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2019 Multifamily Market Update

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Today's Agenda

- Macroeconomic Outlook
- Multifamily Demand Refresh
- Political Risk Analysis
- Deep Dive Into Supply
- Multifamily Fundamentals
- Update on Affordability

Source: Yardi®Matrix

The Yardi Matrix View

- **U.S. economy is a glass half full/glass half empty situation**
  - GDP growth in Q3 was OK (~1.9%), and we expect Q4 to be a bit lower, with a lot more noise
  - U.S. oil production is keeping inflation low below 2% – and low inflation is a global phenomenon
  - The yield curve has been inverted for 5 months, but flattened following the Sept 18 and Oct 30 rate cuts
  - The European and Chinese economies are in poor shape
  - The U.S. service sector labor market is extremely tight, and wages continue to rise
  - Manufacturing and farming sectors are struggling
  - There is a highly elevated risk of recession mid 2021

- **Demographic and lifestyle changes are fueling strong demand for multifamily, north of 425K units/year**
  - An aging population, increasing divorce rates, and more younger people living at home all contribute to strong demand
  - Total housing production is unlikely to catch up to household formation, putting upward pressure on rents, occupancy rates and pressures for rent control

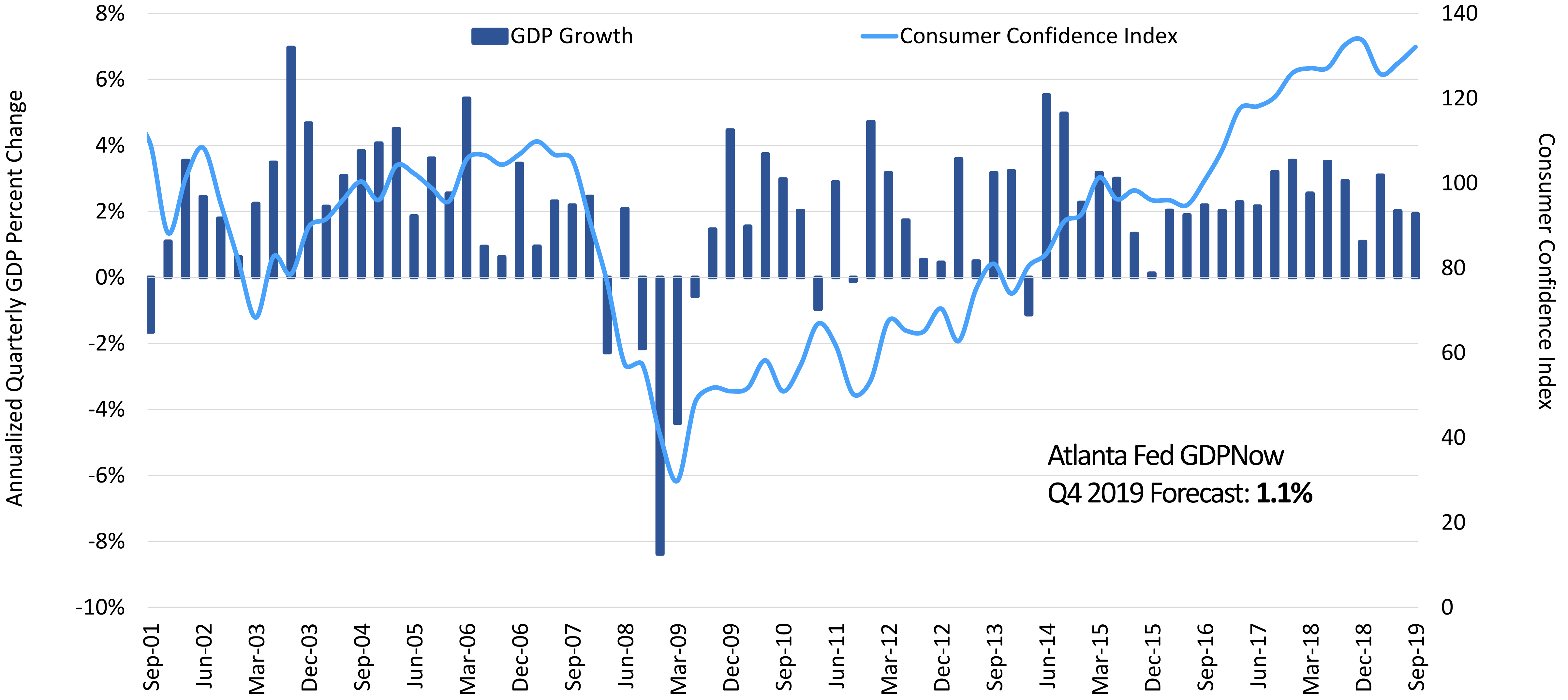
- **We've taken a first stab at analyzing political risk, which has become more important when making investment decisions**
  - Our analysis found that gateway markets have the most political risk, with Boston and Washington DC faring better than the rest
  - This is just our first take, and we welcome any feedback as we expand this analysis to another 30-40 markets

The Yardi Matrix View

- **<u>The national supply picture looks pretty balanced, but there is a lot more noise at the market and submarket level</u>**
  - After several years of increasing construction timelines, our recent analysis of construction durations at the market level show timelines have sped up over the past year
  - Most markets struggled to absorb new supply over the last year, though Seattle, Denver, and Dallas faired well, and those three markets are expected to have the most deliveries over the next four years
- **<u>Overall, the multifamily industry is performing well, with strong demand, level new supply, and strong rent growth</u>**
  - Lifestyle rents are rising while renter-by-necessity rents are falling, a recent flip to what we have seen the past couple years
  - Tech hub and tertiary markets are still best positioned to have the most rent growth over the next few years
- **<u>Affordability is a headwind for the industry, and markets are taking different approaches to tackle the issue</u>**
  - A number of public and private responses to affordability have emerged
    - Rent control, higher density zoning, coliving, Airbnb, etc.
  - Oregon, New York and California passed drastic rent control measures in response to affordability
    - The result of these measures will be a slow grind of capital out of California and New York, and capital less likely to enter Oregon

Macroeconomic Outlook

U.S. Economic Growth is Decent, but Slowing



Source: Moody's Analytics; Bureau of Labor Statistics (BLS); S&P Dow Jones Indices LLC; CoreLogic, Inc; Federal Housing Agency (FHFA); Freddie Mac; Fannie Mae; U.S. Bureau of Economic Analysis (BEA); U.S. Board of Governors of the Federal Reserve System (FRB); Investing.com; Federal Reserve Bank of Atlanta

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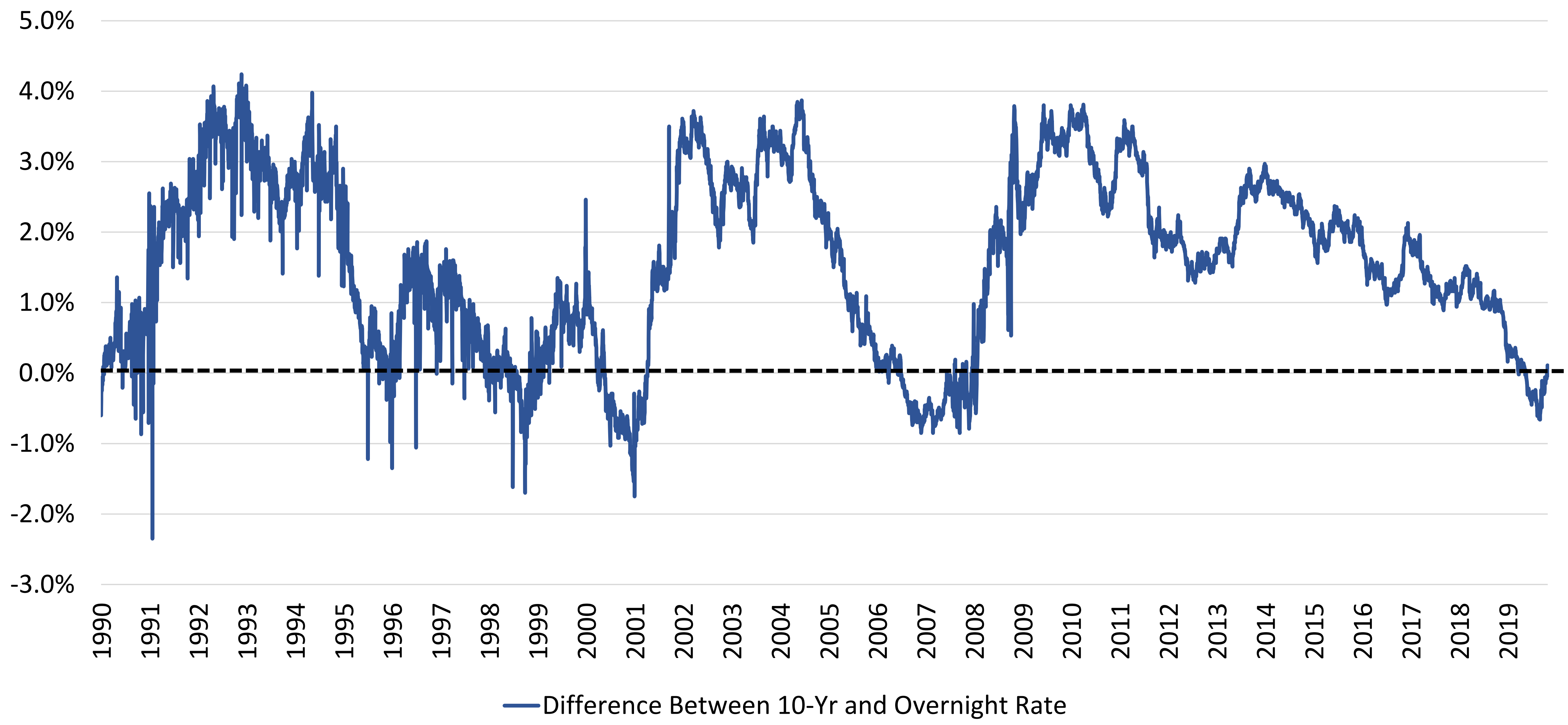
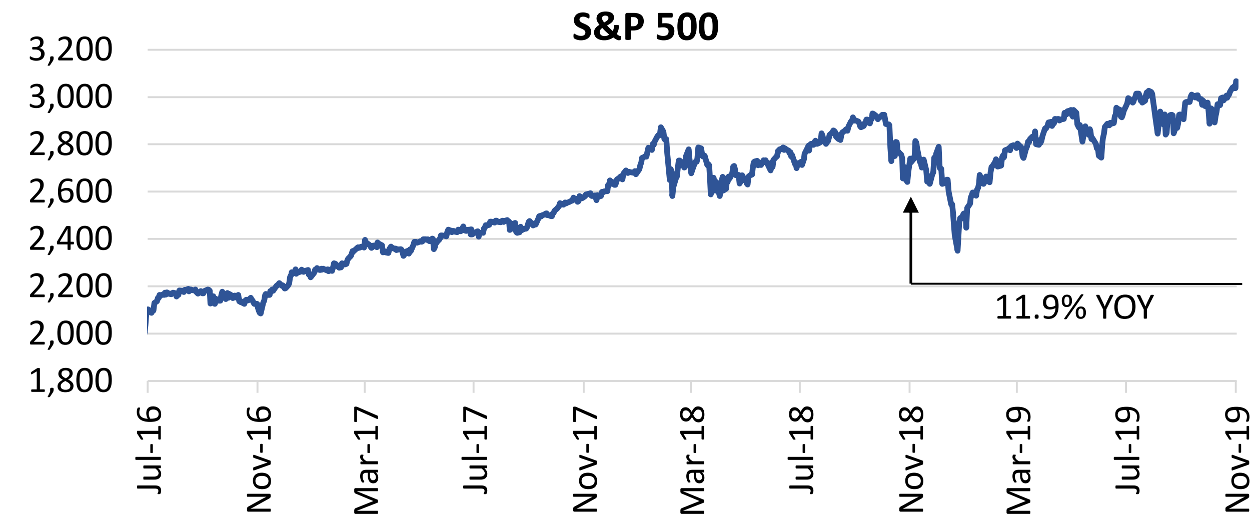
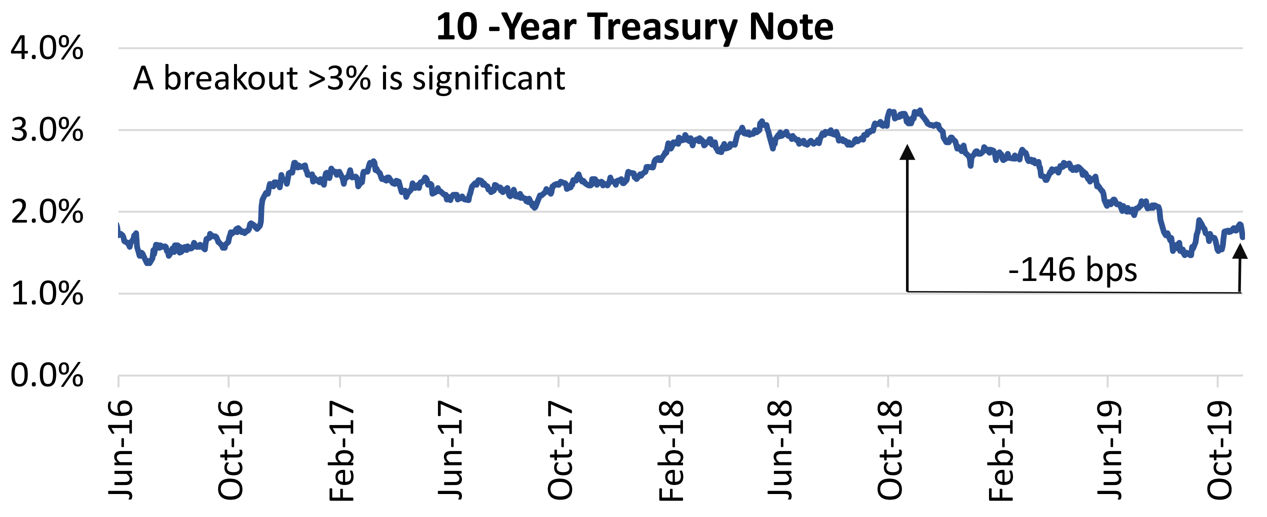
The Yield Curve Has Returned to Flat

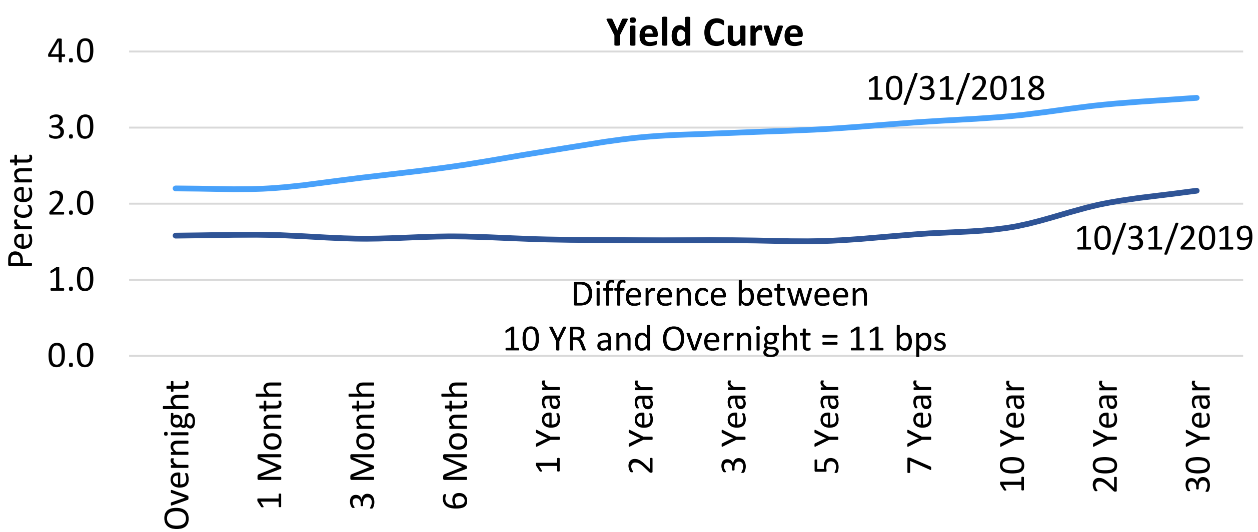


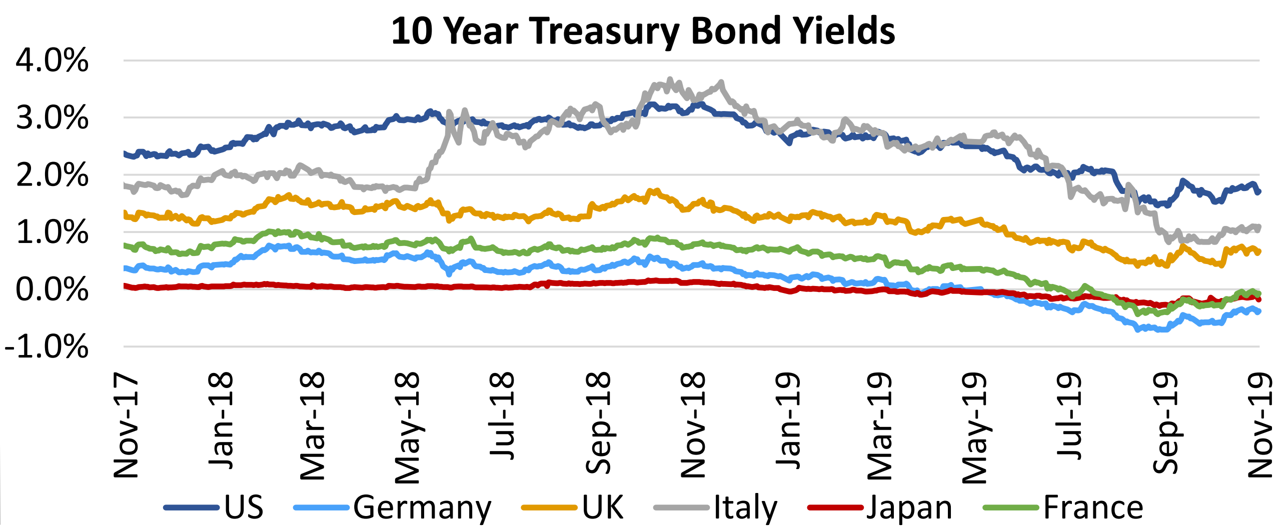
Source: Moody's Analytics; U.S. Board of Governors of the Federal Reserve System (FRB)

U.S. and International Financial Market



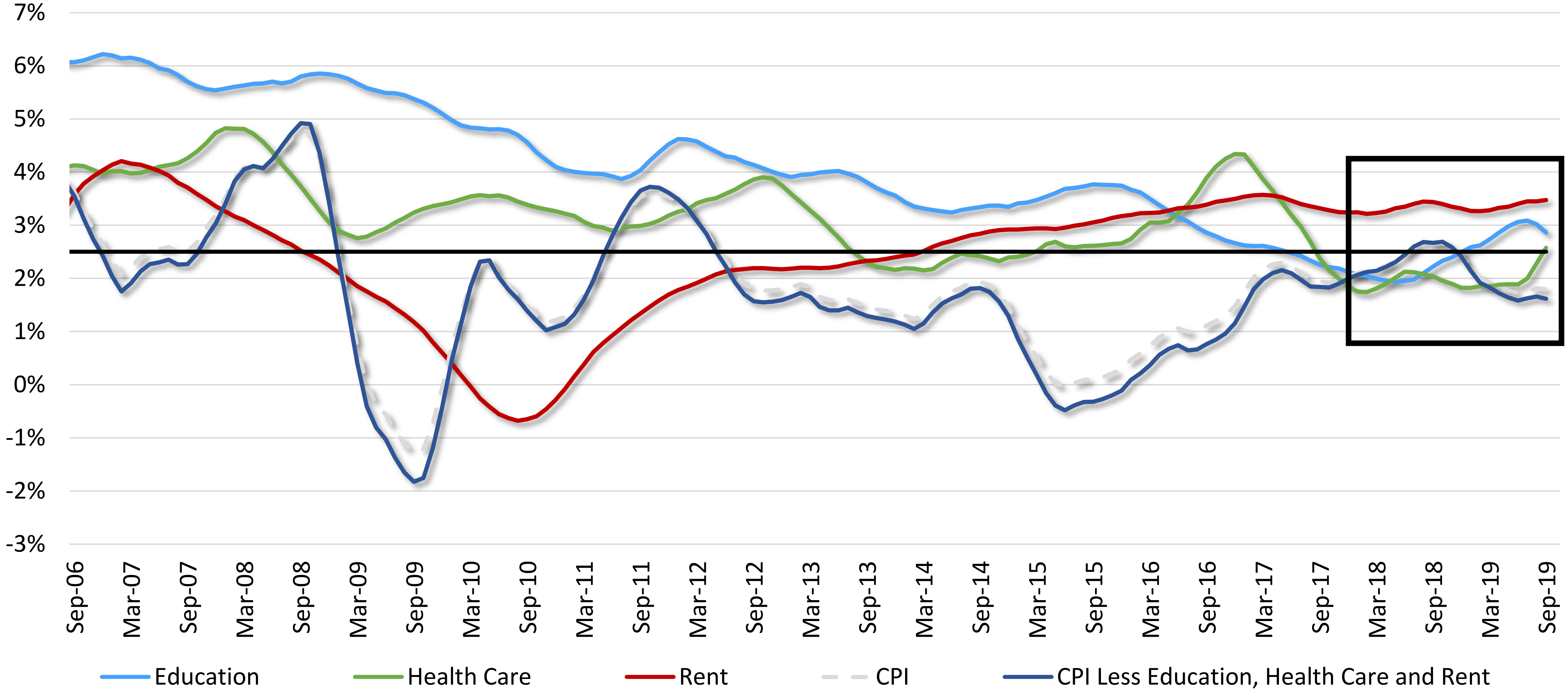






Source: Moody's Analytics; Investing.com

Inflation Was Rising, But is Now Well Below 2%, and is Unlikely to Break Out >2.5%



*YOY 6 month moving avgs. CPI Less Health Care, Education and Rent is an estimate using BLS document "Math calculations to better utilize CPI data"

Source: Moody's Analytics; Bureau of Labor Statistics (BLS)

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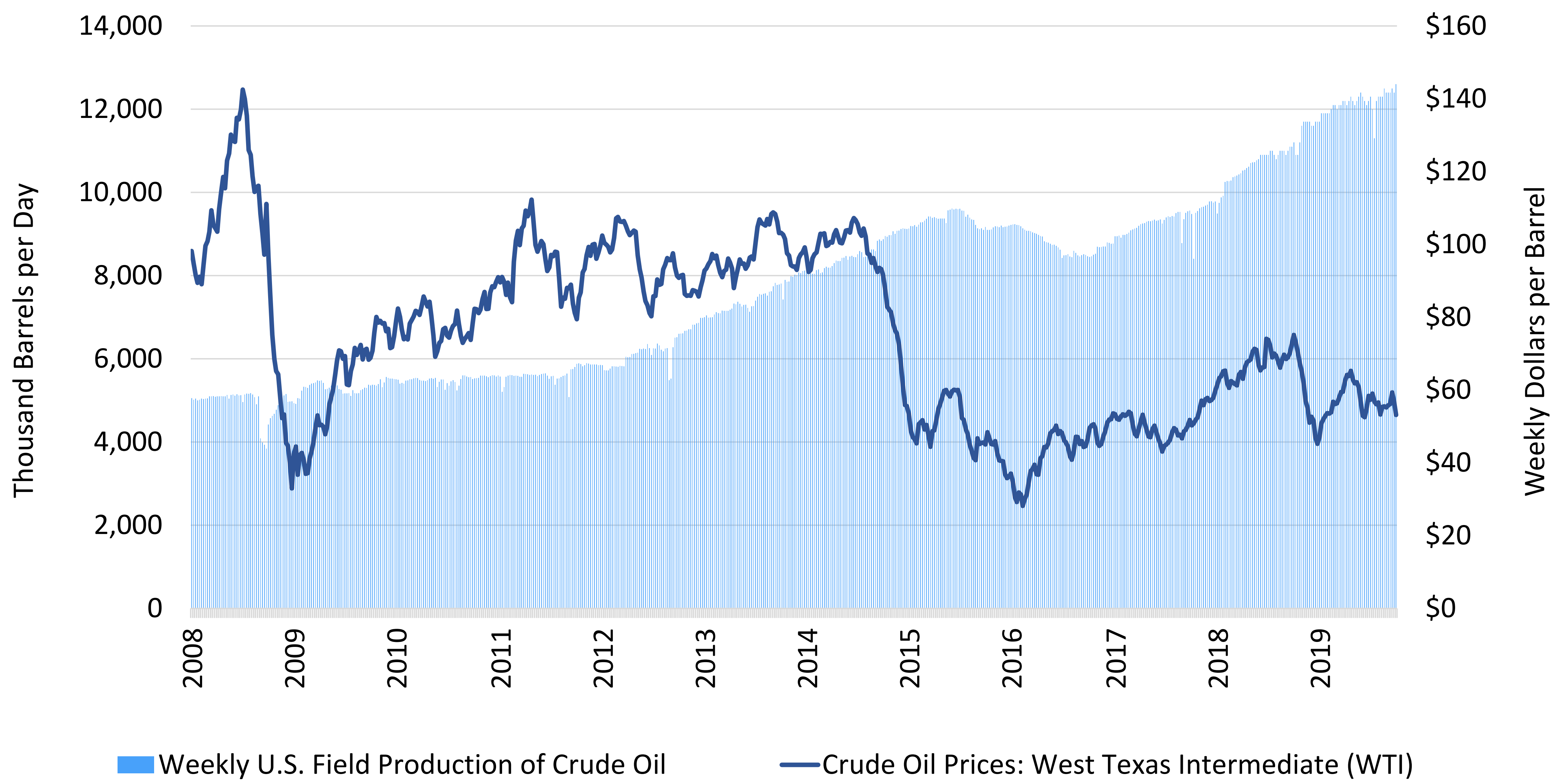
Why is There No Inflation? U.S. Oil is Flooding the Market



Source: Energy Information Administration, Federal Reserve Bank of St. Louis, Economic Research Division

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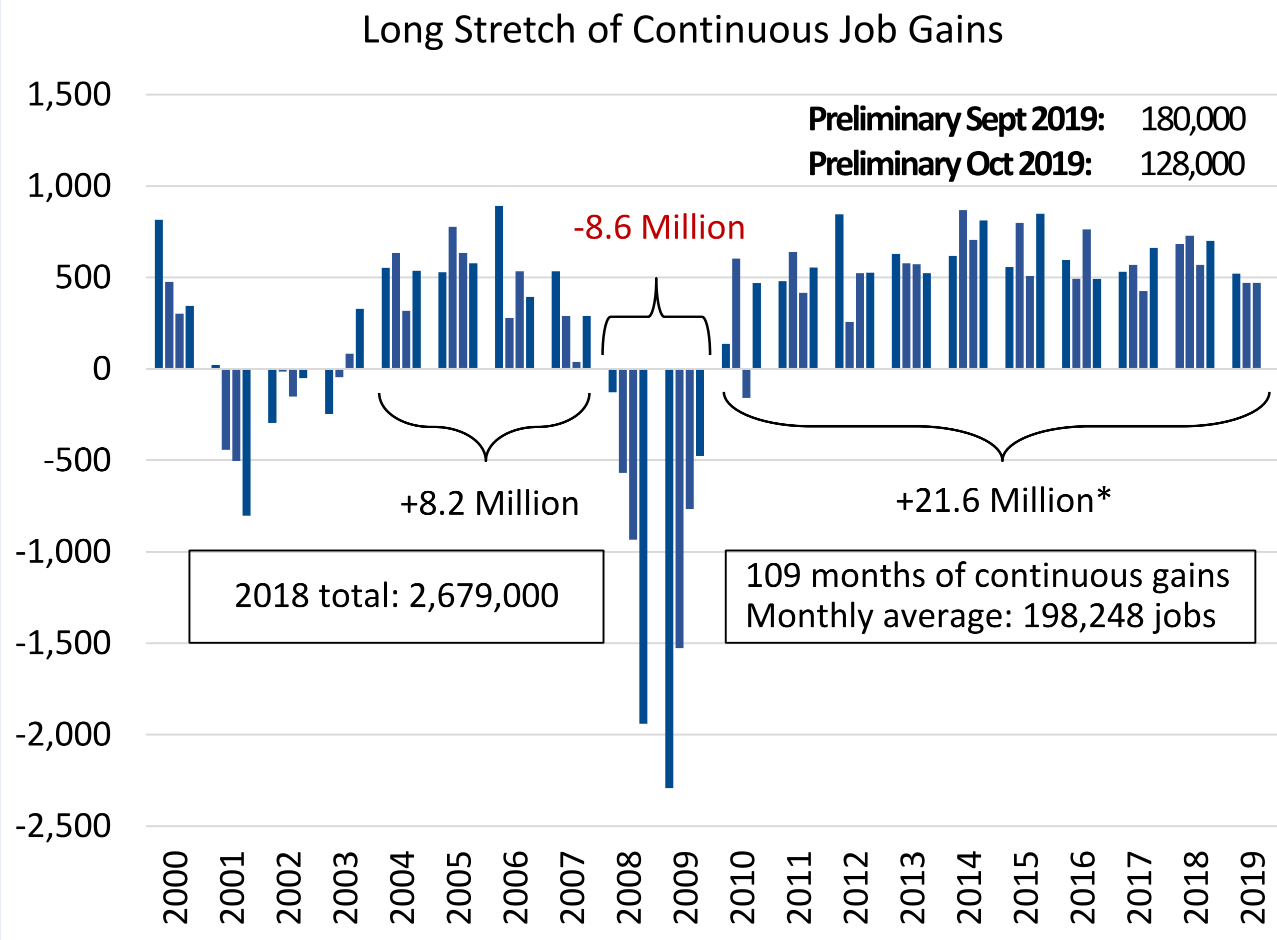
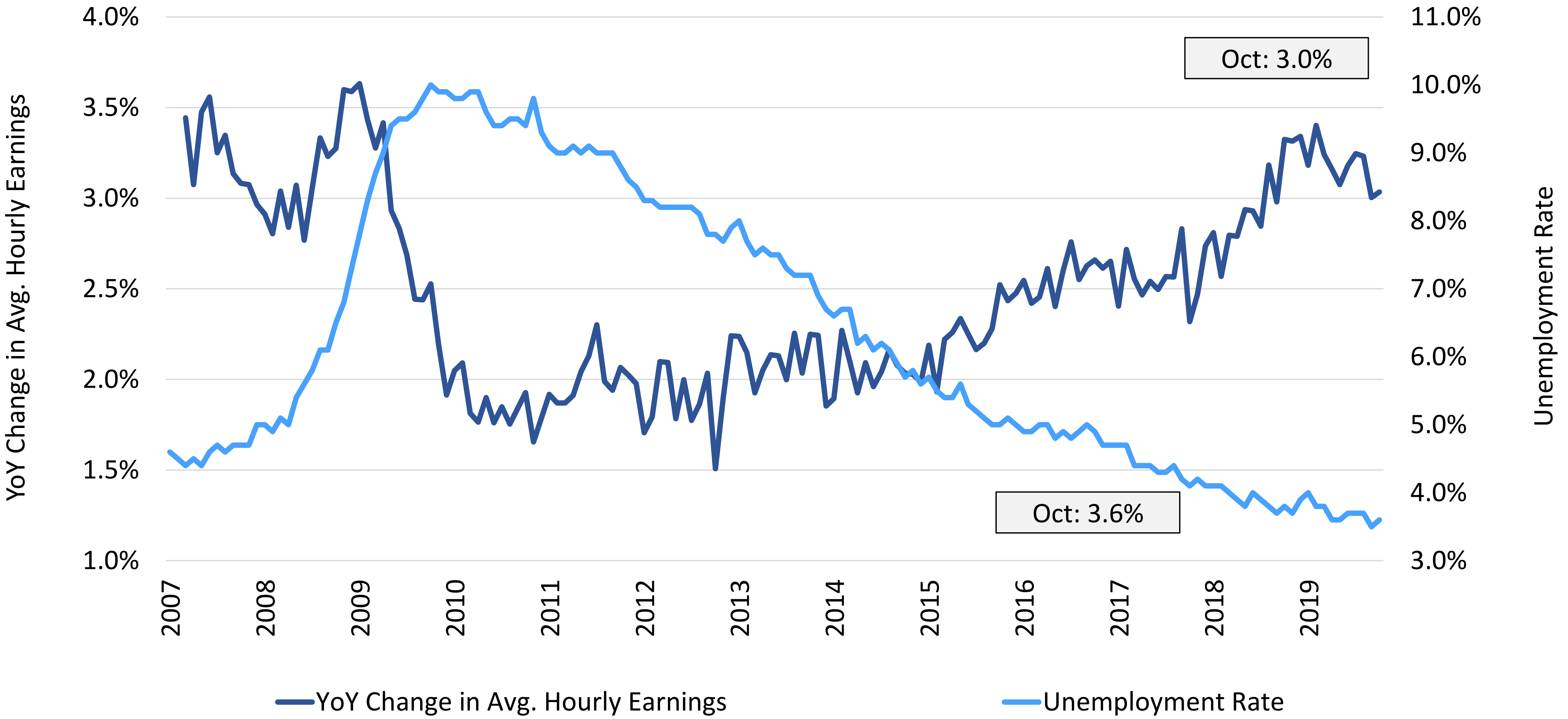
Tight Labor Market, Pulling People Off the Sidelines

It is difficult to find labor at the right ***price***, with the right ***skills***, in the right ***city***



*Through October 2019
Source: Moody's Analytics; Bureau of Labor Statistics (BLS); The Conference Board

Wage Growth Finally Emerging



Source: Yardi® Matrix; Moody's Analytics; Bureau of Labor Statistics (BLS); Current Population Survey (CPS)

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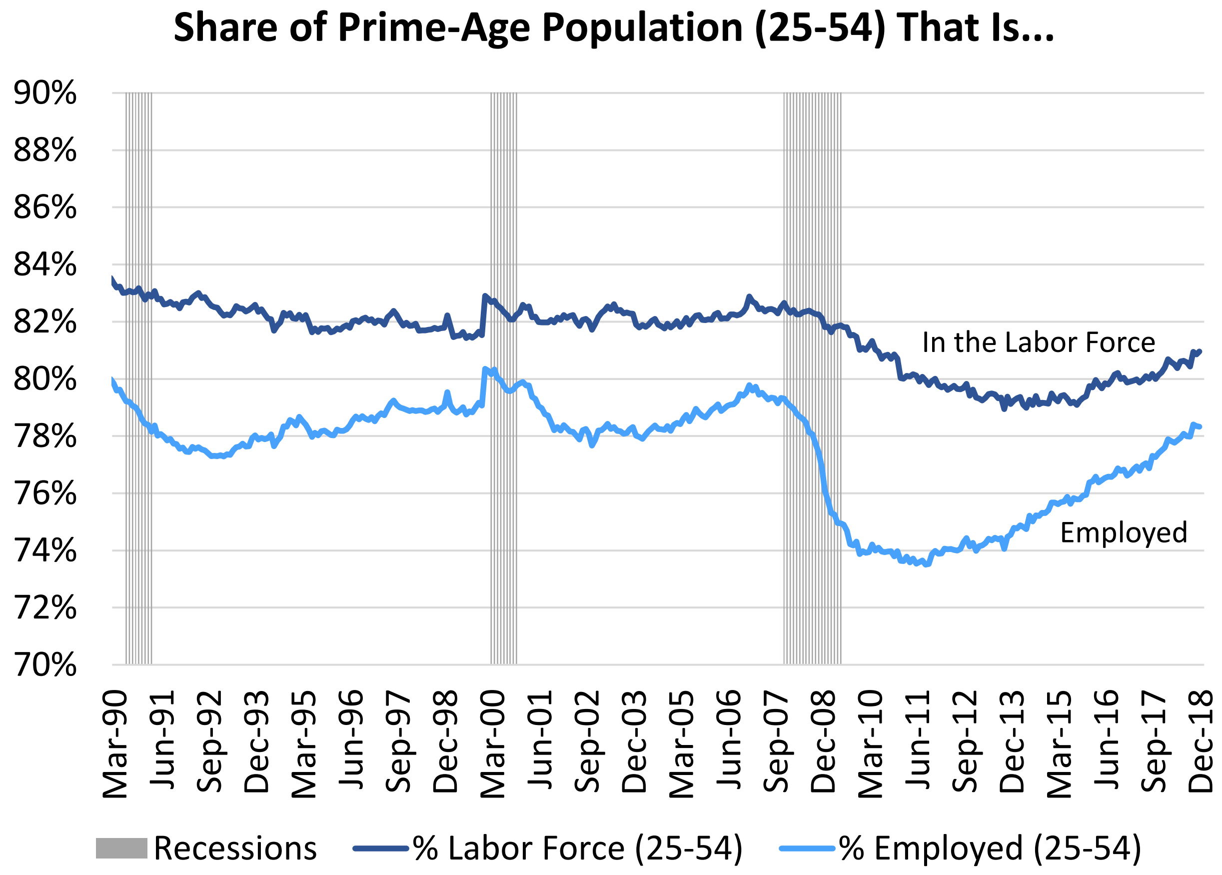
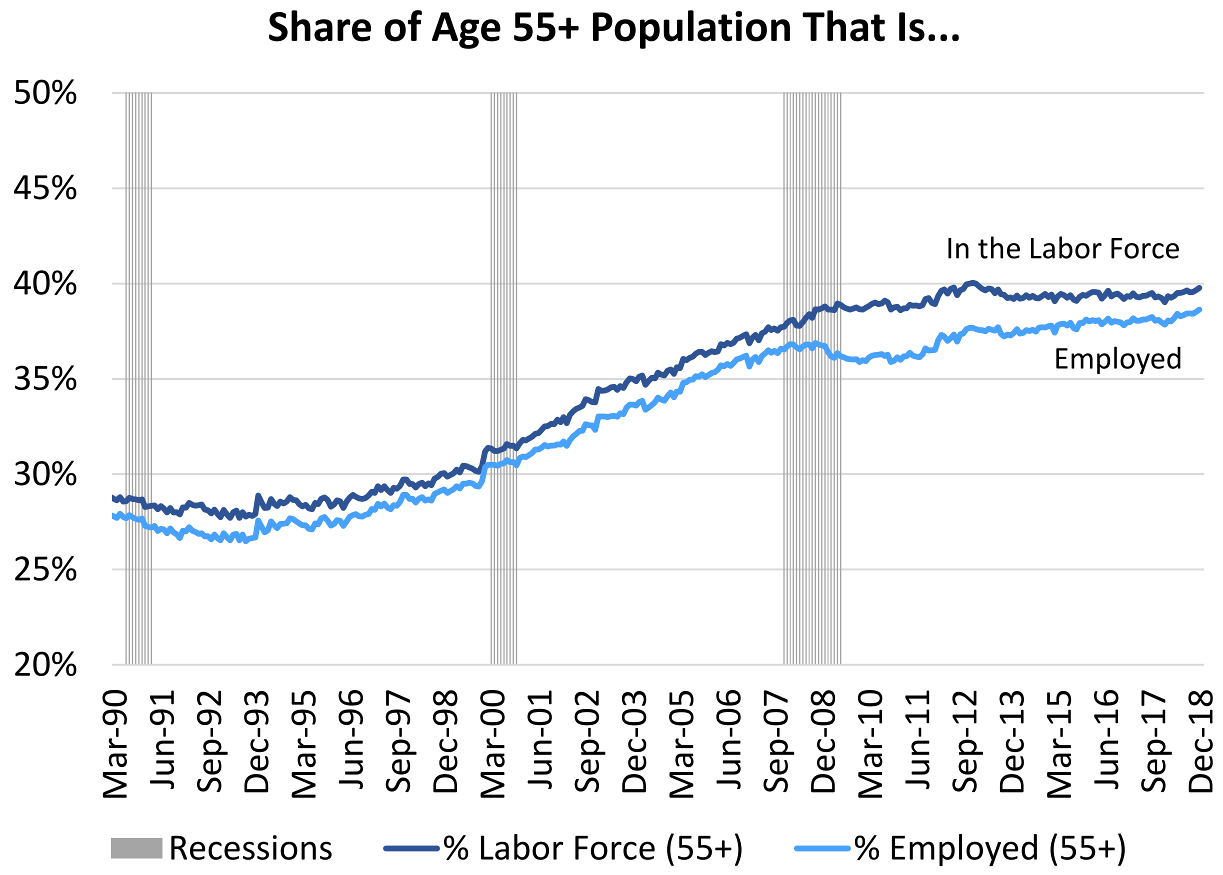
There is Still a Reserve Supply of Labor

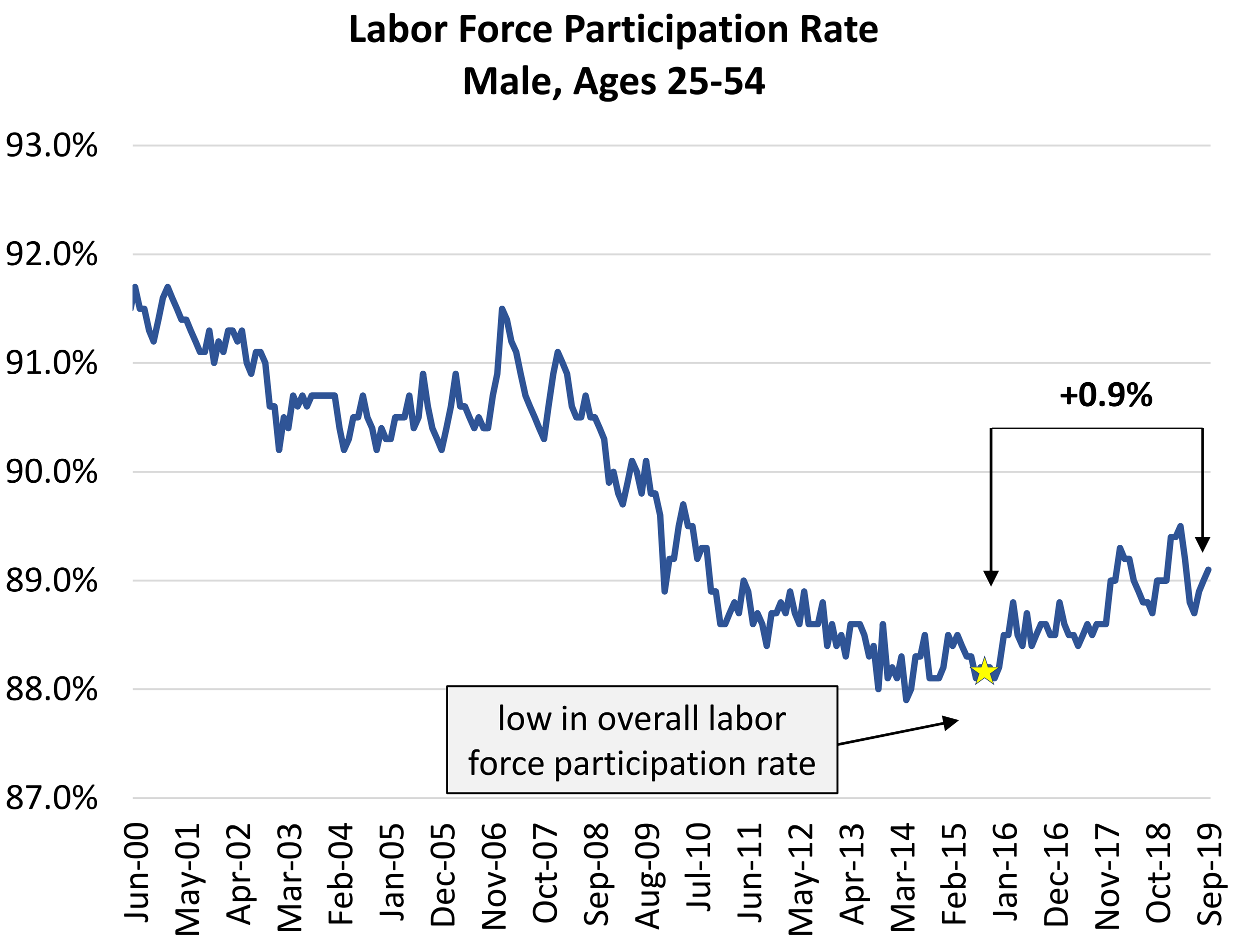
- Another 2.6% of the prime-age population could get engaged – approximately 3.4 million people
- Participation rates for people age 55+ are rising – buoying the expansion

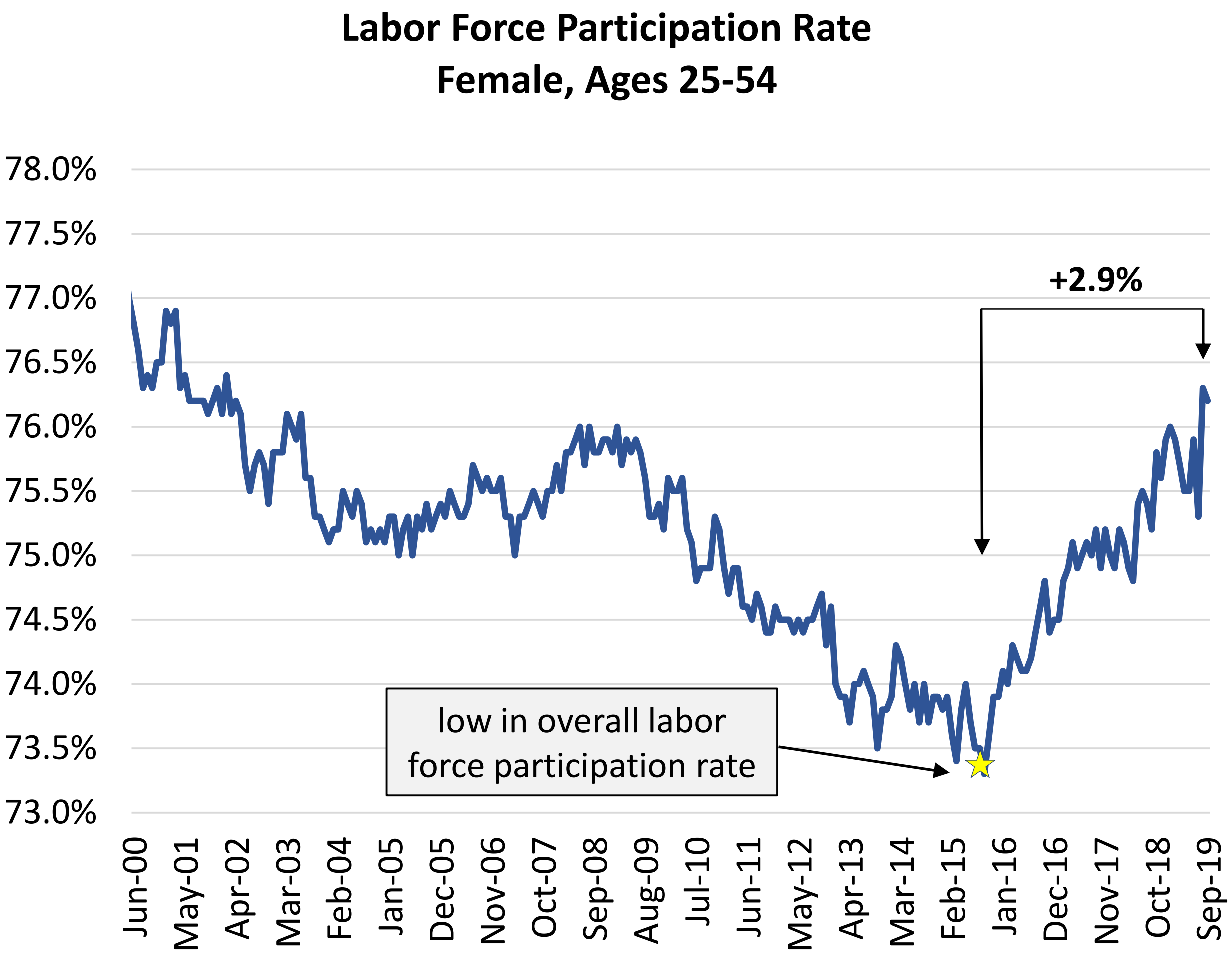




Source: Moody's Analytics; U.S. Bureau of Labor Statistics (BLS); U.S. Census Bureau (BOC)

The Labor Force Participation Rate Among 25-54 Year Olds has Risen, Which was Mostly Driven by Women





U.S. Federal Policy is a Classic Glass Half Full/Glass Half Empty Situation

<u>Pro-Growth</u>

- Tax Reform
- Regulatory Relief
- Executive Orders
    - Energy
    - Finance
    - Labor Costs

Generally Positive Progress

<u>Pro-Growth but Slow</u>

- Infrastructure
- Education Reform
    - German Model
- Healthcare Reform

Progress in Tone, but Not Yet Substantive

<u>Anti-Growth</u>

- Immigration Control
- Trade Renegotiation

Trade Negotiation is a Drag on Growth

In Summary:

- GDP growth in Q3 was OK, and we expect Q4 will be a bit lower
- Low inflation is a global phenomenon – with oil production keeping it low in the U.S.
- The yield curve has been inverted for 5 months, but flattened and is now slightly positive following the Oct 30 rate cut
- The labor market is extremely tight, and employment and wage growth are in excellent condition, particularly in office-using industries
- There is an elevated risk of recession mid 2021

Multifamily Demand Refresh

Demographic Impacts Imply Multifamily Demand North of 425K Units a Year

Factors	2000 – 2018	2019 - 2030
Age (less Divorce impact)	587,000 new renters/year	410,000 new renters/year
Divorce	172,000 new renters/year	96,000 new renters/year
Young People Living at Home	305,000 backlog of new renters/year	305,000 backlog of new renters/year
Lifestyle Changes	Delaying marriage and having children later prolongs renting by about 3 years	Delaying marriage and having children later prolongs renting by about 3 years

Total Renter Demand =
2/3 Multifamily and 1/3 Single Family Rental

*2019-2030 Methodology: Forecast age assumes the 2018 rentership rate for each age cohort will remain constant. Forecast divorce assumes the 2018 rate of divorcees as a % of total population will remain constant. Young people living at home and lifestyle changes are assumed to remain constant.
Source: Yardi®Matrix; Moody's Analytics; U.S. Census Bureau (BOC), Current Population Survey

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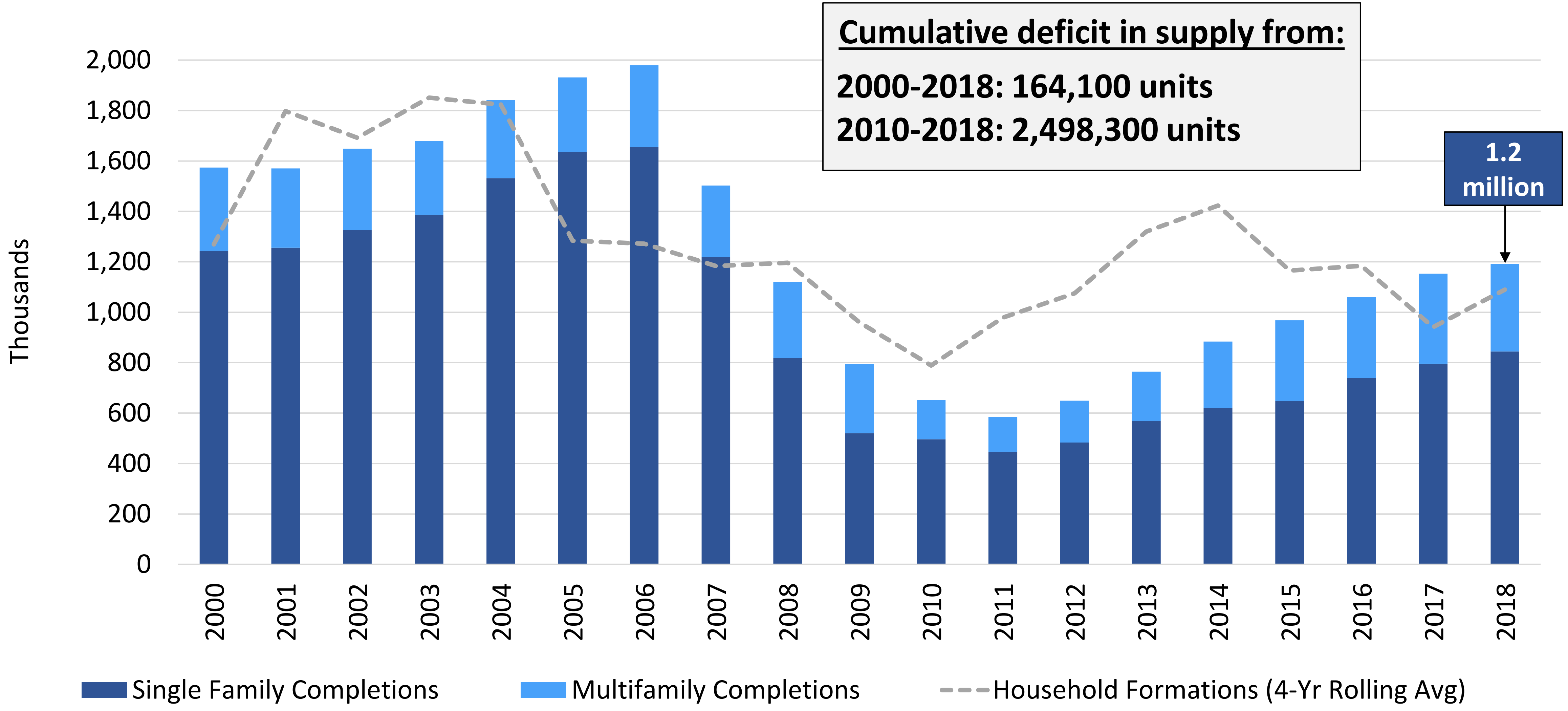
Total Housing Production is Unlikely to Catch Up to Household Formation



Source: Yardi®Matrix; Moody's Analytics; National Association of Realtors (NAR); U.S. Census Bureau (BOC)

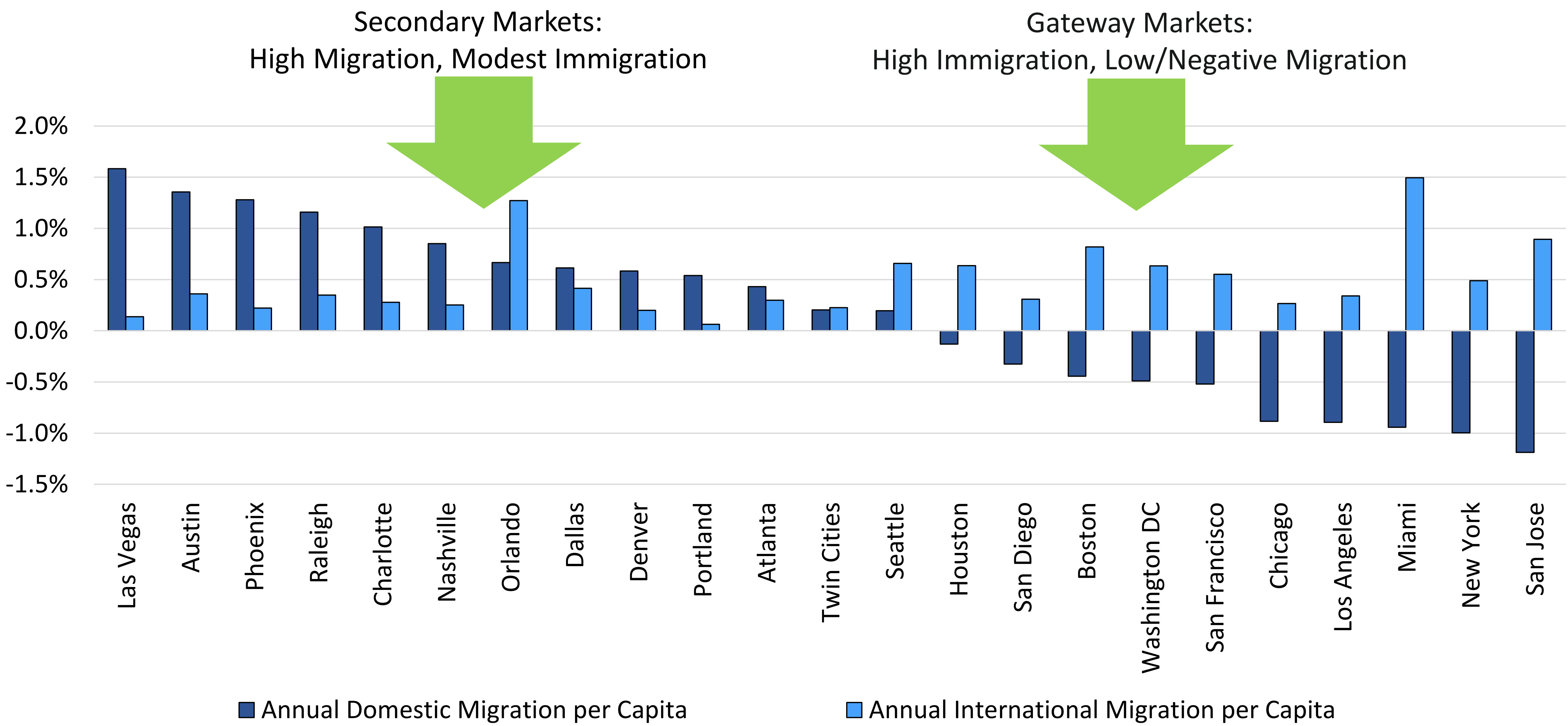
Where is Population Growing? Tech Hub Markets

Market	2016 Pop. Growth	2017 Pop. Growth	2018 Pop. Growth	Overall Trend
Austin	3.0%	2.6%	2.5%	Decelerating
Orlando	2.7%	2.4%	2.4%	Steady
Las Vegas	2.0%	2.0%	2.2%	Accelerating
Raleigh	2.6%	2.3%	2.1%	Decelerating
Phoenix	2.1%	1.8%	2.0%	Accelerating
Dallas	2.2%	2.1%	1.8%	Decelerating
Charlotte	2.1%	2.0%	1.8%	Decelerating
Tampa	2.2%	1.9%	1.7%	Decelerating
Nashville	2.1%	1.8%	1.6%	Decelerating
Salt Lake City	1.7%	1.7%	1.4%	Decelerating
Denver	1.6%	1.2%	1.4%	Accelerating
Seattle	2.0%	1.8%	1.4%	Decelerating
Houston	2.0%	1.4%	1.3%	Decelerating
Atlanta	1.8%	1.5%	1.3%	Decelerating
Columbus	1.2%	1.5%	1.2%	Decelerating

Market	2016 Pop. Growth	2017 Pop. Growth	2018 Pop. Growth	Overall Trend
Indianapolis	1.0%	1.1%	1.1%	Steady
Sacramento	1.3%	1.2%	1.1%	Decelerating
Minneapolis	1.0%	1.1%	1.0%	Steady
Portland	1.9%	1.2%	0.9%	Decelerating
Washington DC	0.9%	1.0%	0.8%	Decelerating
Boston	0.8%	0.8%	0.6%	Decelerating
Miami	1.3%	0.8%	0.6%	Decelerating
San Diego	0.8%	0.5%	0.5%	Steady
San Francisco	0.7%	0.4%	0.3%	Decelerating
Philadelphia	0.2%	0.2%	0.3%	Steady
San Jose	0.7%	0.2%	0.3%	Steady
Detroit	0.1%	0.1%	0.1%	Steady
Los Angeles	0.2%	0.0%	-0.1%	Decelerating
New York	0.1%	-0.2%	-0.2%	Steady/Negative
Chicago	-0.2%	-0.2%	-0.2%	Steady/Negative

Source: Moody's Analytics; U.S. Census Bureau (BOC)

Immigration is Key to Gateway Population Growth



*Migration data July 2017-July 2018
Source: U.S. Census Bureau (BOC)

In Summary:

- Demographic and lifestyle changes indicate strong multifamily demand will continue
- Total housing production is unlikely to catch up to household formation, putting upward pressure on rents and occupancy rates
- Economic growth and population continue to move South and West to intellectual capital nodes within tech hub markets
- For new investments, it's a sharpshooter's game to find the right deal at the right price, and on the operational side, its about finding revenue and cost trimming opportunities to grow your NOI from your existing assets

Political Risk Analysis

We've Taken a First Stab at a Structured Way of Thinking About Political Risk

Market	Affordability	Philosophy Toward Affordability	Urban Policing/ Security	Social Mobility	Tax Burden (Business/ Individual)	Unfunded Pension Liability	Overall Rating
San Francisco	1	1	1	3	1	2	1.35
Chicago	1	2	2	2	1	1	1.55
New York	1	1	3	2	1	2	1.67
Washington D.C.	1	1	2	3	1	3	1.68
Boston	1	2	3	2	1	1	1.77
Portland	1	1	1	2	3	2	1.47
Denver	1	2	2	3	2	1	1.78
Atlanta	2	2	2	1	2	2	1.88
Dallas	3	2	1	2	2	1	1.88
Seattle	1	3	1	3	2	2	1.90
Houston	2	3	1	3	2	1	2.00
Orlando	2	2	2	2	3	2	2.12
Austin	2	3	2	2	2	2	2.22
Minneapolis	3	3	2	3	1	1	2.32
Charlotte	2	3	2	1	3	3	2.33
Tampa	2	2	3	1	3	3	2.33
Nashville	3	3	2	2	2	3	2.55
Indianapolis	3	3	2	2	3	3	2.67
Raleigh-Durham	3	3	3	1	3	3	2.77
Salt Lake City	3	3	2	3	3	3	2.78

Source: Yardi®Matrix

Political Risk Methodology

Affordability

Based on a survey conducted by the Joint Center for Housing Studies (JCHS) of Harvard University and rent data from Yardi Matrix.

We based our ratings on the following statistics:

- % of cost-burdened households
- % of severely cost-burdened households
- Absolute number of cost-burdened households
- Median monthly housing cost
- % rent change over 1, 3, & 5-yr periods

Markets were then color categorized corresponding to the number of total "points" the market received for falling in the top 10 of any of the affordability categories:

- Red: 11+
- Yellow: 3 to 10
- Green: 0 to 2

Philosophy Toward Affordability

Factors we based our ratings on:

- Rent control initiatives in progress or already enacted
- Inclusionary/exclusionary zoning policies
- Permitting and entitlement requirements
- Supply restrictions

Using the information found through this secondary research, the market's stance on each focused topic was viewed as positively or negatively affecting the area's affordability.

Urban Policing/Security Risk

The markets were rated in terms of their urban policing and security risk based on several different crime statistics and secondary research.

Crime statistics used:

- Number of property crimes per capita
- Number of violent crimes per capita
- Crime index per capita = # of crimes + # of violent crimes
- Crimes per 100,000 population

Secondary research used:

- Police enforcement of public nuisances and low-level crimes
- The public view of the police force
- The attitude of the local police force toward the homeless population, which tends to have a high rate of drug addiction & mental illness

Political Risk Methodology (Cont.)

Social Mobility

The market's opportunity for social mobility incorporates secondary research and statistics from "The Opportunity Atlas," prepared by Opportunity Insights, a research and policy group based at Harvard University.

The *Opportunity Atlas* uses anonymous data following 20 million Americans from childhood to their mid-30s to determine which neighborhoods in America offer children the best chance to rise out of poverty.

Secondary Research:

- Charter school enrollment
- AP courses in each city's public high schools
- Apprenticeship programs
- Progressive tech-based curriculum in the public-school system

Tax Burden (Business & Individual)

Based on the state rank score of each market from the Tax Foundation's 2019 State Business Tax Climate Index.

Major tax components and their weighting:

- Individual Income Tax: 30.1%
- Sales Tax: 25.3%
- Corporate Tax: 19.5%
- Property Tax: 15.4%
- Unemployment Insurance Tax: 9.8%

The index's rank score for each market's state were arranged low to high, then assigned a color score:

- Ranks 1 to 14: Green
- Ranks 15 to 29: Yellow
- Ranks 30 to 50: Red

Unfunded Pension Liability

Data on each state's unfunded pension liability was collected from, "The State Pension Funding Gap: 2017," an issue brief from Pew Charitable Trusts.

Unfunded pension liability data on the city level was collected through various resources including the official government city websites, comprehensive annual financial reports, and other local sources.

*When city data was available it was used in place of state data

Divided into color groups based in the following funded ratios:

- Funded ratio between 80% to 100%: Green
- Funded ratio between 70% to 79%: Yellow
- Funded ratio below 70%: Red

Political Risk Methodology – Overall Rating

The overall rating of political risk for each market was based on the calculated weighted average of the six factors.

Each of the three different color ratings were assigned a consistent numerical value:
Green = 3
Yellow = 2
Red = 1

Three factors considered to affect short-term risk: affordability, philosophy toward affordability, and urban policing/security risk (comprise 65% of overall rating & weighted equally)

Three factors considered to affect long-term risk: social mobility, tax burden, and unfunded pension liability (comprise 35% of overall rating & weighted equally)

Markets with overall ratings in the bottom 20th percentile were categorized red, overall rating in the top 75th percentile were categorized green, and overall ratings that fell in the middle were categorized yellow.

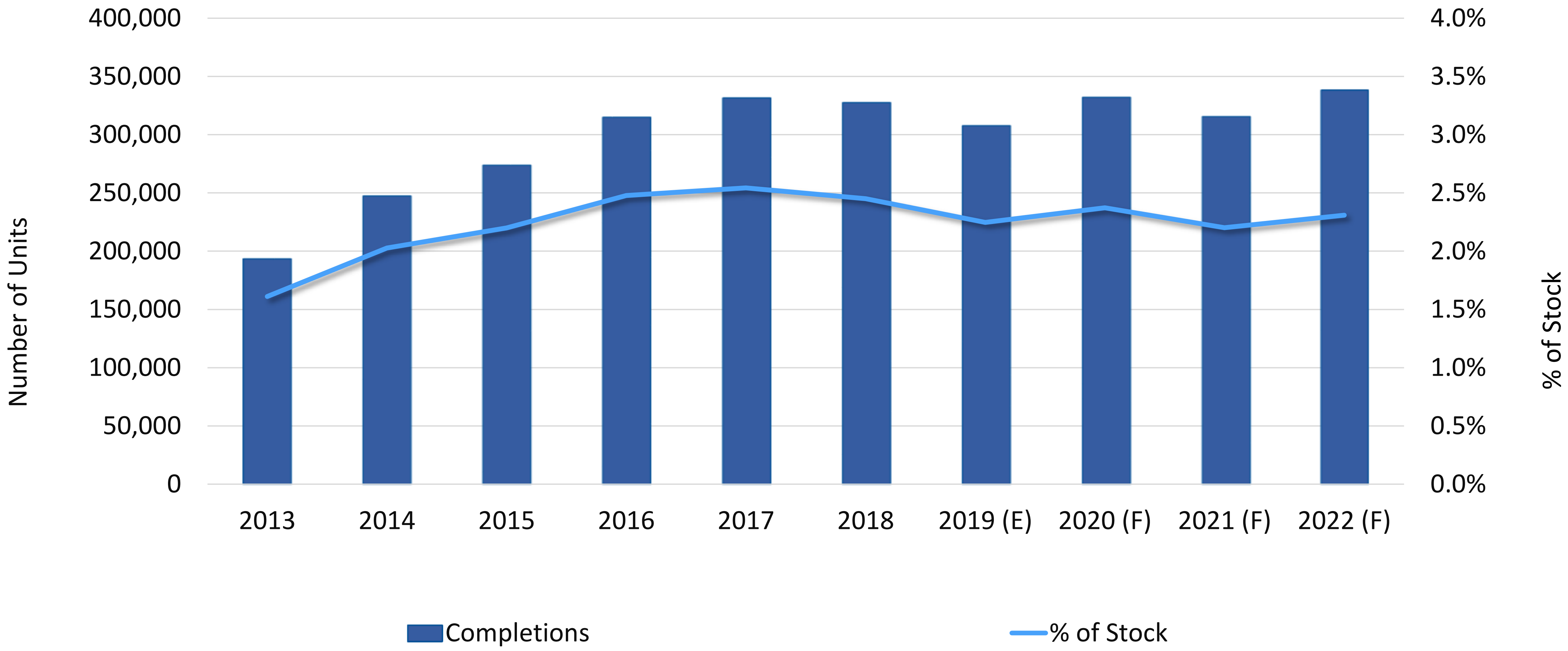
Political Risk Takeaways

- We are circulating our first approach at analyzing political risk for comments
- There may be some edits to our methodology as we receive feedback
- We intend to extend this research to another 30-40 markets

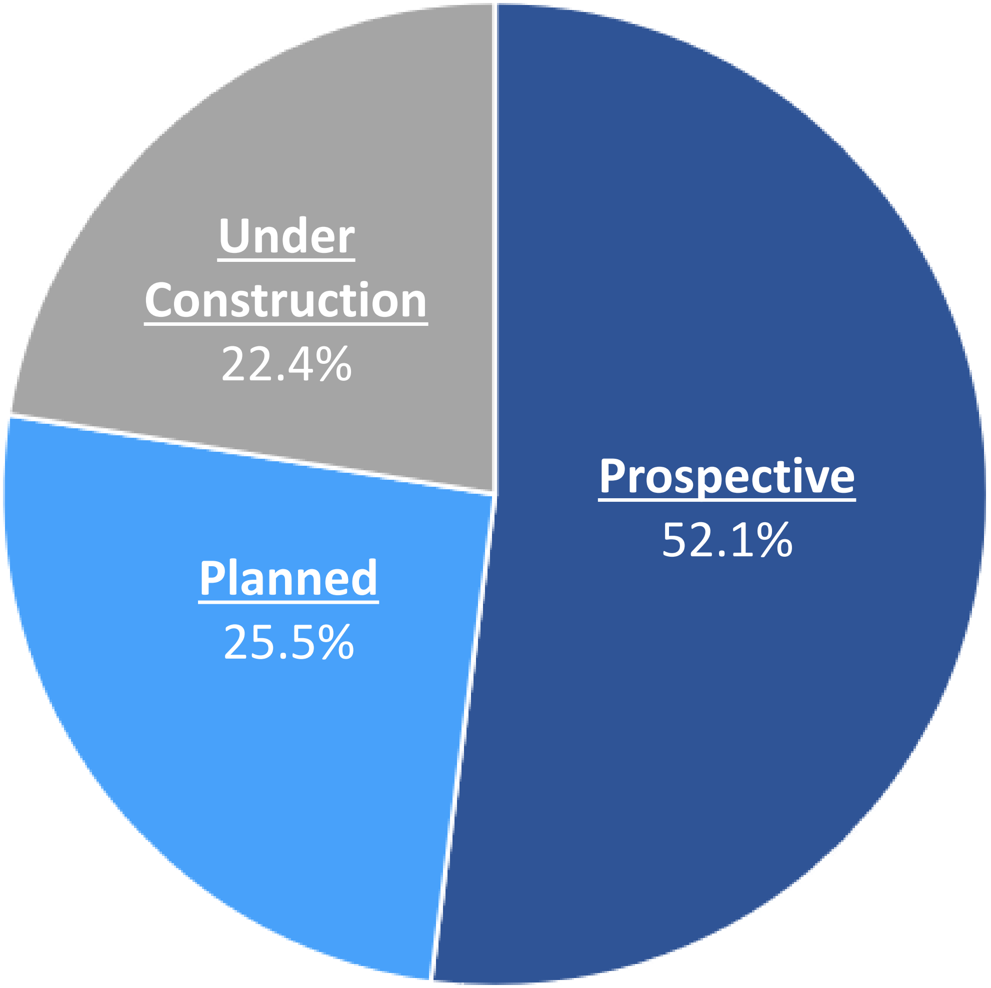
Please give us your feedback!

Deep Dive Into Supply

Current Factors Show New Supply Leveling Out, But We See Another Ramp Up Coming

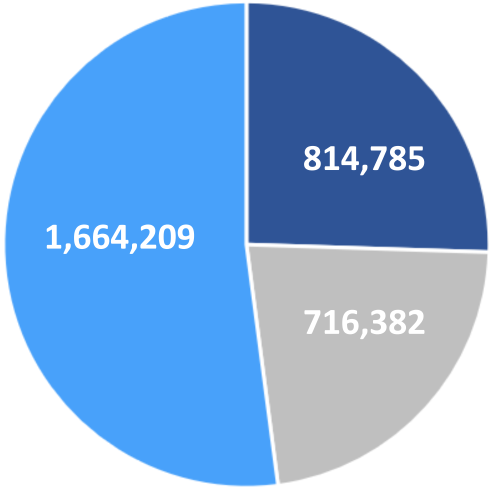


Based Upon What We See, New Supply Is Unlikely to Break Out Above 330K a Year



Property Status	Units	% of Total
Prospective	1,664,209	52.1%
Planned	814,785	25.5%
Under Construction	716,382	22.4%
TOTAL:	**3,195,376**	**100.0%**

Where is Future Multifamily Supply Concentrated?



Top 10 Markets	Units	UC as a % of Existing Stock
Asheville	2,336	14.6%
Reno	4,837	12.7%
Miami	16,244	12.7%
Metro Los Angeles	20,269	11.3%
Urban Boston	24,481	11.0%
Salt Lake City	10,815	10.8%
Wilmington	2,098	10.7%
Austin	24,697	10.5%
Southwest Florida Coast	6,737	10.4%
Boise	1,917	10.3%

Top 10 Markets	Units	Planned as a % of Existing Stock
Southwest Florida Coast	13,470	20.8%
Miami	26,328	20.6%
Urban Chicago	33,910	19.7%
Asheville	2,875	18.0%
Northern New Jersey	38,525	17.7%
Wilmington	3,318	16.9%
Huntsville	4,582	13.5%
West Palm Beach	8,982	13.5%
Ft Lauderdale	13,463	13.4%
Charleston	8,420	13.2%

Top 10 Markets	Units	Prospective as a % of Existing Stock
Miami	79,748	62.3%
San Francisco-Peninsula	49,285	41.0%
Bay Area-South Bay	45,102	35.9%
Southwest Florida Coast	21,944	33.9%
Bay Area-East Bay	45,593	33.8%
Metro Los Angeles	57,324	32.0%
Northern Virginia	61,222	27.9%
West Palm Beach	16,818	25.2%
Ft Lauderdale	24,628	24.5%
Washington DC	74,688	24.3%

*Data as of October 2019
Source: Yardi®Matrix

Tech Hubs Are Delivering in Excess of Their 10-Year Average

Top 15 Markets	2019 Total Number of Units Delivered (Annualized)	Ratio of Units Delivered in 2019 to the 10-yr Average
Miami	7,894	2.37x
Fort Worth	5,571	2.01x
Urban Atlanta	9,203	1.86x
Phoenix	9,482	1.85x
Seattle	11,799	1.57x
Charlotte	6,953	1.48x
Tampa	5,699	1.46x
Raleigh	5,469	1.44x
Urban Chicago	5,524	1.39x
Orlando	5,775	1.33x
Urban Boston	5,202	1.21x
Denver	9,667	1.11x
Washington DC	6,870	1.10x
North Dallas	9,405	1.08x
Austin	7,989	1.03x

*Top 15 Markets with the highest number of unit deliveries 2019 YTD
Source: Yardi®Matrix

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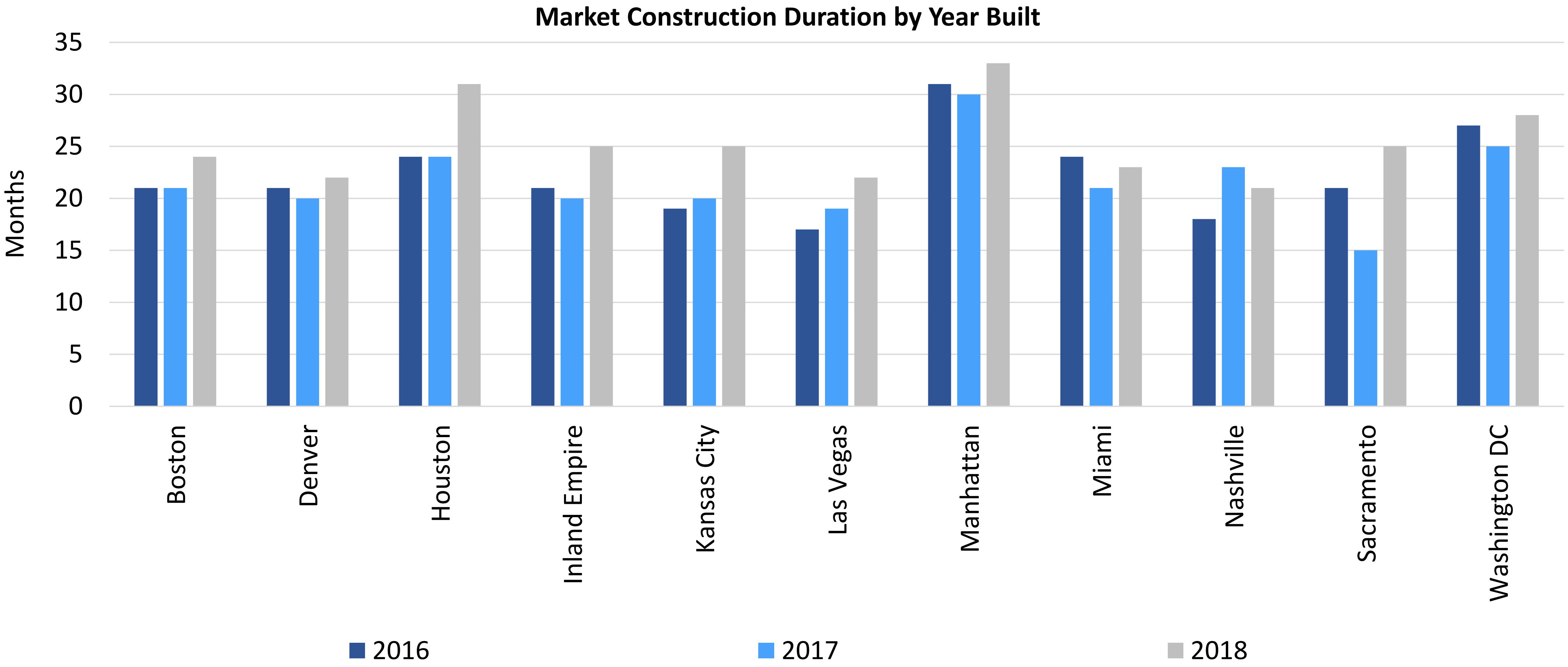
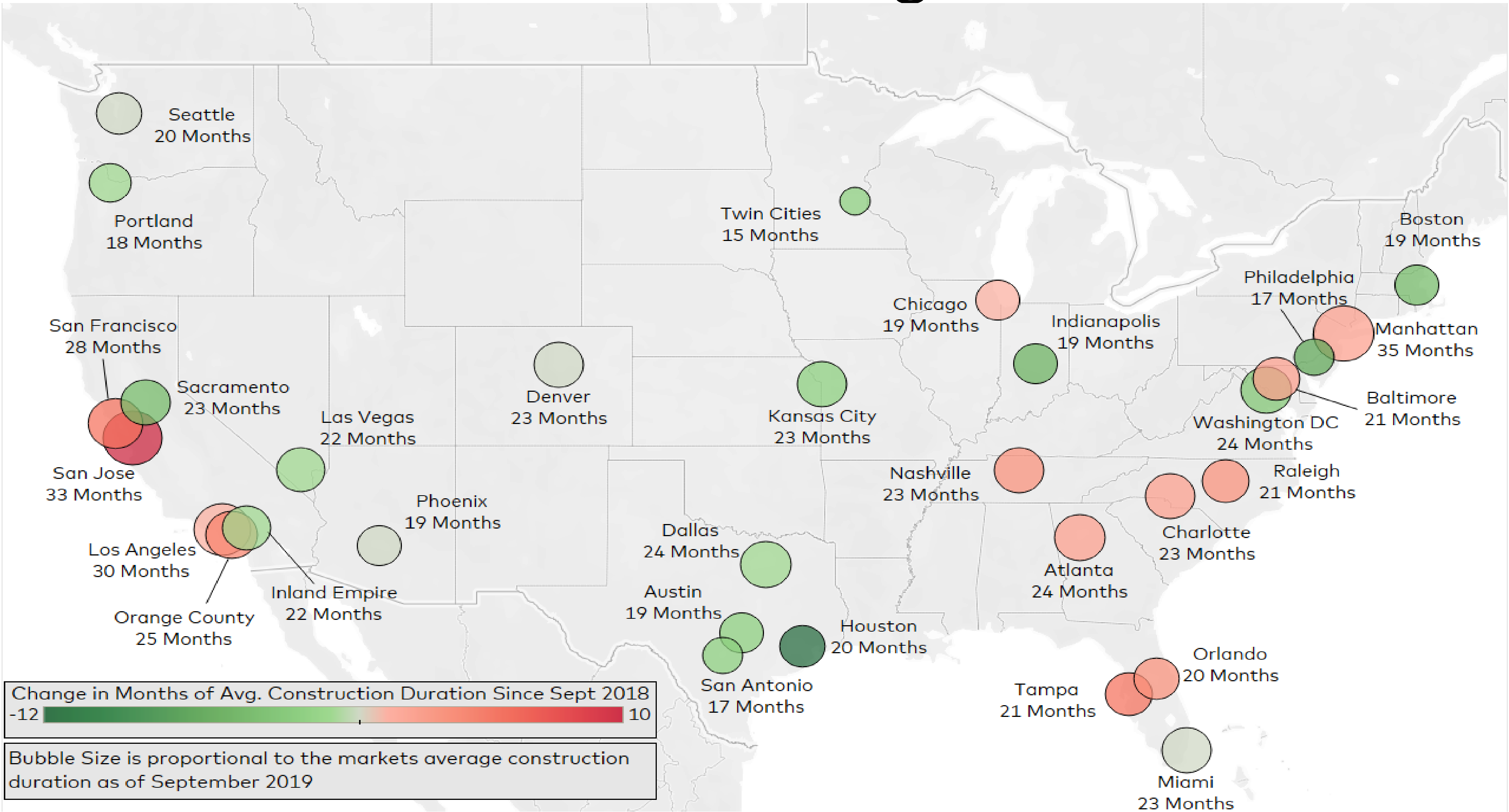
Most Markets Experienced an Increase in Construction Duration From 2016 to 2018



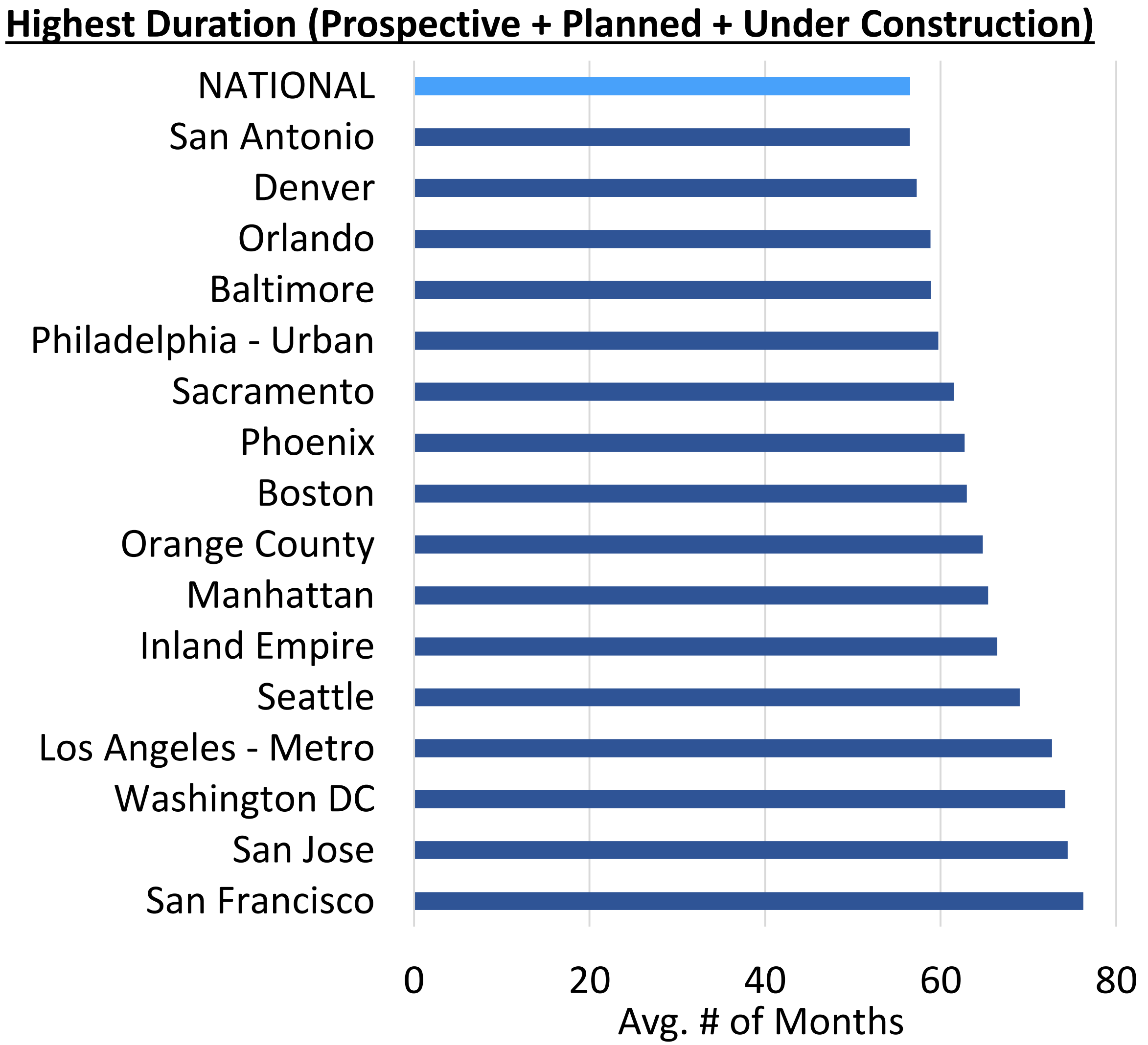
Source: Yardi®Matrix

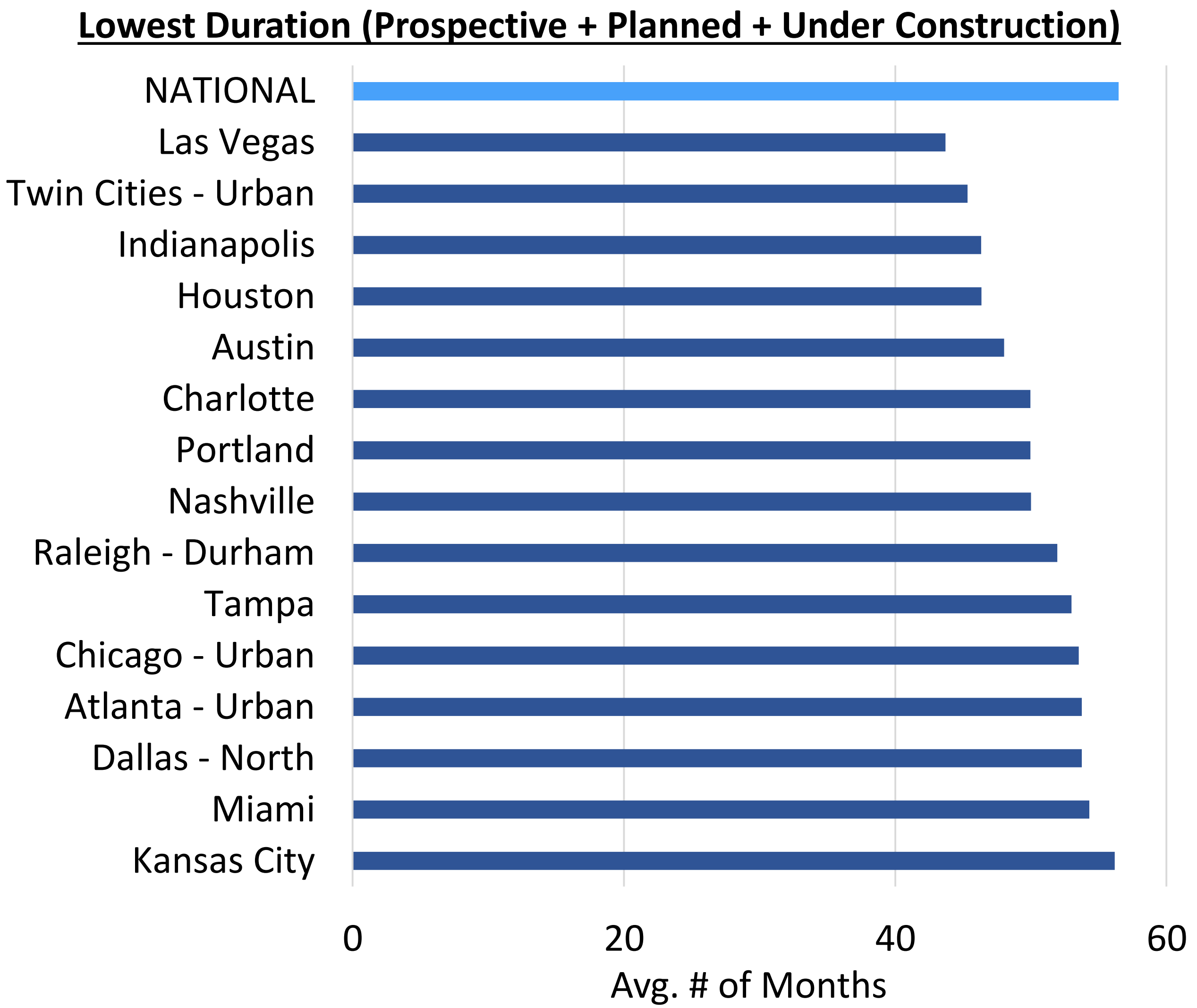
Ground Break to Completion Timelines Improving, After Several Years of Increasing Duration



*Jan. – Sept. 2018 data; Jan. – Sept. 2019 data
Source: Yardi®Matrix

Gateway Markets Have the Longest Total Cycle Time





Dallas, Seattle and Austin Absorbed a Large Amount of Deliveries, Despite Heavy Supply Pipelines

Market	Units Absorbed Last 12 Months	Units Delivered Last 12 Months	Difference
Dallas - North	12,264	10,605	1,659
Seattle	14,205	12,682	1,523
Austin	9,846	8,875	971
Houston	8,474	7,525	949
Nashville	6,299	5,702	597
Denver	12,531	12,286	245
Miami	5,931	5,892	39
Charlotte	7,543	7,616	(73)
Phoenix	7,716	8,131	(415)
Tampa	5,165	6,101	(936)
Orlando	4,529	5,970	(1,441)
Washington DC	6,733	8,235	(1,502)
Atlanta	7,140	8,689	(1,549)
Los Angeles - Metro	4,781	6,613	(1,832)

*Oct. 2018 – Sept. 2019
*Markets with the highest deliveries over the last 12 months (of our top 30 Matrix markets)
Source: Yardi®Matrix

Most Other Markets Struggled to Absorb the Large Amount of Deliveries Over the Last 12 Months

Market	Units Absorbed Last 12 Months	Units Under Construction	Units Absorbed as a % of Existing Stock	UC as a % of Existing Stock
Seattle	14,205	19,829	5.7%	8.0%
Denver	12,531	24,698	4.6%	9.1%
Dallas – North	12,264	26,229	3.5%	7.5%
Austin	9,846	23,524	4.2%	10.0%
Houston	8,474	20,583	1.3%	3.2%
Boston	7,944	25,775	3.6%	11.5%
Phoenix	7,716	15,138	2.5%	4.9%
Charlotte	7,543	13,135	4.3%	7.5%
Atlanta – Urban	7,140	12,448	3.0%	5.3%
Washington DC	6,733	18,231	2.2%	5.9%
Nashville	6,299	8,879	4.7%	6.7%
Miami	5,931	17,618	4.6%	13.8%
Tampa	5,165	8,279	2.4%	3.9%
Chicago – Urban	5,126	16,191	3.0%	9.4%
Kansas City	4,804	7,463	3.1%	4.8%

*Oct. 2018 – Sept. 2019
*Markets with the highest numbers of units absorbed over the last 12 months (of our top 30 Matrix markets)
Source: Yardi®Matrix

Supply Forecast Methodology

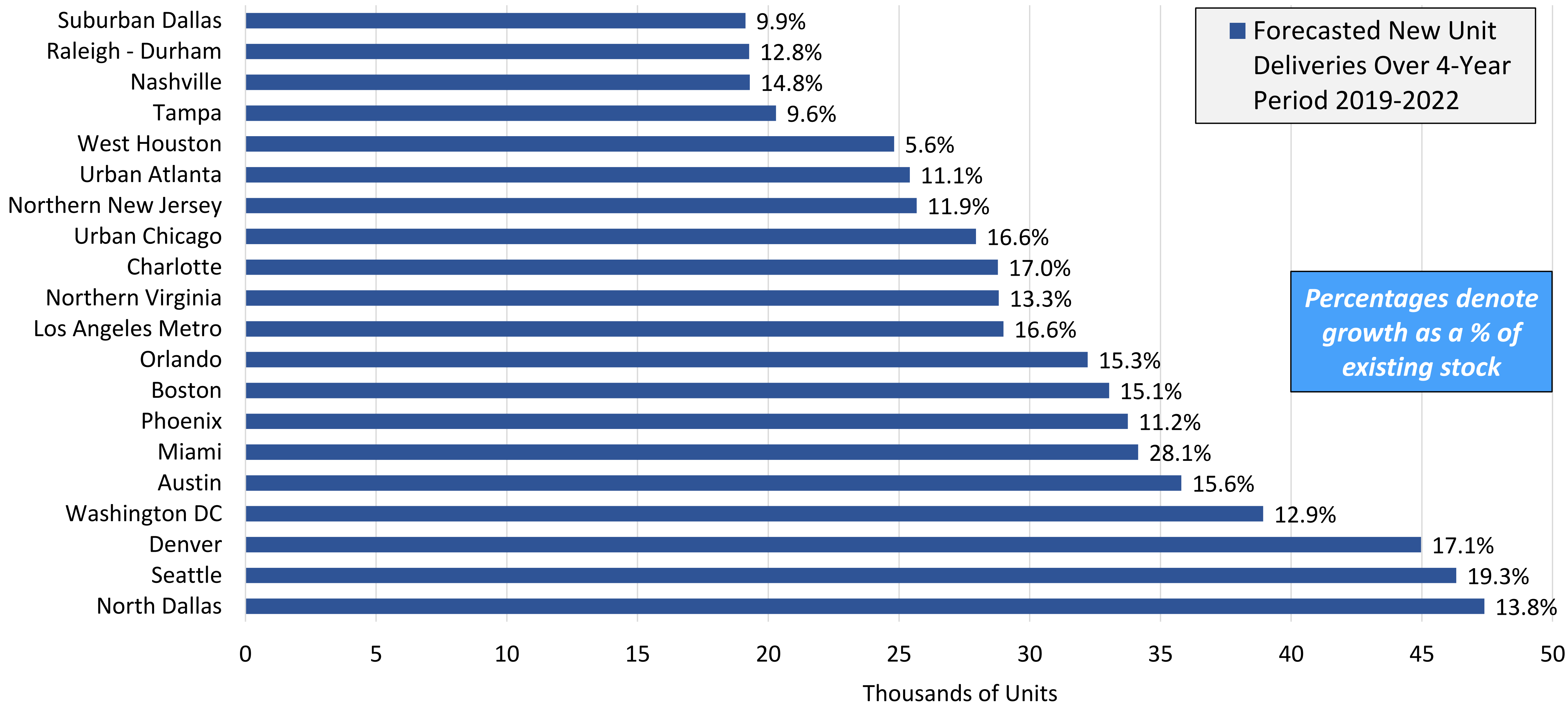
- Simulates the movement of the entire national residential pipeline at the property level over time, beginning with each project's current status and ending with its eventual completion or abandonment

- Utilizes internal Yardi Matrix data to determine a national number of expected status changes each month—e.g. from Prospective to Planned, Planned to Under Construction, Under Construction to Lease Up—and then determines the best candidates for movement based on the number of days each project has been in its present status

- Simulates future projects at the submarket level by evaluating historical project discovery patterns

- When aggregated to the submarket, market, or national level, the simulation's projected completions constitute a forecast of what we expect will deliver over any time period

Our New Completion Forecast Shows an Influx of New Supply Coming in Dallas, Seattle and Denver



Source: Yardi®Matrix

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Markets Forecasted to Have the Highest Amount of Deliveries: Where is the New Supply Concentrated?

CASE STUDIES

- Dallas
- Seattle
- Denver

Intellectual Capital Nodes – Dallas-Fort Worth

DFW Metro
Multifamily
28% Rent Growth
15% Supply Growth
-0.8% Occupancy Change
Office
310,476,564 sq. ft.

Frisco
Multifamily
23% Rent Growth
53% Supply Growth
-1.4% Occupancy Change
Office
30,139,586 sq. ft.
9.7% of total inventory

Allen
Multifamily
21% Rent Growth
49% Supply Growth
-1.3% Occupancy Change
Office
3,089,491 sq. ft.
1.0% of total inventory

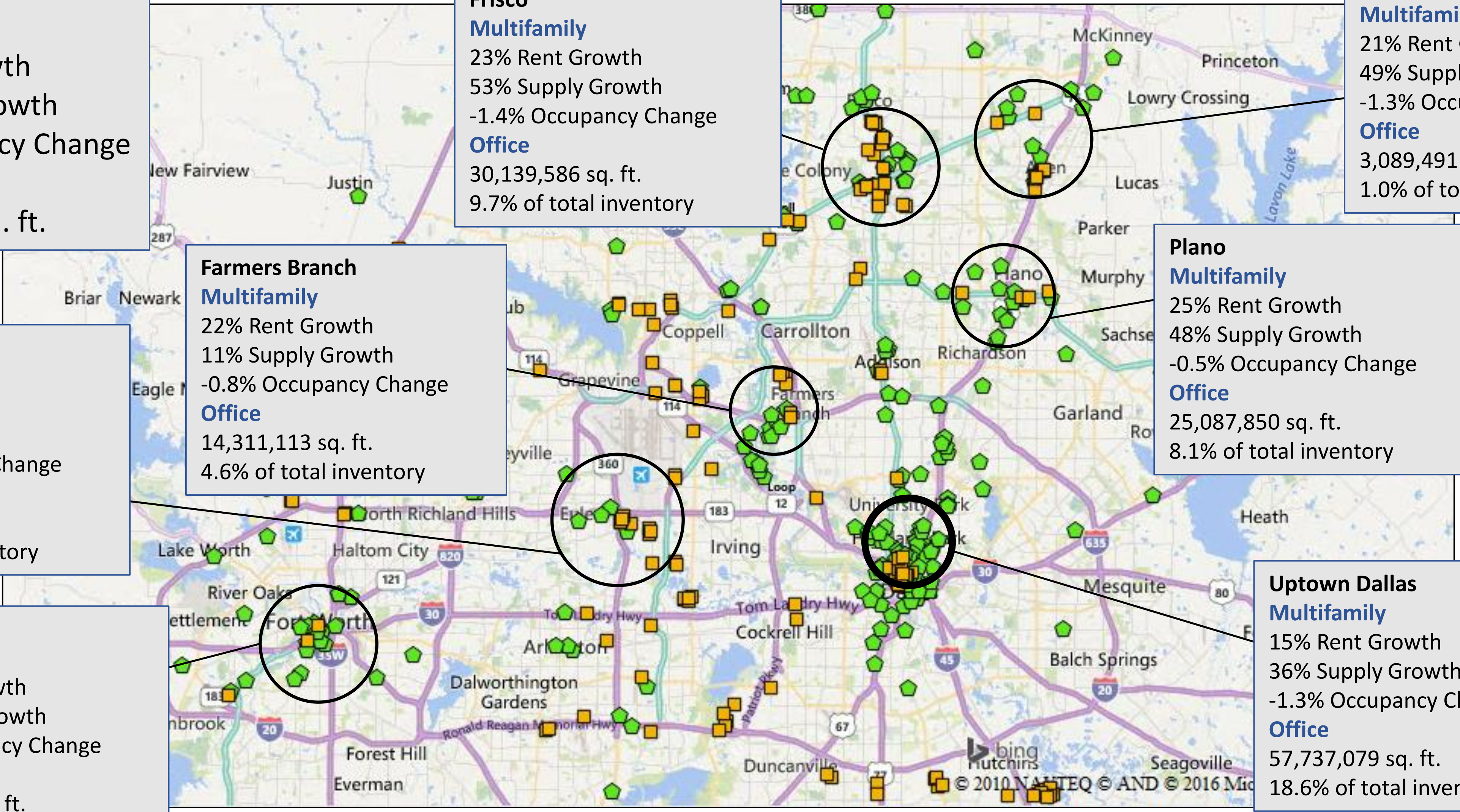
Farmers Branch
Multifamily
22% Rent Growth
11% Supply Growth
-0.8% Occupancy Change
Office
14,311,113 sq. ft.
4.6% of total inventory

Plano
Multifamily
25% Rent Growth
48% Supply Growth
-0.5% Occupancy Change
Office
25,087,850 sq. ft.
8.1% of total inventory

Irving
Multifamily
31% Rent Growth
3% Supply Growth
-0.5% Occupancy Change
Office
8,372,794 sq. ft.
2.7% of total inventory

Fort Worth
Multifamily
23% Rent Growth
71% Supply Growth
-4.1% Occupancy Change
Office
13,958,207 sq. ft.
4.5% of total inventory

Uptown Dallas
Multifamily
15% Rent Growth
36% Supply Growth
-1.3% Occupancy Change
Office
57,737,079 sq. ft.
18.6% of total inventory

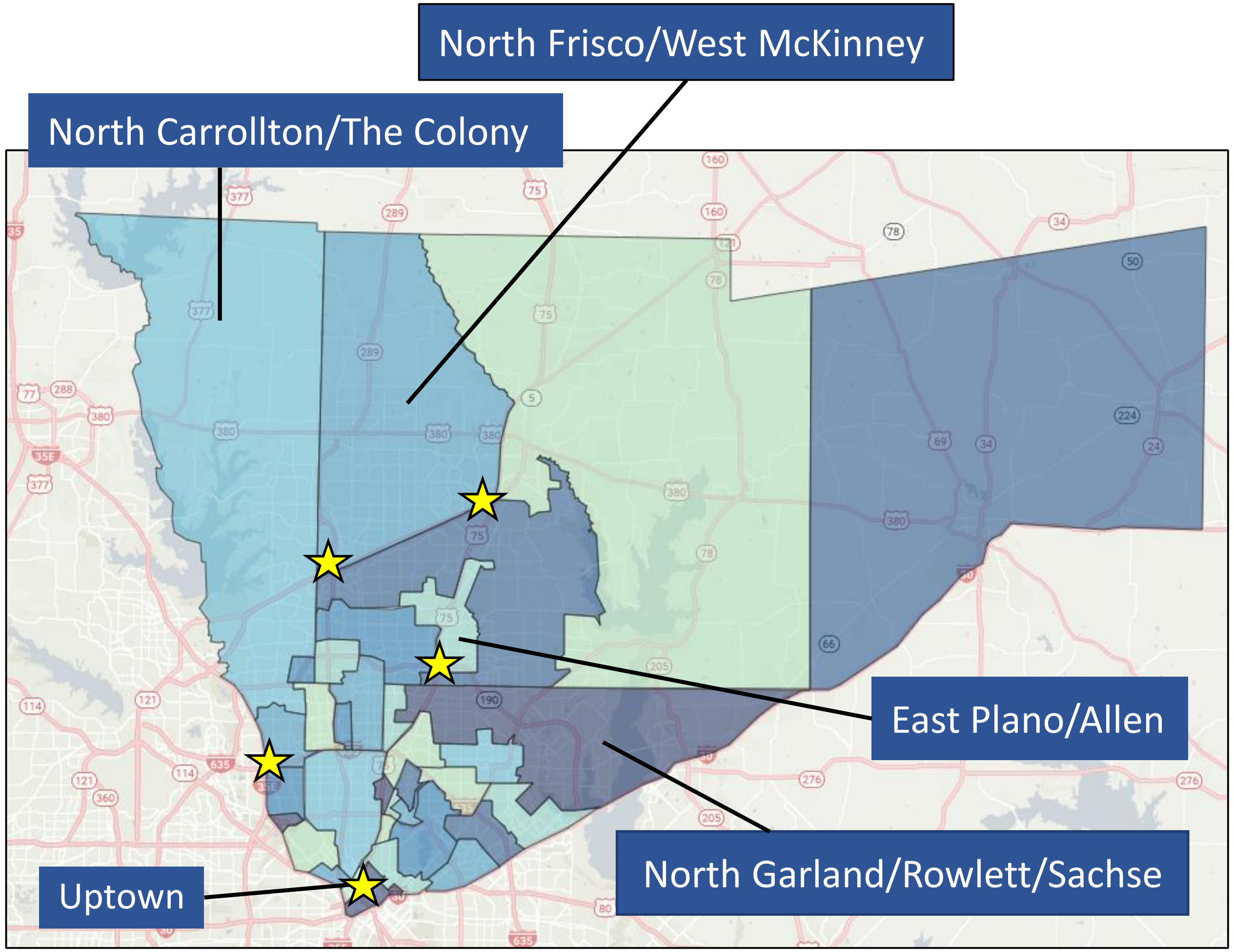


Office Development   Multifamily Development

*Multifamily rent growth, supply growth and change in occupancy September 2014-September 2019. Office inventory as of October 2019.
Source: Yardi® Matrix

Submarkets With the Highest Deliveries Forecasted in 2019 – North Dallas

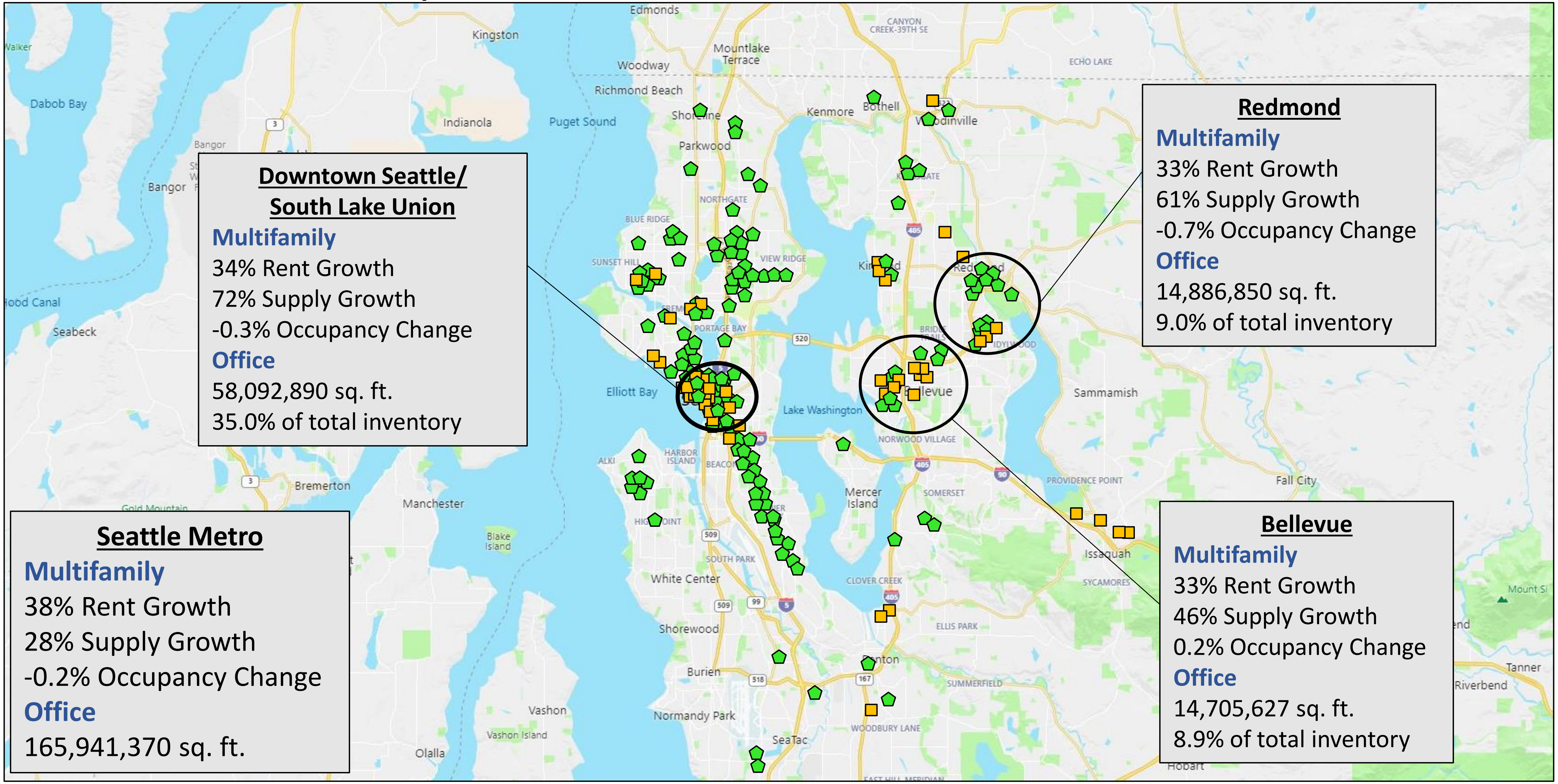
Submarket	Units Forecasted to Deliver 2019	Existing Stock 2018	2019 Deliveries as a % of Existing Stock
North Frisco/ West McKinney	4,541	20,820	21.8%
North Garland/ Rowlett/Sachse	3,120	10,596	29.4%
North Carrollton/ The Colony	1,171	25,937	4.5%
Uptown	1,102	17,018	6.5%
East Plano/ Allen	1,074	11,037	9.7%
North Dallas	**14,760**	**342,479**	**4.3%**



*Stars indicate location of intellectual capital nodes

Source: Yardi® Matrix

Intellectual Capital Nodes – Seattle



Downtown Seattle/ South Lake Union

Multifamily
34% Rent Growth
72% Supply Growth
-0.3% Occupancy Change

Office
58,092,890 sq. ft.
35.0% of total inventory

Redmond

Multifamily
33% Rent Growth
61% Supply Growth
-0.7% Occupancy Change

Office
14,886,850 sq. ft.
9.0% of total inventory

Seattle Metro

Multifamily
38% Rent Growth
28% Supply Growth
-0.2% Occupancy Change

Office
165,941,370 sq. ft.

Bellevue

Multifamily
33% Rent Growth
46% Supply Growth
0.2% Occupancy Change

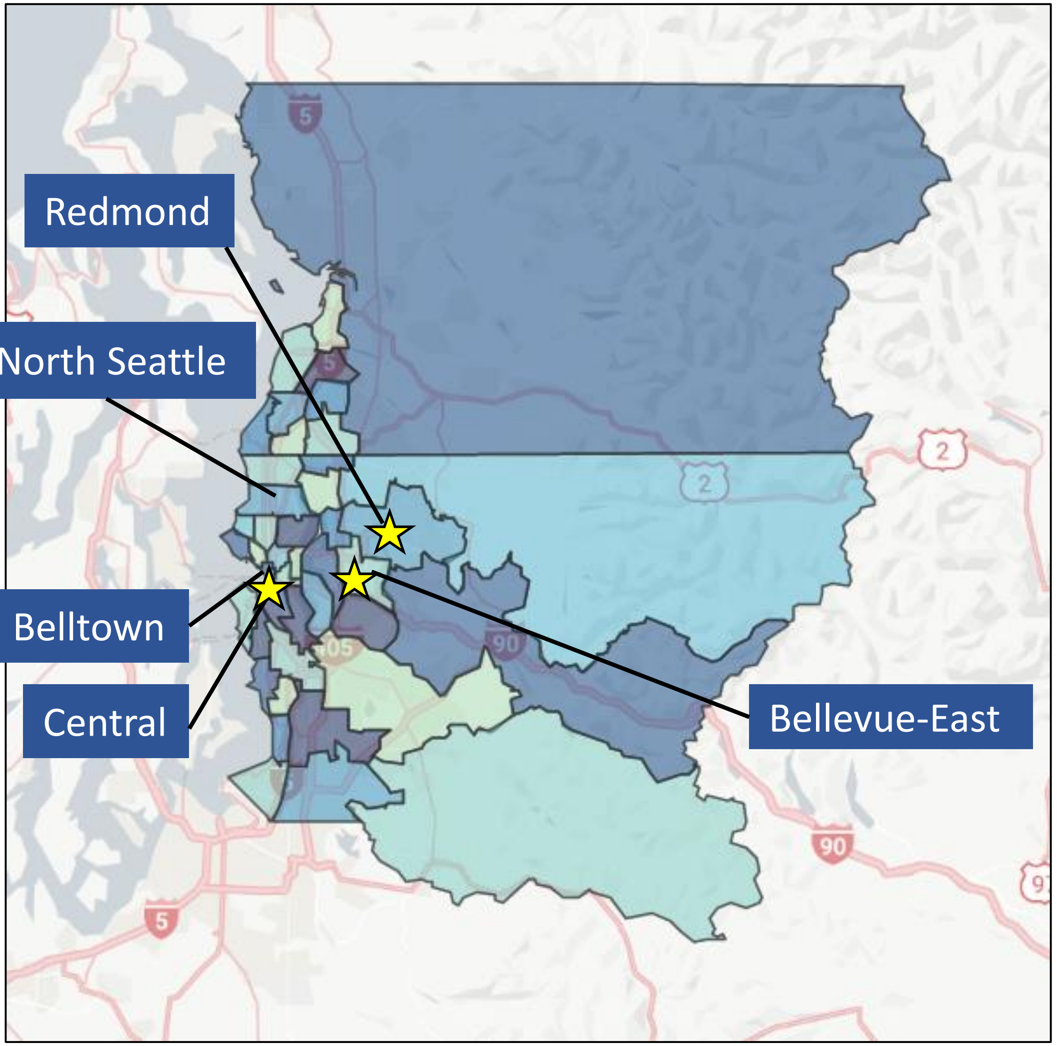
Office
14,705,627 sq. ft.
8.9% of total inventory

Office Development   Multifamily Development

*Multifamily rent growth, supply growth and change in occupancy September 2014-September 2019. Office inventory as of October 2019.
Source: Yardi® Matrix

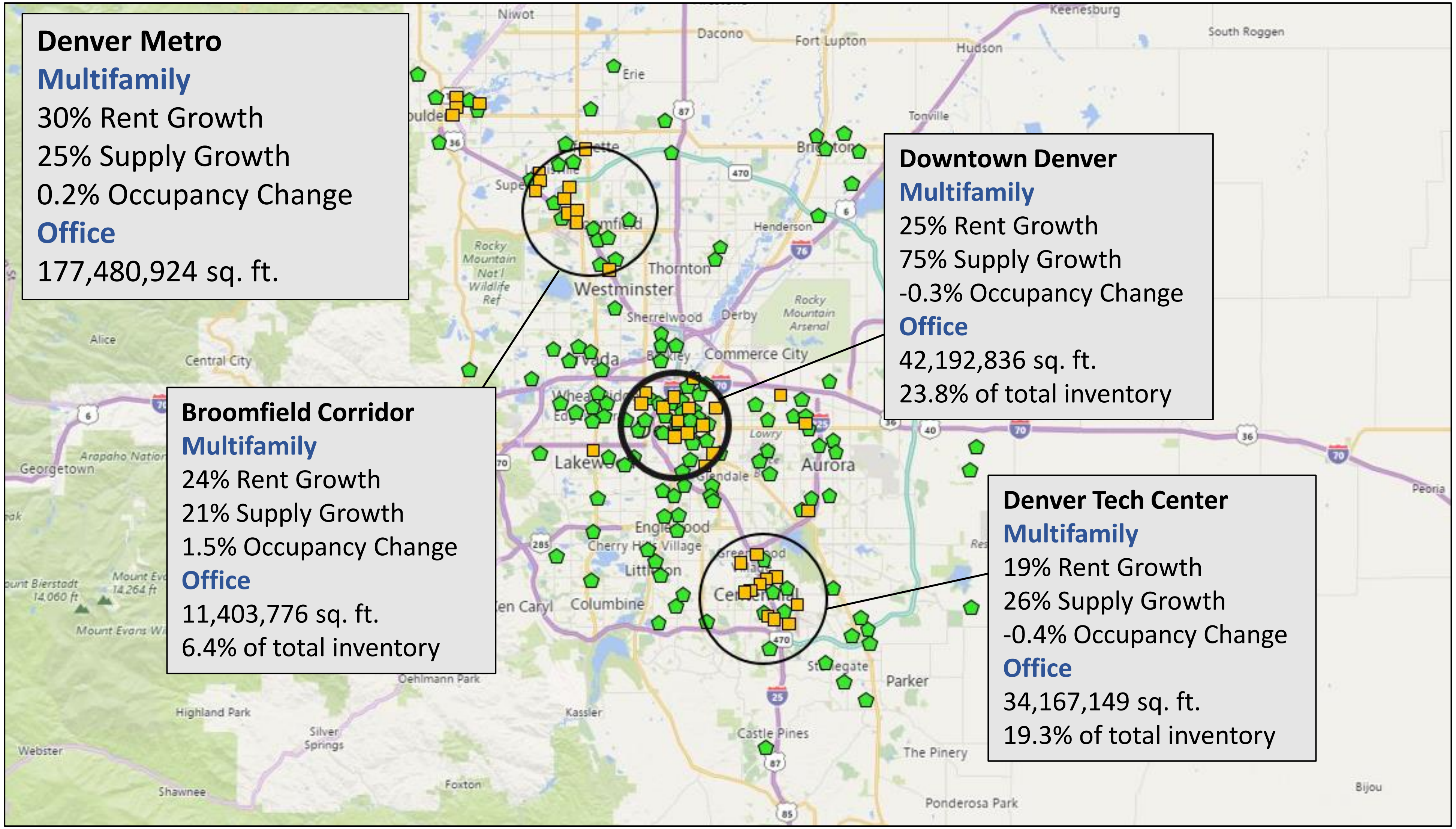
Submarkets With the Highest Deliveries Forecasted in 2019 – Seattle

Submarket	Units Forecasted to Deliver 2019	Existing Stock 2018	2019 Deliveries as a % of Existing Stock
Redmond	1,591	12,357	12.9%
Belltown	1,492	21,615	6.9%
Central	964	5,075	19.0%
Bellevue-East	897	9,156	9.8%
North Seattle	827	10,074	8.2%
Seattle	**10,473**	**240,216**	**4.4%**



*Stars indicate location of intellectual capital nodes
Source: Yardi® Matrix

Intellectual Capital Nodes – Denver



Denver Metro
Multifamily
30% Rent Growth
25% Supply Growth
0.2% Occupancy Change
Office
177,480,924 sq. ft.

Downtown Denver
Multifamily
25% Rent Growth
75% Supply Growth
-0.3% Occupancy Change
Office
42,192,836 sq. ft.
23.8% of total inventory

Broomfield Corridor
Multifamily
24% Rent Growth
21% Supply Growth
1.5% Occupancy Change
Office
11,403,776 sq. ft.
6.4% of total inventory

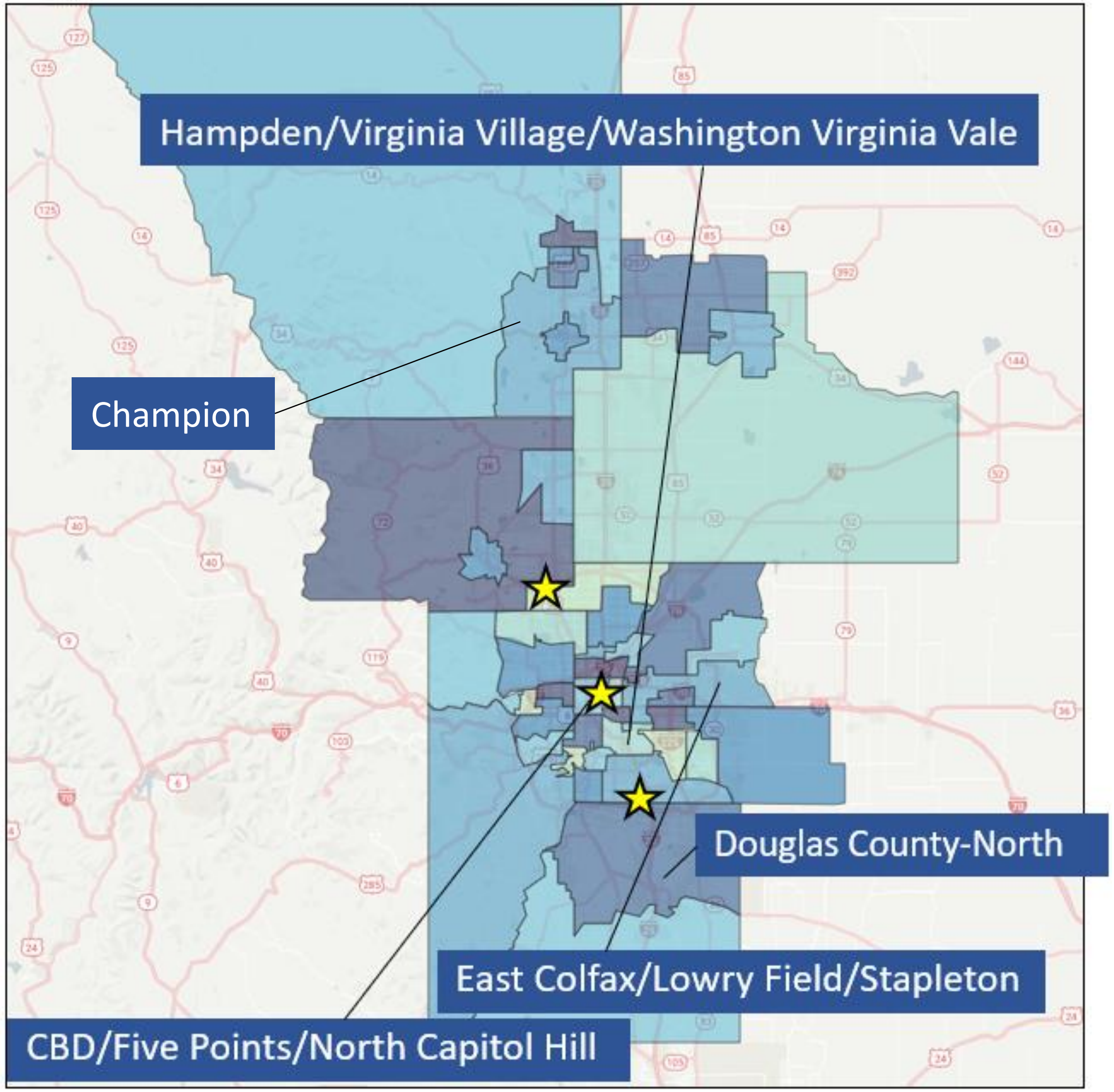
Denver Tech Center
Multifamily
19% Rent Growth
26% Supply Growth
-0.4% Occupancy Change
Office
34,167,149 sq. ft.
19.3% of total inventory

Office Development   Multifamily Development

*Multifamily rent growth, supply growth and change in occupancy September 2014-September 2019. Office inventory as of October 2019.
Source: Yardi® Matrix

Submarkets With the Highest Deliveries Forecasted in 2019 – Denver

Submarket	Units Forecasted to Deliver 2019	Existing Stock 2018	2019 Deliveries as a % of Existing Stock
CBD/Five Points/ North Capitol Hill	2,551	28,196	9.0%
East Colfax/Lowry Field/ Stapleton	1,230	10,180	12.1%
Hampden/Virginia Village/ Washington Virginia Vale	1,080	21,912	4.9%
Douglas County-North	933	16,539	5.6%
Champion	534	3,015	17.7%
Denver	**11,603**	**263,227**	**4.4%**



*Stars indicate location of intellectual capital nodes
Source: Yardi® Matrix

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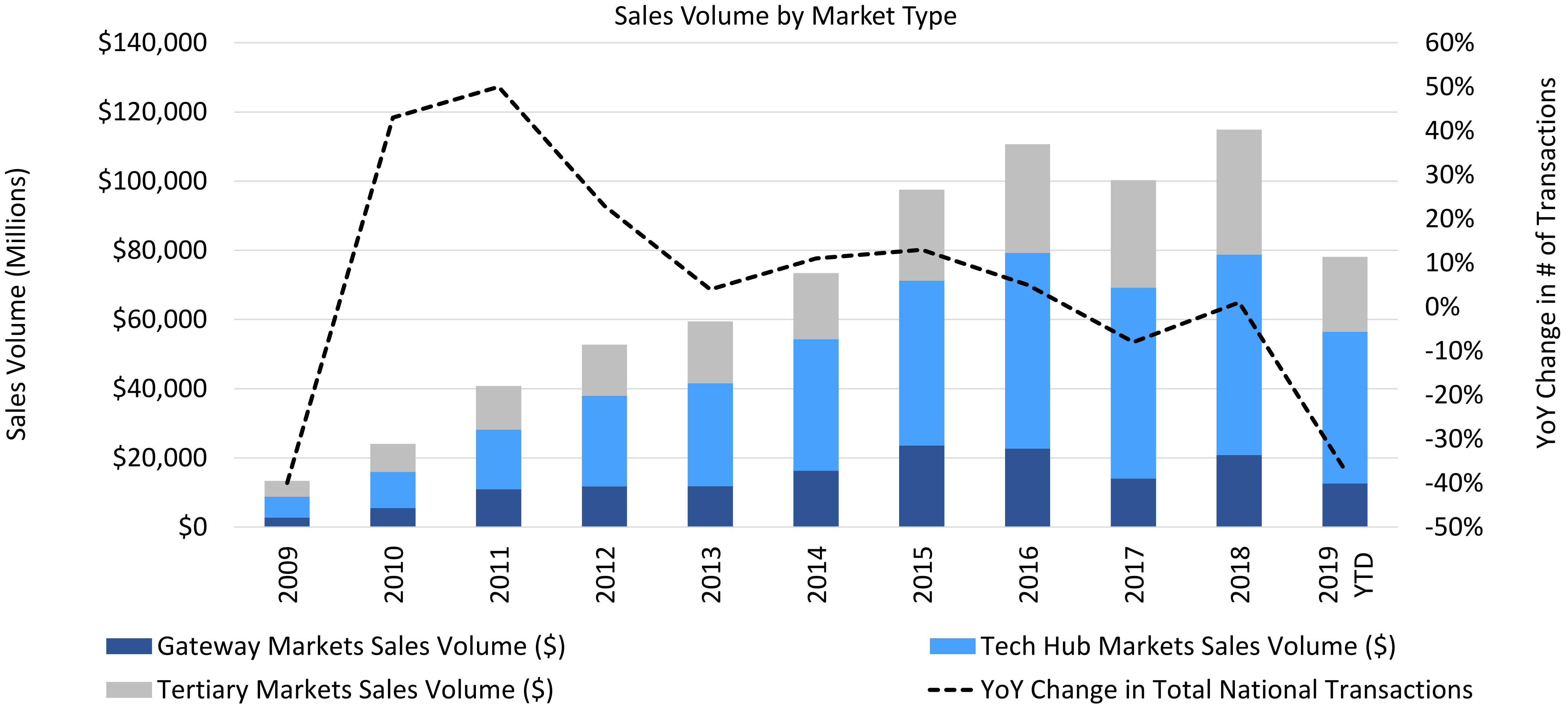
In Summary:

- National supply growth is expected to remain in-line with 2018 deliveries for the next few years
- At the market level, gateway and tech hub markets have had the most deliveries in 2019
- Our analysis of construction durations showed recent improvement in duration in most markets after several years of increasing construction timelines
- Despite a large number of deliveries, Dallas, Seattle and Austin had strong absorption of new units, while most other markets struggled
- Our new supply forecast shows Dallas, Seattle and Denver topping the list for the most deliveries expected between 2019 and 2022, however the new supply will be focused in different submarkets, making the future supply-demand picture for these markets look less grim

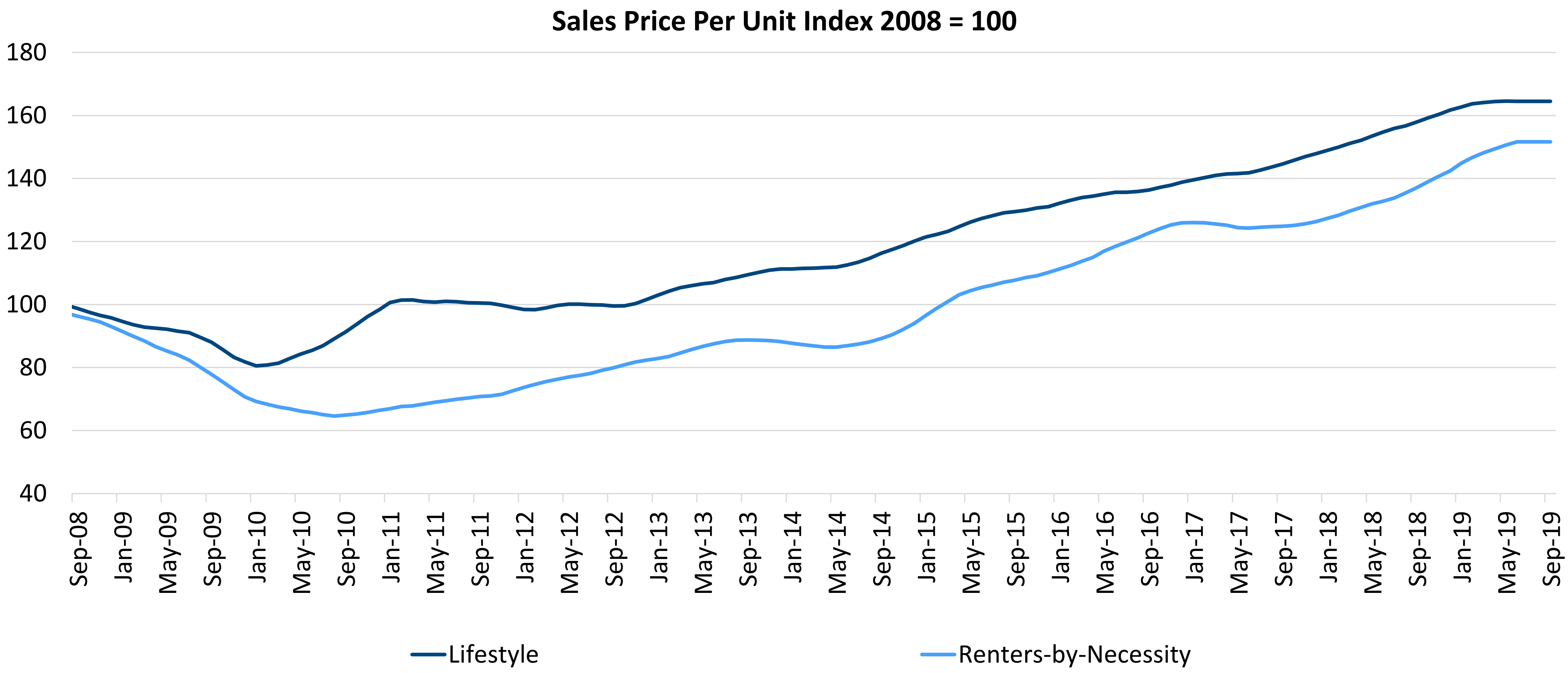
Demand/Supply Implications: Multifamily Fundamentals

Multifamily Transactions Have Been Fairly Stable Over the Past Five Years, but With Higher Dollar Amounts



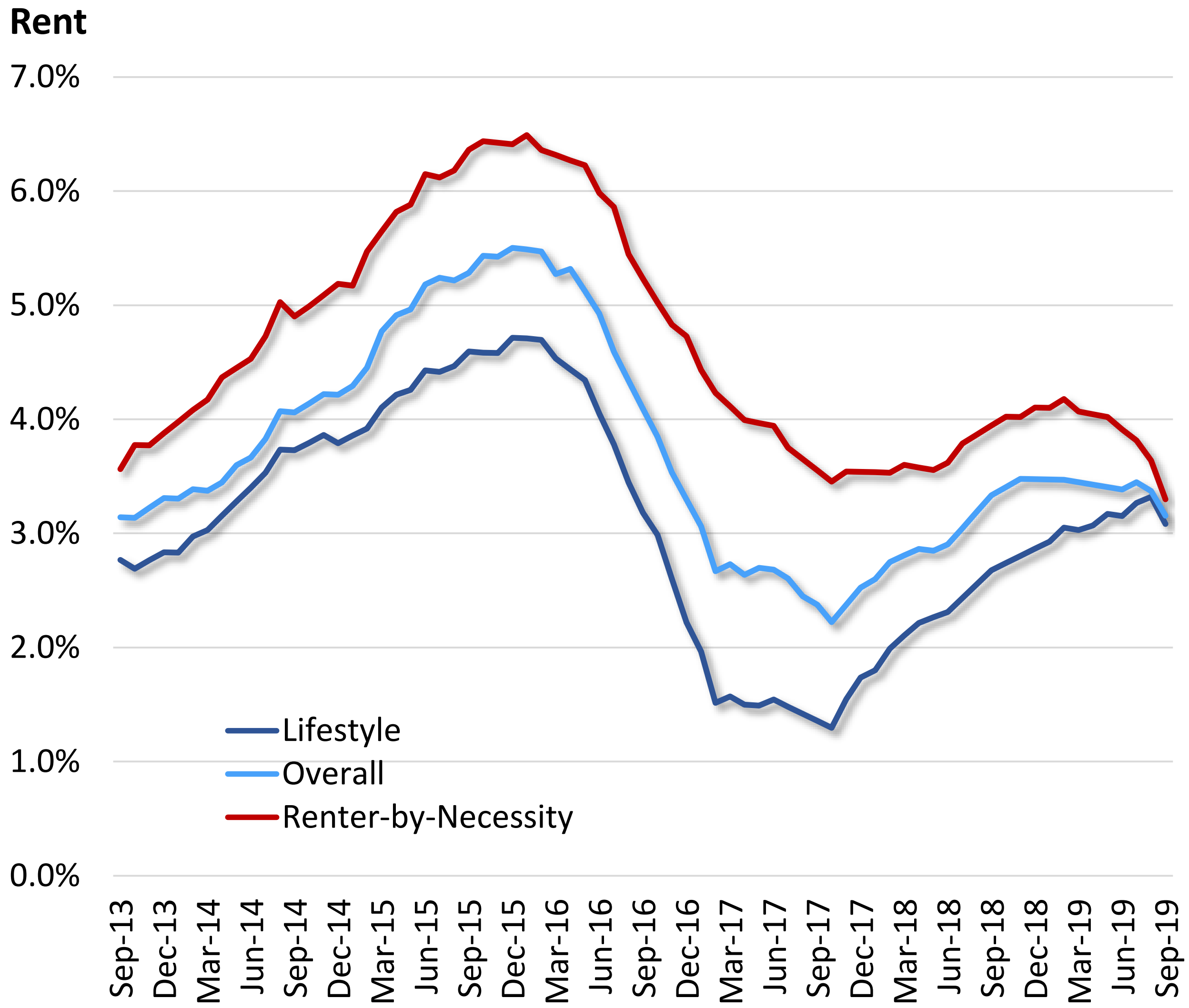
Source: Yardi®Matrix

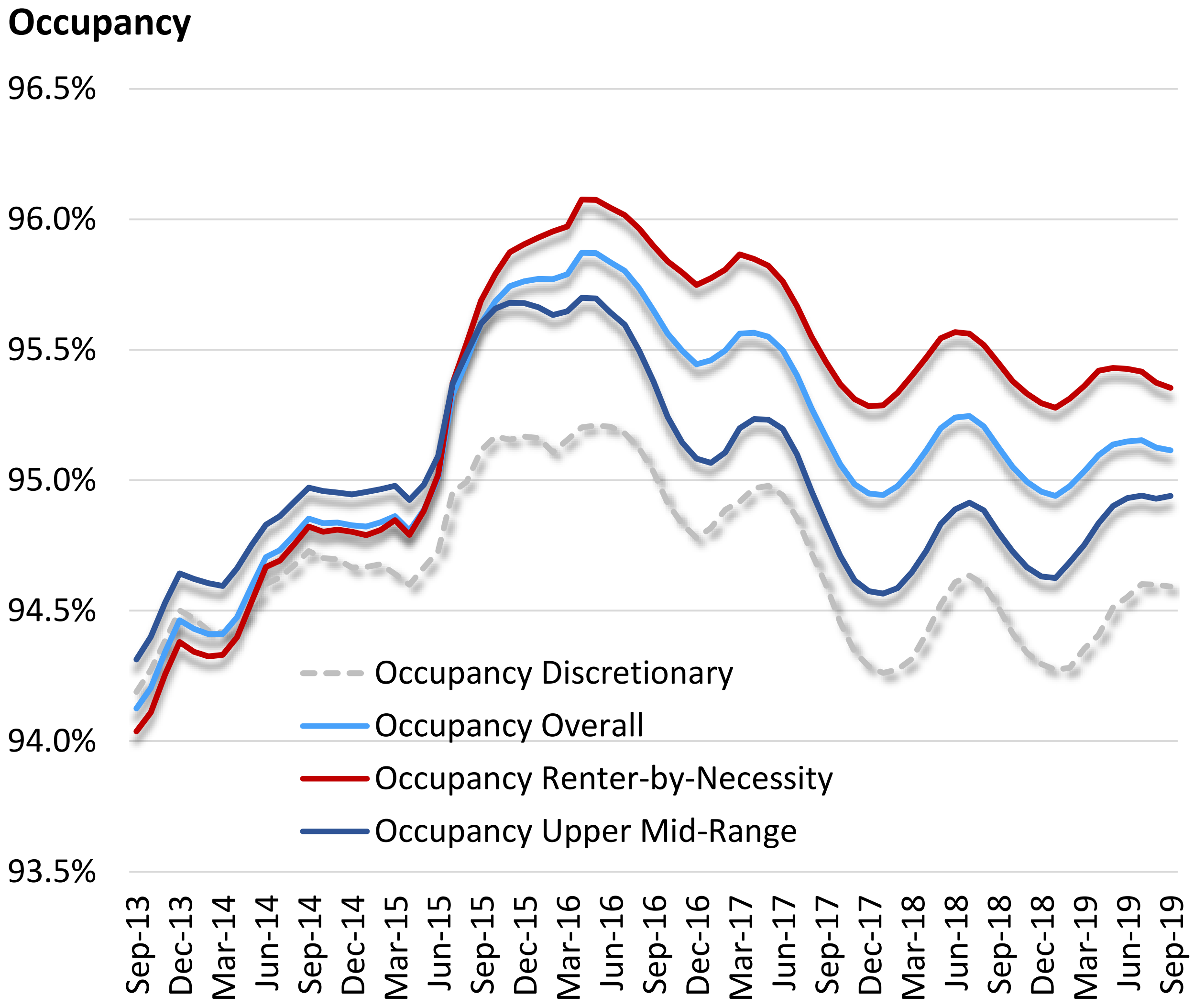
National Multifamily Values Keep Rising



Source: Yardi®Matrix

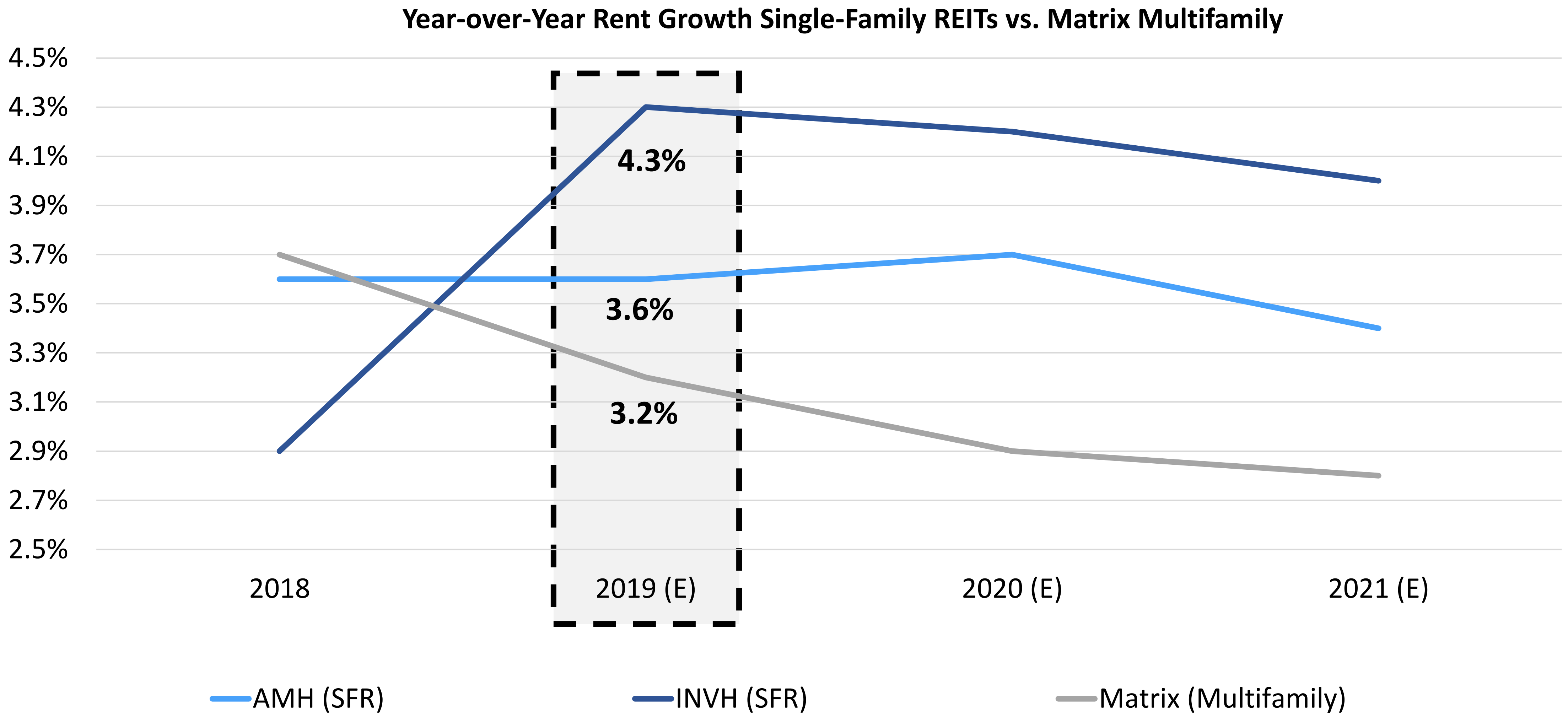
Multifamily Rent Growth and Occupancy Have Leveled Out





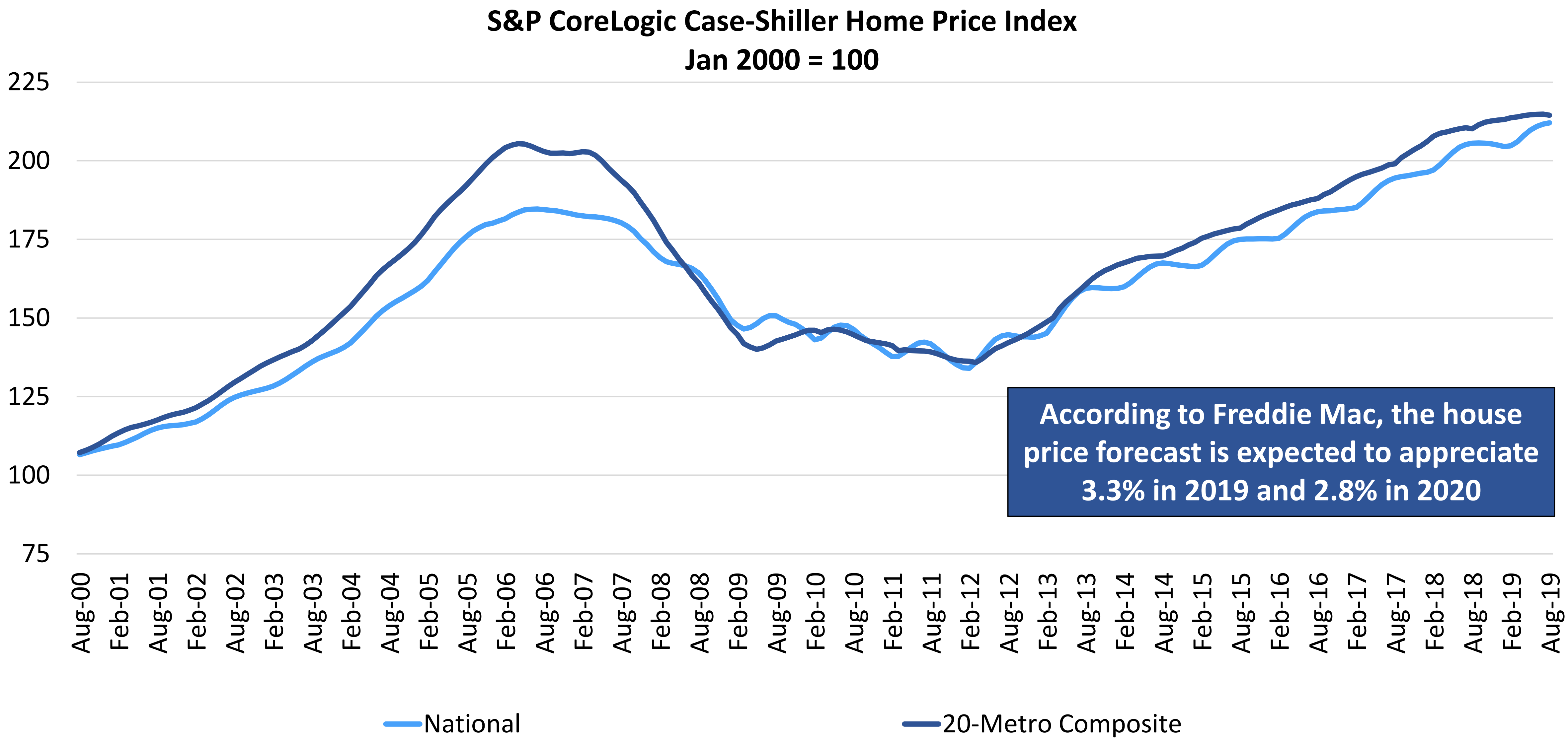
Source: Yardi®Matrix

Single-Family Rent Growth Exceeds Multifamily and is Expected to Continue to Do So



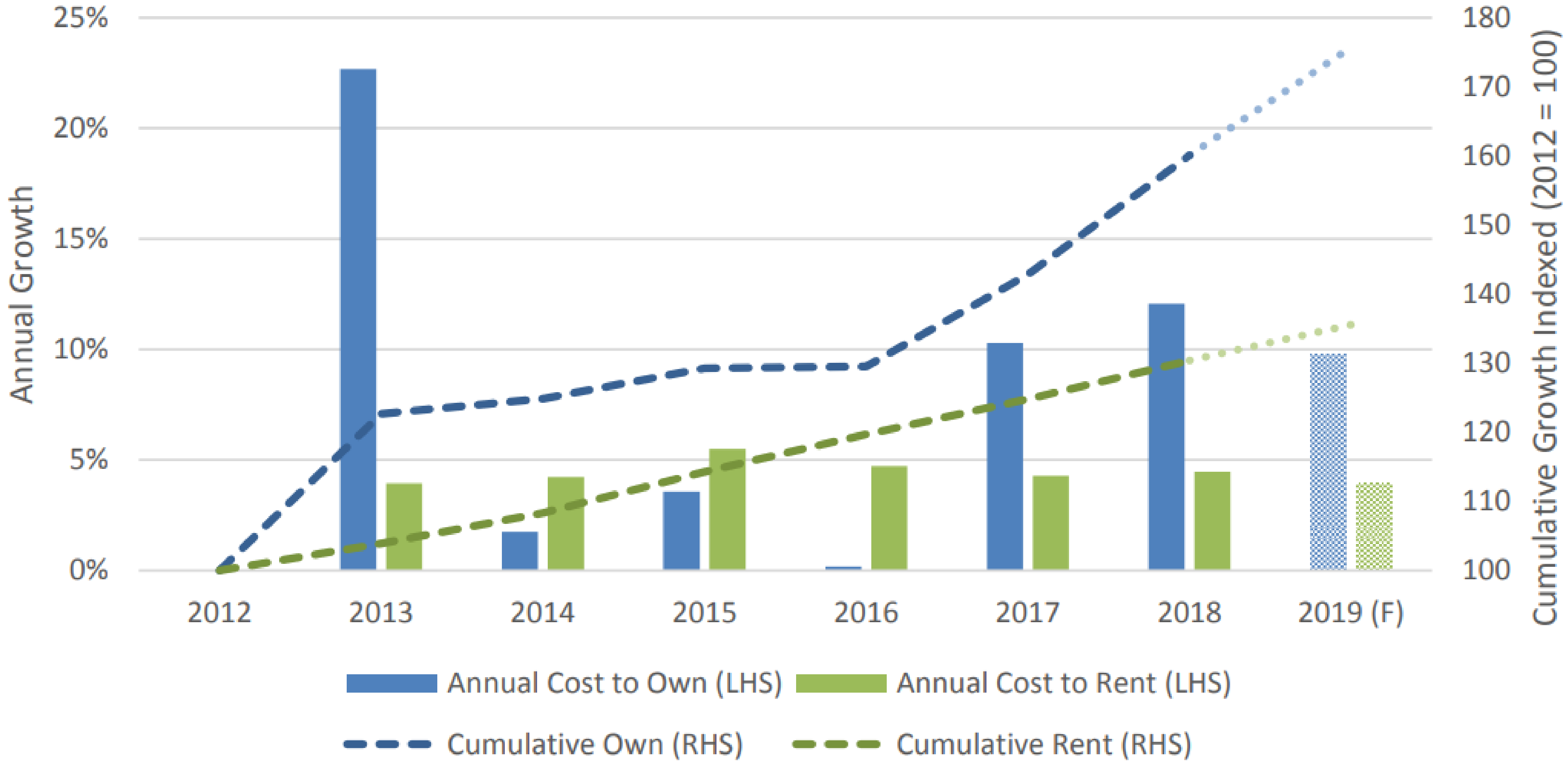
Source: Yardi®Matrix; Evercore ISI

Home Values Continue to Rise as Well



Source: Yardi®Matrix; Moody's Analytics; S&P Dow Jones Indices LLC; CoreLogic, Inc.: S&P CoreLogic Case-Shiller Home Price Indices

The Cost of Homeownership is Growing Faster Than Multifamily Rents



Source: Yardi®Matrix; Freddie Mac

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The Cost of Homeownership is Growing Faster Than Multifamily Rents

Cost to Own and Rent (Cumulative Over Past 3 Years)			
Metro	**Own**	**Rent**	**Difference**
Tampa	40.8%	15.9%	24.9%
San Francisco	32.0%	7.9%	24.1%
New Orleans	33.5%	11.7%	21.8%
Jacksonville	34.8%	13.0%	21.8%
Orlando	40.3%	19.5%	20.8%
Riverside	31.5%	13.6%	17.9%
Baltimore	26.7%	9.0%	17.7%
Cleveland	28.6%	11.5%	17.1%
Denver	35.4%	19.6%	15.8%
Sacramento	34.8%	19.4%	15.4%
Charlotte	31.1%	15.8%	15.3%
Indianapolis	27.5%	12.4%	15.1%
Phoenix	32.4%	17.3%	15.1%
Columbus	29.1%	14.3%	14.8%
Minneapolis	28.3%	13.6%	14.7%
Austin	28.1%	13.6%	14.5%
Portland	32.8%	18.6%	14.2%
Cincinnati	26.5%	12.4%	14.1%
Memphis	24.5%	10.8%	13.7%
Atlanta	33.0%	19.4%	13.6%

Cost to Own and Rent (Cumulative Over Past 3 Years)			
Metro	**Own**	**Rent**	**Difference**
Dallas	32.5%	19.5%	13.0%
Miami	30.1%	17.1%	13.0%
Boston	24.0%	11.7%	12.3%
San Antonio	23.5%	11.2%	12.3%
Nashville	33.4%	21.8%	11.6%
Los Angeles	30.8%	19.2%	11.6%
Kansas City	25.1%	13.7%	11.4%
Raleigh-Durham	26.4%	15.1%	11.3%
Seattle	38.2%	27.9%	10.3%
Milwaukee	22.9%	13.1%	9.8%
United States	**23.8%**	**14.1%**	**9.7%**
Richmond	23.2%	13.6%	9.6%
San Diego	24.5%	15.0%	9.5%
New York City	14.9%	5.6%	9.3%
Chicago	22.9%	14.4%	8.5%
Virginia Beach	14.7%	8.8%	5.9%
Houston	17.4%	13.0%	4.4%
Washington D.C.	17.0%	13.5%	3.5%
St. Louis	16.6%	13.7%	2.9%
Philadelphia	8.9%	13.5%	-4.6%

Source: Yardi®Matrix; Freddie Mac

Matrix Expert National Operating Data Per Unit

12-month period Ending August 2019	Atlanta	Austin	Boston	Chicago	Denver	Los Angeles	Manhattan	Philadelphia
Total Income	$15,714	$15,153	$25,247	$22,445	$17,924	$27,808	$36,871	$17,480
Total Operating Expense	$7,189	$7,577	$10,357	$10,476	$6,223	$10,971	$18,178	$8,100
Net Operating Income	*$8,526*	*$7,54*	*$14,890*	*$11,969*	*$11,701*	*$16,837*	*$18,692*	*$9,381*
Operating Margin	**54.3%**	**49.8%**	**59.0%**	**53.3%**	**65.3%**	**60.5%**	**50.7%**	**53.7%**
Cap Rate (August 2019)	**7.4%**	**5.3%**	**4.8%**	**3.8%**	**4.8%**	**4.0%**	**2.6%**	**4.9%**

In Summary:

- Multifamily transactions have been fairly stable over the past five years, and we expect 2019 transactions to be in-line with 2018
- Lifestyle rents are rising while renter-by-necessity rents are falling, a recent flip to what we have seen the past couple years
- Single-family rent growth exceeds multifamily, and is expected to continue to do so. As home values continue to rise, the cost of homeownership is growing faster than multifamily rents
- Over the next couple of years, we still predict that tech hub and tertiary markets will have the most rent growth

Update on Affordability

Public and Private Policy Responses to Affordability Issue

Public Responses - Command/Mandate Oriented

- Statewide Rent Control in Oregon (as of Feb. 2019)
- Rent Control tightened in New York City (as of June 2019)
- Statewide Rent Control in California (as of Oct. 2019)
- Previously enacted rent control measures in the District of Columbia, some cities in Maryland, and select local jurisdictions in New Jersey
- Lakewood, CO – Strategic Growth Initiative Bill, caps new residential construction
- Minneapolis 2040 – elimination of exclusionary zoning citywide
    - Allows small apartment buildings in neighborhoods currently zoned for only single-family homes
- Inclusionary and Streamlined Zoning increasingly prevalent
- Opportunity Zones

Private Responses - Market Oriented

- Coliving – Reduces Space Needs
- Airbnb – Monetizes Unused Time
- Modular/Standardized Construction
- Freddie Mac Loan Payments
- HUD Policy Changes
- Companies offering loans to renters (ex. StayTony, Domuso, Till, Uplift)

*Bills current as of October 2019
Source: Yardi®Matrix; wsj.com

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Differing Public Policy Responses

Restrict Supply	Proactively Attempt to Allow Supply to Respond to Demand
San Francisco	**Seattle**
Los Angeles	**Dallas**
Portland	**Denver**
New York City	**Houston**
Then respond with rent control to shield current renters from impact	**Charlotte**

Public Policy Response to Affordability in Oregon

- Oregon is the first state to impose rent control
- Prohibits landlords from raising rents more than 7% per year, in addition to inflation
  - Properties that are less than 15 years old are exempt
  - In 2019, The Oregon Department of Administrative Services placed the cap on rents at 10.3%, the 2020 cap has decreased slightly to 9.9%
- Requires landlords to give a reason for evicting renters
  - In most cases, termination comes with 90 days' notice and one month's rent
- Landlords free to raise rents without a cap if renters leave by their own choice
- *On the flip side, Oregon eliminated single-family zoning*
  - In cities with more than 25,000 residents, duplexes, triplexes, fourplexes, and "cottage clusters" are allowed on parcels zoned single-family and in cities of at least 10,000 duplexes are allowed in single-family zones (House Bill 2001, as of June 2019)

Public Policy Response to Affordability in New York City

- Governor Cuomo signed in place ***permanent*** rent control measures on June 14, 2019
  - In the past, rent control laws were revisited every 4-8 years

<u>Included in the bill:</u>

- ***End high-rent vacancy deregulation***
  - When the legal rent for a rent-stabilized apartment reached $2,774 per month, it could revert to market-rate if there was a vacancy - has led to the deregulation of more than 155,000 units since the 1990s
- ***End vacancy bonus***
  - Landlords had been able to increase rents as much as 20% after tenants moved out
- ***End rent hikes based on building improvements***
  - Landlords had been able to increase rents in regulated apartments by up to 6% per year if they made improvements that "directly or indirectly" benefited all tenants
  - This increase is now capped at 2% per year
- ***End the practice of raising rents to the legally mandated limit when a lease is renewed***
- ***End high-income deregulation***
  - If a tenant in a rent-stabilized unit earned over $200,000 in two consecutive years, the landlord could deregulate that unit
- ***End the "owner-use" loophole***
  - Landlords and their families had been able to remove rent-stabilized tenants from units to use them as residences
  - Now, landlords will only be able to claim "owner use" for one apartment as a primary residence.

*Bill current as of October 2019
Source: Yardi®Matrix; nyassemnly.gov; nytimes.com

Public Policy Response to Affordability in California

California passes statewide rent control (AB 1482)

- Until January 1, 2030, prohibits an owner, over the course of any 12-month period, from increasing the gross rental rate for a dwelling unit more than 5% plus CPI, or 10%, whichever is lower (applies to rental units 15 years or older)

- Law takes effect January 1, 2020 – but, it will apply to rent increases on or after March 15, 2019

- Prohibits an owner from terminating a tenancy without just cause, as defined, which the bill would require to be stated in the written notice to terminate tenancy when the tenant has continuously and lawfully occupied the unit for 12 months
    - The bill requires for no-fault just cause terminations, that the owner, either assist tenants to relocate, regardless of tenant's income, buy providing a direct payment of one month's rent to the tenant or waive the payment of rent for the final month of tenancy

*Bill current as of October 2019
Source: Yardi®Matrix; legalinfo.legislature.ca.gov

Public Policy Response to Affordability in California

Governor Newsom signed 18 bills in October to boost housing production, a few highlights:

- AB 1485, Housing Development: Streamlining (as of Oct. 2019)
  - If a project has 10% of its units reserved for residents with incomes 80% or less of AMI, or 20% of units for incomes less than 120% of AMI, they will qualify for a streamlined approval process (no discretionary approvals can be required and applications will be processed in a specific timeframe)
- SB 113 (as of Oct. 2019)
  - $331 million in state funds will be transferred to the National Mortgage Special Deposit Fund to provide an ongoing source of funding for borrower relief and legal aid to vulnerable homeowners and renters
- SB 330, Housing Crisis Act of 2019 (as of Oct. 2019)
  - Requires cities and counties to slash the time it takes to process permits for housing that meet the local government's existing rules
  - Cities and counties are prohibited from hiking fees or changing permit requirements once the project applicant has submitted all preliminary required information
  - Housing-constricted areas are barred from changing building design standards, reducing the number of housing units allowed, establishing a population cap, or enacting moratoriums on new housing construction
  - Bans the demolition of affordable and rent-controlled units unless developers replace all of them and pay to rehouse tenants and offer them the first right or return at the same rent

*Bill current as of October 2019

Source: Yardi®Matrix; sd09.senate.ca.gov; record-bee.com; legalinfo.legislature.ca.gov

Takeaways From New Rent Control Legislation

California & Oregon

- Livable for now if you're already in the market
- On the investment side, the question is – what's your exit strategy?
- The value-add trade will become less feasible
- Slow grind of capital out of California and capital less likely to enter Oregon

New York

- Disastrous situation for stabilized and value-add properties
- Most critical issues:
  - Elimination of the ability to transfer stabilized units to market rate after a tenant vacates
  - Limit on the amount owners can increase rents to pay for capital improvements
  - Capital will be re-deployed outside of New York
  - Assets are likely to deteriorate slowly

For more information on the affordability crisis, please visit naahq.org or nmhc.org

The Yardi Matrix View

- **U.S. economy is a glass half full/glass half empty situation**
  - GDP growth in Q3 was OK (~1.9%), and we expect Q4 to be a bit lower, with a lot more noise
  - U.S. oil production is keeping inflation low below 2% – and low inflation is a global phenomenon
  - The yield curve has been inverted for 5 months, but flattened following the Sept 18 and Oct 30 rate cuts
  - The European and Chinese economies are in poor shape
  - The U.S. service sector labor market is extremely tight, and wages continue to rise
  - Manufacturing and farming sectors are struggling
  - There is a highly elevated risk of recession mid 2021

- **Demographic and lifestyle changes are fueling strong demand for multifamily, north of 425K units/year**
  - An aging population, increasing divorce rates, and more younger people living at home all contribute to strong demand
  - Total housing production is unlikely to catch up to household formation, putting upward pressure on rents, occupancy rates and pressures for rent control

- **We've taken a first stab at analyzing political risk, which has become more important when making investment decisions**
  - Our analysis found that gateway markets have the most political risk, with Boston and Washington DC faring better than the rest
  - This is just our first take, and we welcome any feedback as we expand this analysis to another 30-40 markets

The Yardi Matrix View

- **<u>The national supply picture looks pretty balanced, but there is a lot more noise at the market and submarket level</u>**
  - After several years of increasing construction timelines, our recent analysis of construction durations at the market level show timelines have sped up over the past year
  - Most markets struggled to absorb new supply over the last year, though Seattle, Denver, and Dallas faired well, and those three markets are expected to have the most deliveries over the next four years
- **<u>Overall, the multifamily industry is performing well, with strong demand, level new supply, and strong rent growth</u>**
  - Lifestyle rents are rising while renter-by-necessity rents are falling, a recent flip to what we have seen the past couple years
  - Tech hub and tertiary markets are still best positioned to have the most rent growth over the next few years
- **<u>Affordability is a headwind for the industry, and markets are taking different approaches to tackle the issue</u>**
  - A number of public and private responses to affordability have emerged
    - Rent control, higher density zoning, coliving, Airbnb, etc.
  - Oregon, New York and California passed drastic rent control measures in response to affordability
    - The result of these measures will be a slow grind of capital out of California and New York, and capital less likely to enter Oregon

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