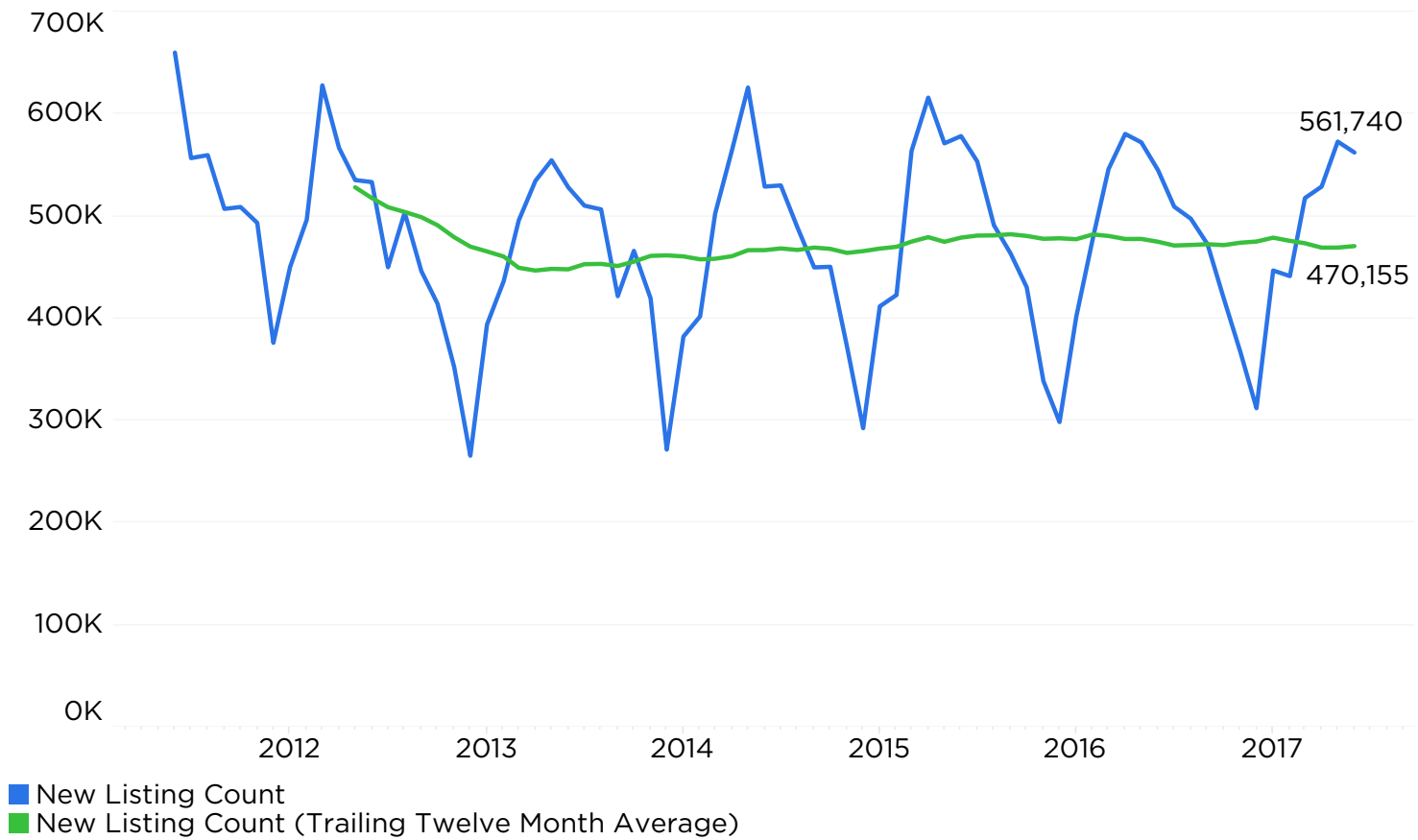
Days on Zillow

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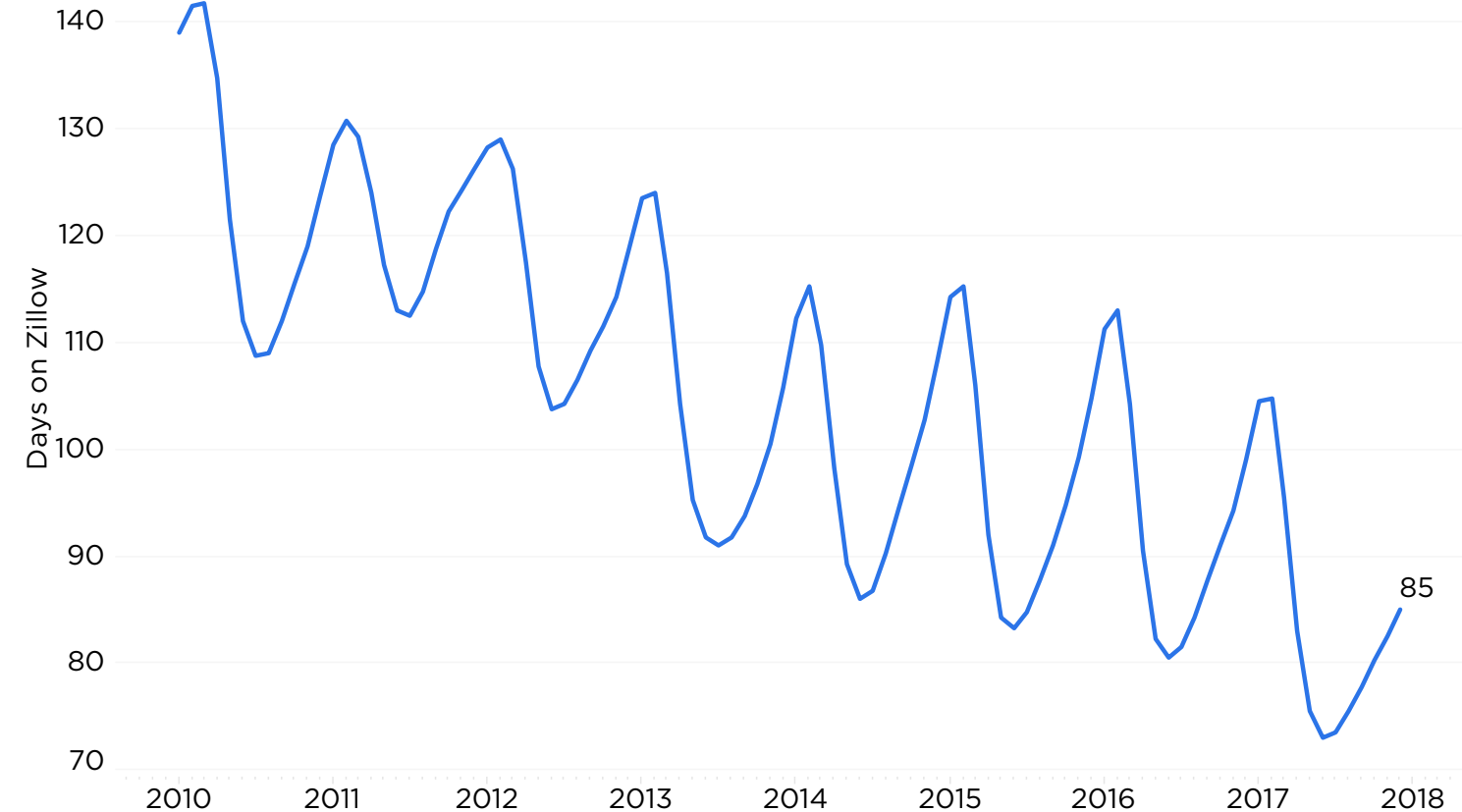
Home Sales

Sales of new homes in particular have struggled to get back to pre-recession levels.
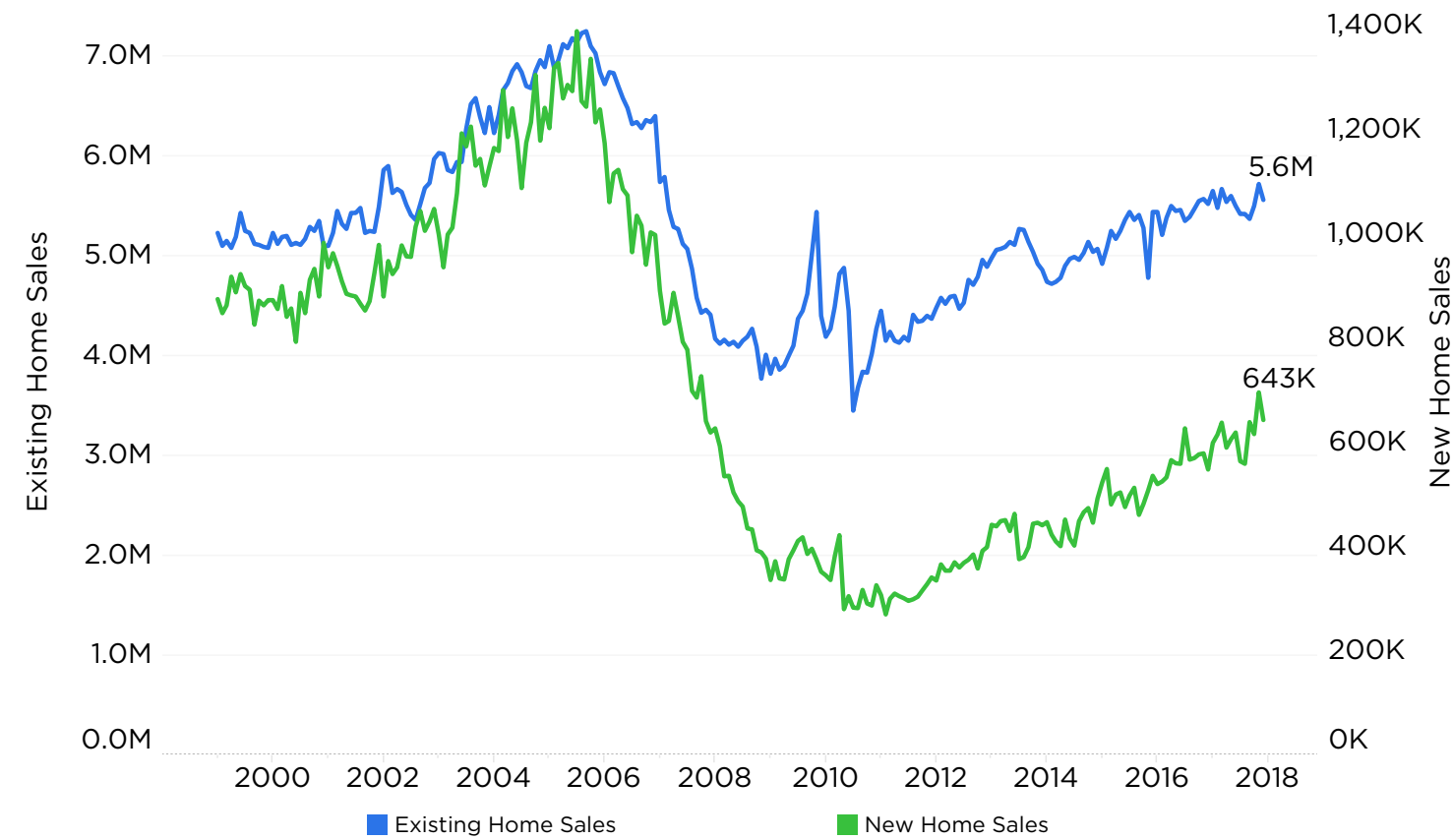
Source: National Association of Realtors Existing Home Sales: Single-Family & Condo & Co-op, U.S. Census Bureau New Residential Sales (December 2017).

New Residential Construction Permits

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

881K

382K

New Private Housing Units Authorized by Building Permits (Seasonally Adjusted Annual Rates)

■ In structures with 1 unit   ■ In structures with 5+ units
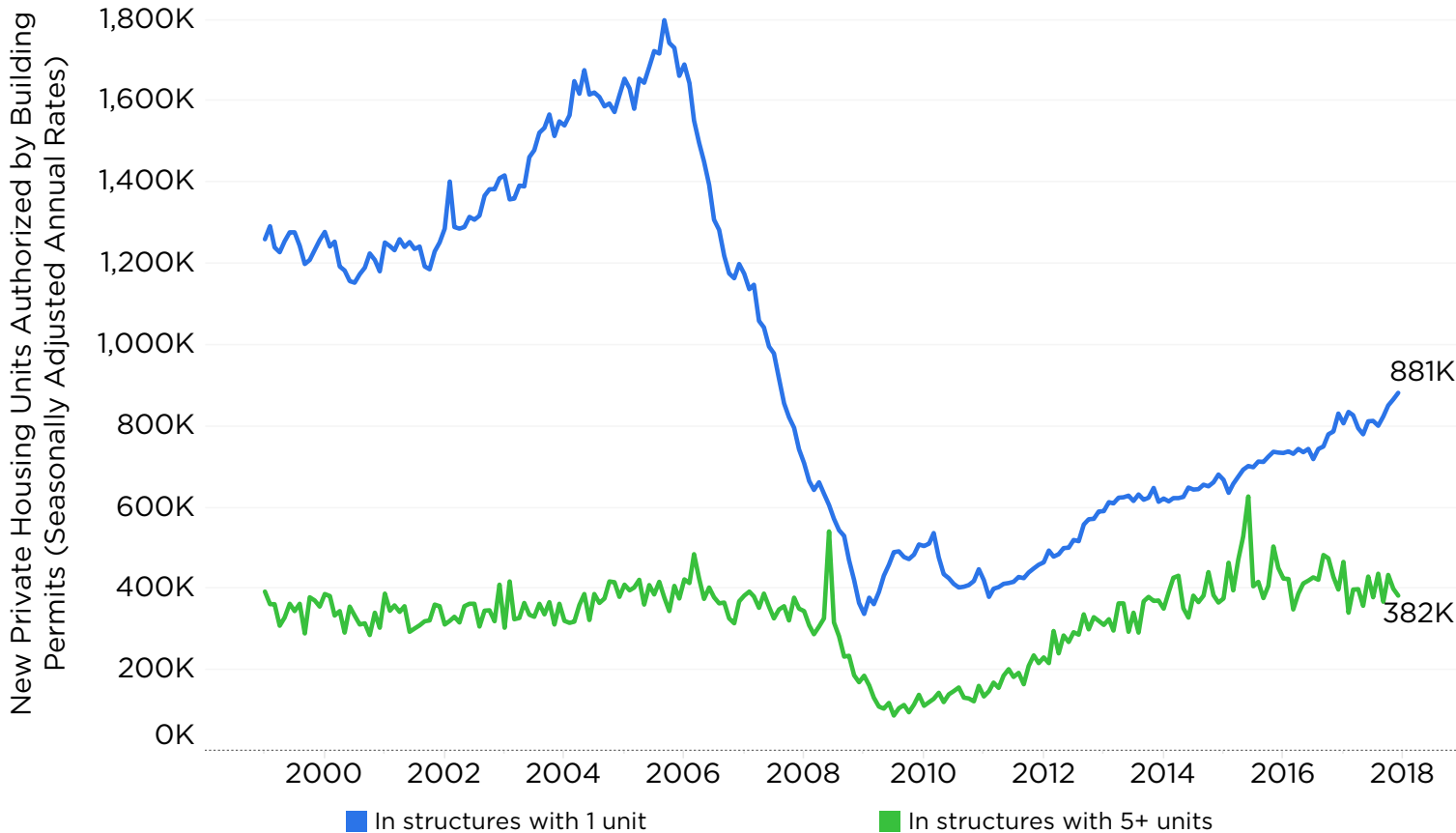
Age of Sold Homes

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

2015: 28 years

2006: 15 years

Median Age of Sold Homes
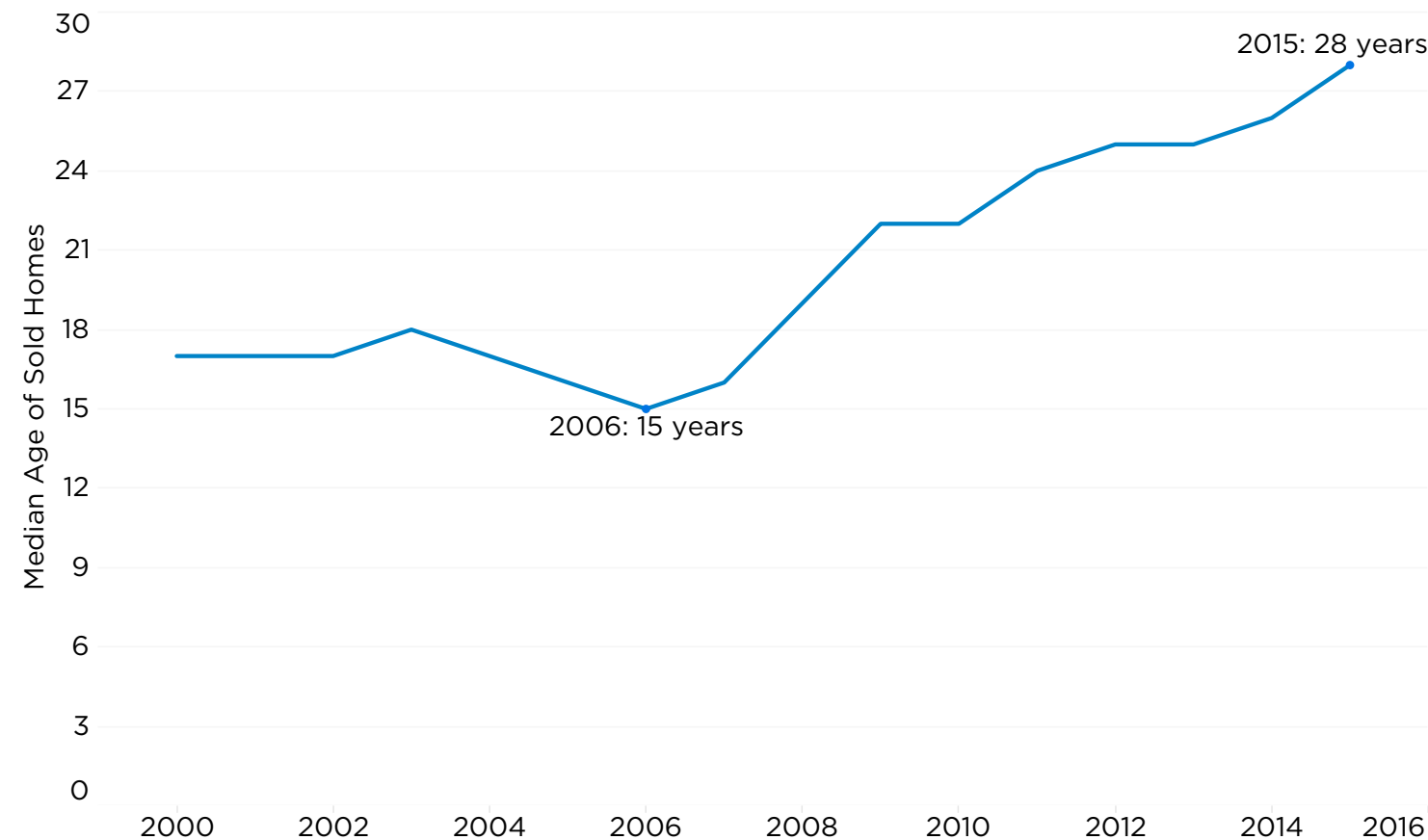
Fixer-Uppers

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

Metros where fixer-uppers sold faster

Metro	Difference in days
Miami, FL	15
Atlanta, GA	10
Dallas, TX	9
Orlando, FL	9
Portland, OR	7
Riverside, CA	7
Virginia Beach, VA	5
Jacksonville, FL	3
Kansas City, MO	3
Cleveland, OH	3
Houston, TX	0
Los Angeles, CA	0
Tampa, FL	0

Metros where fixer-uppers sold slower

Metro	Difference in days
New York, NY	-1
Detroit, MI	-2
Seattle, WA	-2
United States	-3
Boston, MA	-4
Pittsburgh, PA	-5
Providence, RI	-5
Baltimore, MD	-7
Washington, DC	-8
Philadelphia, PA	-11
St. Louis, MO	-12
San Antonio, TX	-13
Chicago, IL	-21

Difference in days on market between move-in ready homes and fixer uppers

New Construction Appreciation by Decade

Newly constructed homes held their value better during the recession.
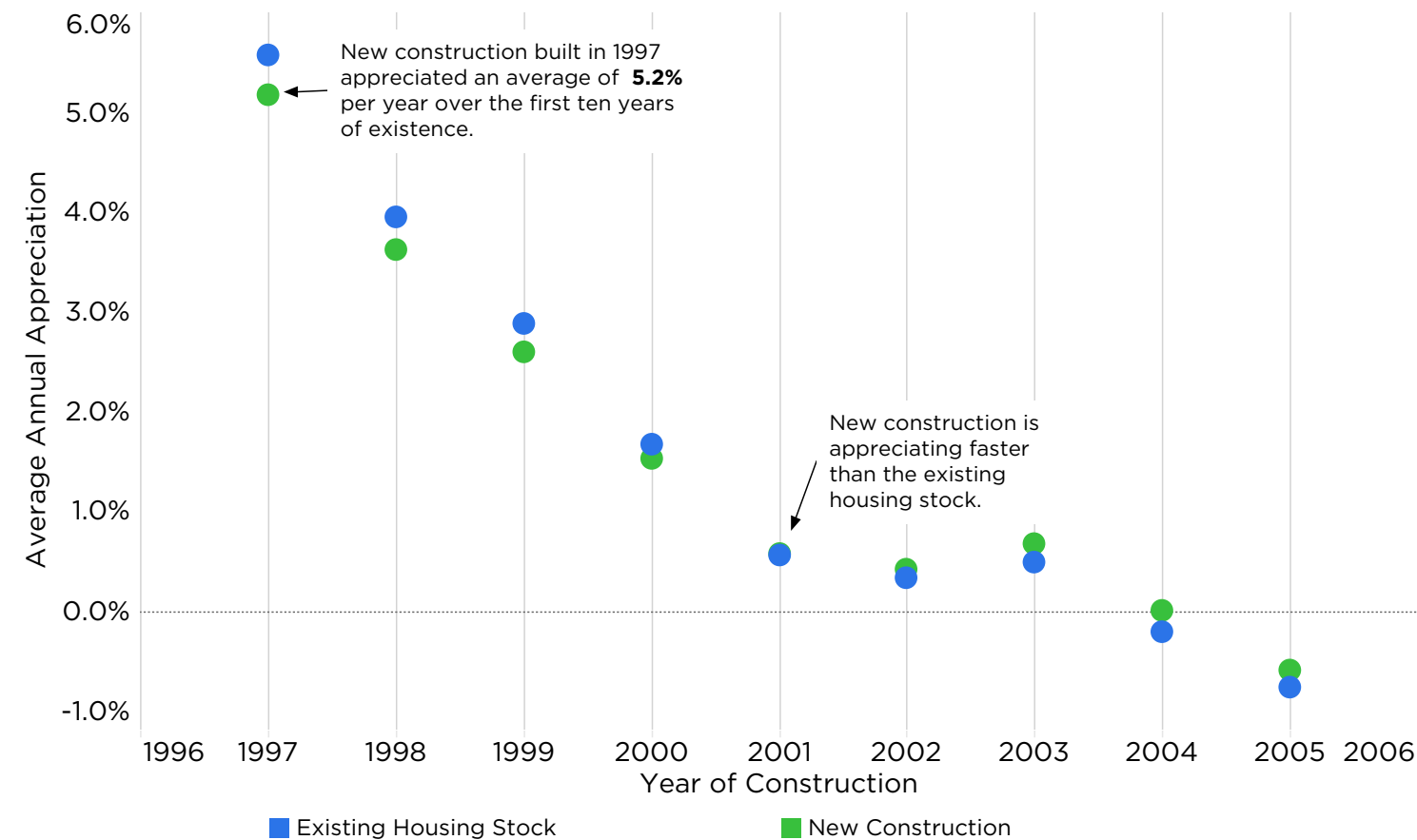
New construction built in 1997 appreciated an average of **5.2%** per year over the first ten years of existence.

New construction is appreciating faster than the existing housing stock.

Average Annual Appreciation

Year of Construction

■ Existing Housing Stock　　　■ New Construction

Repairs on New Construction Homes

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

Less than 1 in 4 buyers of recently built homes paid for major renovations within the first year of owning.

Y-axis: % of Homebuyers Making Major Repairs

X-axis: Decade of Construction

- 1950s: 56.3%
- 1960s: 39.1%
- 1970s: 43.4%
- 1980s: 33.9%
- 1990s: 29.4%
- 2000s: 24.2%
- 2010s: 23.8%
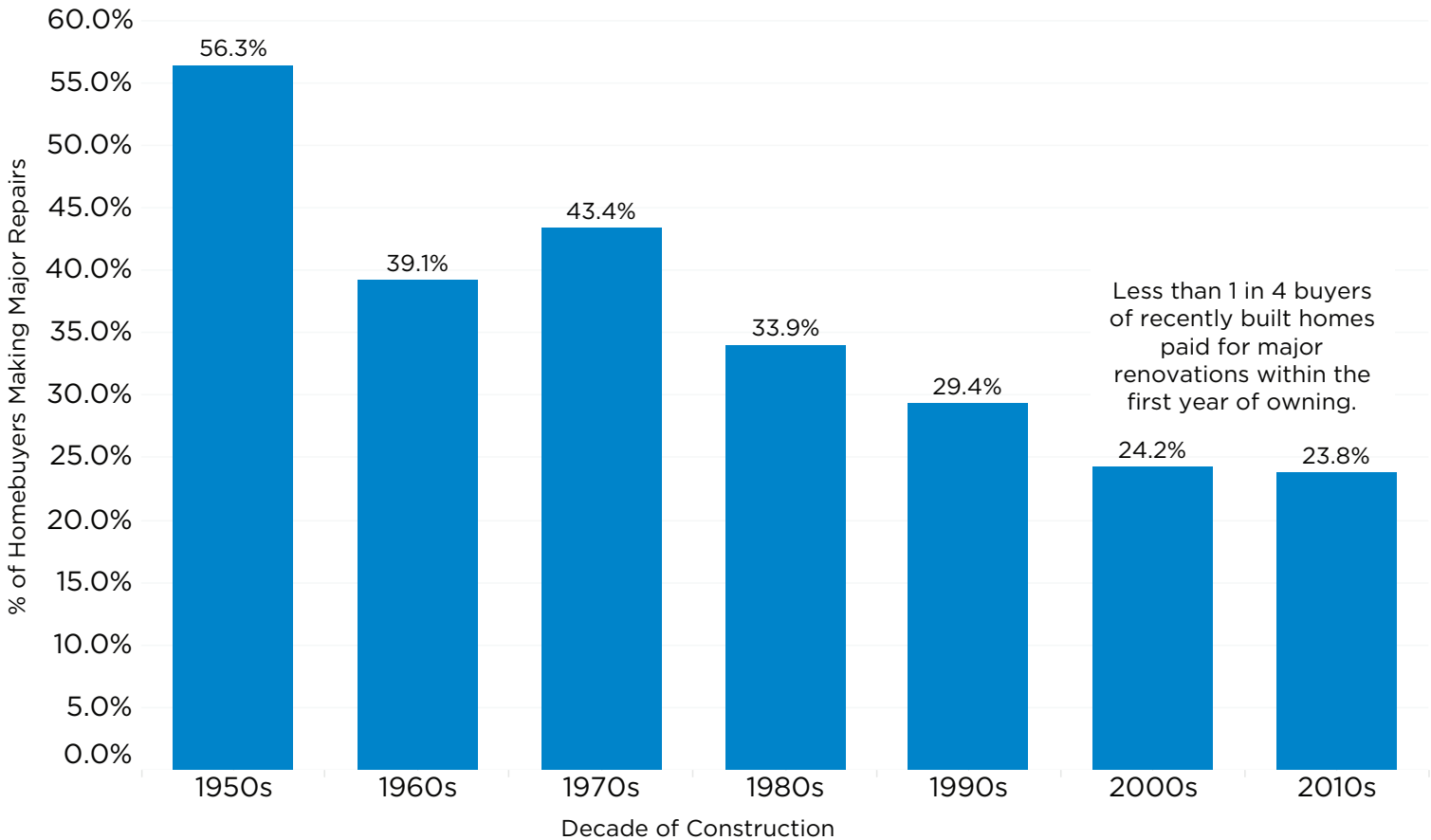
Home Sale Prices

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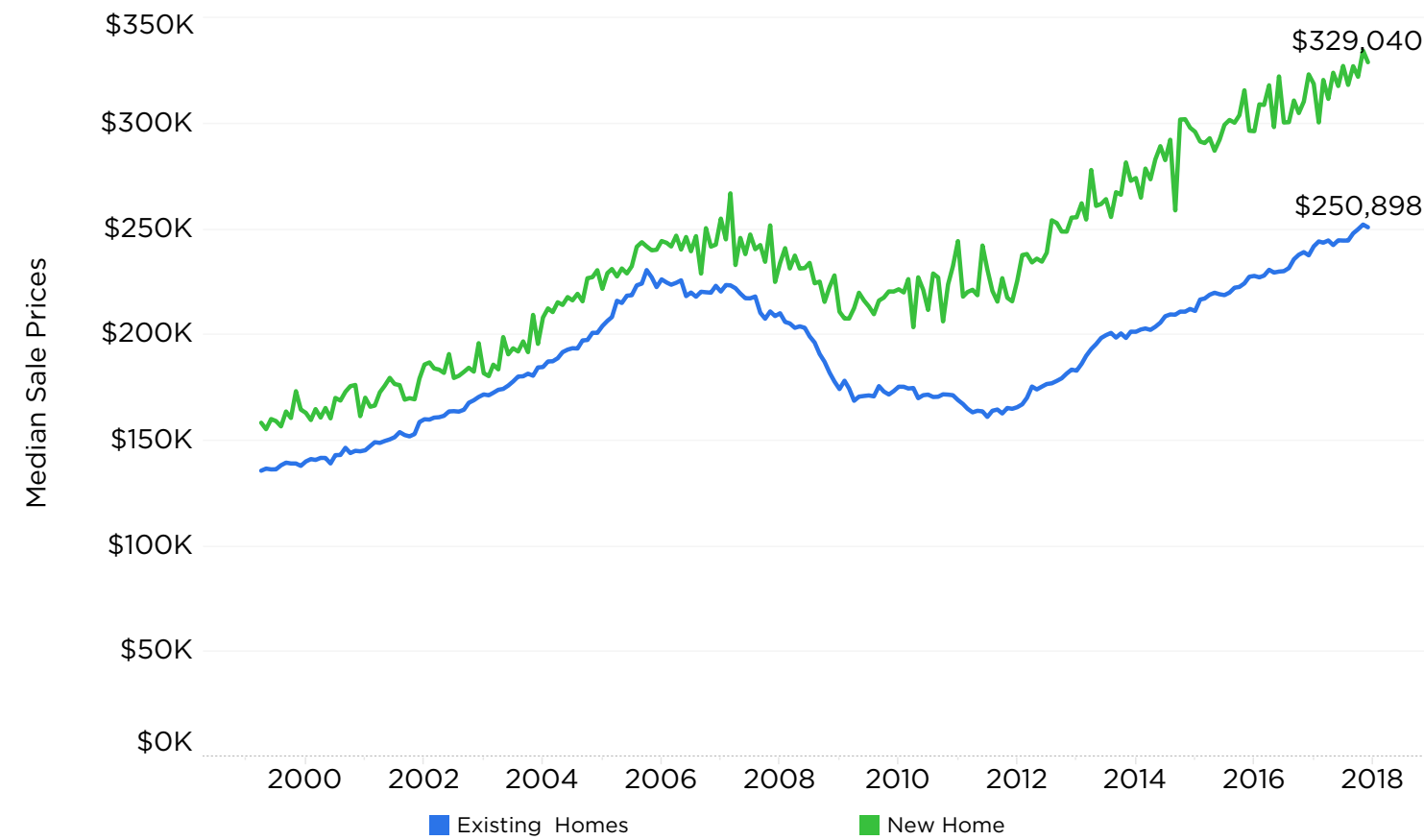
Median Sale Prices

$350K
$300K
$250K — $329,040
$250,898
$200K
$150K
$100K
$50K
$0K

2000 2002 2004 2006 2008 2010 2012 2014 2016 2018

■ Existing Homes   ■ New Home

Home and Lot Sizes

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

Percent Change in Median Home Size and Median

Y-axis: 25.0%, 20.0%, 15.0%, 10.0%, 5.0%, 0.0%, -5.0%, -10.0%, -15.0%, -20.0%

X-axis: 2000, 2002, 2004, 2006, 2008, 2010, 2012, 2014, 2016

20.2%
-13.1%

Note: Centered 7-month moving average

■ Lot Square Feet   ■ Structure Square Feet
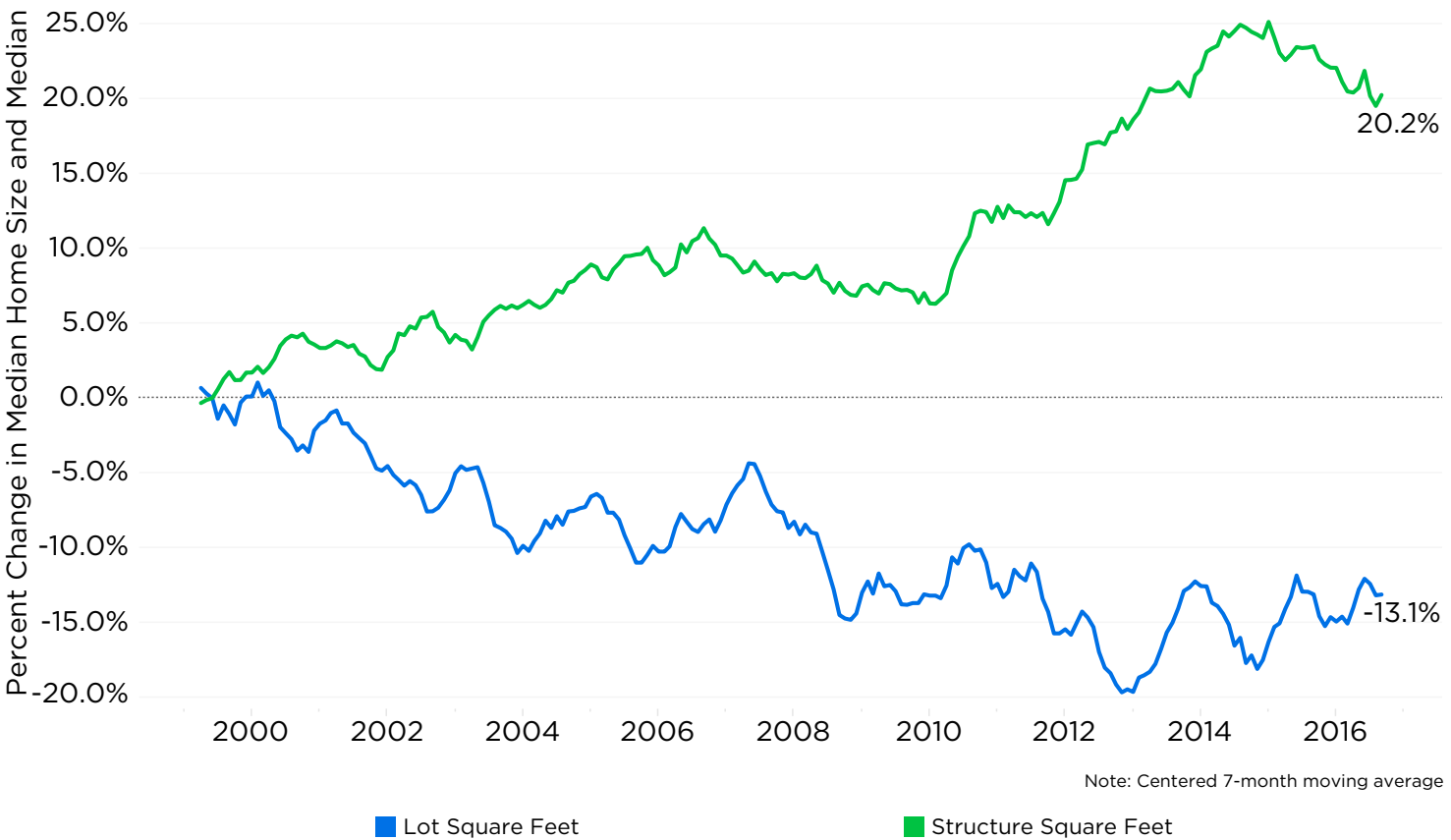
Typical Buyer Profile

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

Source: Zillow analysis of U.S. Census Bureau, American Community Survey, 2014, made available by the University of Minnesota, IPUMS-USA.

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Single-Family Residence Rentals

Renting single-family homes is increasingly popular.
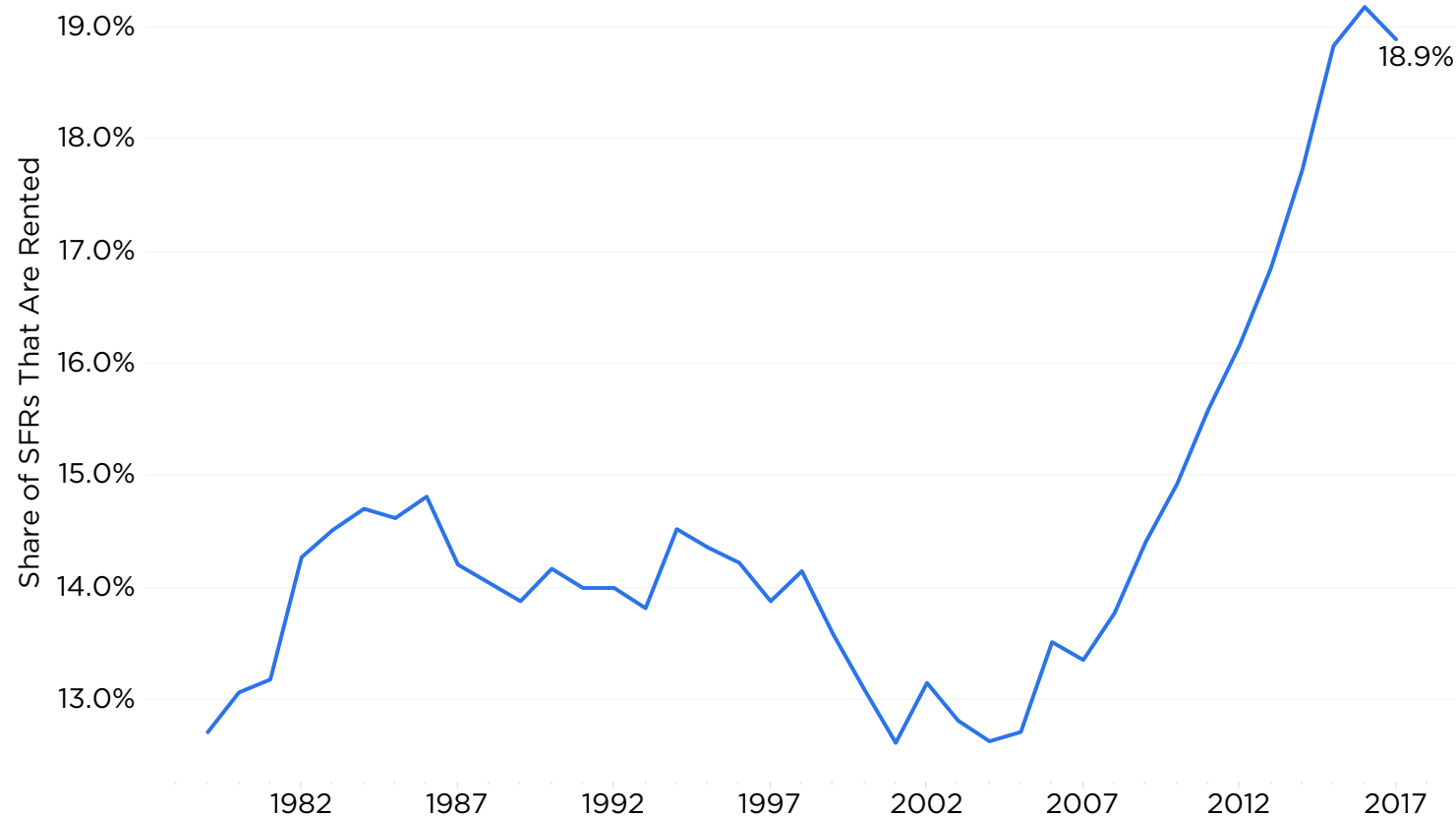
Source: Zillow analysis of U.S. Census Bureau, Current Population Survey 2017, made available by University of Minnesota, IPUMS-USA.

ZILLOW HOUSING MARKET OVERVIEW | **PAGE 47**

Homeownership Views by Age

Millennials do have positive views of homeownership.

Owning a home increases your standing in the local community
- 18-34: 33.0%
- 35-54: 28.0%
- 55+: 18.0%

Owning a home is a key to a higher social status
- 18-34: 32.0%
- 35-54: 23.0%
- 55+: 13.0%

Owning a home is necessary to live The American Dream
- 18-34: 34.0%
- 35-54: 29.0%
- 55+: 21.0%

Share of Repondents Who Strongly Agree

Age Group

Source: Zillow Housing Aspirations Report.
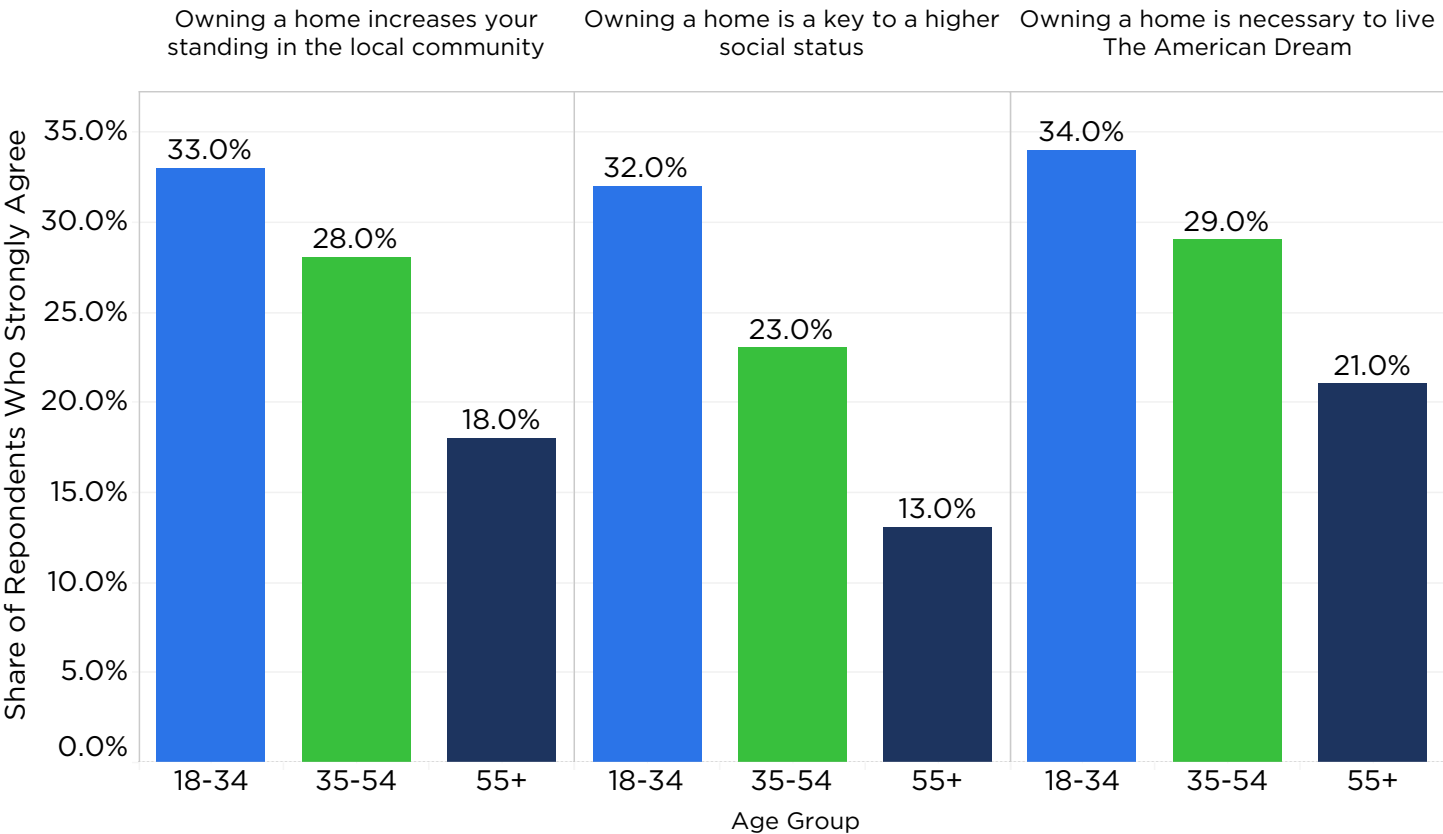
Share of Millennials Living With Their Parents

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

Share of Young Adults Living with Their Parents

33.9%
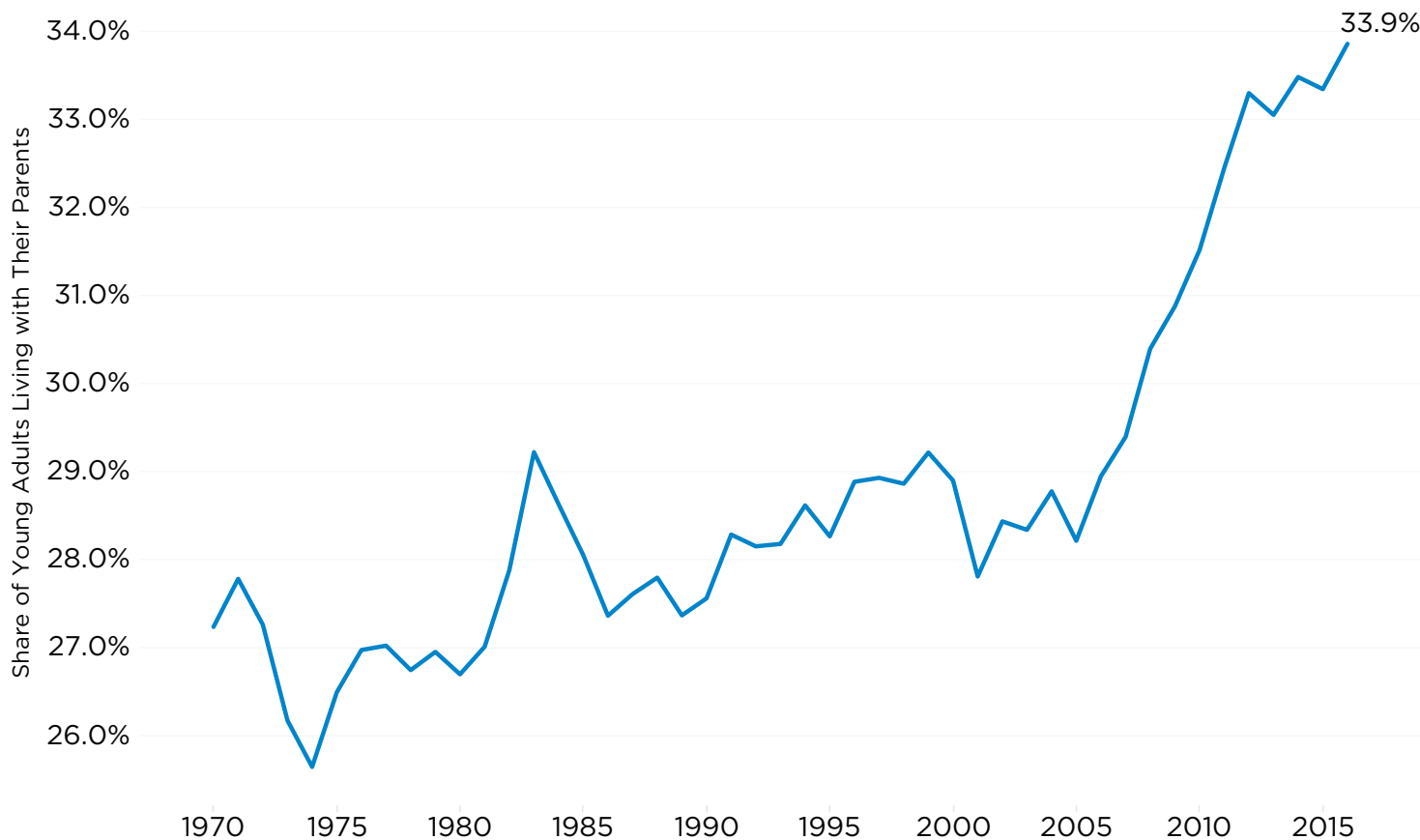
Source: U.S. Census Bureau: Current Population Survey, March Supplement, 2016, made available by the University of Minnesota, IPUMS-USA.

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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

Source: Zillow analysis of University of Michigan Panel Survey of Income Dynamics, 1970-2013.

NEGATIVE EQUITY, FOREIGN INVESTMENT AND THE ECONOMY

- The U.S. negative equity rate has fallen consistently for four years, but more than 5 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.

Y-axis: Share of Homes with a Mortgage in Negative Equity

Data points:
- 2011Q2: 30.0%
- 2011Q3: 30.6%
- 2011Q4: 31.1%
- 2012Q1: 31.4%
- 2012Q2: 30.9%
- 2012Q3: 28.2%
- 2012Q4: 27.5%
- 2013Q1: 25.4%
- 2013Q2: 23.8%
- 2013Q3: 21.0%
- 2013Q4: 19.4%
- 2014Q1: 18.8%
- 2014Q2: 17.9%
- 2014Q3: 16.9%
- 2014Q4: 16.9%
- 2015Q1: 15.4%
- 2015Q2: 14.4%
- 2015Q3: 13.4%
- 2015Q4: 12.7%
- 2016Q1: 13.1%
- 2016Q2: 12.1%
- 2016Q3: 10.9%
- 2016Q4: 10.5%
- 2017Q1: 10.4%
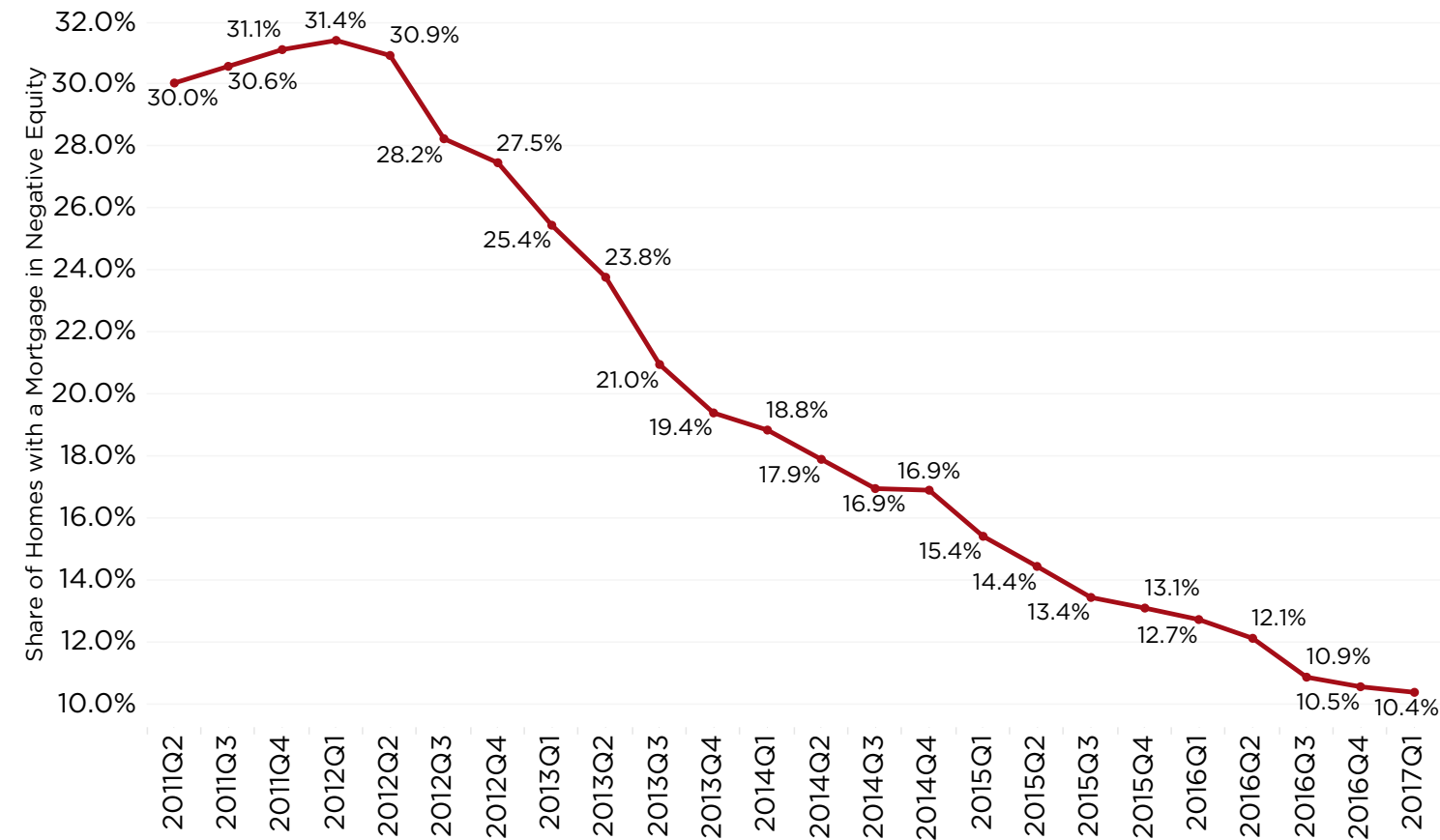
Negative Equity, by Thirds

Negative equity is worst among bottom-third homes.

	Bottom Third	Middle Third	Top Third
United States	15.8%	9.2%	6.7%
Atlanta, GA	24.6%	10.6%	6.9%
Baltimore, MD	24.5%	13.0%	7.6%
Boston, MA	9.8%	5.3%	3.9%
Chicago, IL	27.0%	14.8%	8.8%
Detroit, MI	36.4%	9.5%	4.3%
Los Angeles, CA	8.1%	4.9%	3.1%
Miami, FL	19.0%	8.6%	5.3%
Minneapolis, MN	11.1%	6.1%	5.2%
New York, NY	17.0%	7.1%	4.3%
Philadelphia, PA	21.1%	10.2%	5.8%
Phoenix, AZ	13.6%	10.0%	8.7%
Riverside, CA	13.7%	9.8%	7.9%
San Diego, CA	7.8%	6.0%	4.1%
San Francisco, CA	6.3%	2.9%	1.5%
Seattle, WA	9.4%	6.3%	3.4%
St. Louis, MO	26.5%	10.9%	5.7%
Tampa, FL	18.5%	7.9%	5.3%
Washington, DC	19.1%	11.5%	6.2%

Foreclosure Thirds

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

	Bottom-Third Homes	Middle-Third Homes	Top-Third Homes
United States	46.7	36.8	16.6
New York, NY	46.1	35.2	18.7
Los Angeles, CA	49.3	33.8	16.9
Chicago, IL	41.9	37.2	20.8
Dallas, TX	42.9	41.5	15.6
Philadelphia, PA	57.1	30.3	12.6
Washington, DC	45.1	40.3	14.7
Miami, FL	44.1	38.6	17.3
Atlanta, GA	46.9	39.6	13.5
Boston, MA	56.2	31.5	12.3
San Francisco, CA	51.7	31.5	16.7
Detroit, MI	60.0	28.5	11.5
Riverside, CA	35.9	43.2	20.8
Phoenix, AZ	45.5	39.1	15.4
Seattle, WA	55.8	31.3	12.9
Minneapolis, MN	45.1	38.3	16.6
San Diego, CA	44.0	38.4	17.6
St. Louis, MO	51.7	35.1	13.1
Tampa, FL	48.4	37.7	13.9
Baltimore, MD	51.8	34.9	13.3
Denver, CO	51.7	34.6	13.7
Pittsburgh, PA	55.3	30.0	14.6

Share of Foreclosures

Legend:
- Top-Third Homes (green)
- Middle-Third Homes (blue)
- Bottom-Third Homes (dark navy)

Boomerang Buyers

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

Legend:
- Prime, 2000–06 foreclosure start
- Prime, 2007–10 foreclosure start
- Subprime, 2000–06 foreclosure start
- Subprime, 2007–10 foreclosure start

X-axis: Years After Foreclosure Start
Y-axis: Share of Borrowers with a New Mortgage
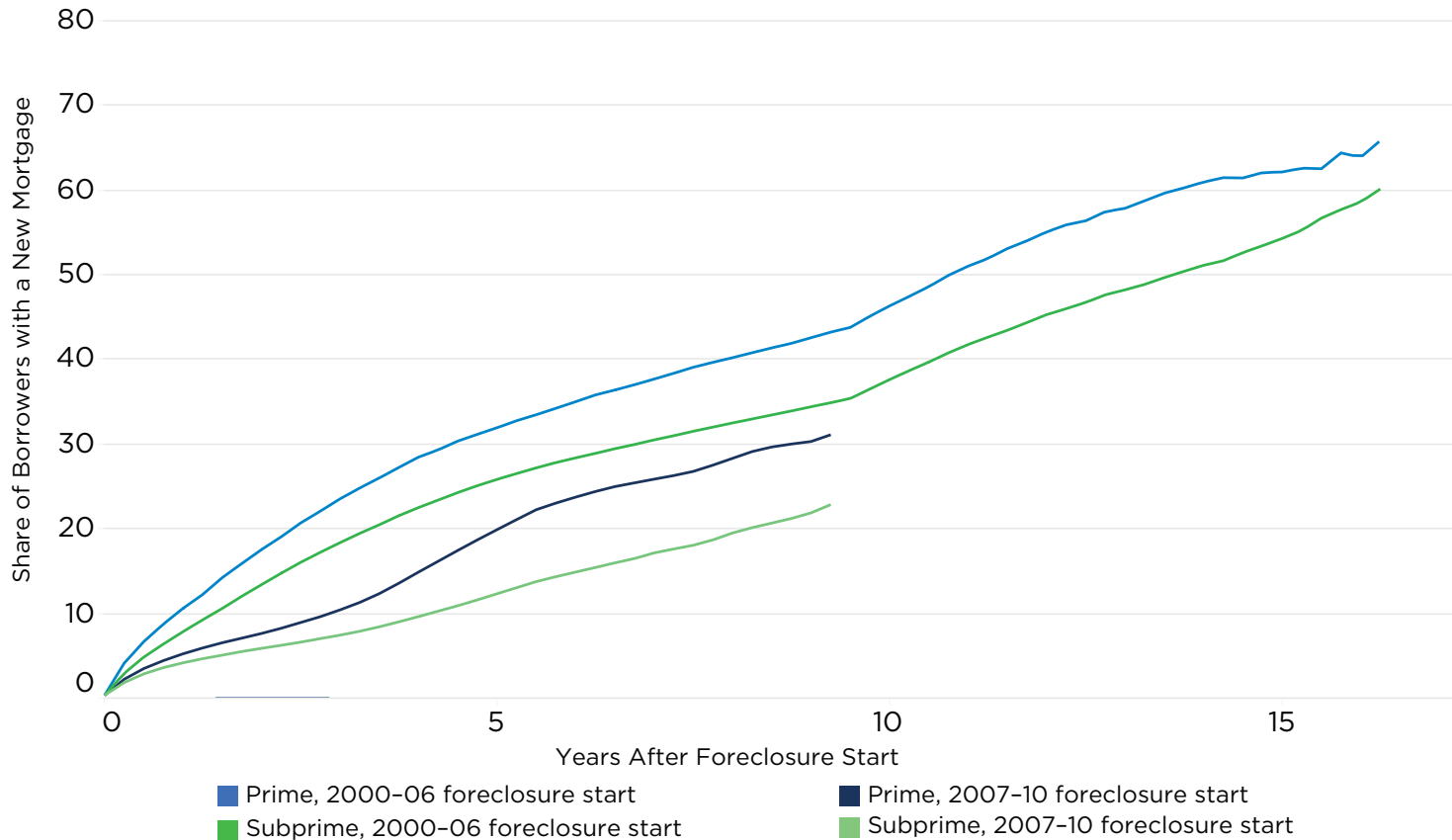
U.S. Homeownership Rate

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

64.2%
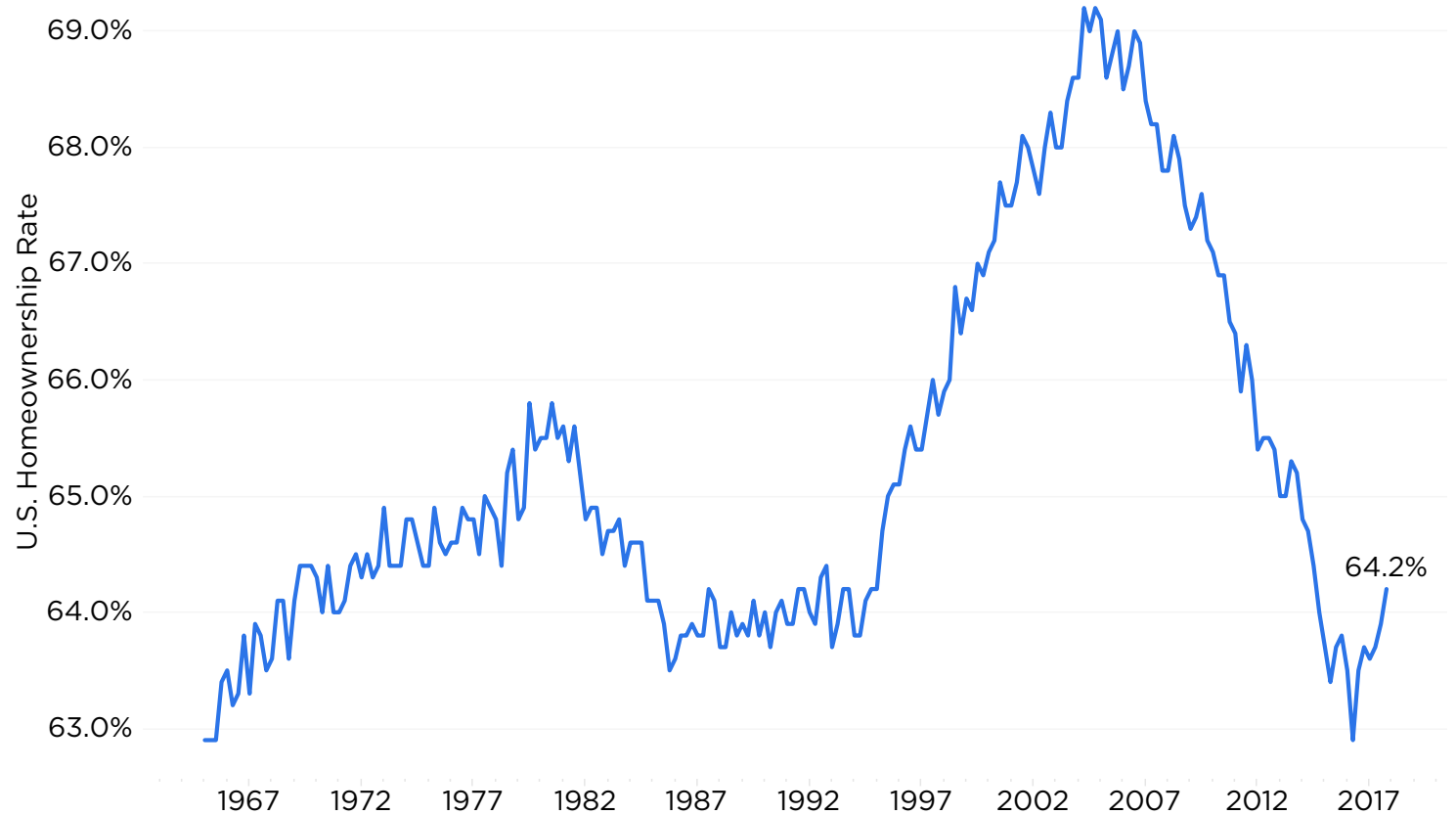
Newly Formed Households

Since 2005, newly formed households have tended to rent.

Source: Zillow analysis of U.S. Census Bureau CPS data 1995-2016, IPUMS.

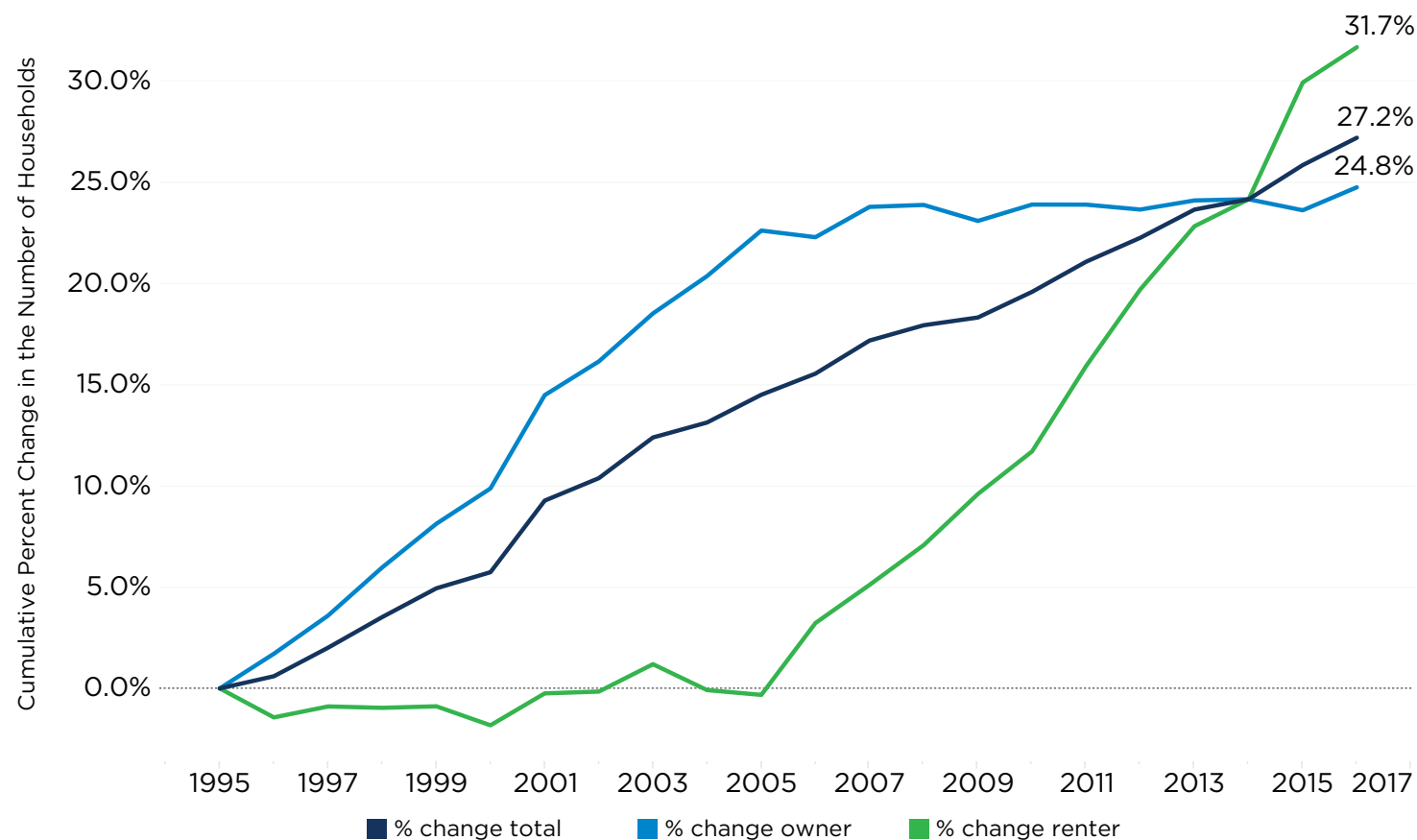# U.S. Homeownership Rate, by Race

Blacks have the lowest homeownership rate.
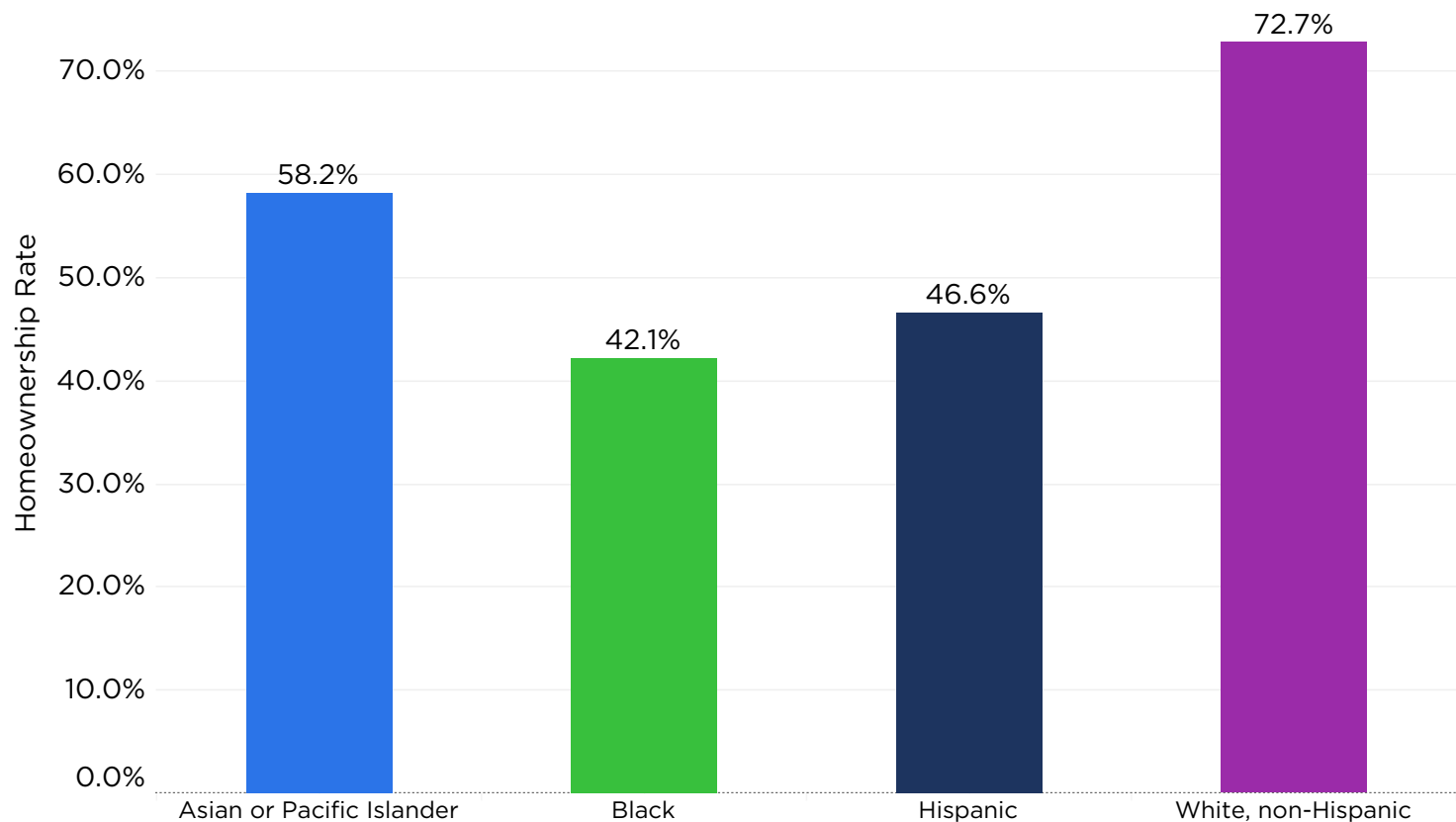
Experts: Foreign Investment

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:

Decrease marginally — 43.0%
Decrease substantially — 4.0%
Increase marginally — 18.0%
Increase substantially — 3.0%
Stay about the same — 32.0%
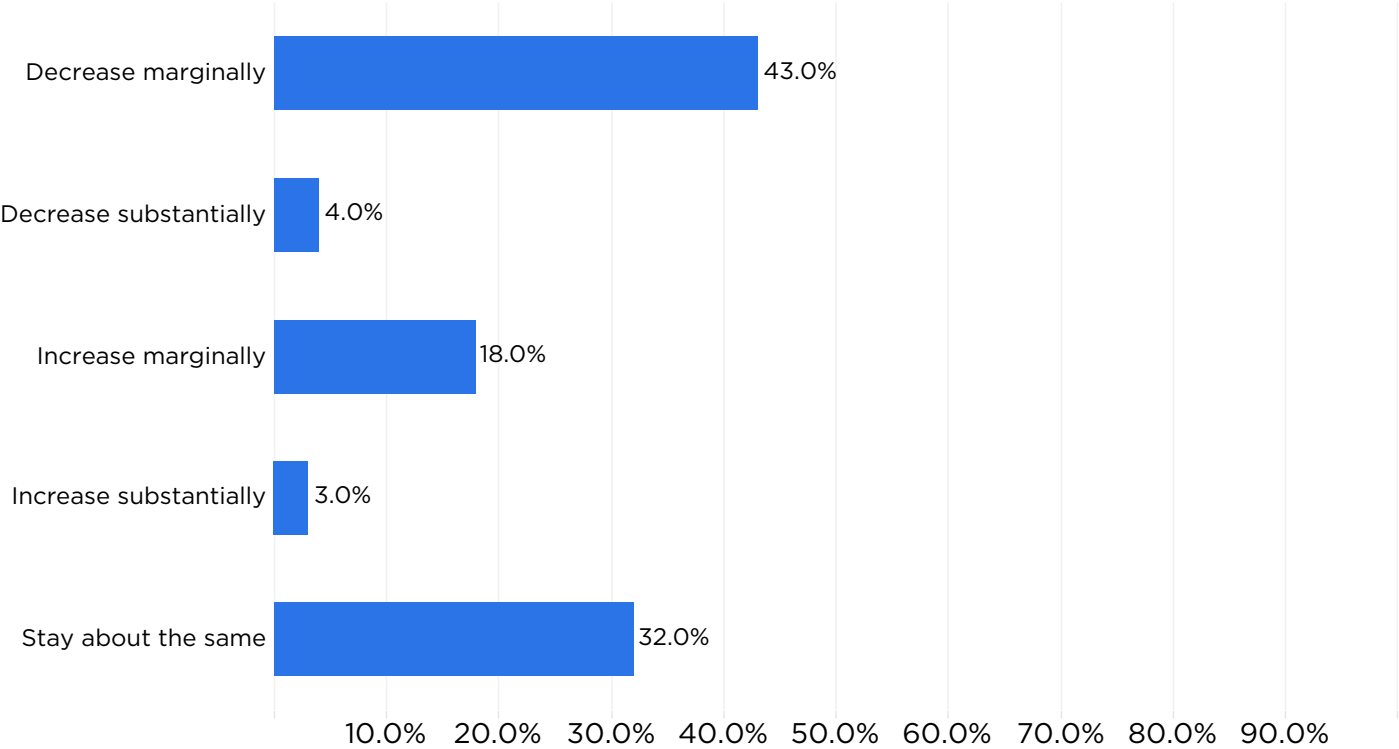
Top Markets for International Home Shoppers

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

Source: Zillow search data.

Exchange Rates

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

Currency	U.S. Home Value Appreciation
Japanese Yen	17.5%
Brazilian Real	11.0%
British Pound	9.5%
Chinese Yuan Renminbi	9.5%
United States Dollar	7.4%
Canadian Dollar	7.3%
Mexican Peso	5.0%
Euro	4.2%
Russian Ruble	-0.9%

U.S. Home Value Appreciation
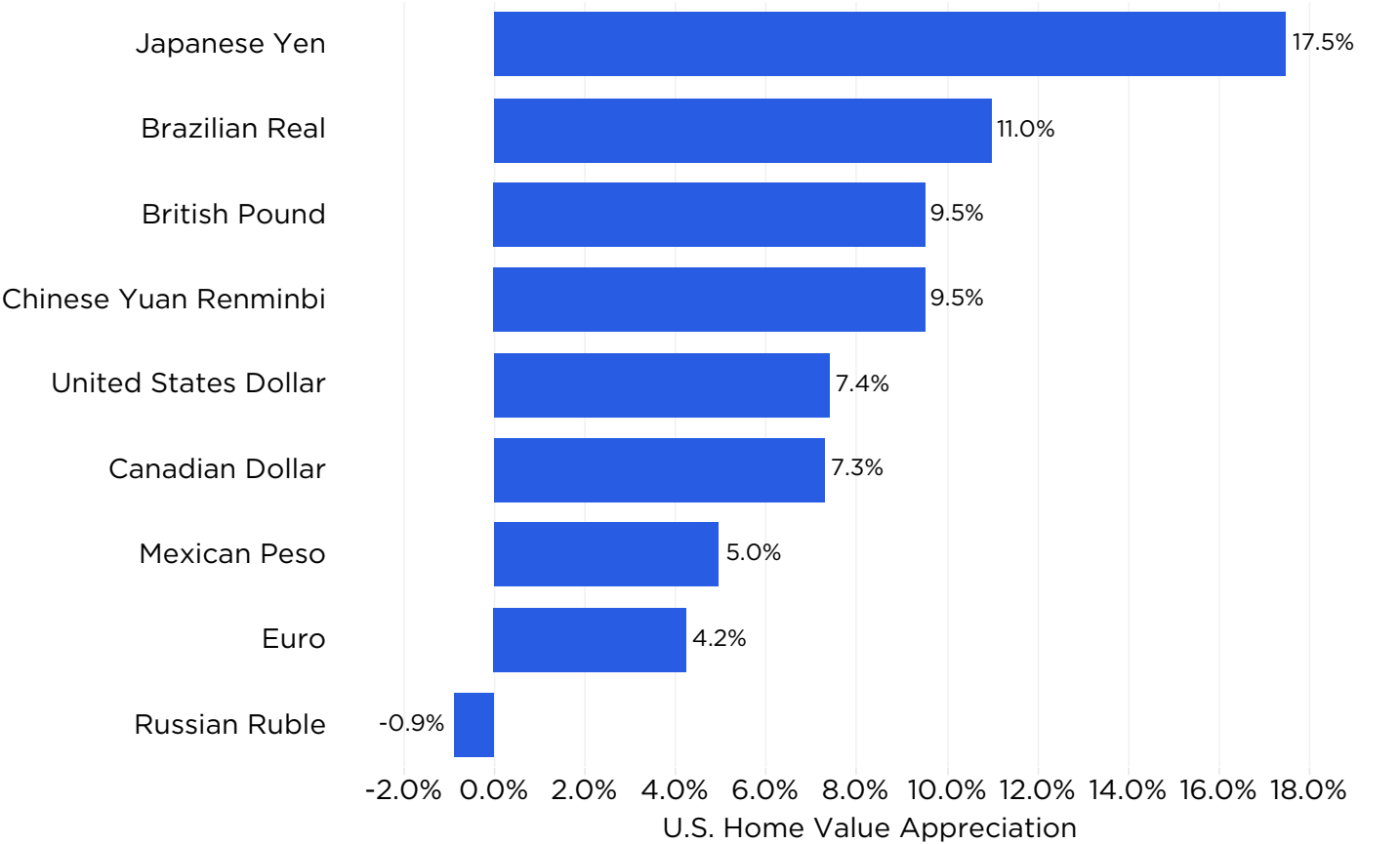
Experts: Impact of Foreign Investment

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)?

Factor	Major Impact	Modest Impact	No Impact	Not Sure
Home inventory	16.5%	61.2%	15.3%	7.1%
Home values (overall)	22.1%	62.8%	11.6%	3.5%
High-end home values	48.3%	42.5%	5.7%	3.4%
Mid-level home values	9.2%	50.6%	36.8%	3.4%
Entry-level home values	6.9%	19.5%	69.0%	4.6%

Share of Respondents

■ Major Impact ■ Modest Impact ■ No Impact ■ Not Sure
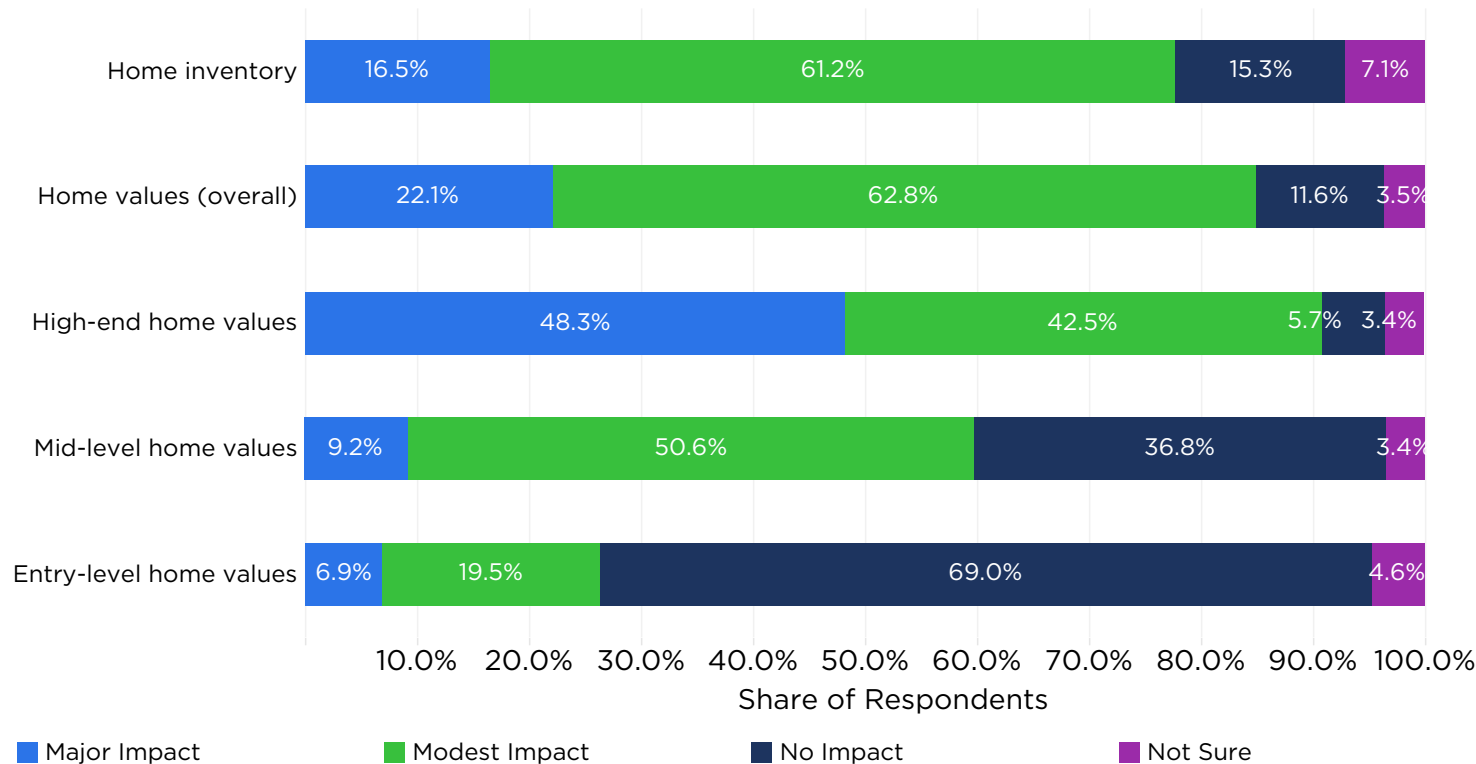
Chinese Buyers

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.

Boston, MA

Los Angeles, CA

New York, NY

San Francisco, CA

Seattle, WA

United States

Target List Price Percentile

■ American Home Shoppers   ■ Chinese Home Shoppers
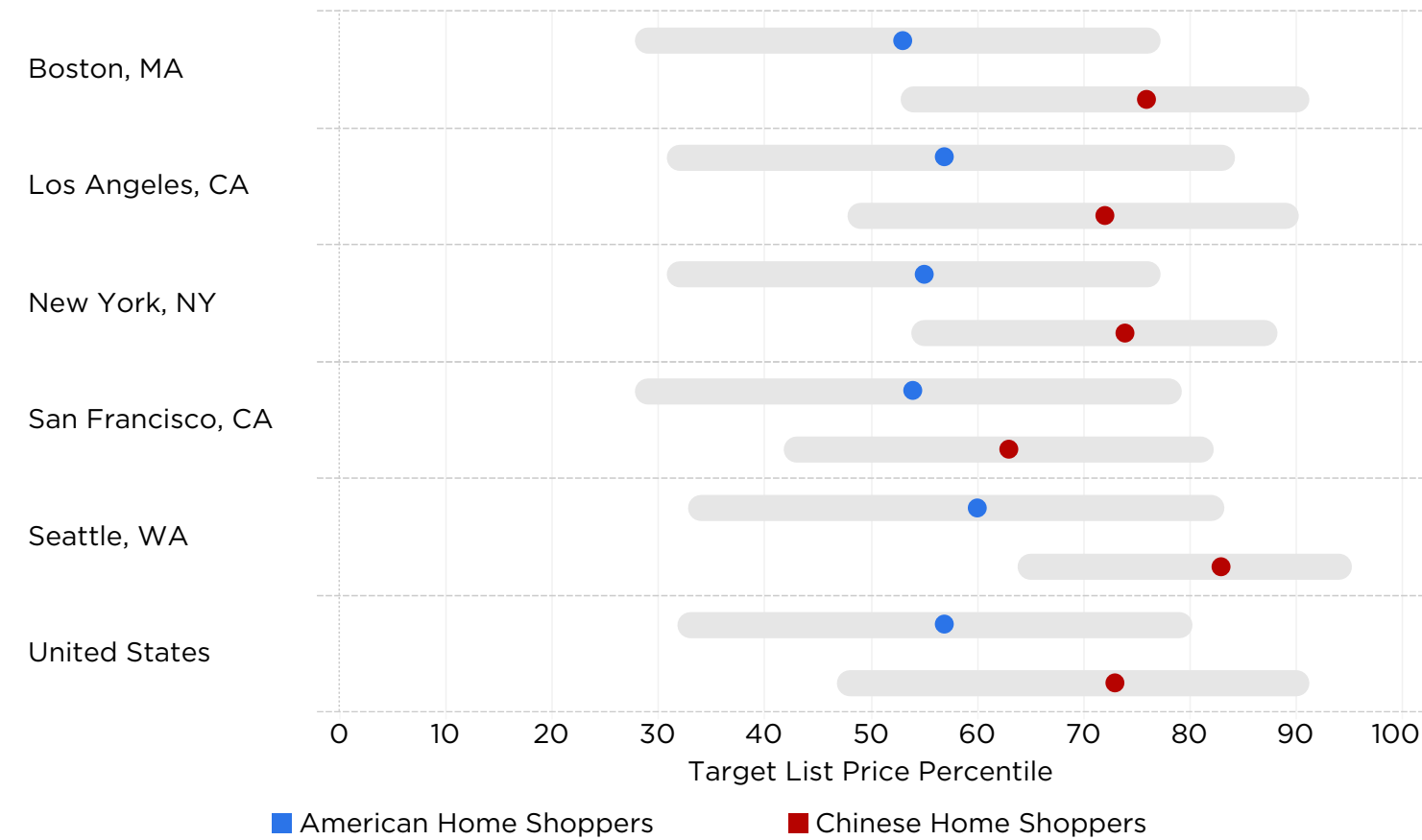
Chinese and U.S. Real Estate

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.

Metro	Value
Shenzhen	$7,768
Beijing	$6,836
Shanghai	$6,448
San Francisco, CA	$4,888
Los Angeles, CA	$4,023
Guangzhou	$3,603
San Diego, CA	$3,462
Nanjing	$3,367
New York, NY	$3,327
Tianjin	$2,979
Hangzhou	$2,921
Washington, DC	$2,725
Seattle, WA	$2,585
Denver, CO	$2,346
Qingdao	$2,200
Baltimore, MD	$2,162
Minneapolis, MN	$1,975
Riverside, CA	$1,878
Miami, FL	$1,819
Boston, MA	$1,740
Wuhan	$1,688
Chicago, IL	$1,678
Jinan	$1,675
Philadelphia, PA	$1,637
St. Louis, MO	$1,434
Phoenix, AZ	$1,425
Tampa, FL	$1,417
Detroit, MI	$1,326

■ China   ■ United States

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 the best local professionals who can help. In addition, Zaillow operates an industry-leading economics and analytics bureau led by Zillow'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 (NASDAQ: Z and ZG), and headquartered in Seattle.

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