

MARKET UPDATE

**Cleveland**

Wednesday, July 24, 2019

The Ritz-Carlton, Cleveland



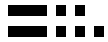
# MULTIFAMILY & COMMERCIAL MARKET UPDATE

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| INDUSTRY PRINCIPAL, YARDI



# AGENDA

1. Macroeconomic Outlook
2. Multifamily Fundamentals
3. Office Fundamentals
4. Cleveland Spotlight
5. New Technologies Emerging



# KEY TAKEAWAYS



## ECONOMY

The economy is in decent shape, but the slow down in growth is choppy. GDP growth in Q1 was stronger than expected, but Q2 will show deceleration. Inflation is still relatively low around 2%. The labor market is extremely tight, and wages continue to rise. May job gains were a disappointment, but June bounced back. The yield curve is inverted, and the clock is ticking – there are massive yellow warning signs in capital markets about the sustainability of growth.



## DEMOGRAPHIC SHIFTS

As companies and people look for lower cost alternate cities, they drive a shift of both jobs and population to tech hub cities previously not considered. When this happens, real estate will follow. We see this shift happening from urban cores to urbanized suburbs or intellectual capital nodes. The tax reform passed in 2017 will likely accelerate this trend but provide opportunities along the way.



# KEY TAKEAWAYS – MULTIFAMILY



## MULTIFAMILY MARKET

Demand continues to be strong with jobs and population shifting to lower cost cities and tech hubs. New supply deliveries completed at just over 300,000 units in 2018, and with the constraints of financial and labor costs, 2019 and 2020 deliveries are expected to be flat.



## RENT GROWTH

Rent growth has bounced back from a low point in late 2017, and is trending upward from a slight dip early this year. Rent growth remains around 3% nationally with significant variations by city, while occupancy remains stable around 95%.



## VALUATIONS & TRANSACTIONS

Valuations continue to rise at a steady pace with compressed cap rates, and this has shifted the focus to tech hub and tertiary markets to look for potential value add opportunities. Transaction volume in 2018 came in higher than 2017 with \$115 billion in sales. The markets where the transactions occurred reflect the shift, as most of the transactions occurred in tech hub markets and tertiary markets.



# KEY TAKEAWAYS – OFFICE



## COMMERCIAL MARKET

Demand is steady with job growth in office-using industries outpacing other industries. Completions peaked in 2018, but a lot of markets still have room for absorption. There are secular pressures that continue to alter the office market, such as decreasing square footage per employee, coworking, and a changing talent pool for office-using employment.



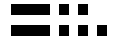
## LISTING RATE GROWTH

Most Matrix markets showed moderate rate growth over the past six months, but some have seen lease rates fall – Boston, Central Valley, Seattle and Birmingham. Conditions are sufficient to maintain this pace of slow occupancy and lease rate growth in most markets.



## TRANSACTIONS

Sales volume peaked in 2015 and has been dropping ever since. This is across all markets categories. However, sales prices per sq. ft. have increased nationally since 2000, with tech hub markets having the most growth over the past ten years.



# 2019 OUTLOOK



- GDP and employment will continue to grow, but at a slower, choppier pace.
- Supply/demand conditions in multifamily will continue to favor mild rate growth, with higher rates in the tech hub and tertiary markets.
- A decent economy coupled with the demographic shift of jobs will continue to create office demand in tech hub cities, providing a solid base for office-using sectors.
- For new investments, it's a **sharpshooter's game** to find the right deal at the right price.
- On the operational side its about finding revenue and cost trimming opportunities to grow your NOI from your existing assets.
- The use of new technology is already impacting commercial space in help with costs, especially around **utility consumption**. This will accelerate as the technologies are more widely adopted.



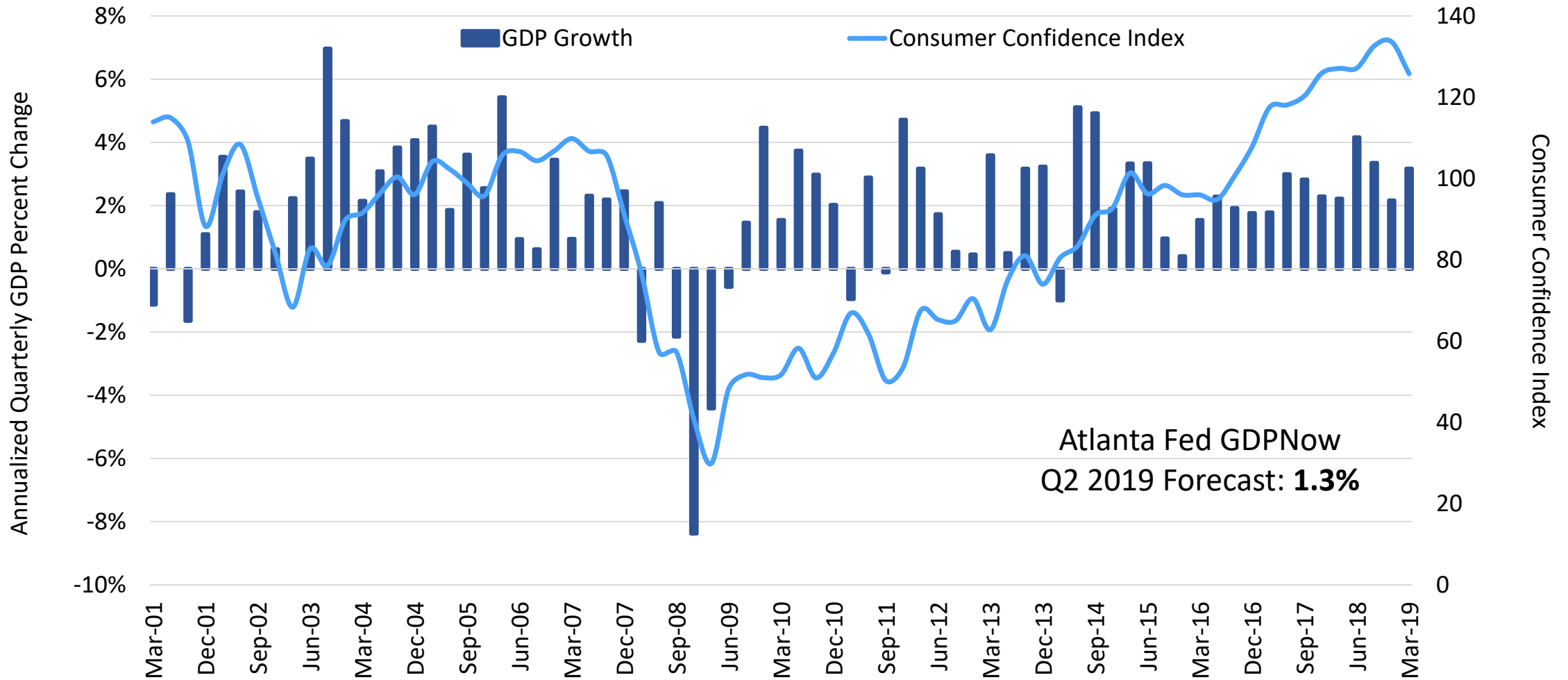
# MACROECONOMIC OUTLOOK

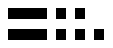
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# U.S. Economic Growth Is Decent, but Slowing



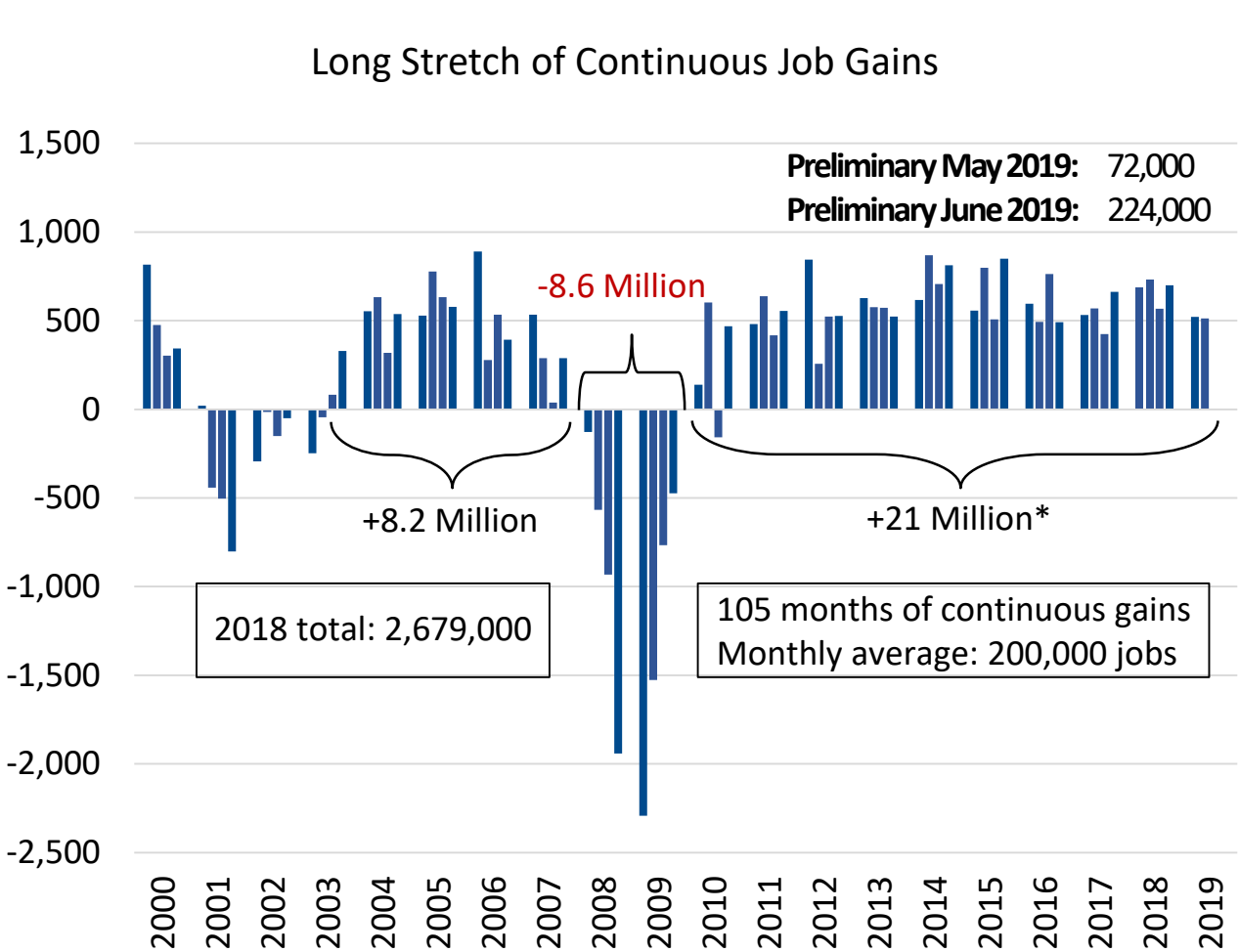


# Tight Labor Market, Pulling People Off the Sidelines

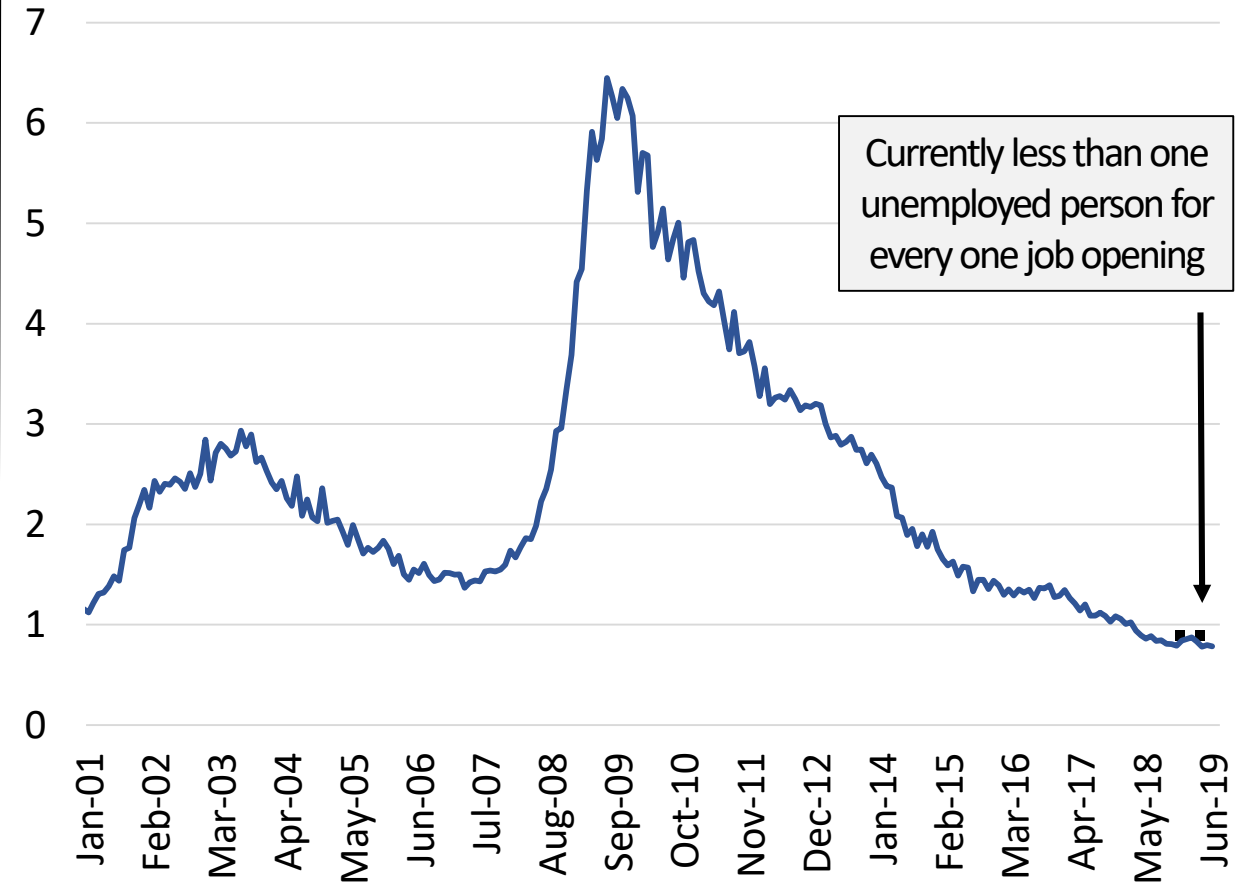


It is difficult to find labor at the right *price*, with the right *skills*, in the right *city*

### Long Stretch of Continuous Job Gains

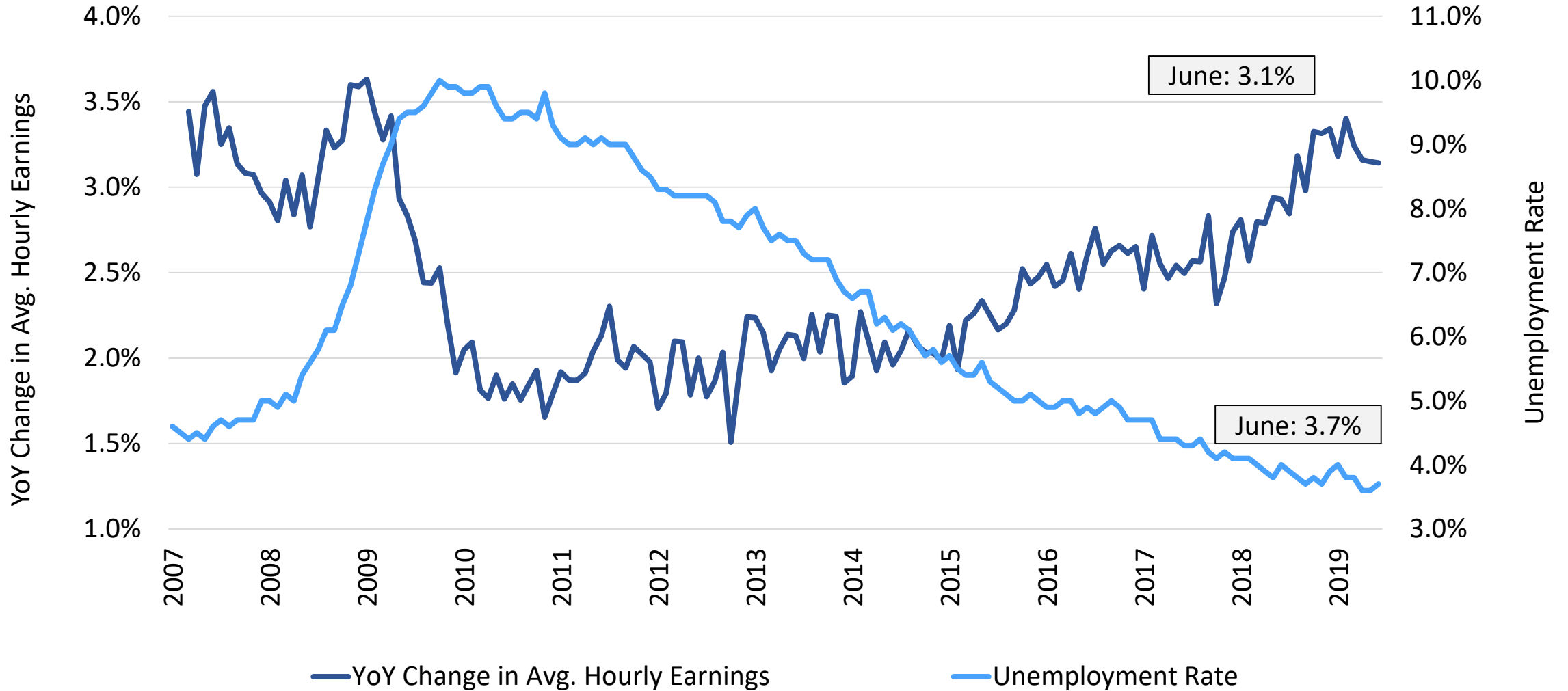


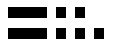
### Unemployed Persons per Job Opening



\*Through June 2019

# Wage Growth Finally Emerging



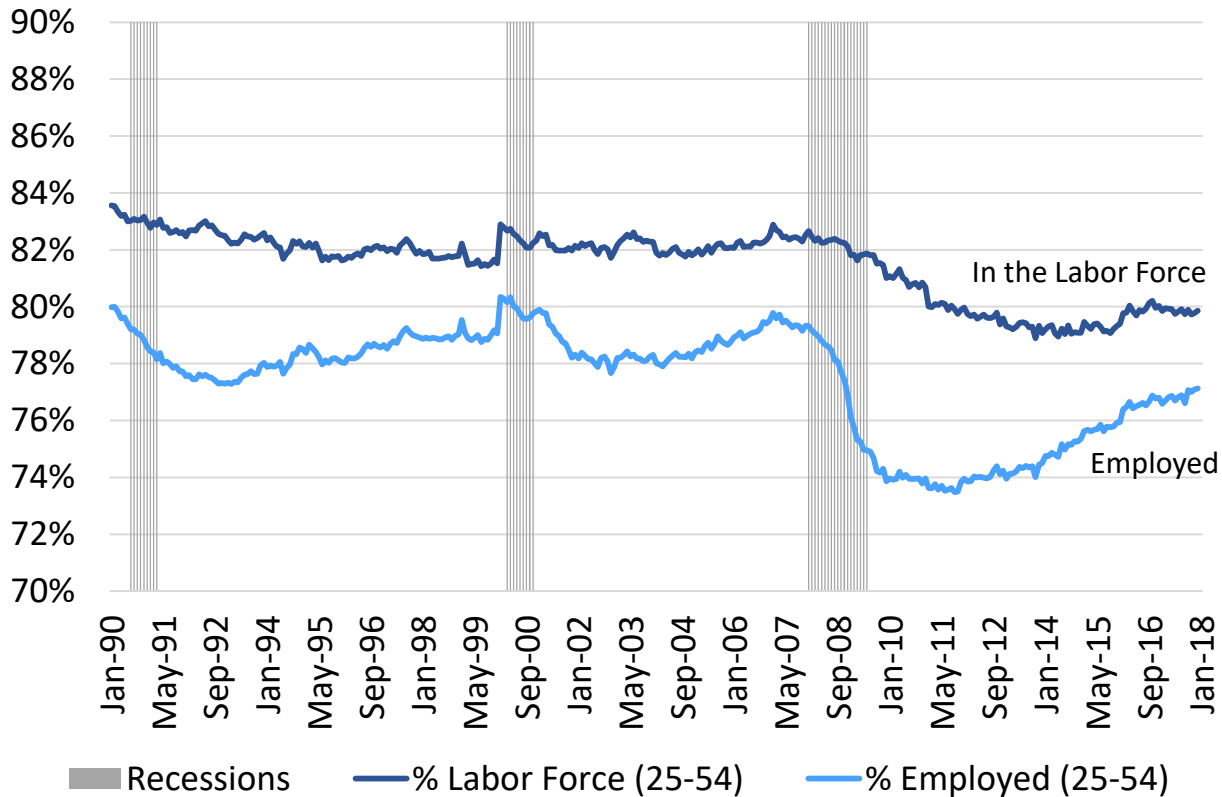


# Reserve Supply of Labor

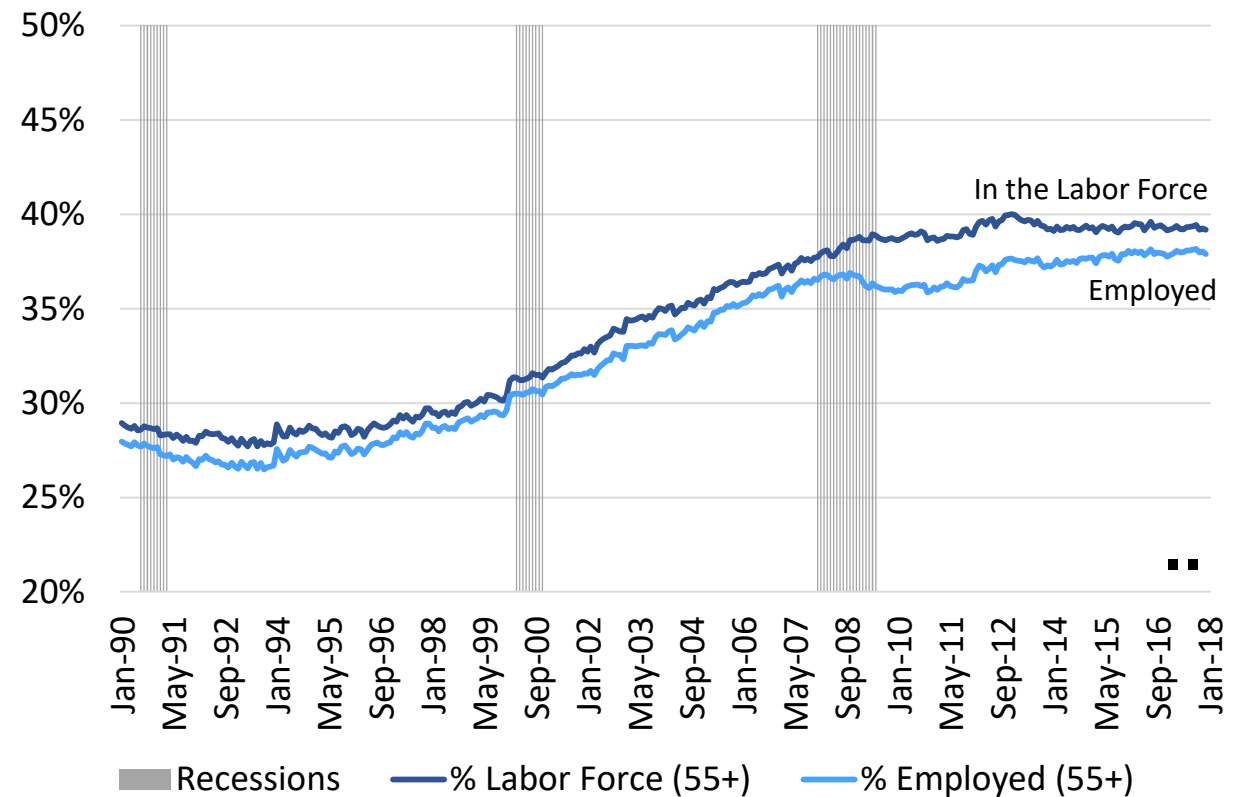


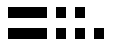
- Another 2% of the prime-age population could get engaged – approximately 2.6 million people
- Participation rates for people age 55+ are rising – buoying the expansion

Share of Prime-Age Population (25-54) That Is...



Share of Age 55+ Population That Is...

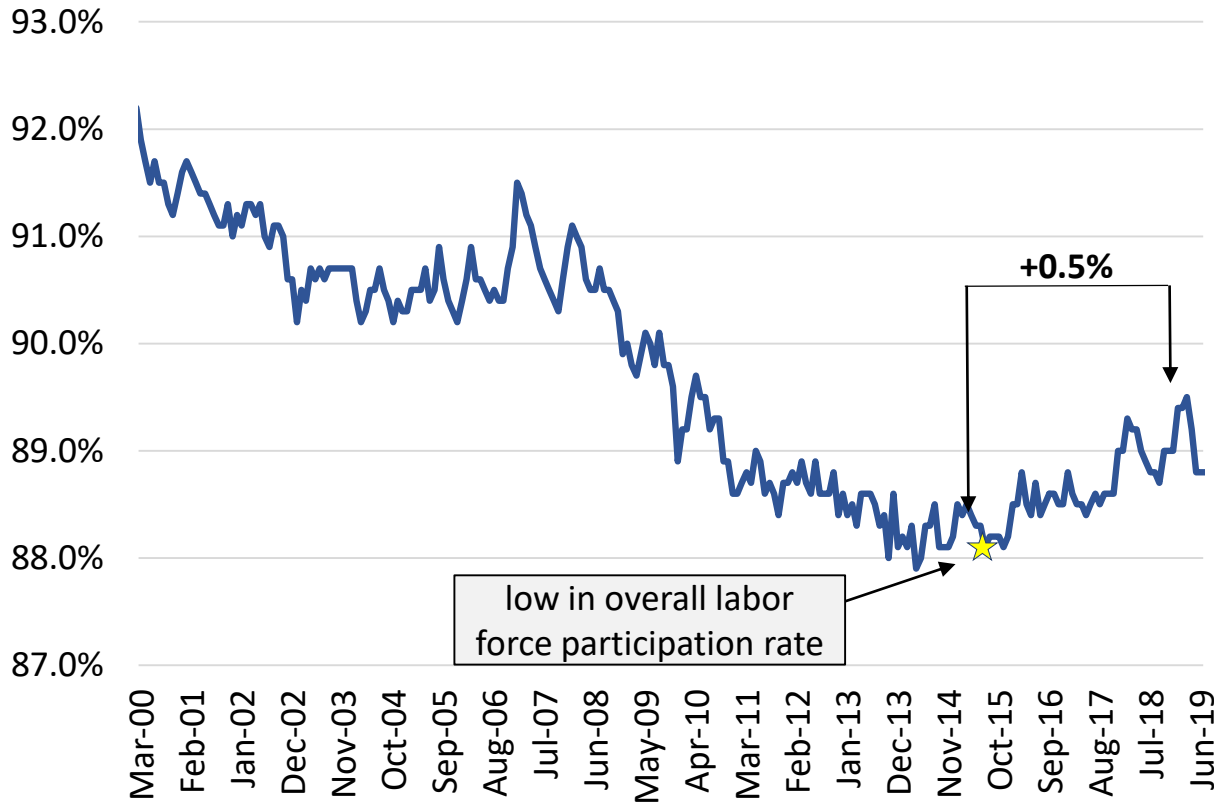




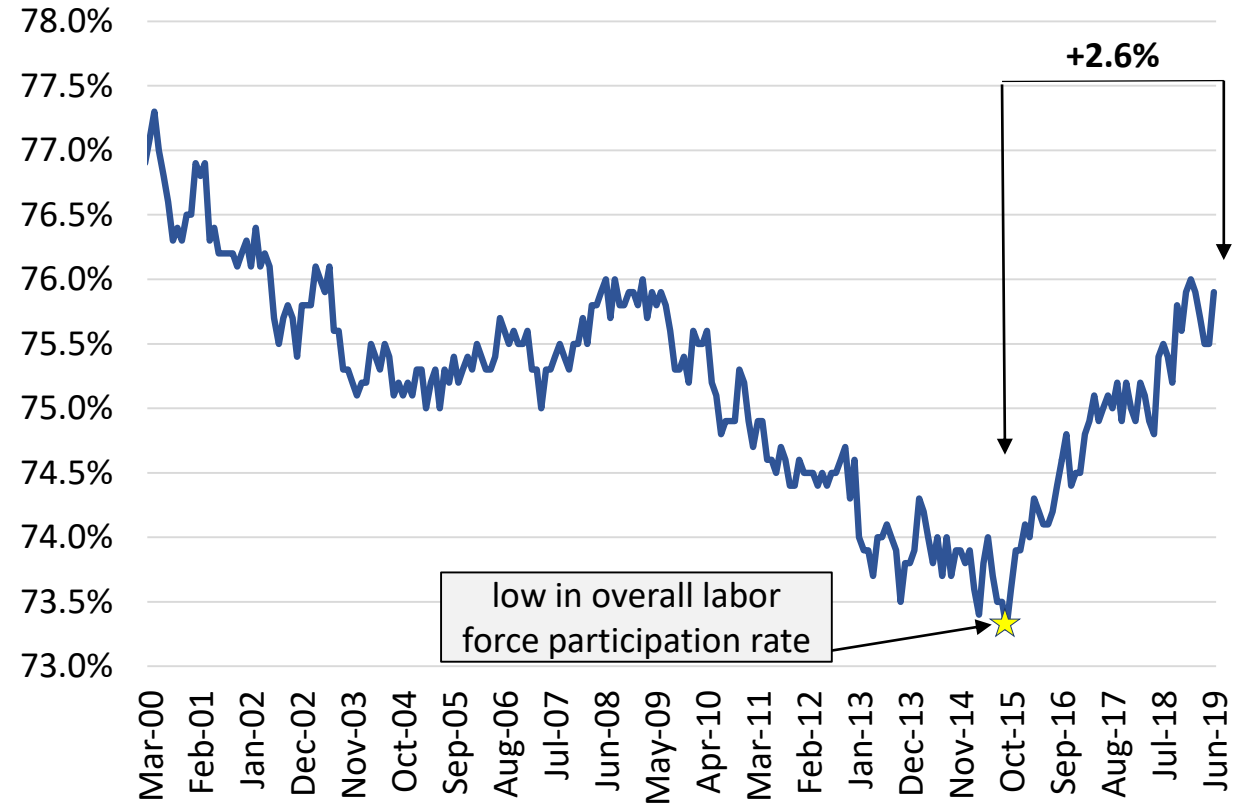
# Increase in Labor Force Participation Rate Among 25-54 Year-Olds Driven by Women



**Labor Force Participation Rate  
Male, Ages 25-54**

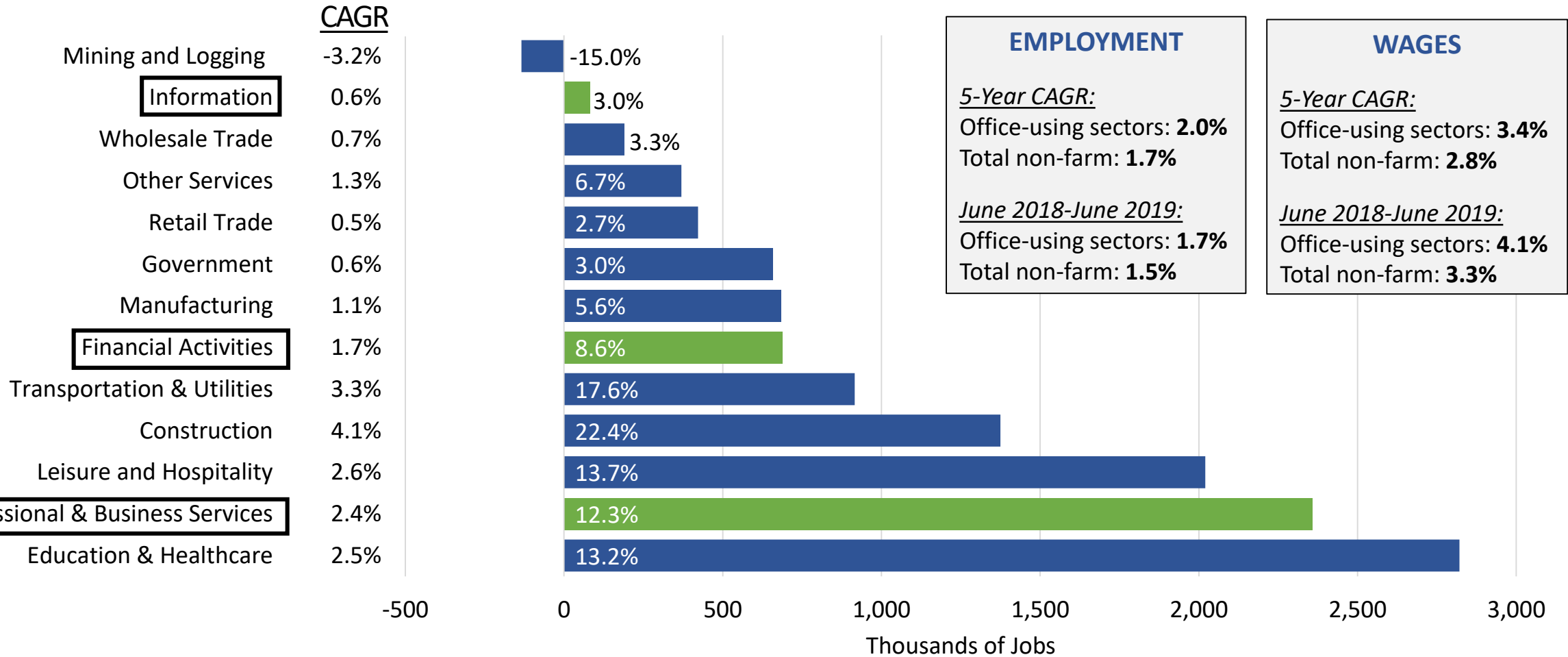


**Labor Force Participation Rate  
Female, Ages 25-54**

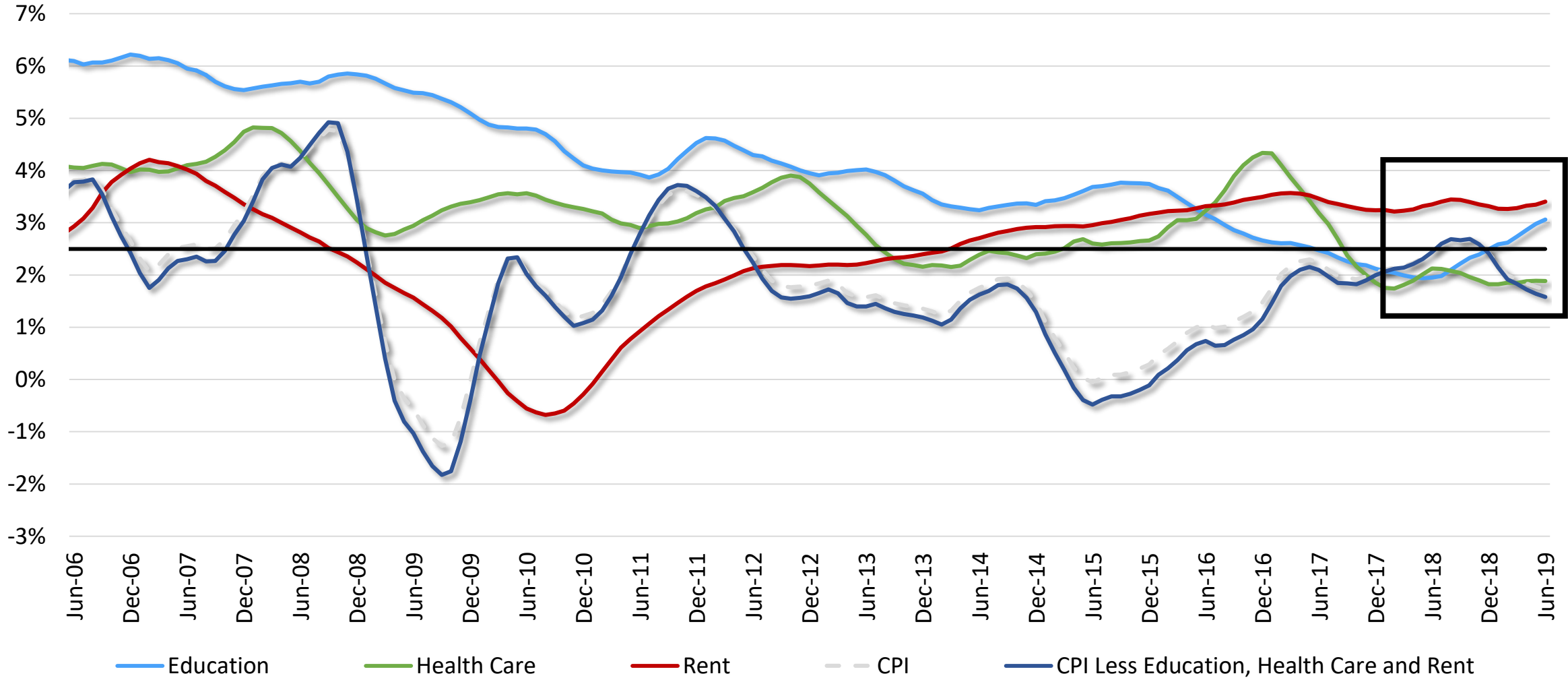


Source: Federal Reserve Bank of St. Louis, Economic Research Division; Organization for Economic Co-operation and Development; U.S. Bureau of Labor Statistics

# Office-Using Sectors Outpaced Overall Job Growth Over Last Five Years

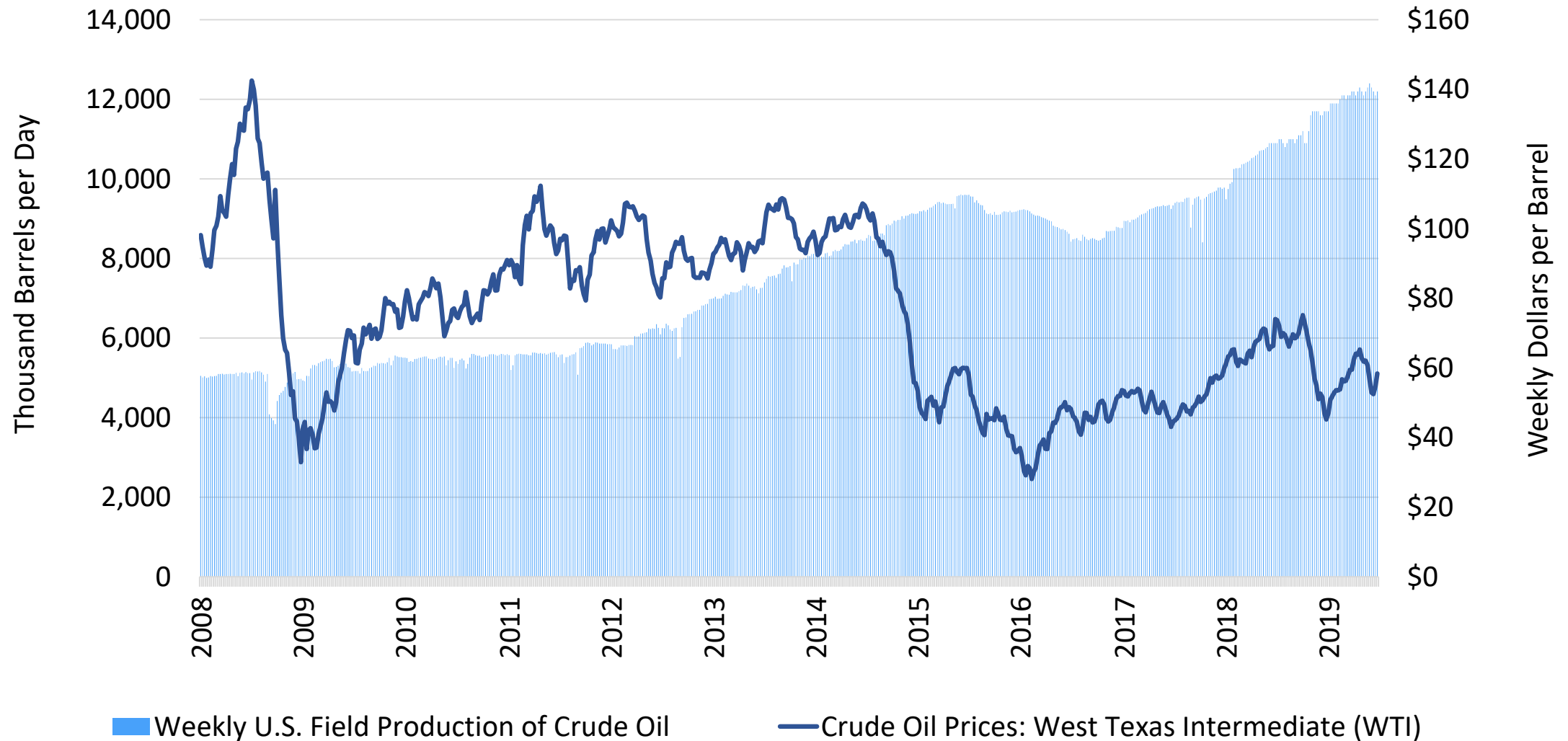


# Inflation Rising, But Unlikely to Break Out >2.5%





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

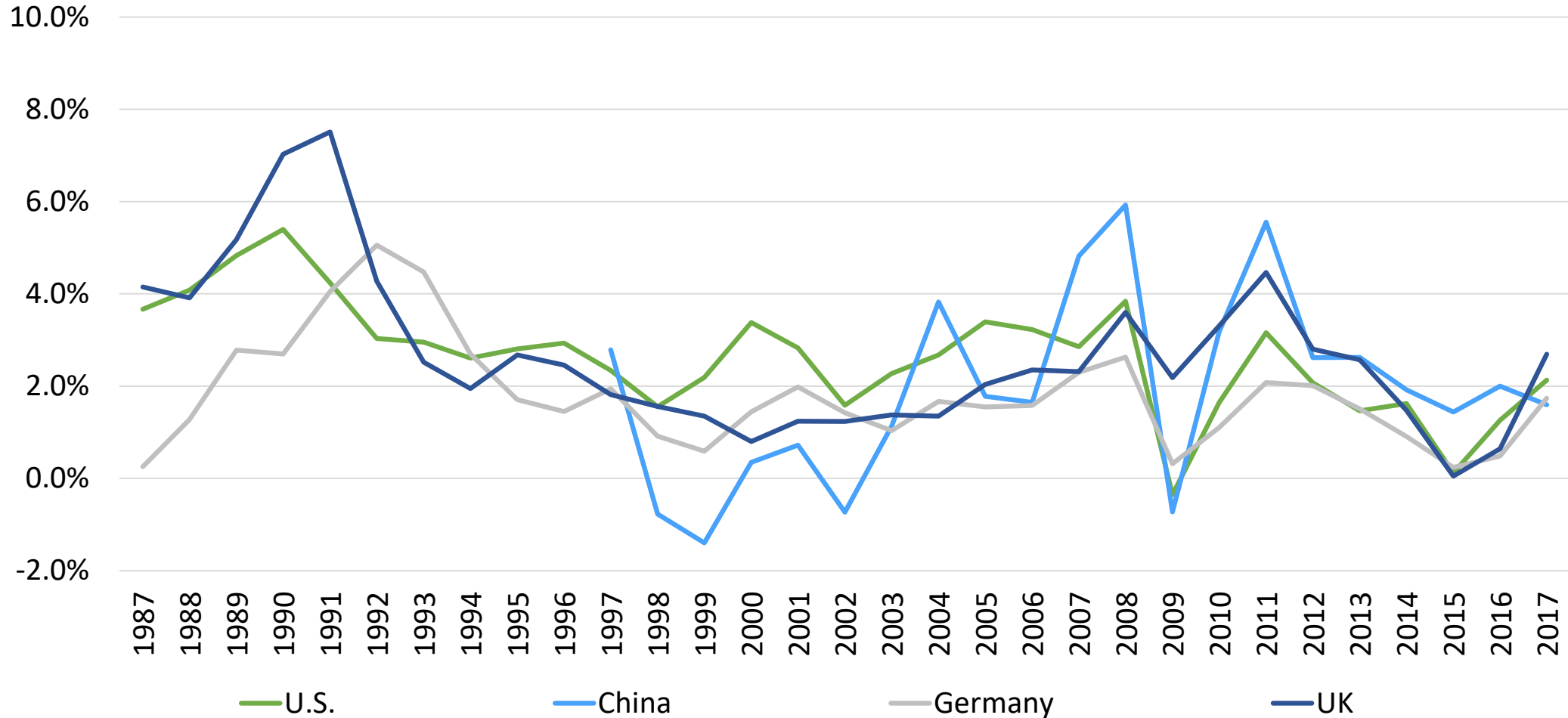


Source: Energy Information Administration, Federal Reserve Bank of St. Louis, Economic Research Division



# Inflation Going Down Is a Global Phenomenon

## Inflation, Consumer Prices by Country



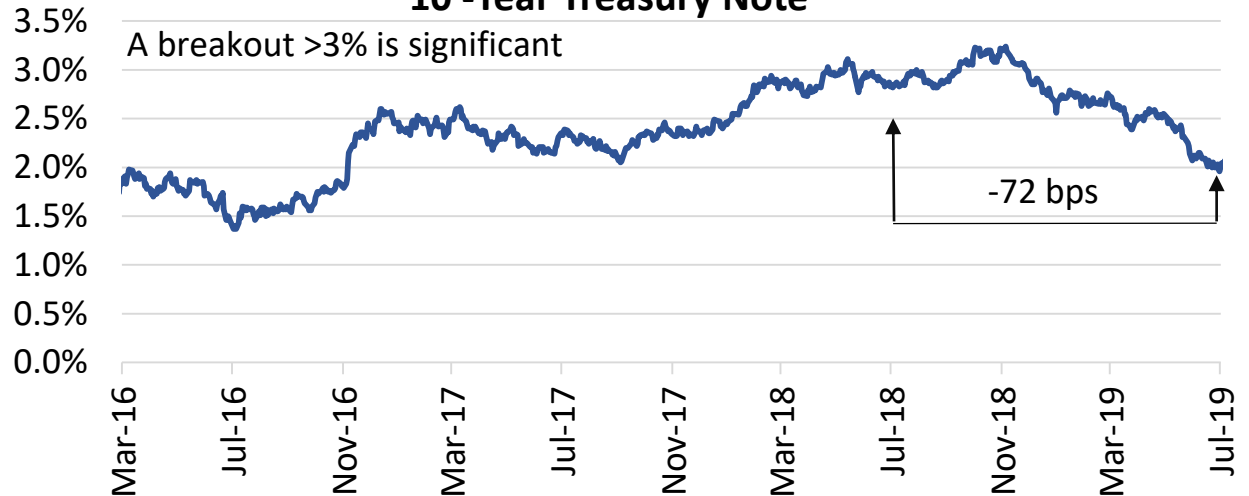
Source: Federal Reserve Bank of St. Louis, Economic Research Division

# U.S. & International Financial Market

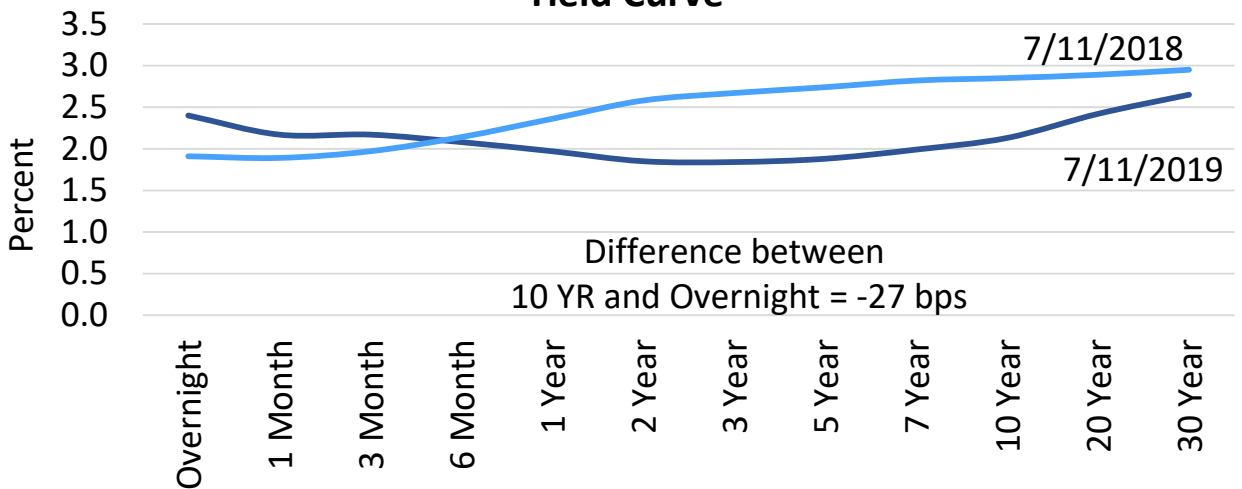
### S&P 500



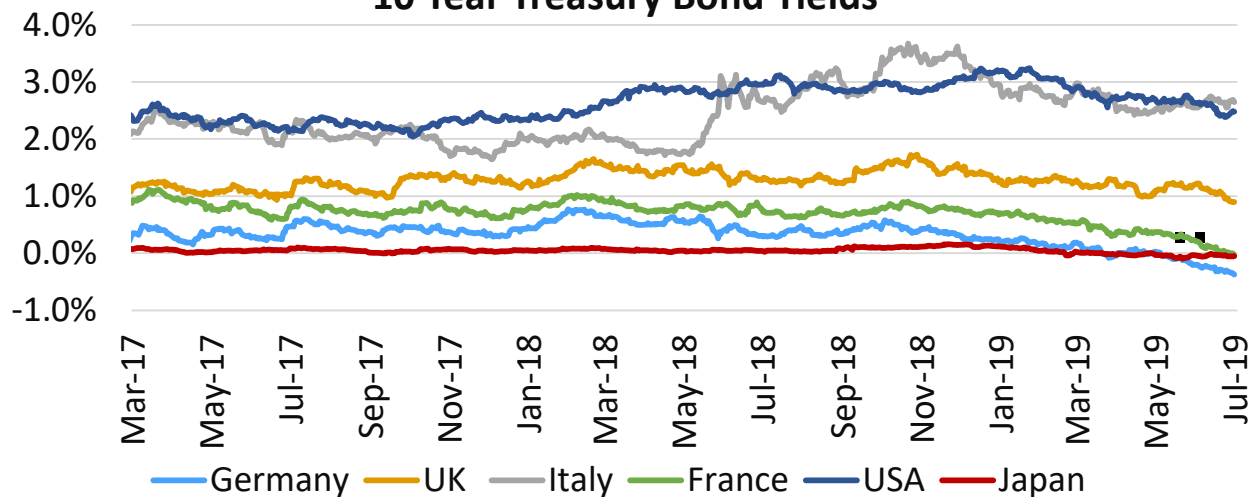
### 10 -Year Treasury Note

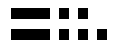


### Yield Curve



### 10 Year Treasury Bond Yields





# U.S. Federal Policy Mix is Mildly Pro-Growth – Shifting Away From Consumers Towards Producers



## PRO-GROWTH

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

**GENERALLY  
POSITIVE  
PROGRESS**

## PRO-GROWTH BUT SLOW

- Infrastructure
- Education Reform
  - German Model
- Healthcare Reform

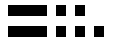
**PROGRESS IN TONE,  
BUT NOT YET  
SUBSTANTIVE**

## ANTI-GROWTH

- Immigration Control
- Trade Renegotiation
  - President Trump announced U.S. will impose tariffs on steel and aluminum imports

**RECENT TARIFF MOVE  
A POTENTIAL DRAG  
ON GROWTH**





# SUMMARY



1

The U.S. economy is in decent shape, but growth is choppy and is slowing

2

Unemployment remains very low and wage growth is good; May job gains were a disappointment, but June bounced back

3

How much slack is left?

- Productivity
- Job growth

4

Inflation rising but not a lot, so the 10-yr rate is the binding constraint on the yield curve – which is currently inverted

5

Fiscal policy is mildly pro-growth

- Capital still needs to be deployed





# MULTIFAMILY FUNDAMENTALS

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# Demographic & Lifestyle Changes



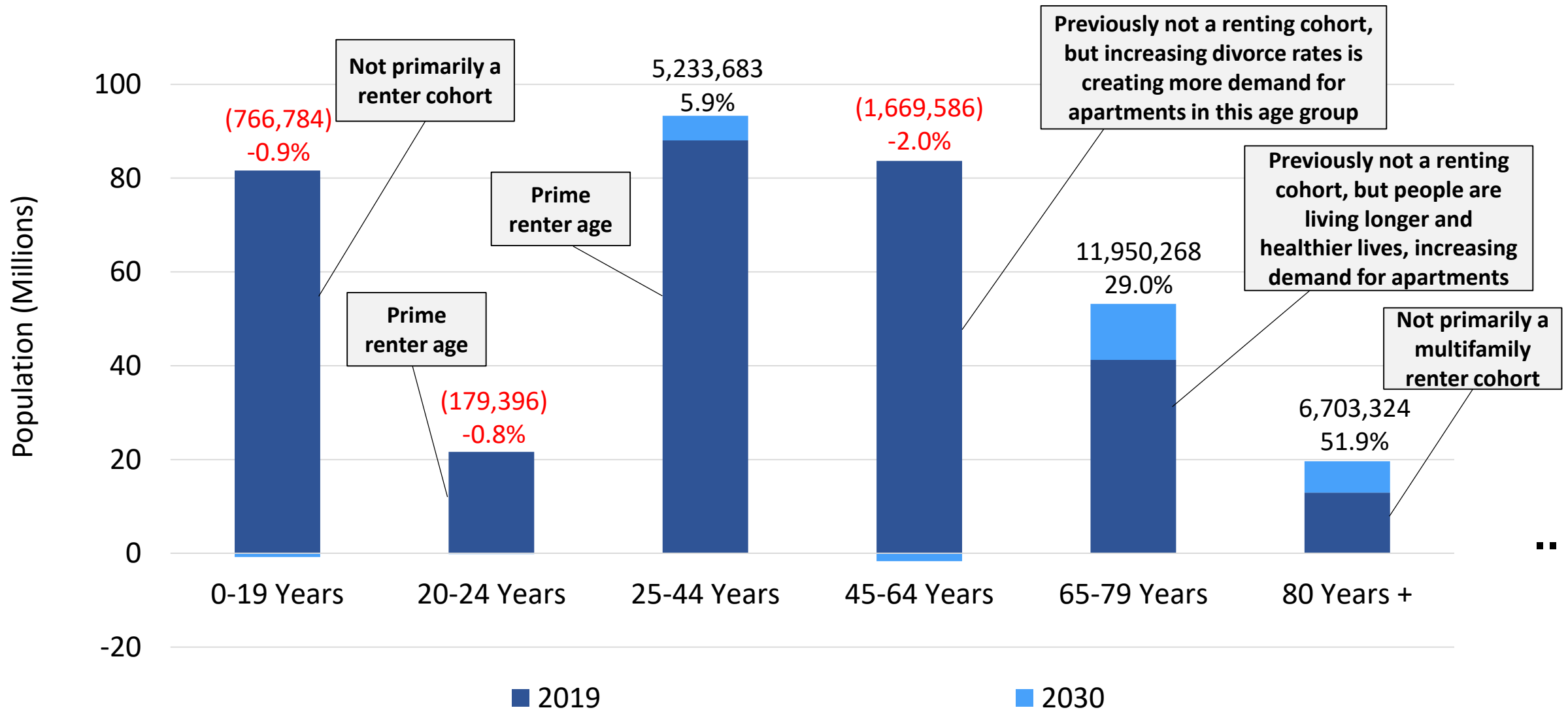
- Aging population
- Increasing divorce rates
- Young people living at home
  - Student debt burden
- Lifestyle changes
  - People getting married later in life
  - People having less kids and later in life

All of these in combination created a surge out of the recession,  
but the effects seem to be durable

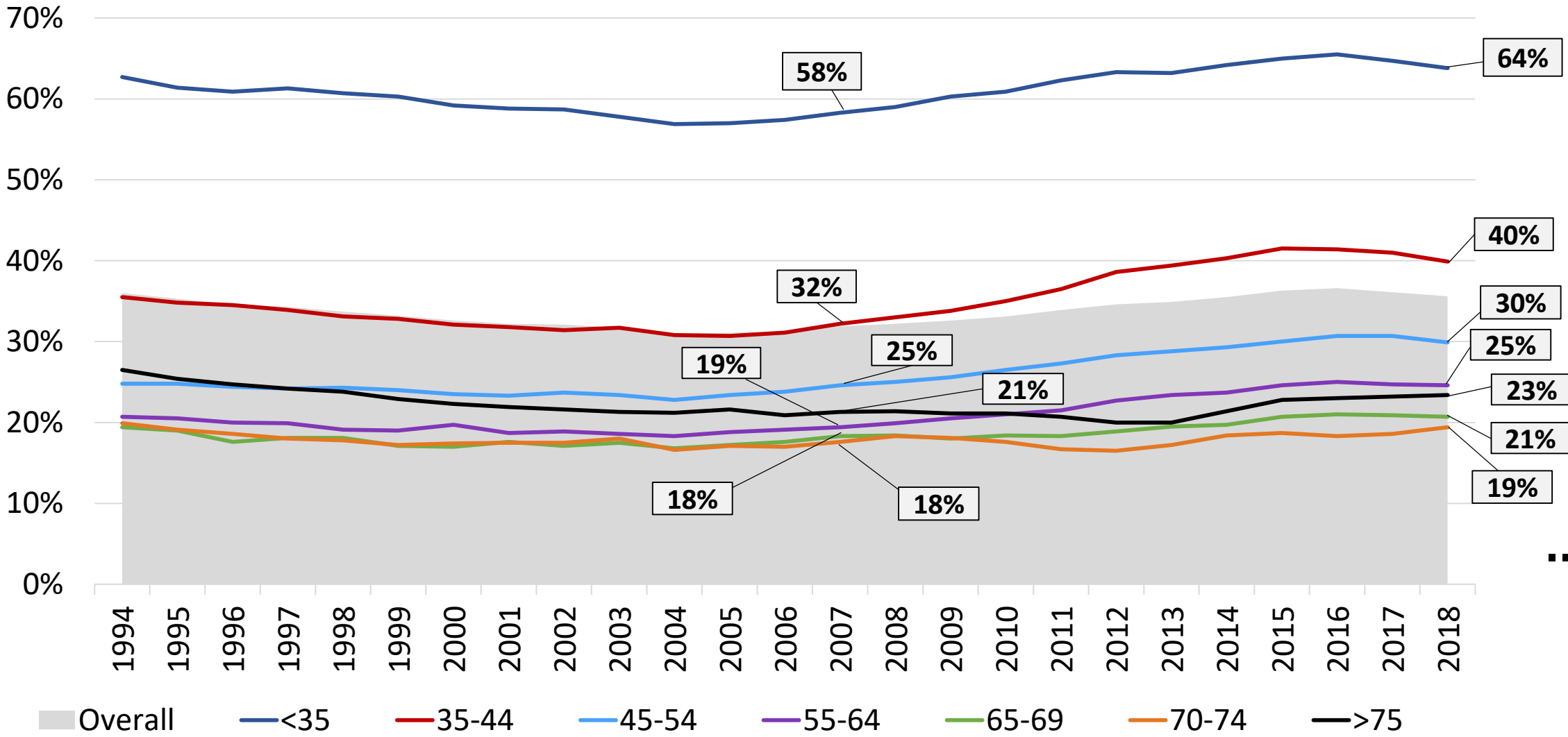




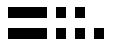
# Within Each Age Group, There Are Drivers of Demand



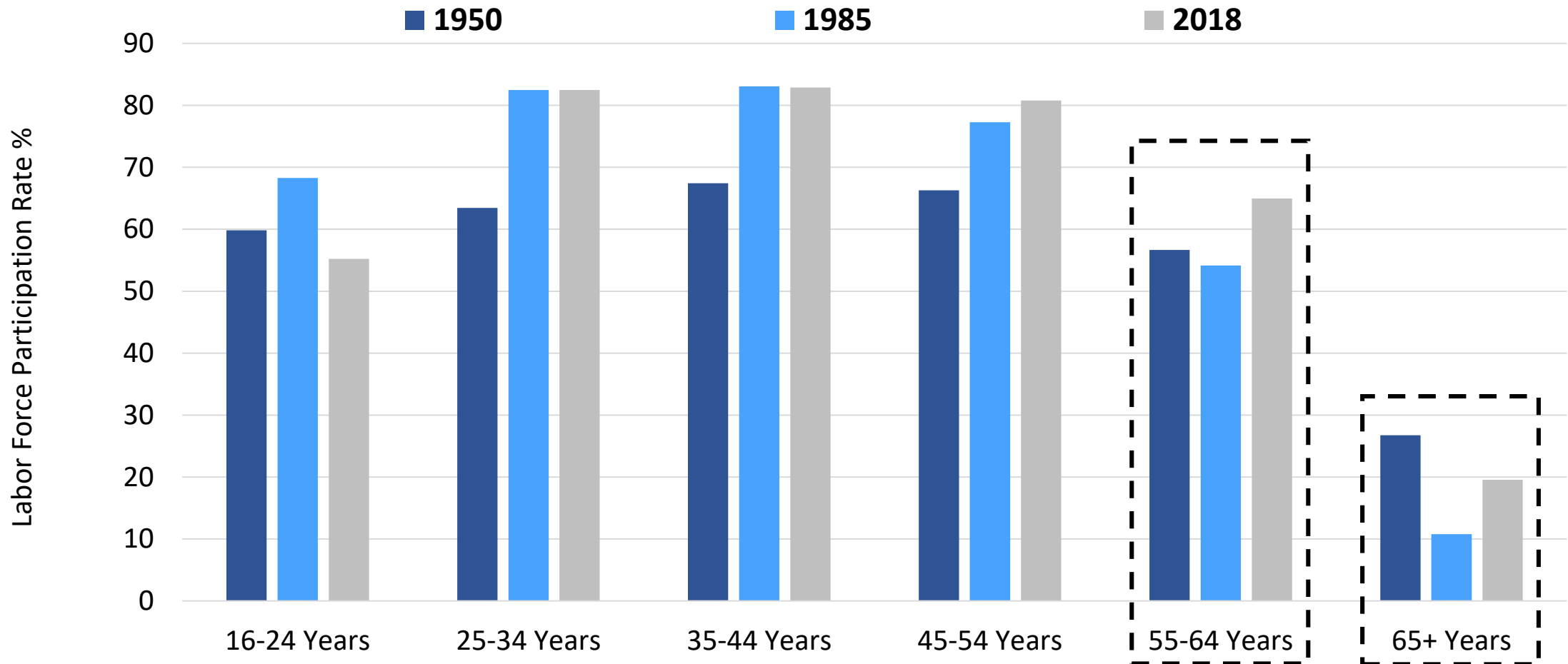
# Historic Rentership by Age Cohort



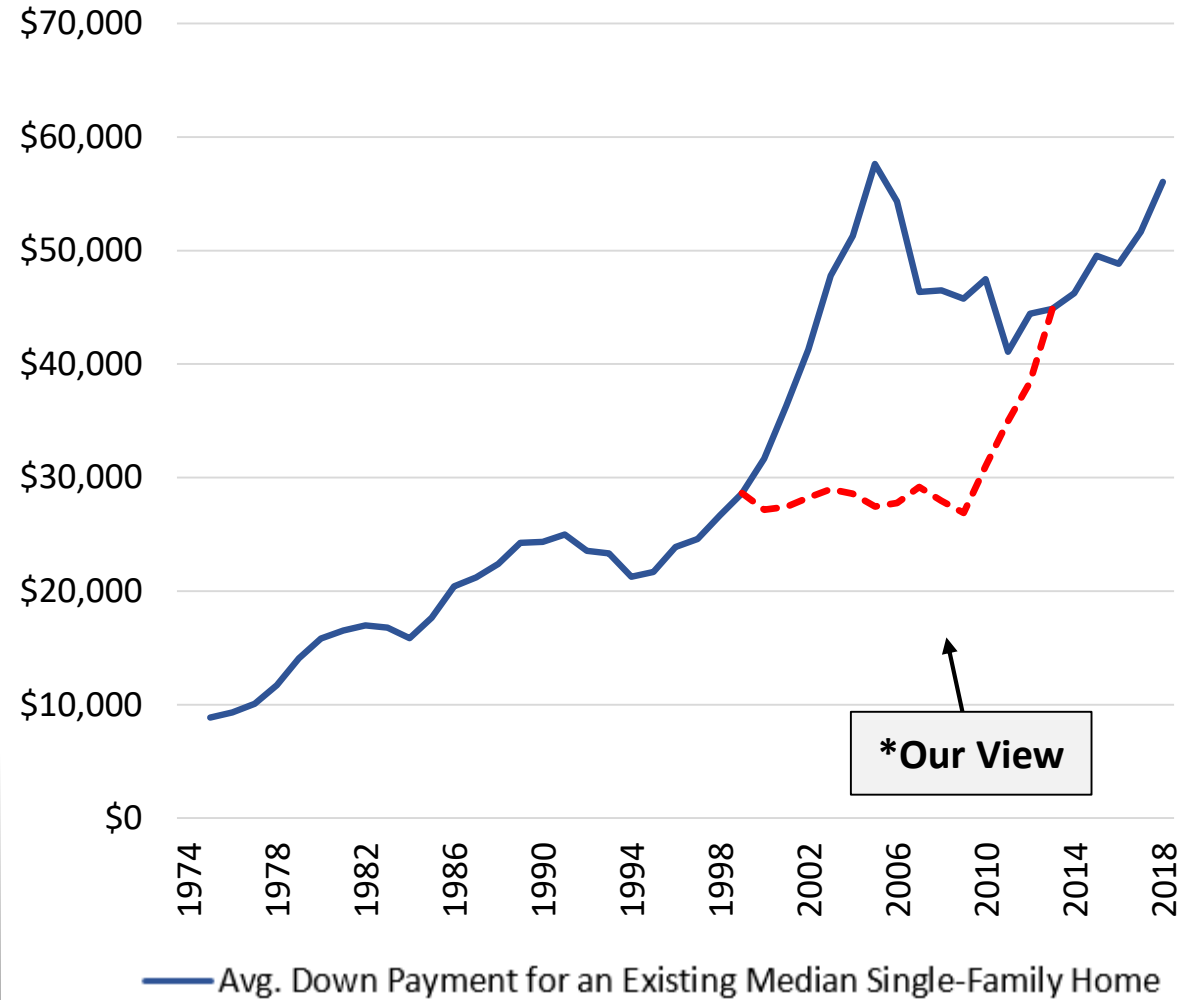
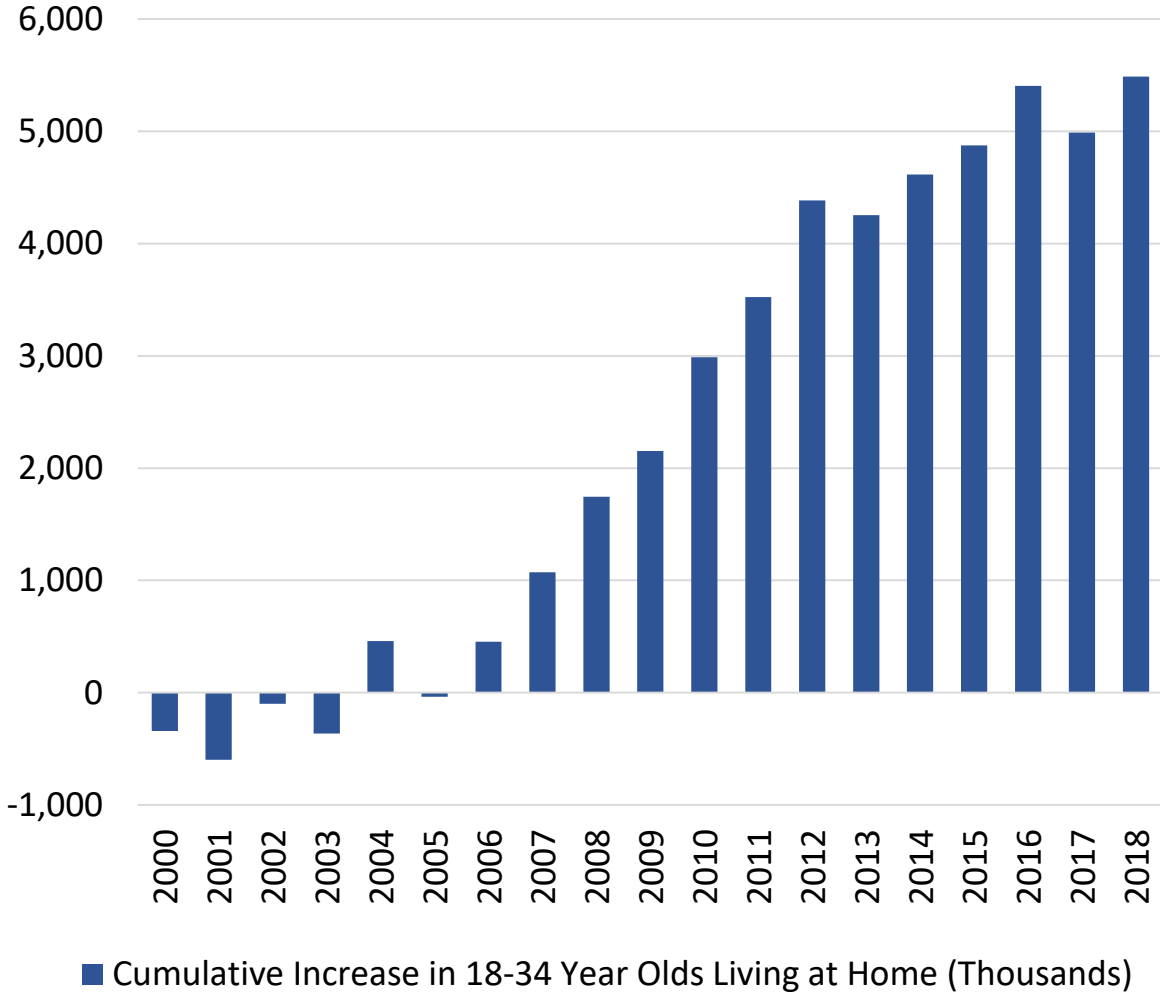




# More People Working Longer Impacts the Multifamily *and* Office Industries

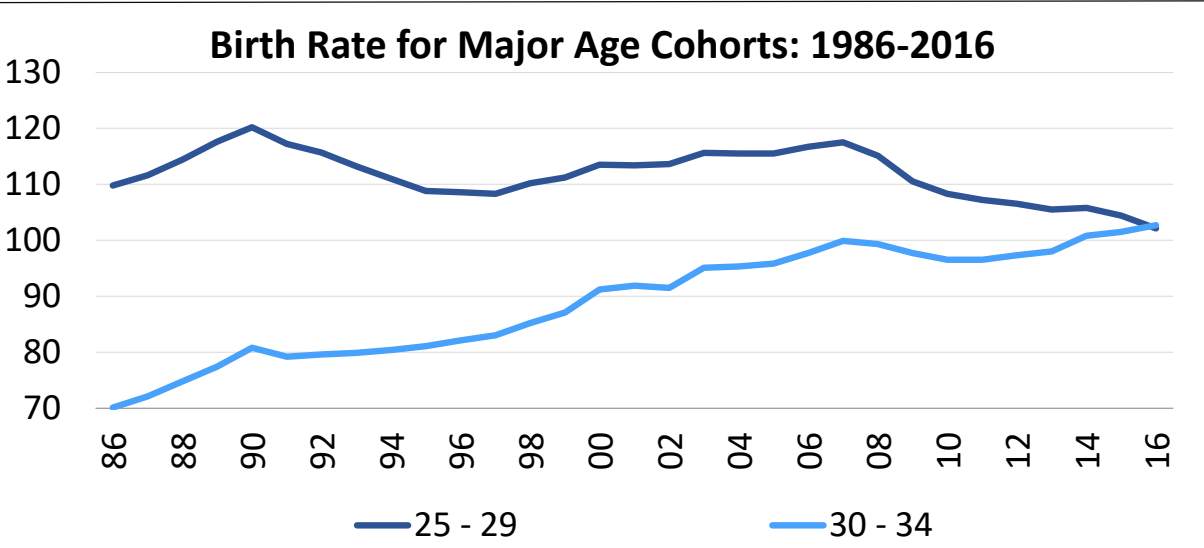
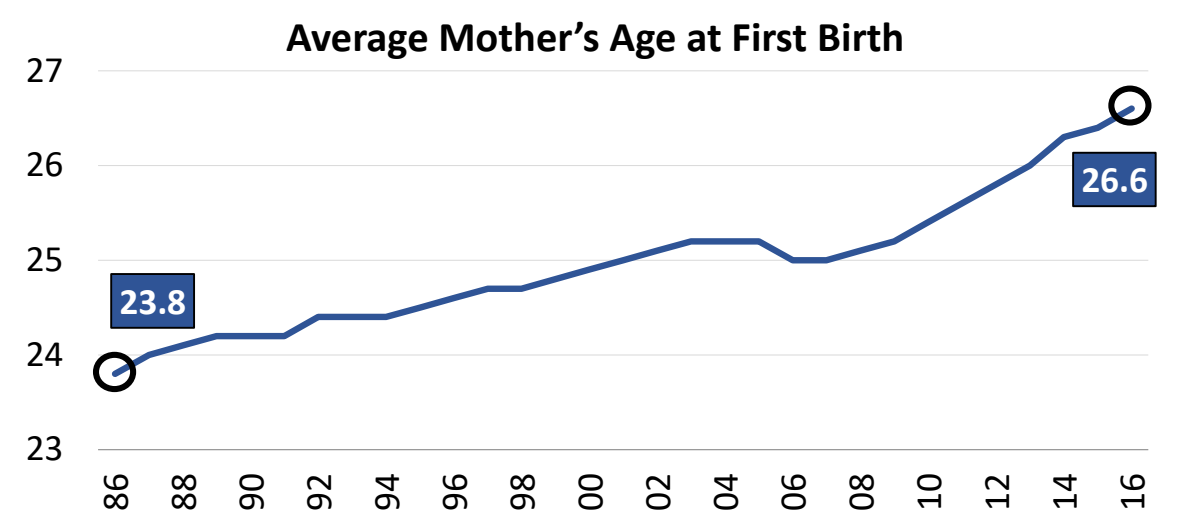
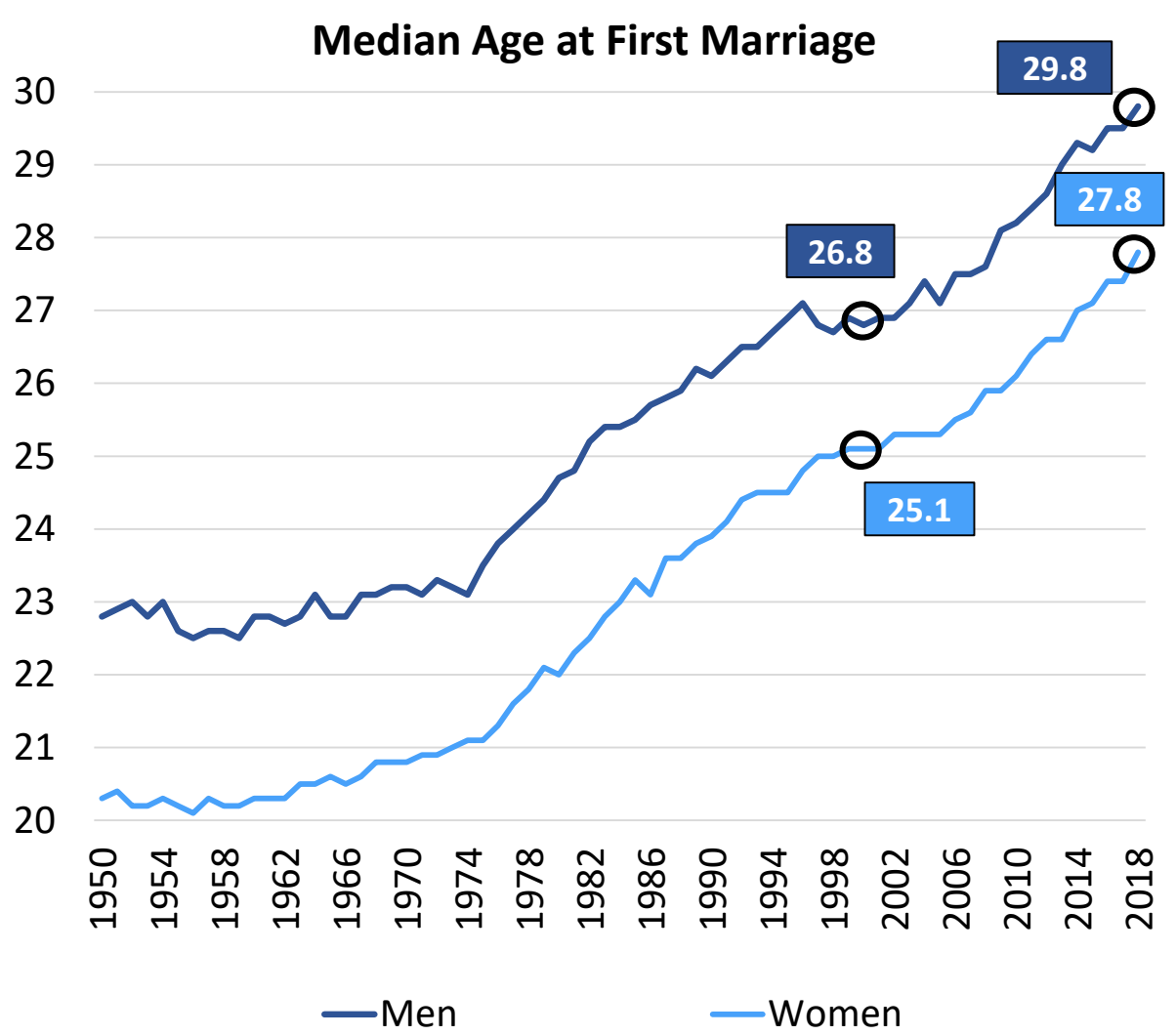


# More Young People Living at Home as Average Down Payment for a Median Single Family Home Increases

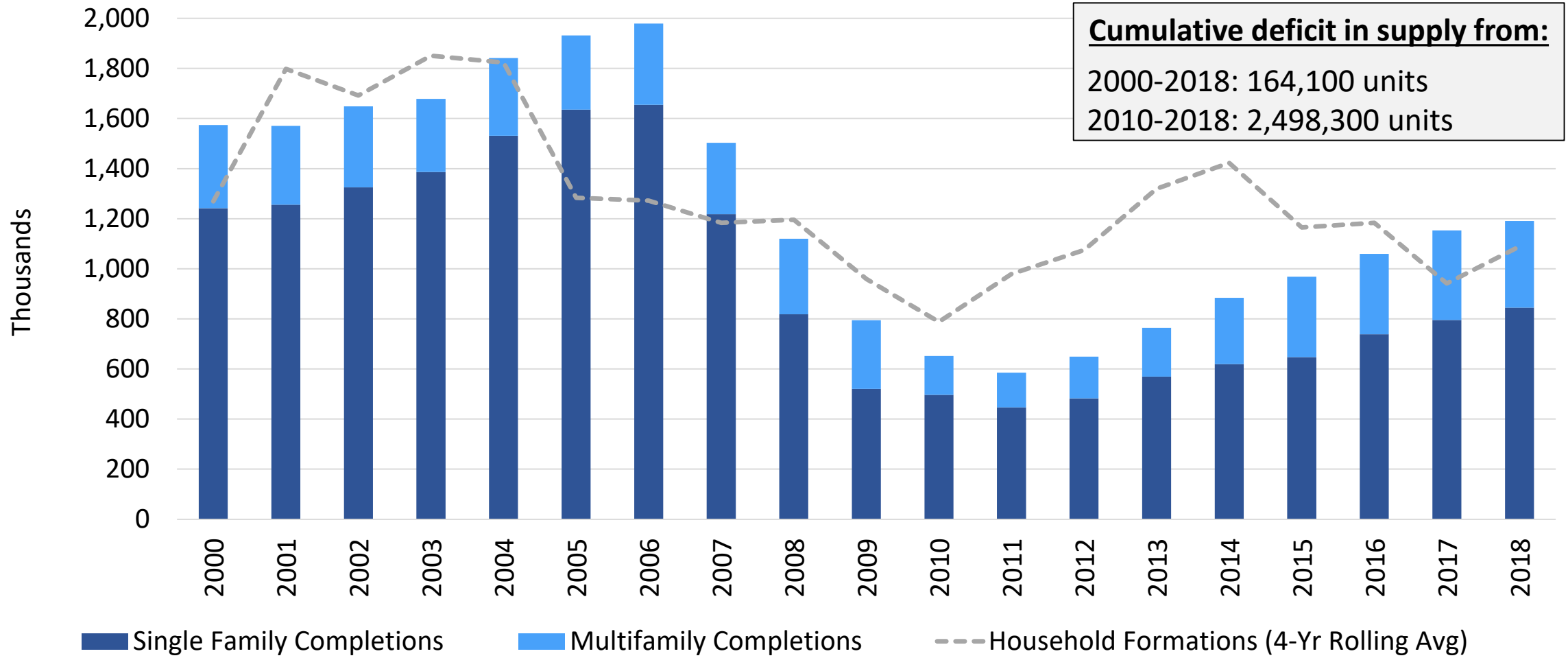




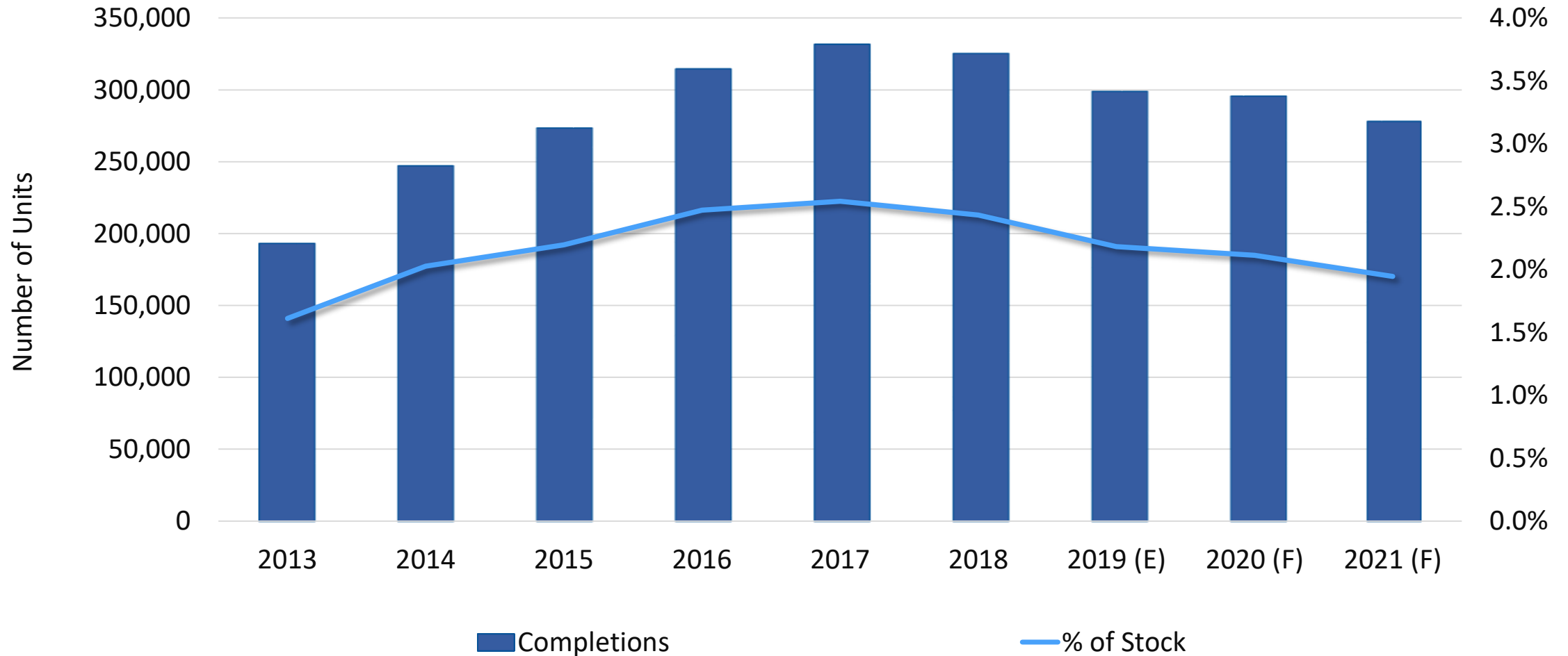
# Lifestyle Changes Fueling Strong Demand for Multifamily



# Multifamily Construction Catching Up to New Household Formation

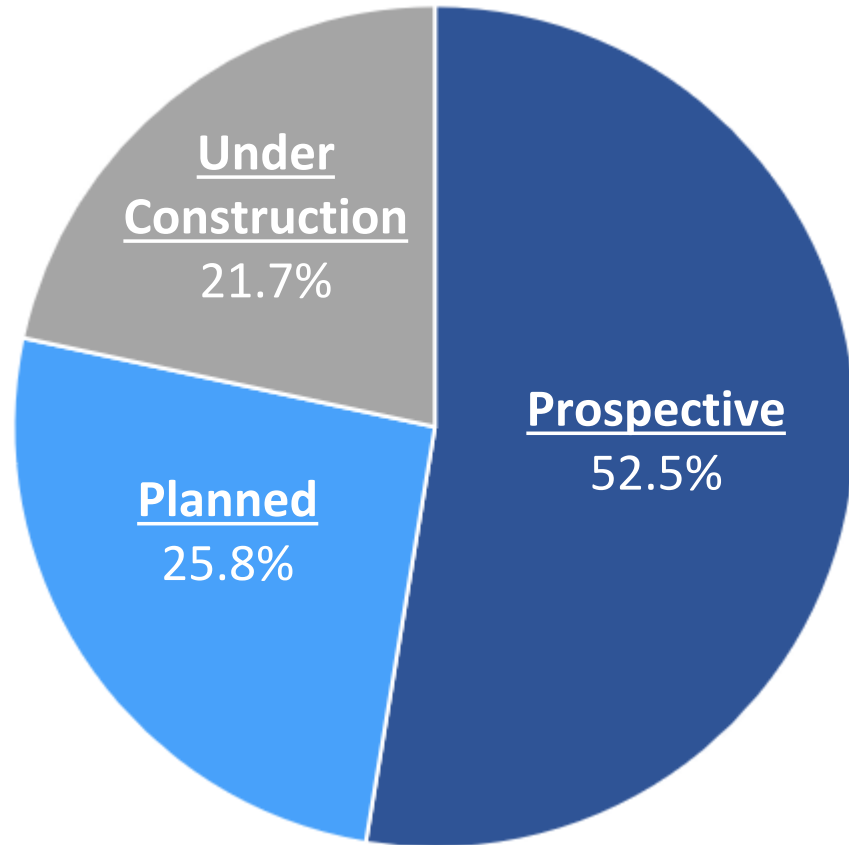


# Multifamily Supply Has Leveled Out; Construction Delays & Financing Are a Factor

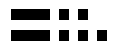




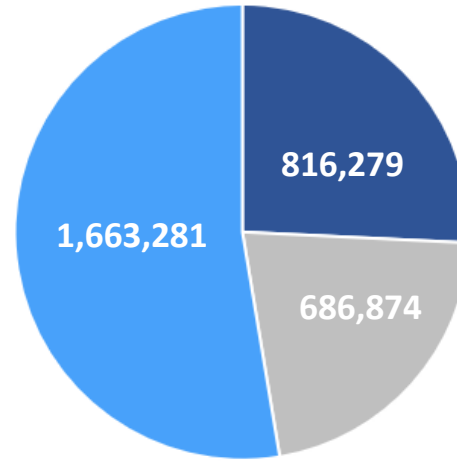
# Based Upon What We See, New Multifamily Supply Is Unlikely to Break Out Above 300K a Year



Property Status	Units	% of Total
Prospective	1,663,281	52.5%
Planned	816,279	25.8%
Under Construction	686,874	21.7%
<b>TOTAL:</b>	<b>3,166,434</b>	<b>100.0%</b>



# Where Is Future Multifamily Supply Concentrated?



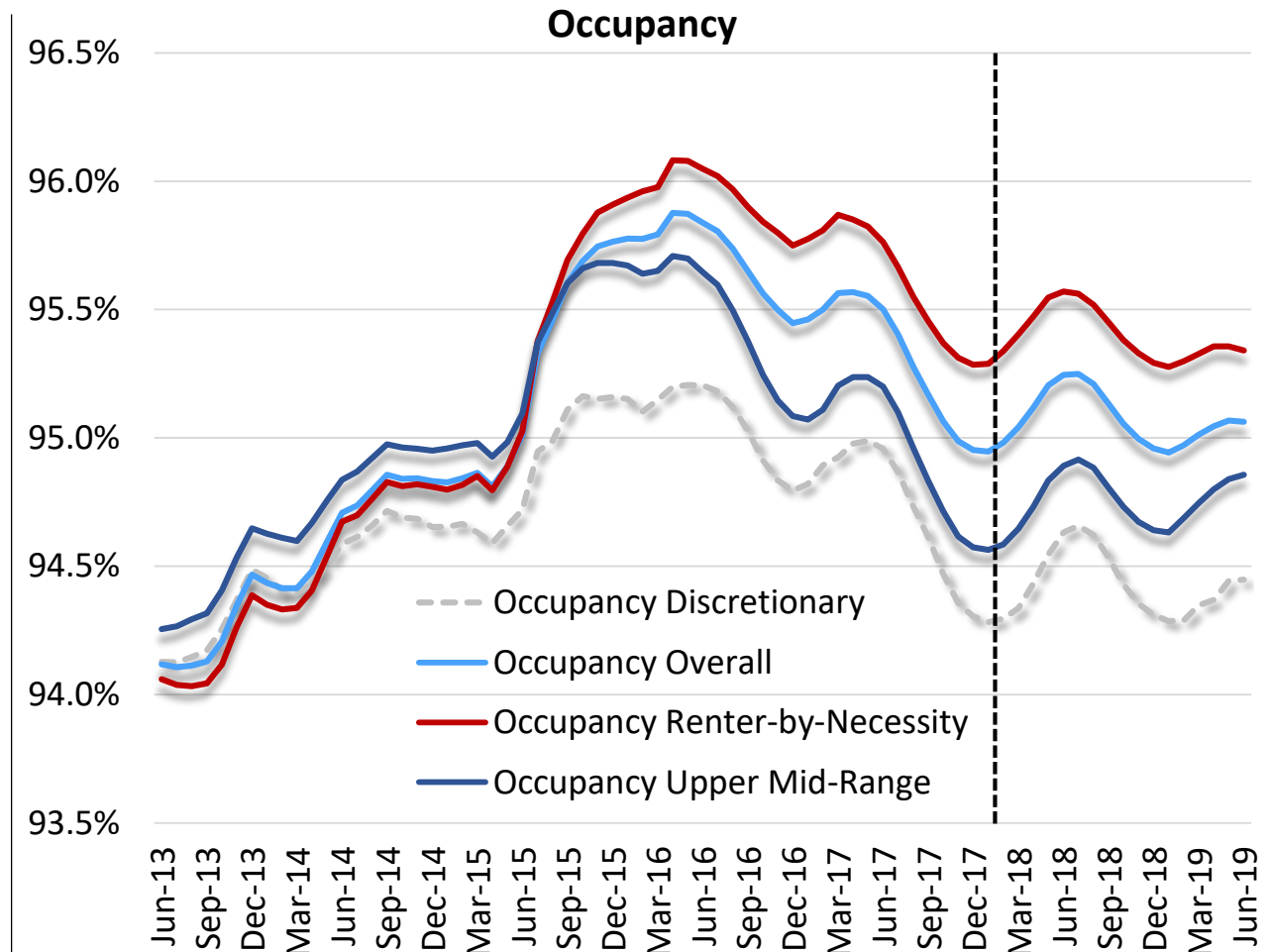
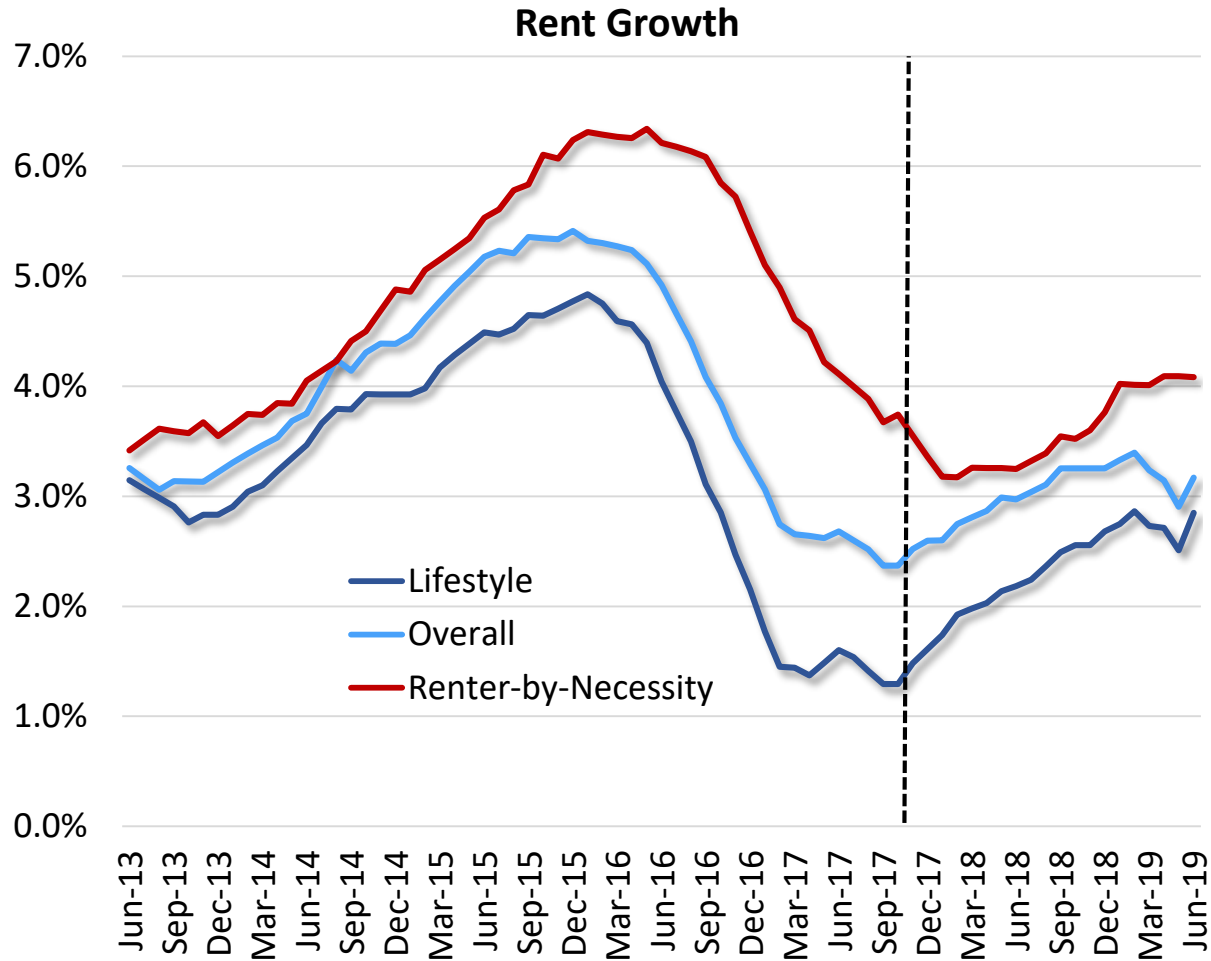
■ Units Under Construction

■ Units Planned

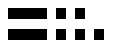
■ Prospective Units

Top 10 Markets	Units	UC as a % of Existing Stock	Top 10 Markets	Units	Planned as a % of Existing Stock	Top 10 Markets	Units	Prospective as a % of Existing Stock
Reno	5,583	14.9%	Southwest Florida Coast	16,151	25.4%	Miami	78,897	62.7%
Asheville	2,124	13.4%	Wilmington	4,648	23.9%	San Francisco – Peninsula	45,997	38.6%
Miami	16,151	12.8%	New Jersey – Northern	42,253	19.5%	Southwest Florida Coast	22,025	34.6%
Boise	2,267	12.4%	Miami	22,440	17.8%	Bay Area – East Bay	44,727	33.7%
Southwest Florida Coast	7,419	11.7%	Asheville	2,754	17.3%	Los Angeles – Metro	55,355	31.1%
Boston	24,454	11.0%	West Palm Beach	9,443	14.2%	Bay Area – South Bay	36,258	29.2%
Bay Area – East Bay	13,193	9.9%	Charleston	8,351	13.4%	Northern Virginia	62,778	28.8%
Denver	26,083	9.8%	Bay Area – South Bay	16,342	13.1%	Chicago – Urban	43,158	25.4%
Charleston	5,997	9.6%	Fort Lauderdale	12,843	13.0%	West Palm Beach	15,768	23.7%
Austin	22,119	9.5%	Los Angeles – Metro	23,068	13.0%	Washington DC-Suburban Maryland	71,267	23.5%

# Multifamily Rent Growth Has Fallen While Occupancy Levels Off



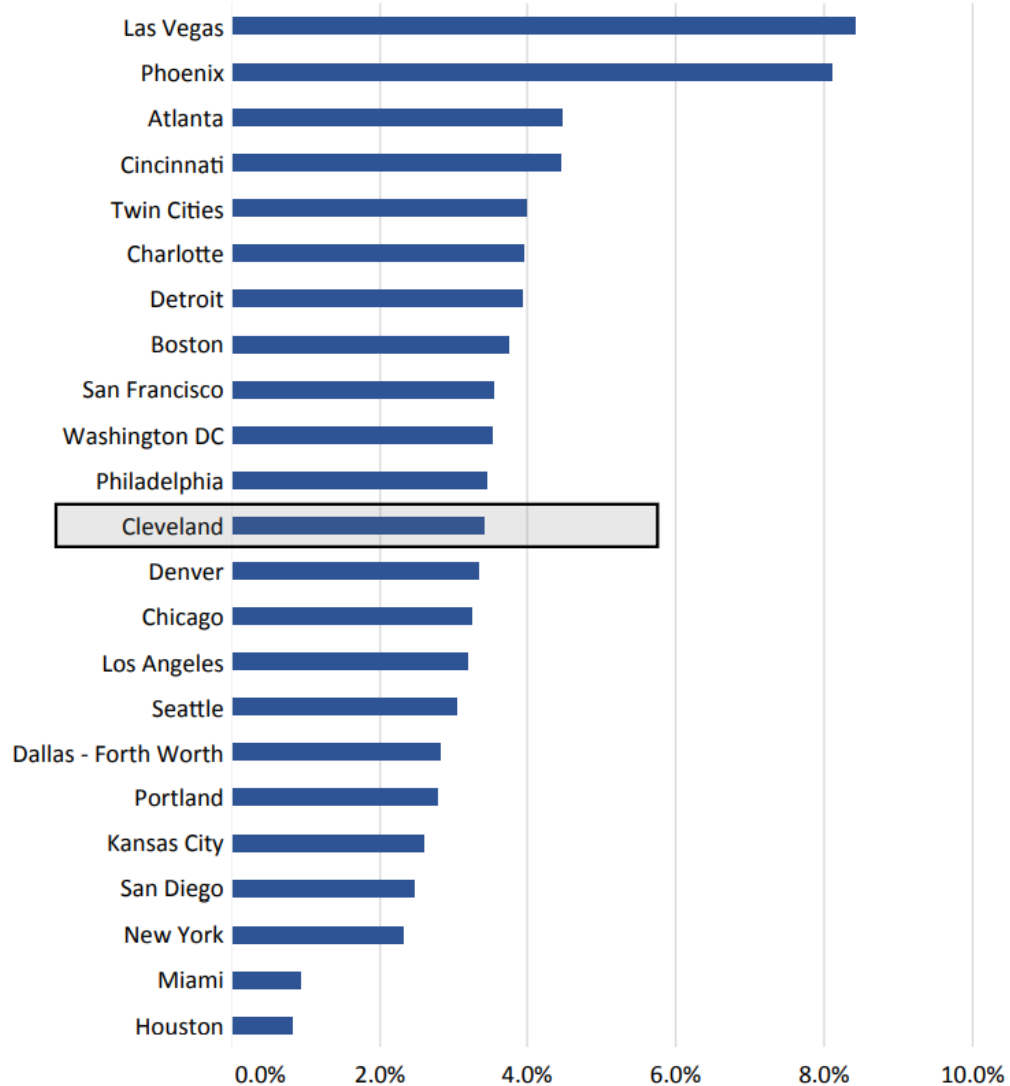




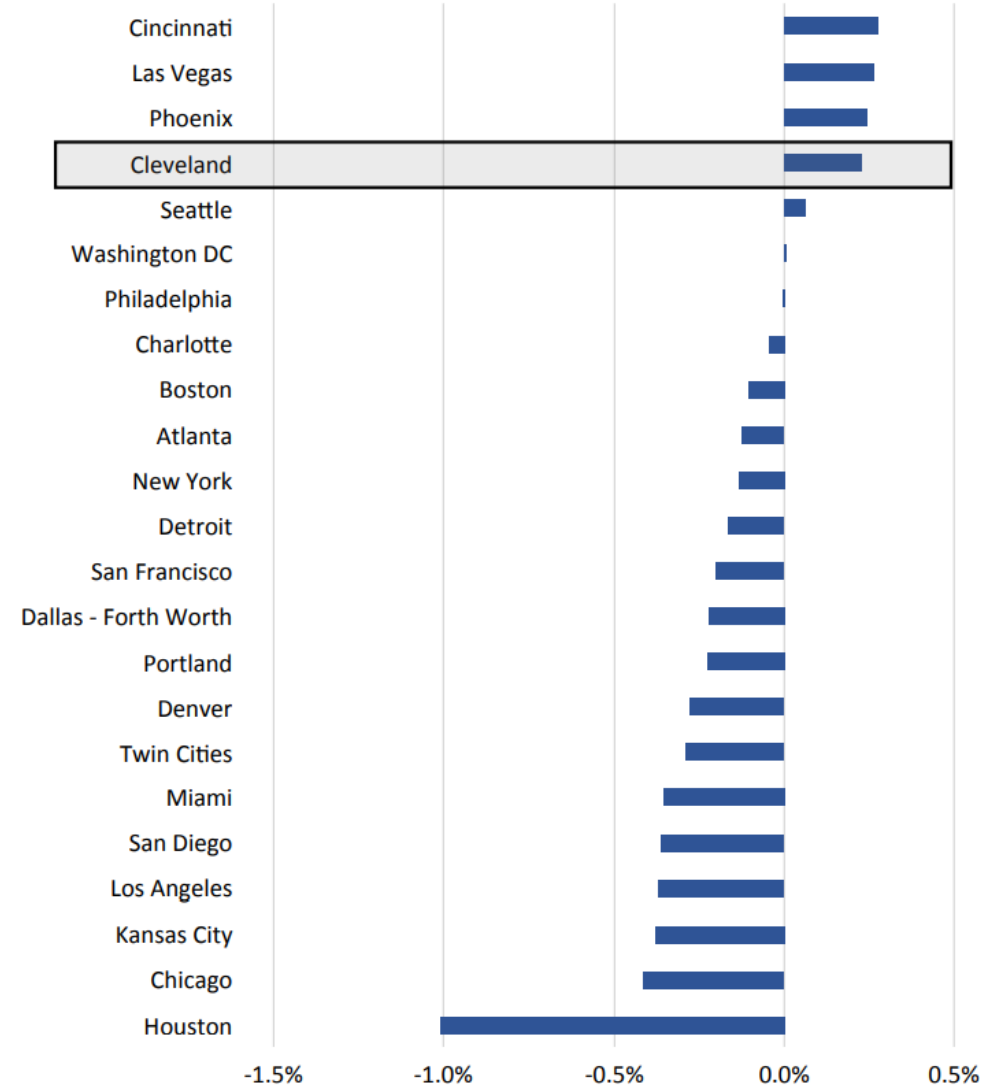
# Major Market Multifamily Rent & Occupancy Growth



### Rent Growth



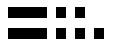
### Occupancy Growth



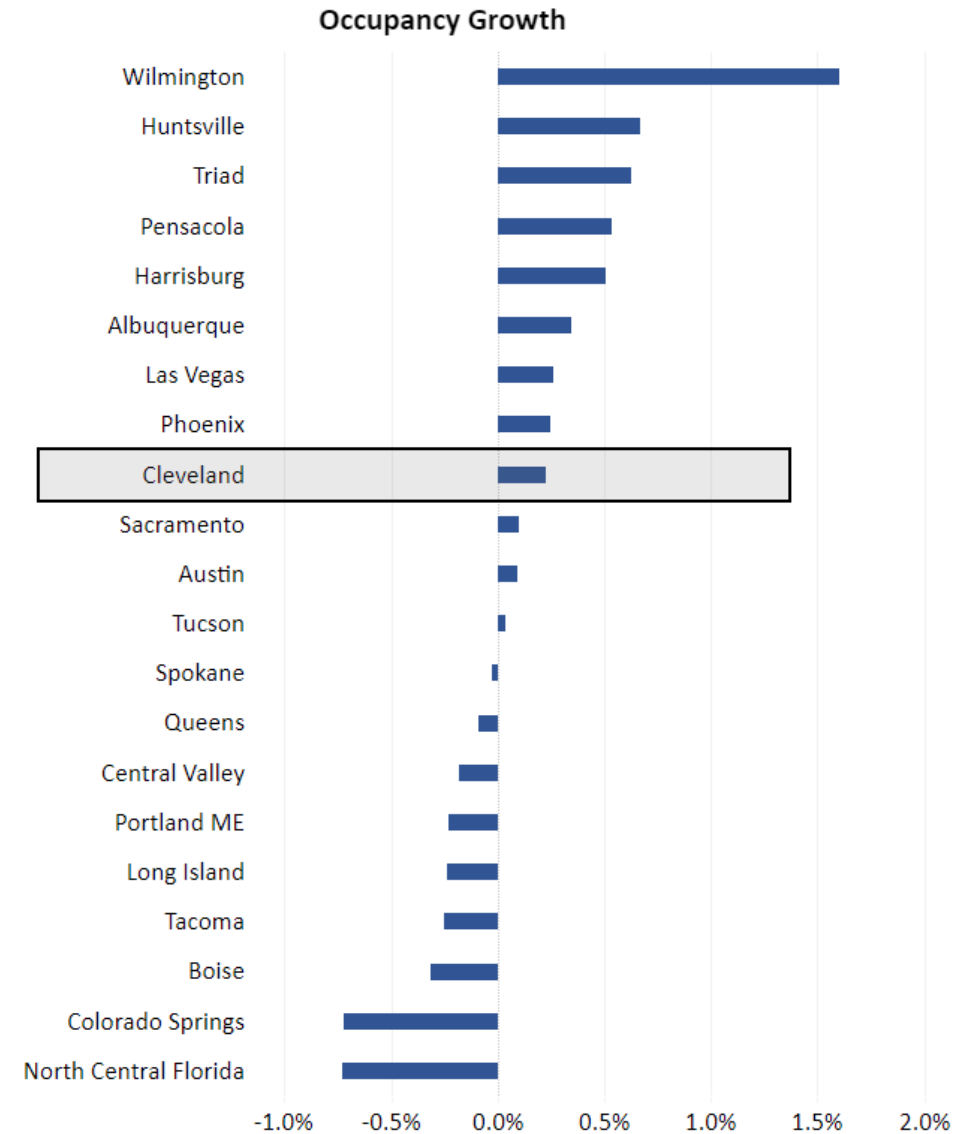
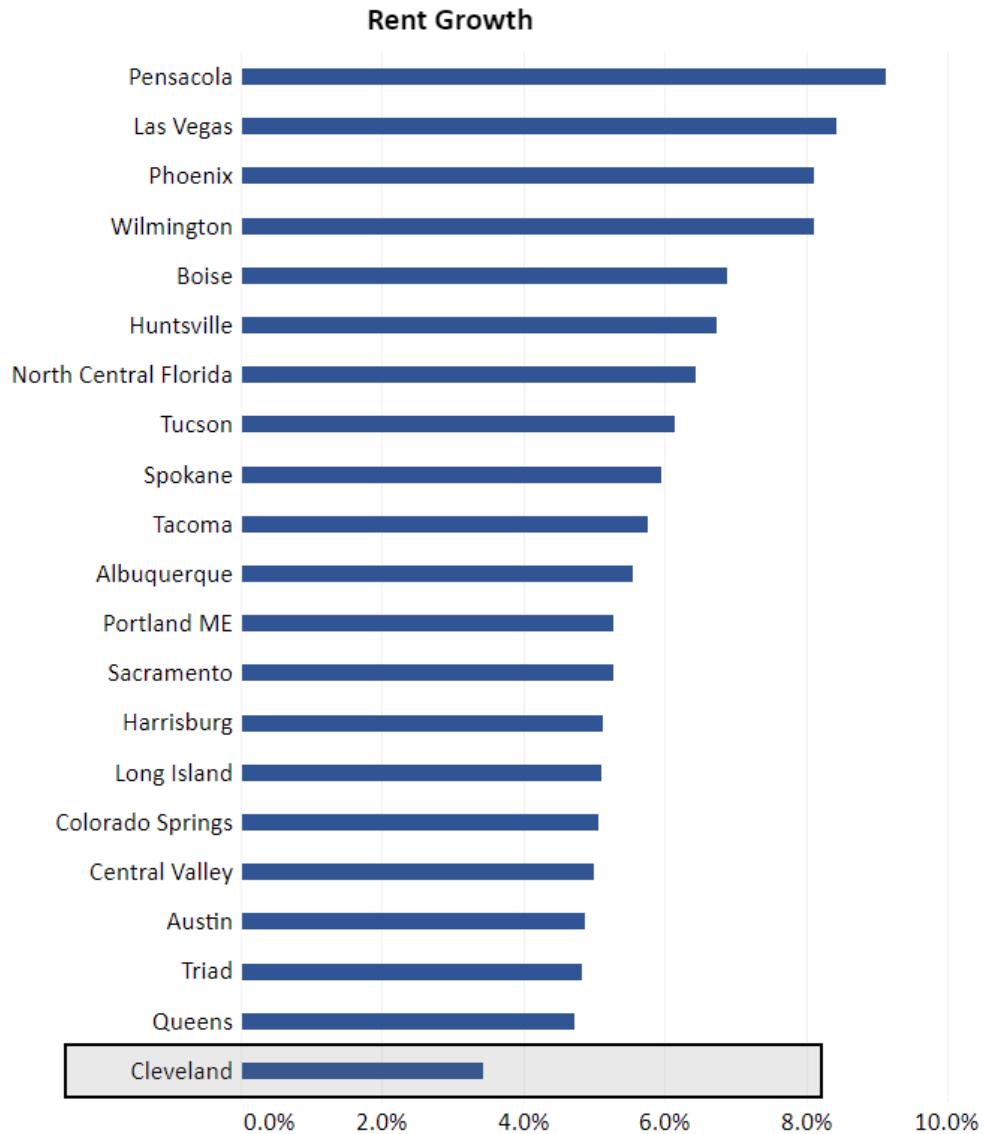
\*Rent and Occupancy Growth June 2018 to June 2019

Source: Yardi® Matrix





# Ranked Multifamily Rent & Occupancy Growth

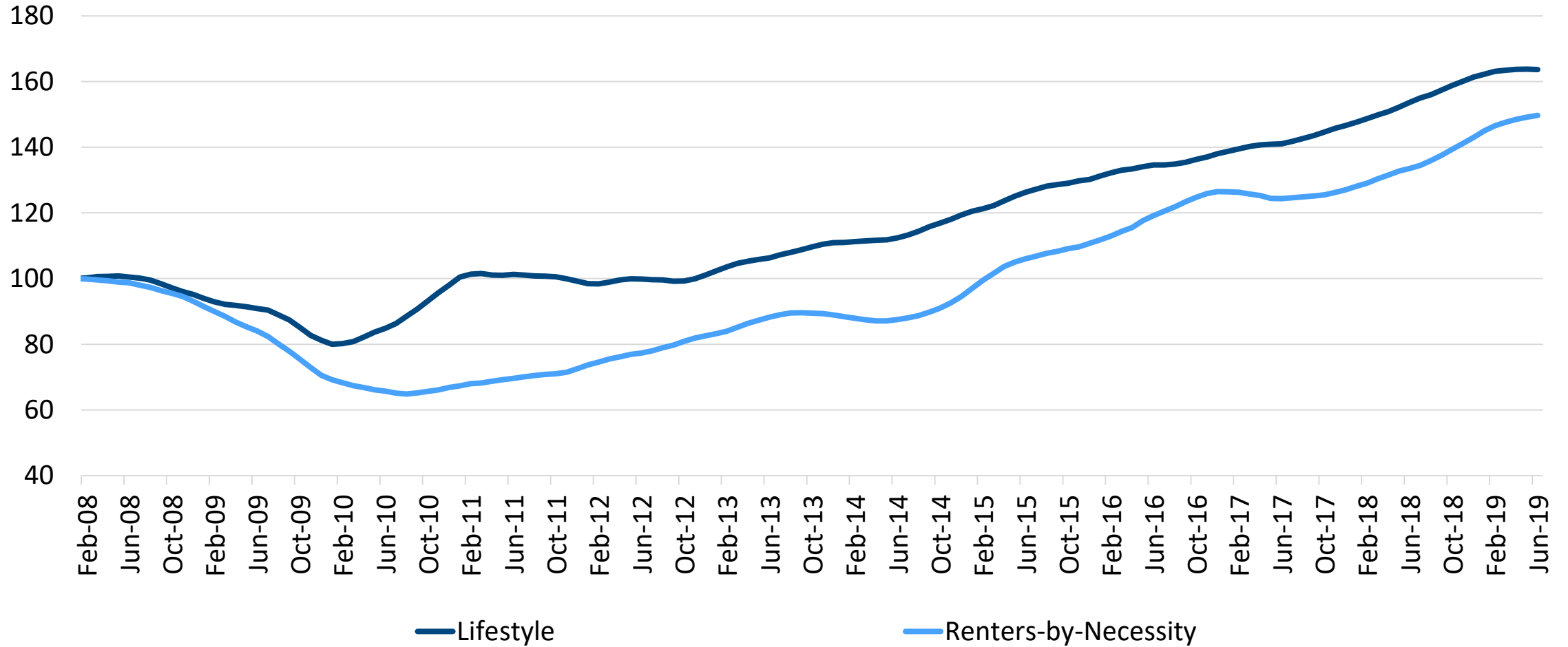


\*Rent and Occupancy Growth June 2018 to June 2019

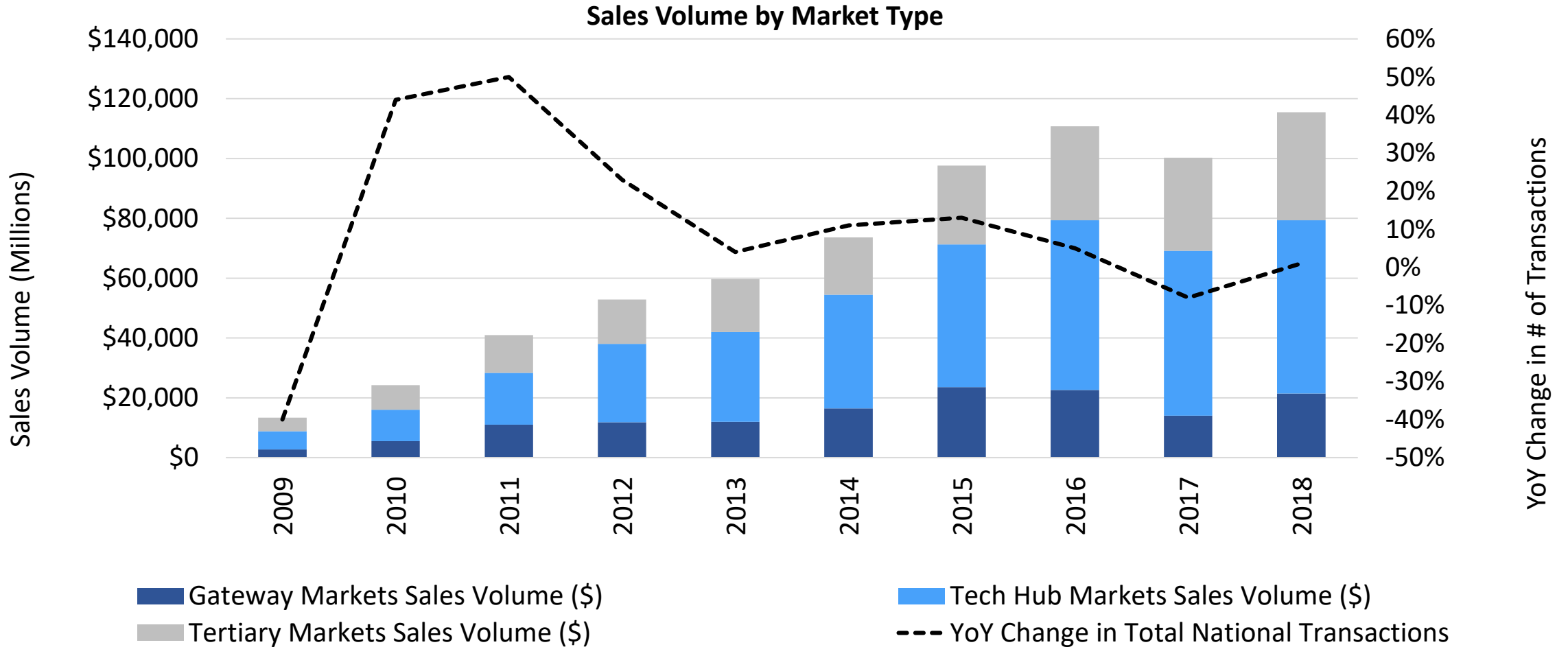
Source: Yardi® Matrix

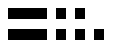
# National Multifamily Values Keep Rising

Sales Price Per Units Index 2008 = 100



# Multifamily Transactions Fairly Stable Over Past Five Years, but With Higher Dollar Amounts

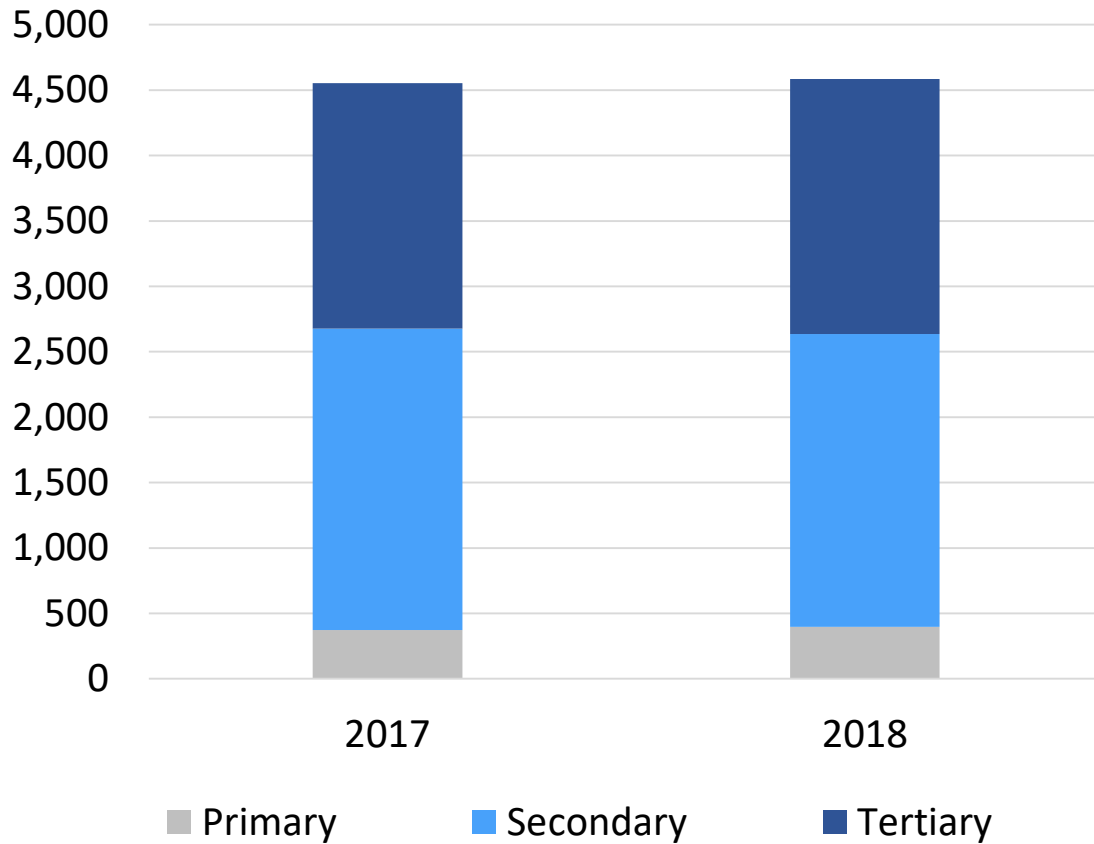




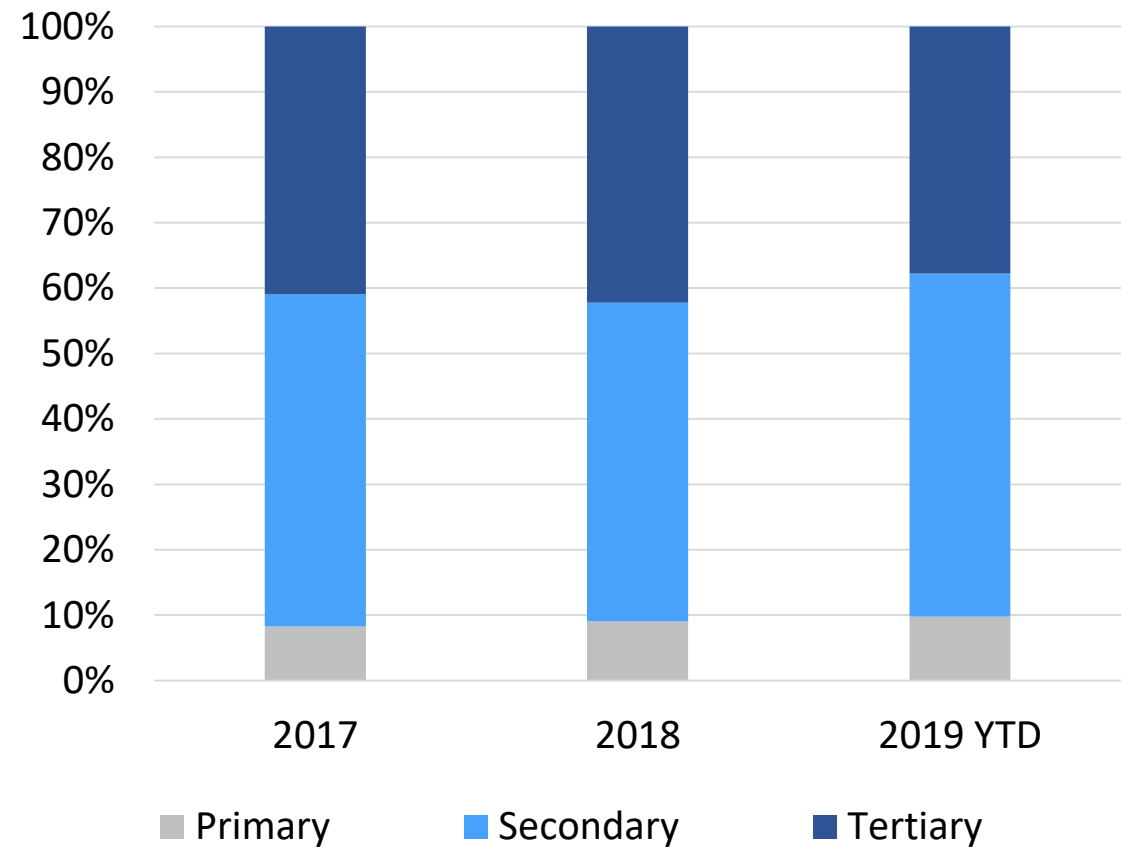
# Multifamily Sales Are Concentrated in Tech Hub & Tertiary Markets



### Properties Sold by Market Type



### % of Properties Sold by Market Type



# Cleveland Multifamily Transaction Composition in 2018



### Property Asset Class:

Discretionary Upper Mid-Range Low Mid-Range Workforce - Upper Workforce - Lower Fully Affordable

2018 Transactions		
	#	% of Stock
Properties Sold	43	4.8%
Units Sold	8,371	5.3%
2018 Sales Prices		
Avg. Sales Price per Unit		\$65,681
Avg. Sales Price per Unit for Low Mid-Range Assets		\$117,609
1-Year Sales Price Growth for Low Mid-Range Assets		47.9%
5-Year Sales Price Growth for Low Mid-Range Assets		-40.4%



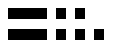
# Population Growth Is in Non-Gateway Markets



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
Indianapolis	1.0%	1.1%	1.1%	Steady

Market	2016 Pop. Growth	2017 Pop. Growth	2018 Pop. Growth	Overall Trend
Sacramento	1.3%	1.2%	1.1%	Decelerating
Minneapolis	1.0%	1.1%	1.0%	Decelerating
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
Cincinnati	0.5%	0.5%	0.5%	Steady
San Francisco	0.7%	0.4%	0.3%	Decelerating
Philadelphia	0.2%	0.2%	0.3%	Accelerating
San Jose	0.7%	0.2%	0.3%	Accelerating
Detroit	0.1%	0.1%	0.1%	Steady
Cleveland	-0.1%	-0.1%	-0.1%	Steady/Negative
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: Yardi® Matrix; Moody's Analytics; U.S. Census Bureau (BOC)

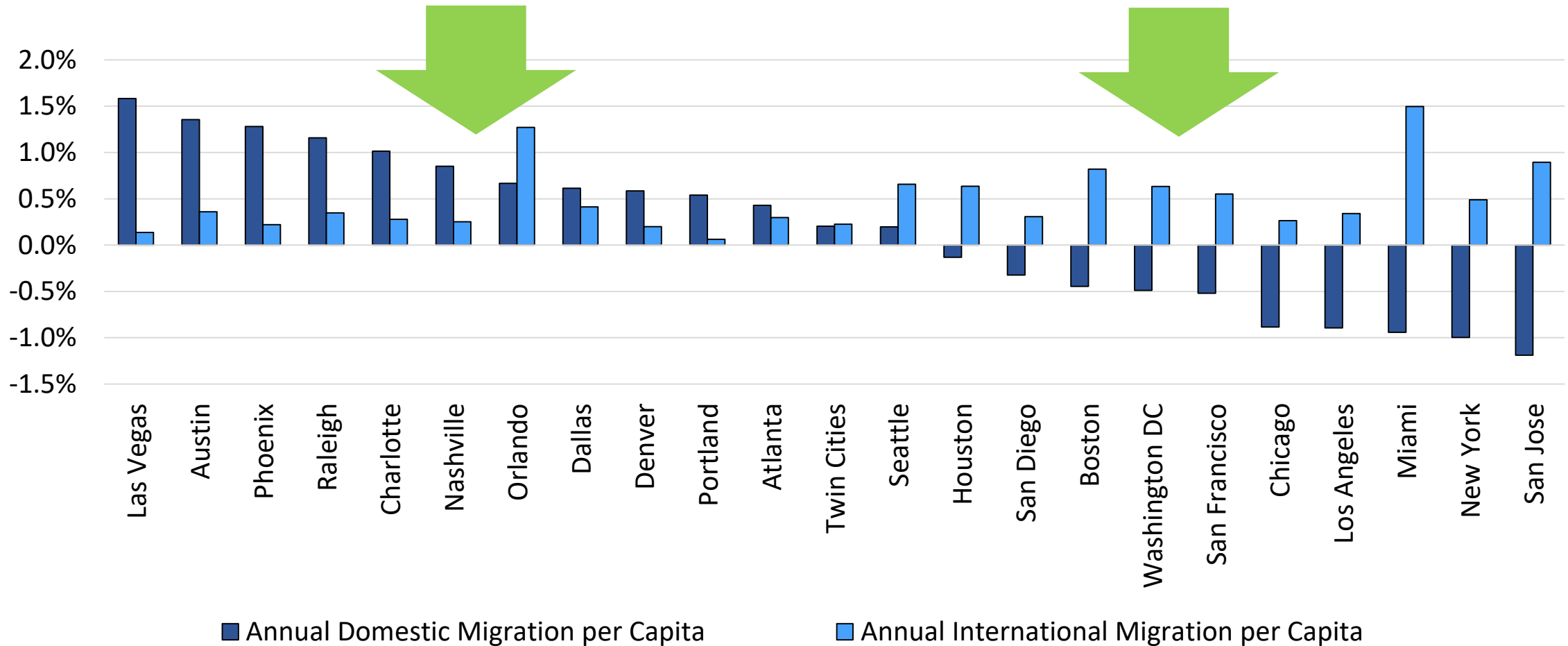


# Immigration Is Key to Gateway Population Growth



Tech Hub Markets:  
High Migration, Modest Immigration

Gateway Markets:  
High Immigration, Low/Negative Migration







# Tech Hub & Tertiary Markets Will Have Most Multifamily Rent Growth Over Next Couple Years



Market	YoY June 2018 - 2019	2019 (F)	2020 (F)	2021 (F)
Pensacola	9.1%	8.7%	4.3%	2.9%
Wilmington	8.1%	6.1%	4.6%	4.0%
Boise	6.9%	5.9%	5.2%	4.4%
Reno	3.5%	5.7%	6.0%	4.9%
Spokane	5.9%	5.7%	4.4%	4.3%
Midland - Odessa	-0.5%	5.4%	5.0%	4.6%
Las Vegas	8.4%	5.4%	5.0%	4.3%
Phoenix	8.1%	5.3%	3.7%	2.9%
Augusta	3.3%	5.2%	4.0%	3.3%
North Central Florida	6.4%	5.1%	4.6%	4.3%

Market	YoY June 2018 - 2019	2019 (F)	2020 (F)	2021 (F)
Tucson	6.1%	5.1%	4.0%	3.3%
Tacoma	5.7%	4.9%	5.3%	4.9%
Dayton	3.8%	4.8%	3.1%	3.1%
Central Valley	5.0%	4.8%	5.6%	5.2%
Atlanta - Suburban	4.5%	4.8%	4.4%	4.8%
Worcester - Springfield	4.2%	4.7%	3.7%	3.4%
Winston - Salem	4.8%	4.7%	4.9%	4.2%
Central Coast	4.3%	4.4%	4.1%	4.1%
Colorado Springs	5.1%	4.3%	4.6%	4.5%
Long Island	5.1%	4.3%	3.6%	3.7%

\*Full market forecast on 133 markets and submarkets available for clients

\*Data ranked by 2019 forecast values

Source: Yardi® Matrix

# Tertiary Markets & a Couple Gateway Markets Will Have Least Multifamily Rent Growth Over Next Couple Years

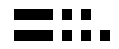
Market	YoY June 2018 - 2019	2019 (F)	2020 (F)	2021 (F)
Pittsburgh	3.3%	2.2%	3.6%	2.4%
Detroit	3.9%	2.2%	2.5%	2.7%
Bridgeport - New Haven	3.1%	2.1%	1.9%	1.7%
Baltimore	2.9%	2.0%	2.0%	1.8%
Central East Texas	1.9%	1.9%	0.9%	0.8%
Portland	2.8%	1.9%	3.3%	3.2%
Oklahoma City	2.8%	1.9%	2.0%	2.5%
San Diego	2.5%	1.8%	2.9%	2.5%
Houston - West	0.5%	1.7%	2.1%	2.6%
Rochester	3.9%	1.7%	1.9%	1.5%

Market	YoY June 2018 - 2019	2019 (F)	2020 (F)	2021 (F)
Tulsa	2.4%	1.6%	1.4%	1.0%
Des Moines	0.7%	1.5%	2.1%	1.7%
Little Rock	1.2%	1.4%	1.6%	1.4%
Wichita	2.5%	1.2%	1.7%	1.7%
Baton Rouge	-1.4%	1.1%	0.8%	0.8%
Manhattan	2.2%	0.9%	2.0%	1.7%
Amarillo	1.1%	0.8%	0.4%	0.5%
New Jersey - Central	1.9%	0.7%	1.7%	1.8%
Corpus Christi	1.4%	0.6%	1.0%	0.9%
El Paso	2.3%	0.1%	1.4%	1.0%

\*Full market forecast on 133 markets and submarkets available for clients

\*Data ranked by 2019 forecast values

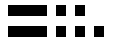
Source: Yardi® Matrix



# Matrix Expert Multifamily Operating Data Per Unit



12-month period ending May 2019	Cleveland	Austin	Boston	Chicago	Denver	Los Angeles	Manhattan	Miami
Total Income	\$10,753.46	\$15,046.54	\$25,180.88	\$22,195.92	\$18,080.62	\$28,599.41	\$38,939.36	\$19,586.78
Payroll	\$1,227.12	\$1,380.42	\$1,969.58	\$2,033.78	\$1,596.67	\$1,826.80	\$3,591.82	\$1,337.26
Marketing & Advertising	\$132.35	\$257.14	\$323.12	\$391.54	\$227.74	\$263.40	\$593.95	\$254.30
Repairs & Maintenance	\$1,044.07	\$725.54	\$1,623.83	\$1,533.40	\$898.58	\$1,779.35	\$1,687.62	\$1,464.49
Administrative	\$439.42	\$312.38	\$800.76	\$780.38	\$377.63	\$752.02	\$1,357.66	\$652.66
Management Fees	\$321.22	\$358.21	\$786.01	\$636.56	\$507.34	\$757.48	\$802.97	\$434.59
Utilities	\$871.18	\$901.44	\$1,148.15	\$1,131.52	\$844.57	\$1,146.44	\$1,199.40	\$692.82
Real Estate & Other Taxes	\$866.78	\$2,871.88	\$2,303.34	\$2,096.16	\$1,313.30	\$2,508.01	\$2,920.75	\$1,806.55
Insurance	\$143.72	\$211.57	\$346.26	\$231.73	\$225.16	\$532.21	\$679.86	\$414.71
Total Operating Expense	\$5,055.03	\$7,050.42	\$9,438.92	\$9,013.98	\$6,012.86	\$9,982.68	\$13,026.25	\$7,173.91
<b>Net Operating Income</b>	<b>\$5,698.43</b>	<b>\$7,996.12</b>	<b>\$15,741.96</b>	<b>\$13,181.94</b>	<b>\$12,067.75</b>	<b>\$18,616.73</b>	<b>\$25,913.11</b>	<b>\$12,412.87</b>
<b>Operating Margin</b>	<b>53.0%</b>	<b>53.1%</b>	<b>62.5%</b>	<b>59.4%</b>	<b>66.7%</b>	<b>65.1%</b>	<b>66.5%</b>	<b>63.4%</b>
<b>Cap Rate (May 2019)</b>	<b>9.2%</b>	<b>5.6%</b>	<b>4.8%</b>	<b>4.4%</b>	<b>5.0%</b>	<b>4.4%</b>	<b>3.6%</b>	<b>5.9%</b>



# SUMMARY



**1** Demand is strong, but there are constraints on supply due to construction delays and financing

**2** Rent growth continues to hum along, with lower asset classes outperforming

**3** Sales prices continue to rise, and most transactions occur in tech hub and tertiary markets, where population is also growing

**4** Rent growth will continue to grow the most in tech hub and tertiary markets with the support of strong population and employment fundamentals

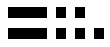




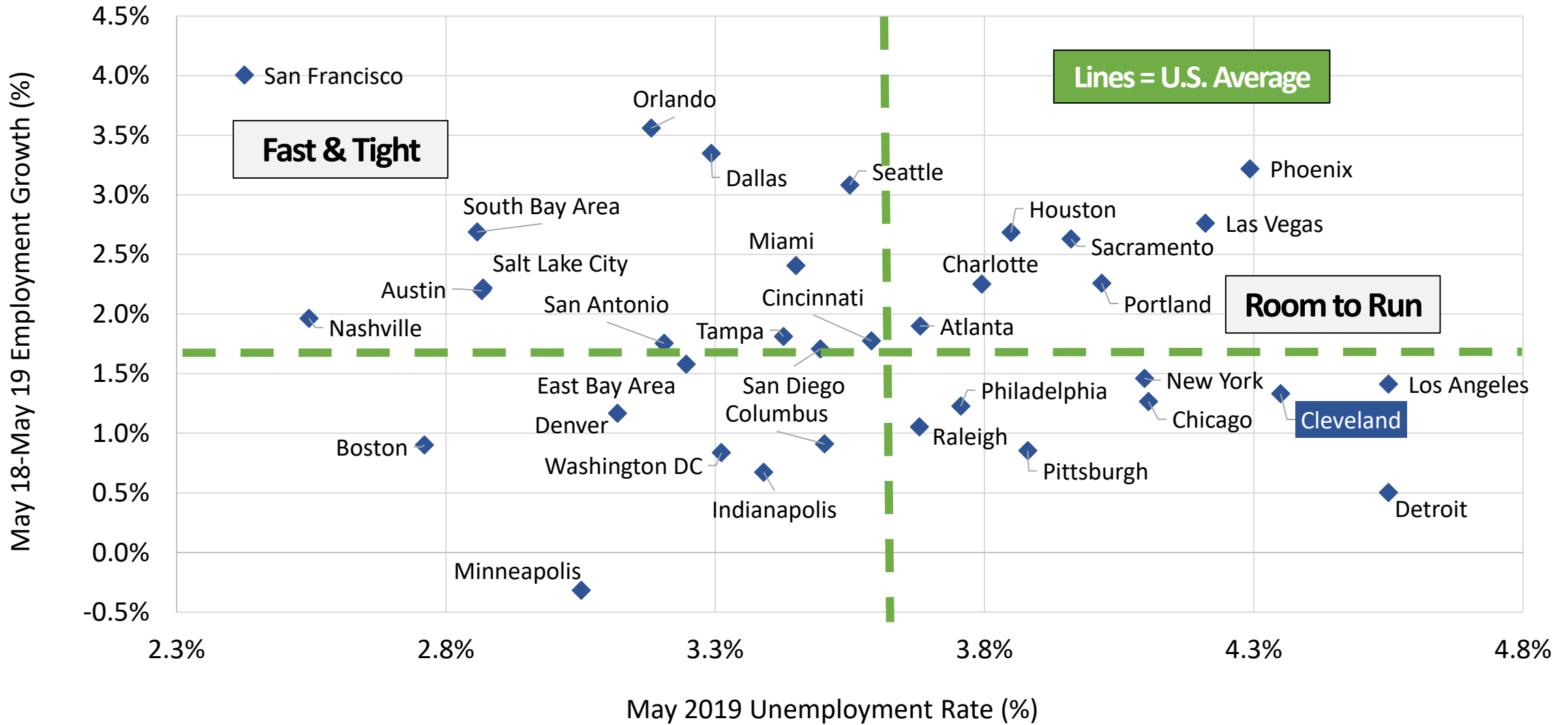
# OFFICE FUNDAMENTALS

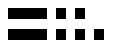
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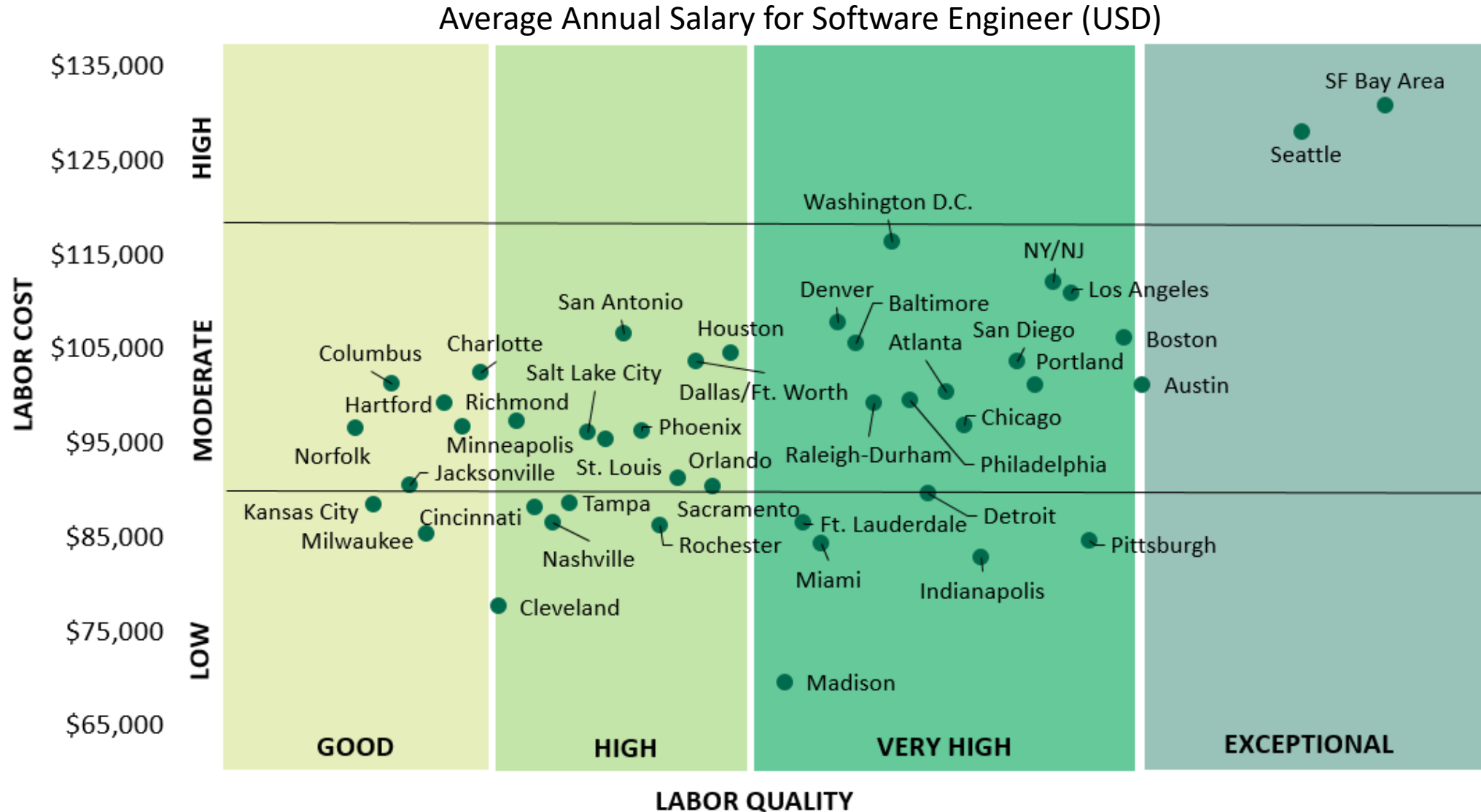


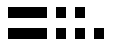
# Tech Hub Markets Have Most Dynamic Job Growth





# Tech Talent Quality vs. Cost Analysis

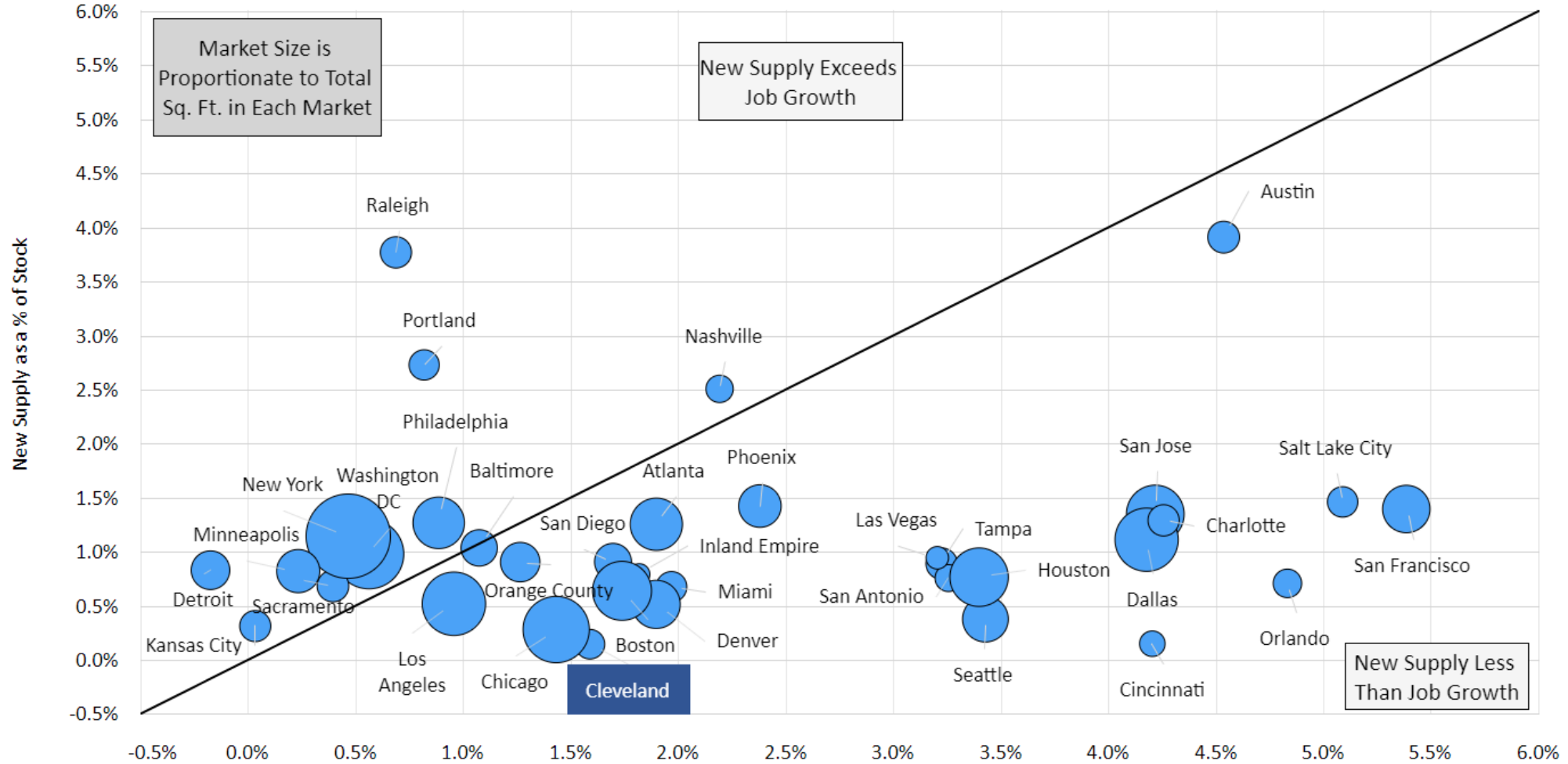




# Most Markets Are Absorbing Office Space



Employment and Supply Growth: May 2018 - May 2019





# Office Fundamentals Improving in Tech Hub Markets

## Top 10 Markets

Market	6-Month Change in Full-Service Equivalent Asking Rents	6-Month Change in Vacancy Rate	June Full-Service Equivalent Asking Rent	June Vacancy Rate	New Supply as a % of Stock Last 12 months
San Francisco	22.4%	-1.4%	\$71.4	8.1%	1.4%
Brooklyn	11.4%	1.3%	\$55.2	8.4%	2.8%
Bay Area	9.7%	0.5%	\$47.2	15.4%	1.3%
Tampa - St. Petersburg	5.9%	1.0%	\$26.8	12.0%	0.9%
Raleigh - Durham	4.4%	-0.8%	\$25.8	12.9%	3.8%
West Palm Beach	3.9%	1.3%	\$33.7	13.5%	0.7%
Nashville	3.7%	1.2%	\$31.9	11.0%	2.5%
Austin	3.1%	-1.3%	\$38.9	9.0%	3.9%
Fort Lauderdale	3.1%	-0.8%	\$29.3	12.4%	0.7%
Columbus	2.8%	-0.9%	\$20.1	14.3%	2.0%

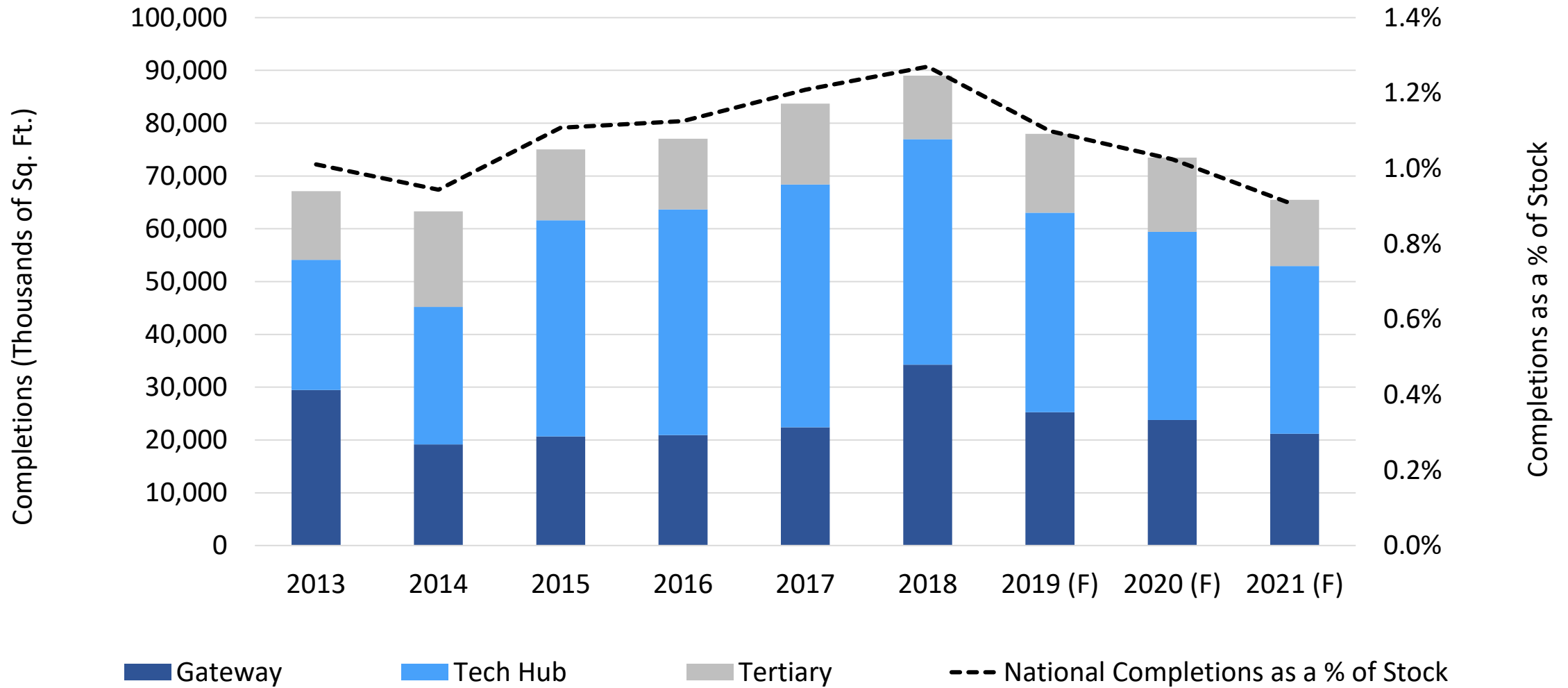
\*As of June 2019  
Source: Yardi® Matrix

# Office Fundamentals Improving in Tech Hub Markets

## Bottom 10 Markets

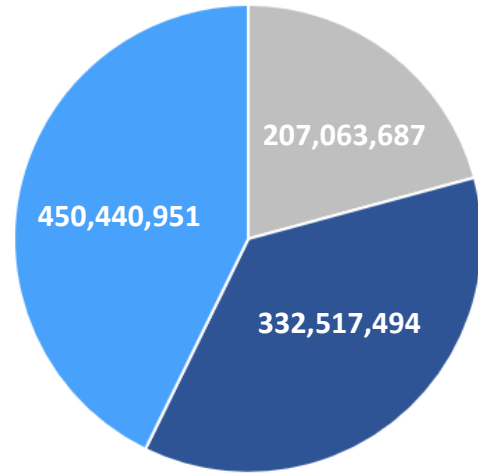
Market	6-Month Change in Full-Service Equivalent Asking Rents	6-Month Change in Vacancy Rate	June Full-Service Equivalent Asking Rent	June Vacancy Rate	New Supply as a % of Stock Last 12 months
Boston	-7.6%	0.1%	\$35.6	9.9%	0.6%
Central Valley	-5.4%	2.2%	\$23.8	9.7%	0.3%
Seattle	-4.3%	-0.3%	\$36.6	8.3%	0.4%
Birmingham	-3.9%	1.5%	\$19.3	17.1%	0.3%
Baltimore	-2.4%	0.6%	\$24.6	13.1%	1.0%
Cleveland - Akron	-2.4%	2.2%	\$19.8	17.4%	0.2%
Cincinnati	-2.4%	-1.2%	\$17.3	19.3%	0.2%
Las Vegas	-2.3%	0.2%	\$24.9	16.3%	0.9%
Orlando	-2.0%	0.4%	\$21.4	11.9%	0.7%
Salt Lake City	-1.8%	1.2%	\$23.6	11.3%	1.5%

# Office Supply Additions Peaked in 2018





# Where Is Future Office Supply Concentrated?



■ Under Construction Sq. Ft.

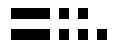
■ Planned Sq. Ft.

■ Prospective Sq. Ft.

Top 10 Markets	Sq. Ft. UC (MM)	UC as a % of Existing Stock
Brooklyn	5.1	15.1%
Queens	2.3	12.4%
Nashville	5.4	9.4%
Austin	7.0	8.8%
South Bend	0.6	7.8%
Seattle	11.8	7.5%
Charlotte	5.3	7.1%
San Francisco	11.7	6.8%
El Paso	0.4	5.2%
Northern Central Florida	0.4	4.6%

Top 10 Markets	Sq. Ft. Planned (MM)	Planned as a % of Existing Stock
Austin	16.1	20.3%
Brooklyn	5.1	14.9%
Miami	8.8	12.4%
San Francisco	20.1	11.7%
Seattle	16.4	10.3%
Wilmington	0.4	9.6%
Dallas – Fort Worth	29.0	9.4%
Bay Area	23.9	9.4%
Mobile	0.6	9.4%
Atlanta	19.5	9.3%

Top 10 Markets	Sq. Ft. Prospective (MM)	Prospective as a % of Existing Stock
Nashville	14.6	25.2%
Bay Area	43.4	16.9%
Austin	11.6	14.7%
West Palm Beach	4.9	14.0%
Long Island	7.3	13.6%
Pensacola	1.0	12.2%
Central East Texas	1.0	12.1%
Fort Lauderdale	5.3	12.0%
Washington D.C.	44.1	11.9%
Milwaukee	5.7	11.8%



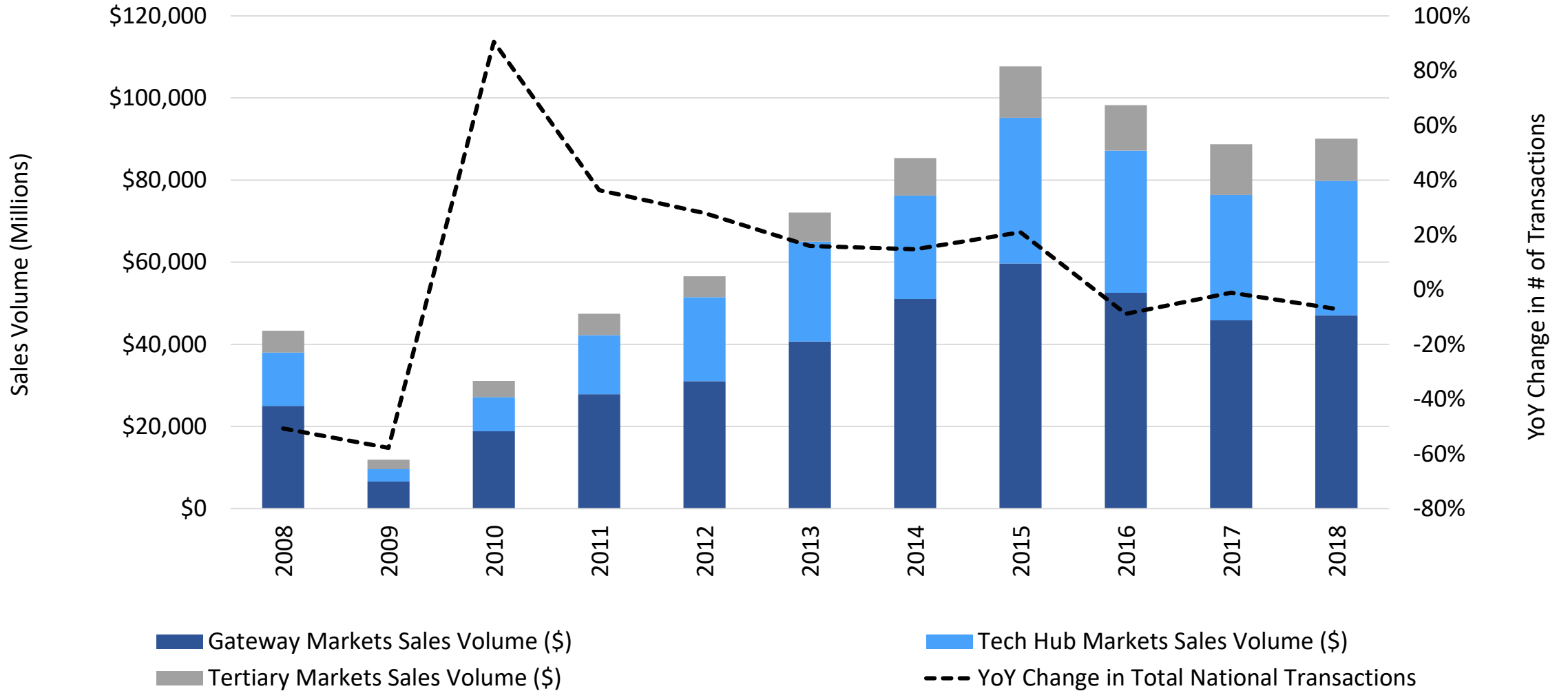
# Top 20 Largest Office Projects Under Construction



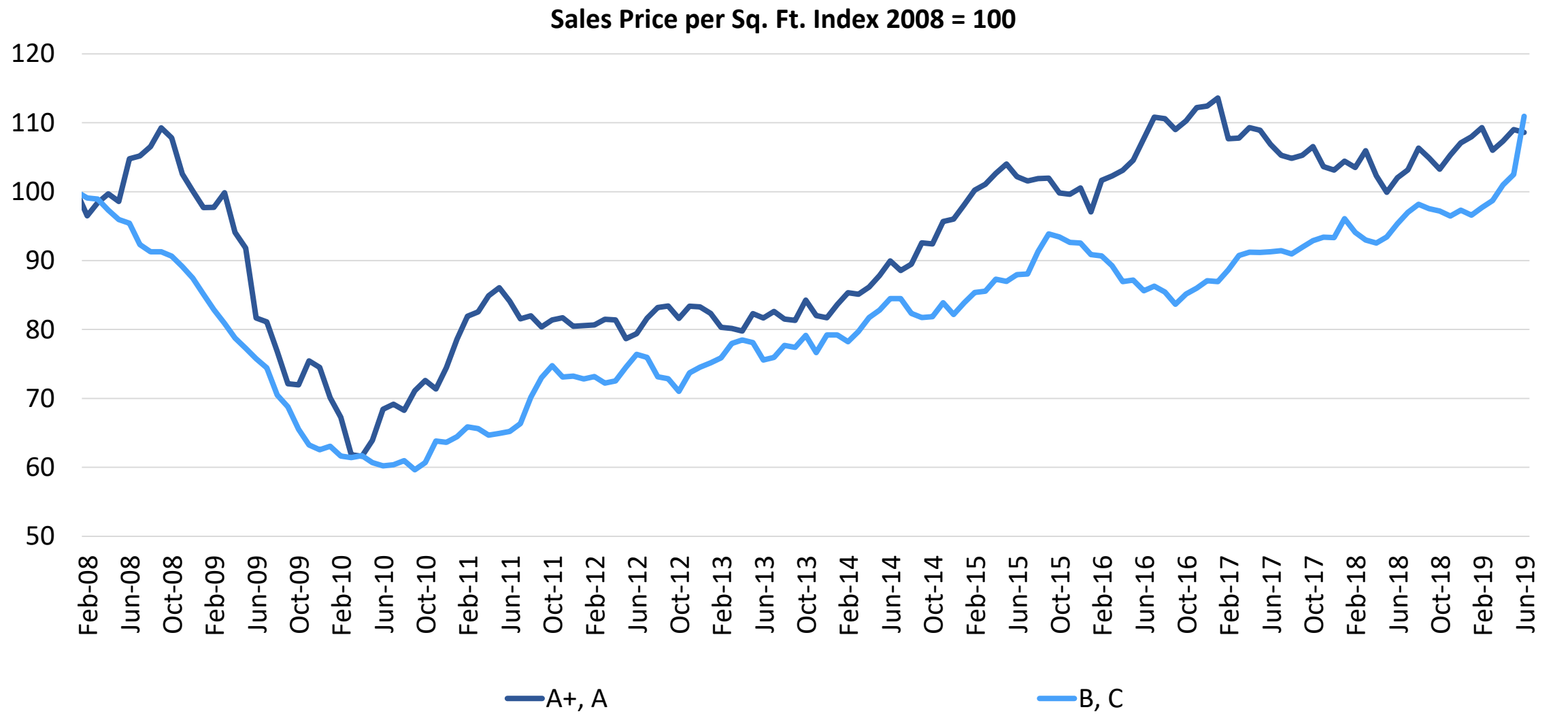
Property Name	Market	Square Footage
50 Hudson Yards	Manhattan	2,900,000
The Post Office	Chicago	2,800,000
The Spiral	Manhattan	2,800,000
One Manhattan West	Manhattan	2,200,000
3 Hudson Blvd	Manhattan	2,000,000
Two Manhattan West	Manhattan	1,840,000
Robert L. Crandall Global Support Campus	Dallas - Fort Worth	1,800,000
One Vanderbilt	Manhattan	1,755,814
Winthrop Center	Boston	1,612,400
110 North Wacker	Chicago	1,565,909
First Street Tower of Oceanwide Center	San Francisco	1,491,019
California Market Center	Los Angeles	1,296,360
The Dayton's Project	Minneapolis - St. Paul	1,200,000
The Jacx	Queens	1,200,000
State Farm at Park Center - Phase II	Atlanta	1,160,000
Pioneer Natural Resources Headquarters	Dallas - Fort Worth	1,125,000
Rufus 2.0 - Block 20	Seattle	1,117,000
Charlotte Metro Tower	Charlotte	1,025,000
One Congress at Bulfinch Crossing	Boston	1,012,000
Nike World Headquarters – Serena Williams Building	Portland	1,000,000

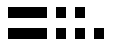


# Office Sales Volume Dropping in Each Market Category

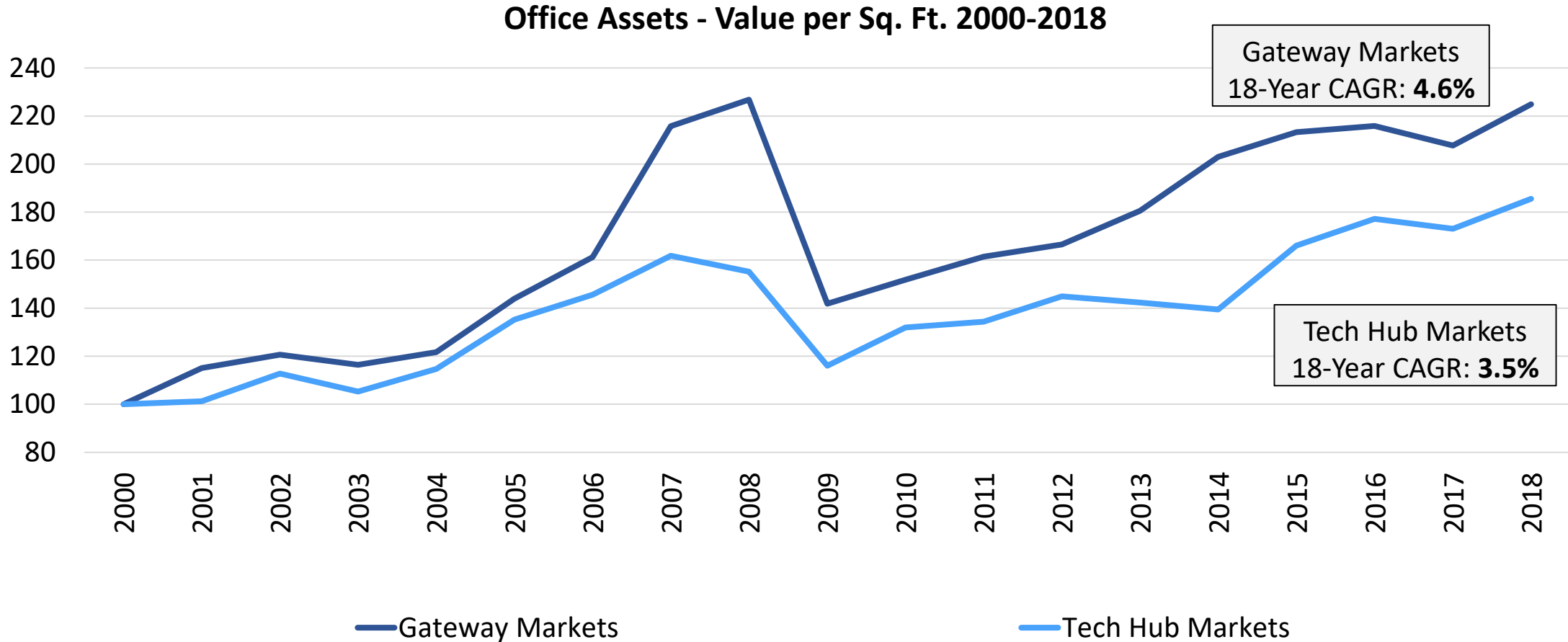


# Since the Recession, Class A Has Outperformed B/C





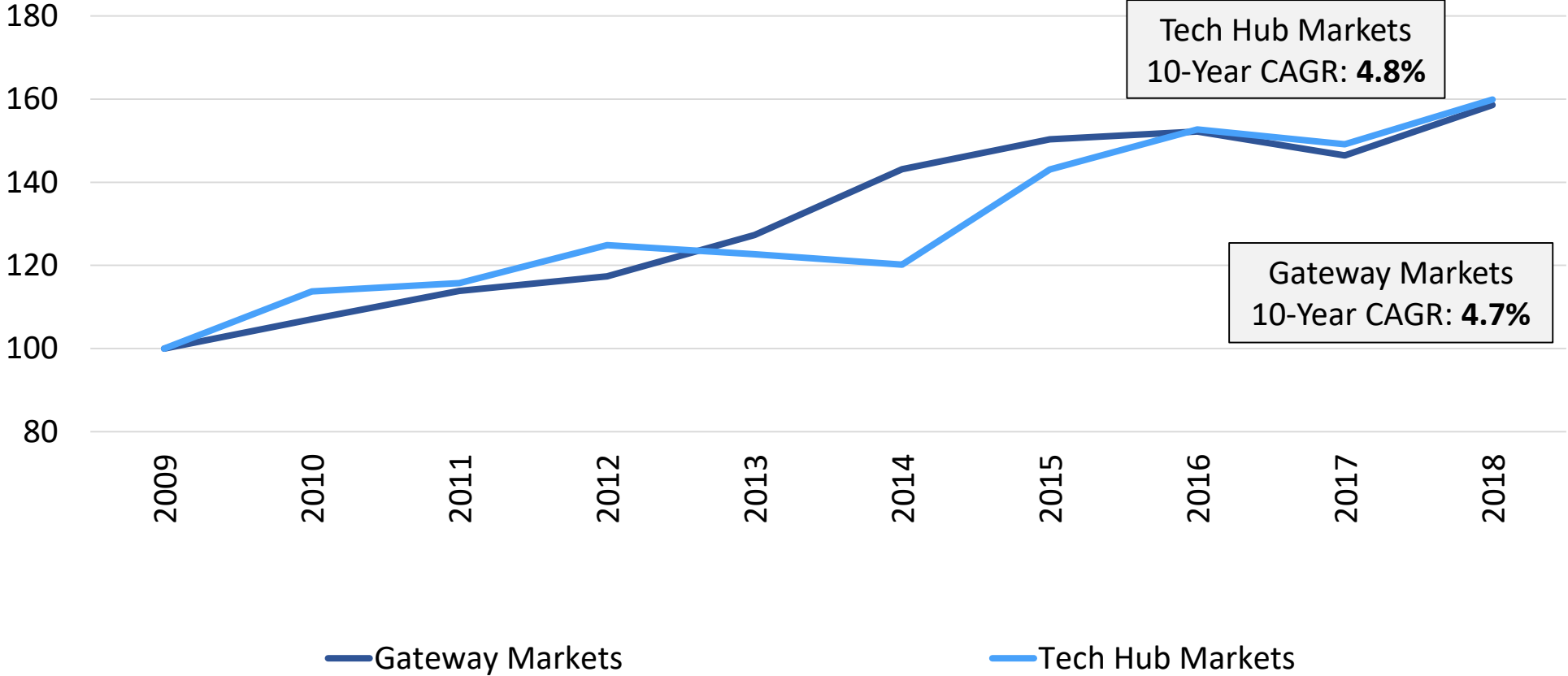
# Office Assets in Gateway Markets Have Outperformed Since 2000, But...

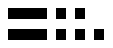




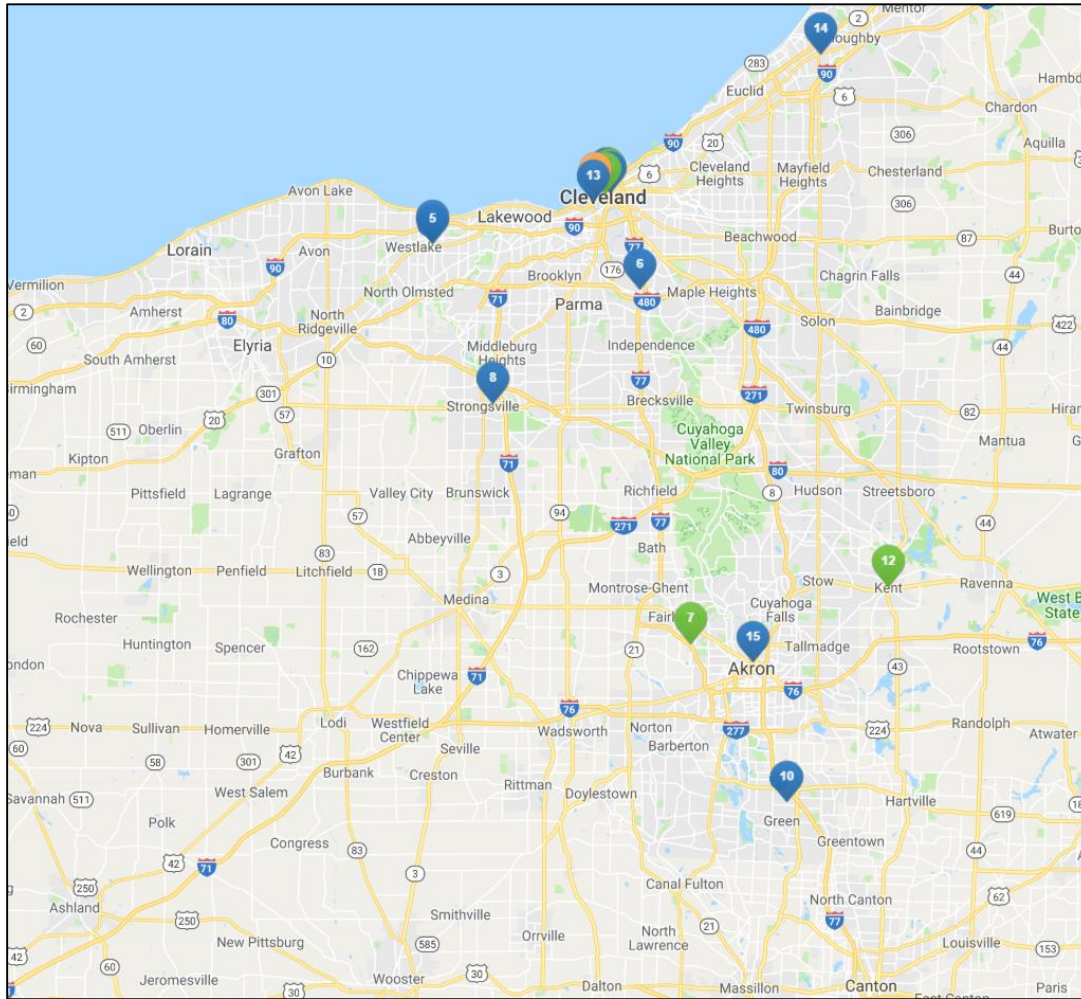
# Office Assets in Tech Hub Markets Have Performed In Line With Gateway Markets Since 2009

Office Assets - Value per Sq. Ft. 2009-2018





# Cleveland Office Transaction Composition in 2018



**Building Class:** A+ A B C

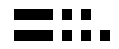


## 2018 Transactions

	#	% of Stock
<b>Properties Sold</b>	16	3.7%
<b>Sq. Ft. Sold</b>	4,098,789	6.2%

## 2018 Sales Prices

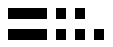
<b>Avg. Sales Price per Sq. Ft.</b>	\$79.58
<b>Avg. Sales Price per Sq. Ft. for Class A+/A Assets</b>	\$86.27
<b>1-Year Sales Price per Sq. Ft. Growth for Class A+/A Assets</b>	-40.7%
<b>5-Year Sales Price per Sq. Ft. Growth for Class A+/A Assets</b>	-11.1%



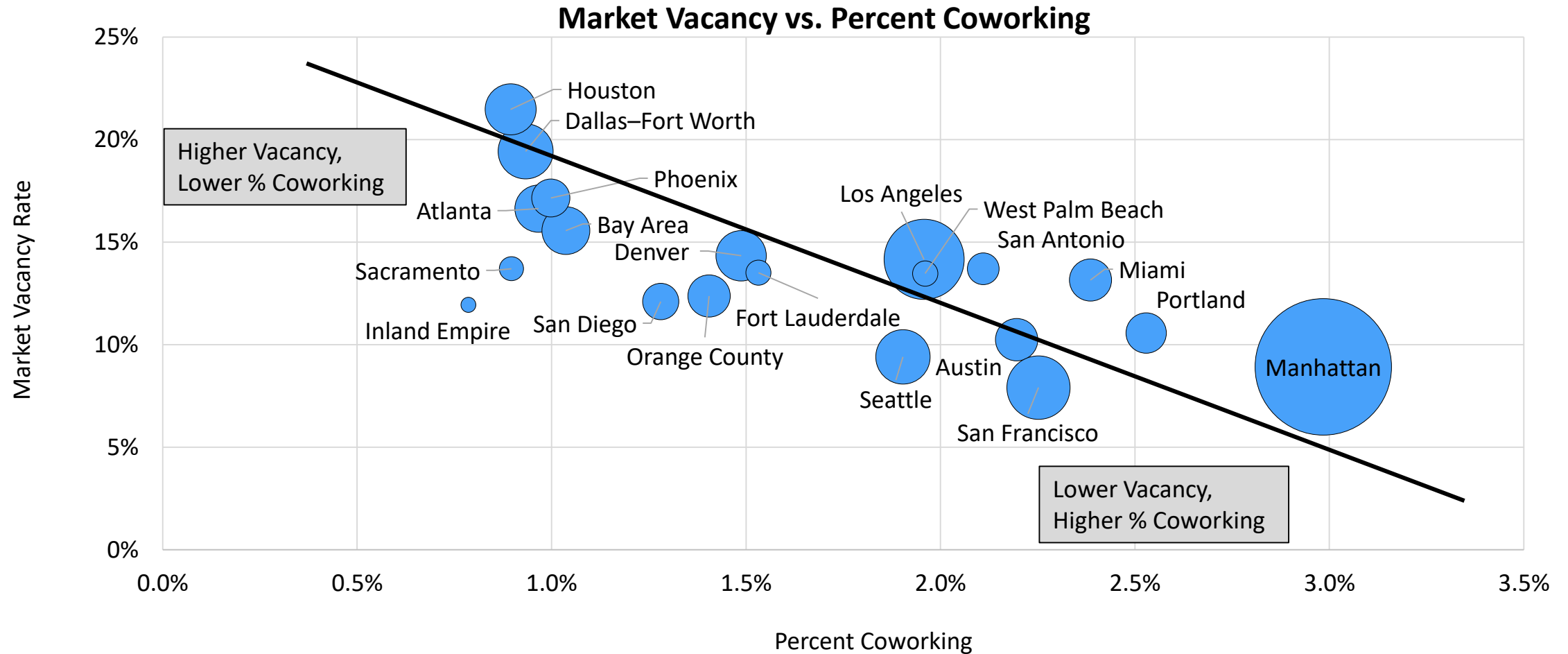
# Secular Pressures Continue to Alter the Office Market



- Coworking
  - Pulls roughly 1-3% of market demand from traditional office leases
  - More highly concentrated in dense, high cost gateway markets
  - More players have entered the market: CBRE, JLL, Tishman, Savills
- Decreasing square foot per employee
  - Specifically in CBD and high-cost metros
- Talent pool for office using employment – office is becoming more about the *experience*
  - Diversifying and moving to lower cost markets
- Capital expenditures are rising in office assets as the labor market tightens and office occupiers view space as a part of HR strategy, and most markets still have a lot of space to absorb ..
- Technological advancements are coming that will change the way we invest in and manage office properties



# Markets With Lower Vacancy Rates Have Higher Proportion of Coworking Space



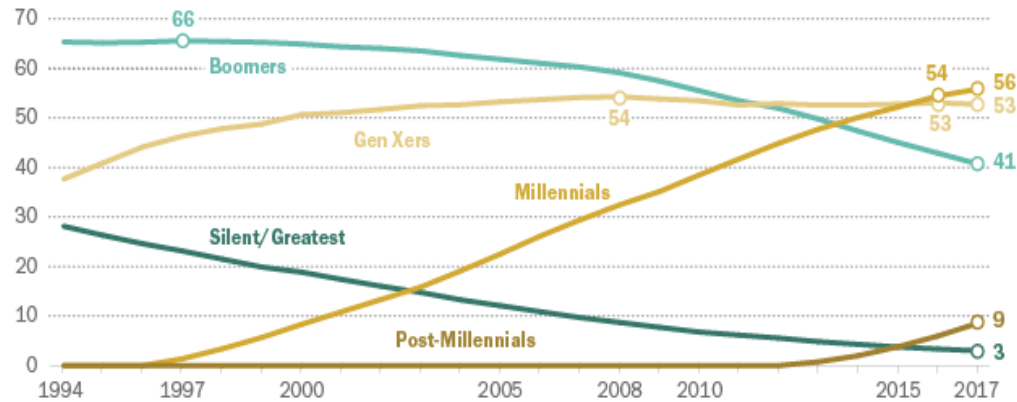


# The Office Has Become an Experience Much Like Retail



## Millennials became the largest generation in the labor force in 2016

U.S. labor force, in millions

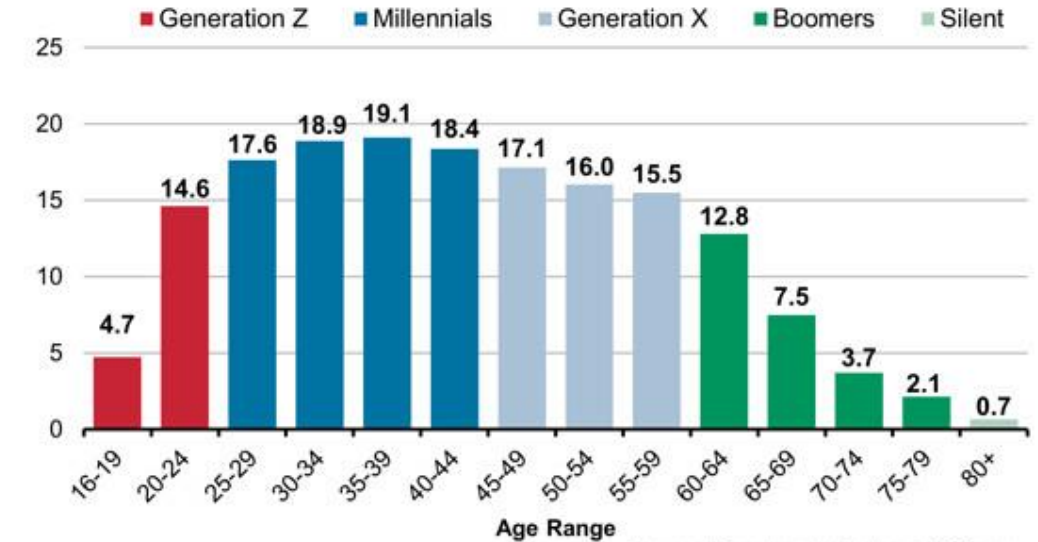


Note: Labor force includes those ages 16 and older who are working or looking for work. Annual averages shown. Source: Pew Research Center analysis of monthly 1994-2017 Current Population Survey (IPUMS).

PEW RESEARCH CENTER

## The Workforce in 2025

Projected size of U.S. labor force (in millions) by age, for the year 2025



Source: Department of Labor | WSJ.com

### From **Commercial Property Executive**: “Gen-Z’s Impact on Workplace Design”

- Gen-Z will comprise 30% of the workforce by 2030
- In the reception area, 100% of participants preferred a personal connection over a strictly digital one
- 86% of Gen-Z indicated that office setting would influence the acceptance of a job offer

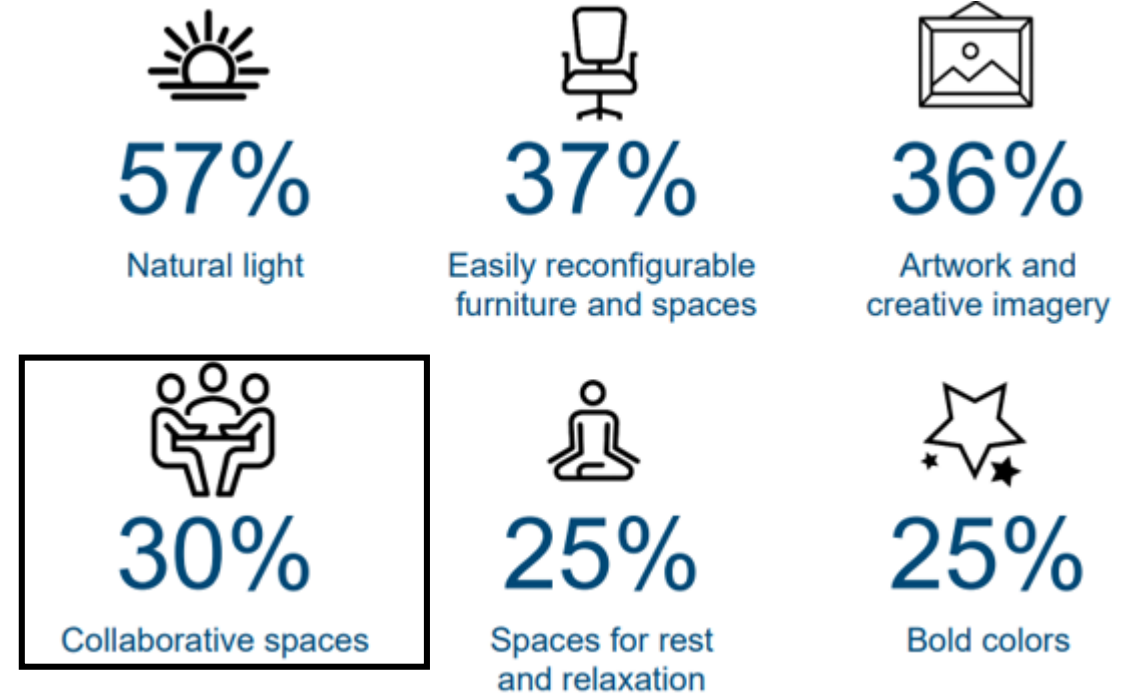
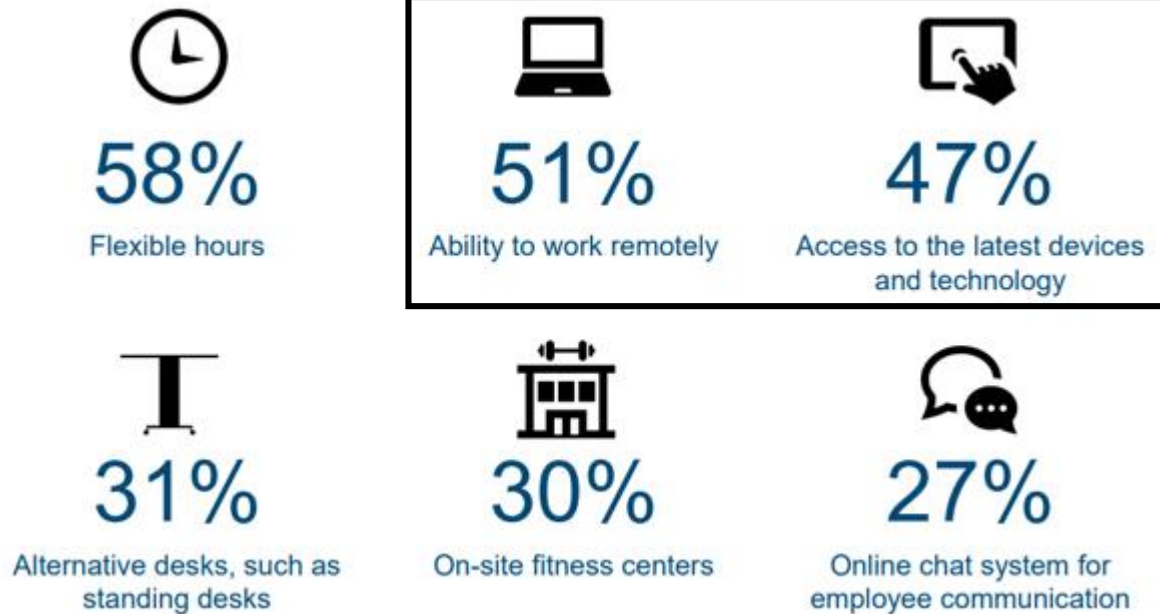


# Capital One 2018 Work Environment Survey



## Attracting Talent: Meeting Expectations

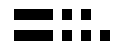
## Office Design: Elements That Matter



# Capital Expenditures Rising as Office Space Becomes Draw for Top Talent

<b>MULTIFAMILY</b>	Cleveland	Atlanta	Austin	Boston	Manhattan	Miami	San Diego	Seattle	Washington D.C.
Net Operating Income	\$4,823	\$8,451	\$7,303	\$14,505	\$19,056	\$11,638	\$14,444	\$13,377	\$11,144
CapEx	\$815	\$2,041	\$1,410	\$1,818	\$2,068	\$1,226	\$1,540	\$1,397	\$1,475
<b>CapEx as a % of NOI</b>	<b>16.9%</b>	<b>24.2%</b>	<b>19.3%</b>	<b>12.5%</b>	<b>10.9%</b>	<b>10.5%</b>	<b>10.7%</b>	<b>10.4%</b>	<b>13.2%</b>

<b>OFFICE</b>	Cleveland	Atlanta	Austin	Boston	Manhattan	Miami	San Diego	Seattle	Washington D.C.
Net Operating Income	\$7.45	\$12.77	\$18.42	\$21.94	\$31.21	\$18.72	\$18.17	\$23.87	\$20.74
CapEx	\$3.12	\$4.60	\$4.00	\$5.38	\$6.49	\$4.51	\$4.87	\$4.70	\$4.49
<b>CapEx as a % of NOI</b>	<b>41.9%</b>	<b>36.0%</b>	<b>21.7%</b>	<b>24.5%</b>	<b>20.8%</b>	<b>24.1%</b>	<b>26.8%</b>	<b>19.7%</b>	<b>21.6%</b>



# Matrix Expert Office Operating Data Per Sq. Ft.



12-month period Ending May 2019	Cleveland	Atlanta	Austin	Boston	Chicago	Denver	Los Angeles	Manhattan
Total Income	\$16.70	\$22.46	\$32.08	\$38.33	\$25.69	\$24.42	\$33.24	\$59.95
Payroll	\$0.73	\$1.00	\$1.00	\$1.08	\$1.24	\$1.00	\$1.43	\$2.96
Marketing & Advertising	\$0.02	\$0.08	\$0.05	\$0.08	\$0.07	\$0.08	\$0.07	\$0.10
Repairs & Maintenance	\$2.22	\$2.08	\$2.29	\$2.98	\$2.89	\$2.35	\$3.14	\$4.64
Administrative	\$0.92	\$1.12	\$0.79	\$1.28	\$1.30	\$0.79	\$1.58	\$2.21
Management Fees	\$0.53	\$0.72	\$0.85	\$0.97	\$0.76	\$0.79	\$0.94	\$1.44
Utilities	\$2.24	\$1.88	\$1.88	\$2.83	\$1.34	\$1.68	\$2.46	\$3.11
Real Estate & Other Taxes	\$2.47	\$2.46	\$6.42	\$6.59	\$6.00	\$4.42	\$3.13	\$12.82
Insurance	\$0.11	\$0.17	\$0.17	\$0.25	\$0.24	\$0.19	\$0.56	\$0.50
Total Operating Expense	\$9.25	\$9.70	\$13.66	\$16.39	\$13.97	\$11.41	\$13.64	\$28.74
<b>Net Operating Income</b>	<b>\$7.45</b>	<b>\$12.77</b>	<b>\$18.42</b>	<b>\$21.94</b>	<b>\$11.72</b>	<b>\$13.01</b>	<b>\$19.60</b>	<b>\$31.21</b>
<b>Operating Margin</b>	<b>44.6%</b>	<b>56.9%</b>	<b>57.4%</b>	<b>57.2%</b>	<b>45.6%</b>	<b>53.3%</b>	<b>59.0%</b>	<b>52.1%</b>
<b>Cap Rate (May 2019)</b>	<b>9.6%</b>	<b>6.6%</b>	<b>7.4%</b>	<b>6.4%</b>	<b>6.3%</b>	<b>6.0%</b>	<b>5.4%</b>	<b>3.9%</b>





# SUMMARY



## 1

New supply peaked in 2018, and various factors are reducing demand for office space

- Coworking, telecommuting, outsourcing

## 2

Both gateway and tech hub markets saw rising asking rents over the past six months, with the highest growth in San Francisco, Brooklyn, Bay Area, Tampa and Raleigh

## 3

Transactions are falling nationally, but sales prices have been increasing

- Sales prices per sq. ft. increased the most in gateway markets since 2000, however, tech hub markets have performed in line with gateways since 2008, further indicating that the timing of investment is key

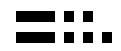




# CITY SPOTLIGHT

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# What Helps a City Reach Its Critical Point to Succeed?



**ALL EXISTING TECH MARKETS HAVE THESE CHARACTERISTICS TO SOME DEGREE**

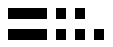
PUBLIC & PRIVATE  
PARTNERSHIPS

FRIENDLY BUSINESS  
ENVIRONMENT

COMMUNITY & AMENITIES THAT  
RETAIN & DRAW IN TALENT

EDUCATED WORKFORCE





# What's Going on in Cleveland?



## PUBLIC & PRIVATE PARTNERSHIPS

- Flat East Bank Development (23-acre site) – partnership between The Wolstein Group, Fairmount Properties & the City of Cleveland
  - Phase I: 50K sq. ft. of office space & 150-room hotel
  - Phase II: multifamily units
  - Phase III: 320 apartment units, movie theater and four restaurants, bar and nightclub concepts (still in the planning phase)

## FRIENDLY BUSINESS ENVIRONMENT

- State Rank #20
- No tax on corporate profits
- Job Creation Incentive Program: designed to attract new businesses or to expand existing businesses in Cleveland
  - Must create five or more new jobs in the city within the first year
  - Eligible applicants may receive grants of up to 0.5% of new payroll & \$5,000 moving assistance

## COMMUNITY & AMENITIES THAT RETAIN & DRAW IN TALENT

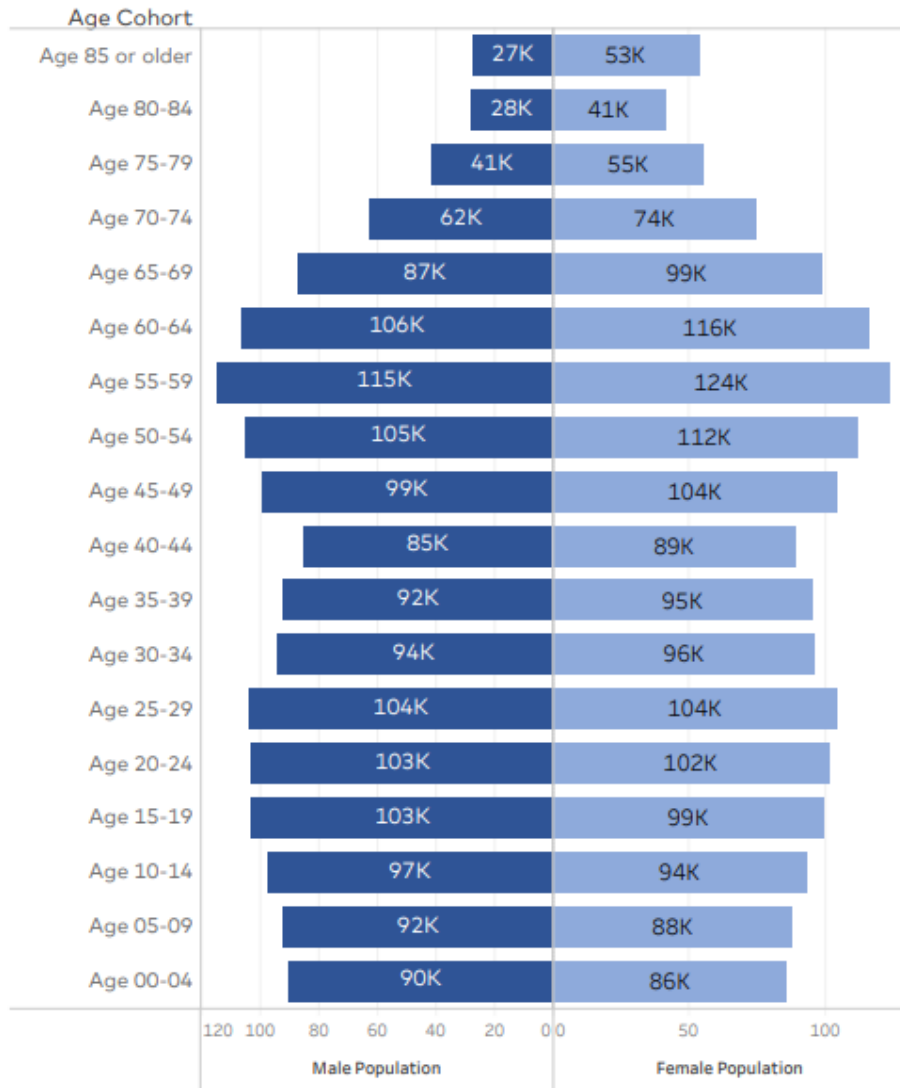
- Transformation of Cleveland's Ohio City neighborhood
  - Includes market-rate and affordable housing, a grocery store, an educational facility, co-working office space, a restaurant & other retail space
  - Phase I was completed in June 2018, Phase II expected to be completed in October 2019 & Phase III will be completed in 2020

## EDUCATED WORKFORCE

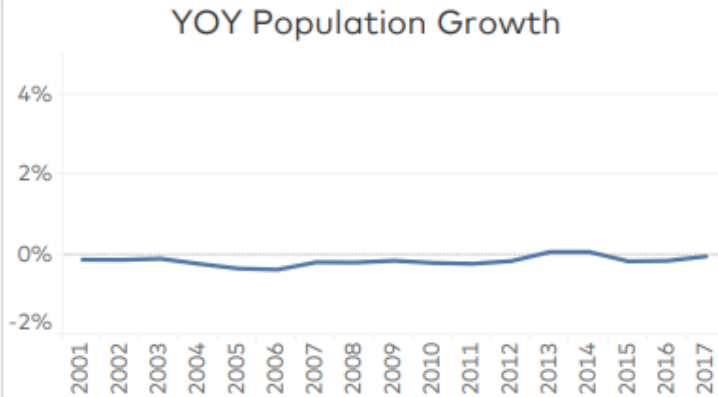
- 16% of adults in the City of Cleveland have a bachelor's degree or higher

University	Approx. Enrollment 2018
University of Akron	20,554
Cleveland State University	12,309
Case Western Reserve University	10,406
John Carroll University	3,673
Notre Dame College of Ohio	2,100

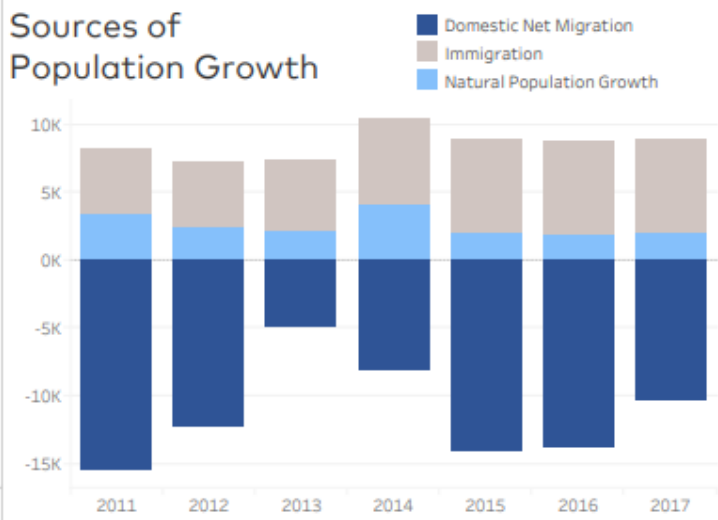
# Cleveland Demographics Overview



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



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



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

### IRS Migration Data (2016)

#### Domestic Migrants Into Cleveland - Akron

Coming From	Count
Ohio	12,604
Texas	1,419
Florida	1,345
Pennsylvania	1,112
Illinois	1,038
California	911
New York	911
Michigan	633
Arizona	482
North Carolina	430

**Total Inbound Residents**

24,279

#### Domestic Migrants Leaving Cleveland - Akron

Heading to	Count
Ohio	13,667
Florida	3,767
California	1,546
Texas	1,517
Arizona	1,073
North Carolina	1,054
Illinois	1,026
Michigan	750
Georgia	749
Pennsylvania	687

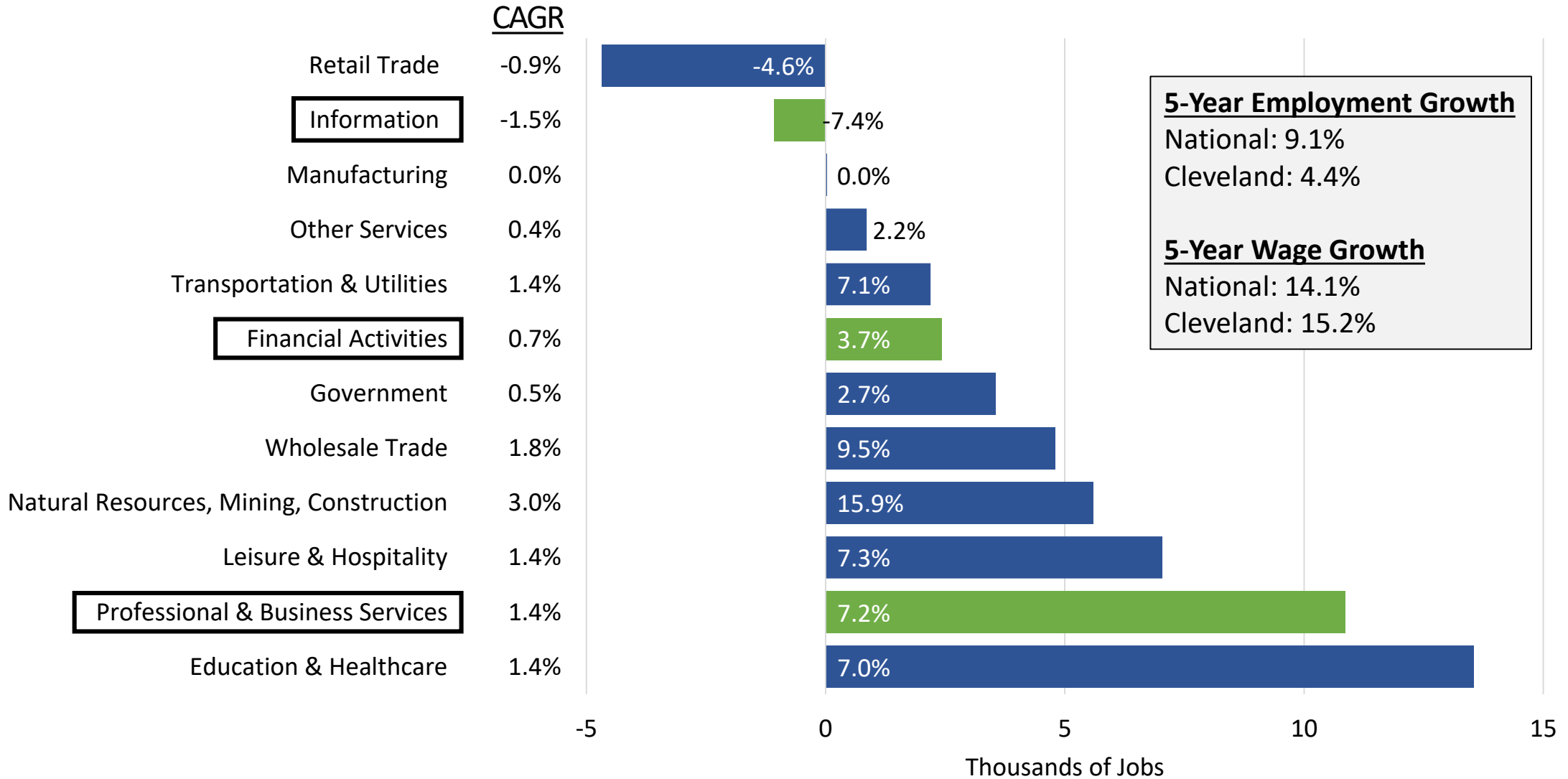
**Total Outbound Residents**

29,689

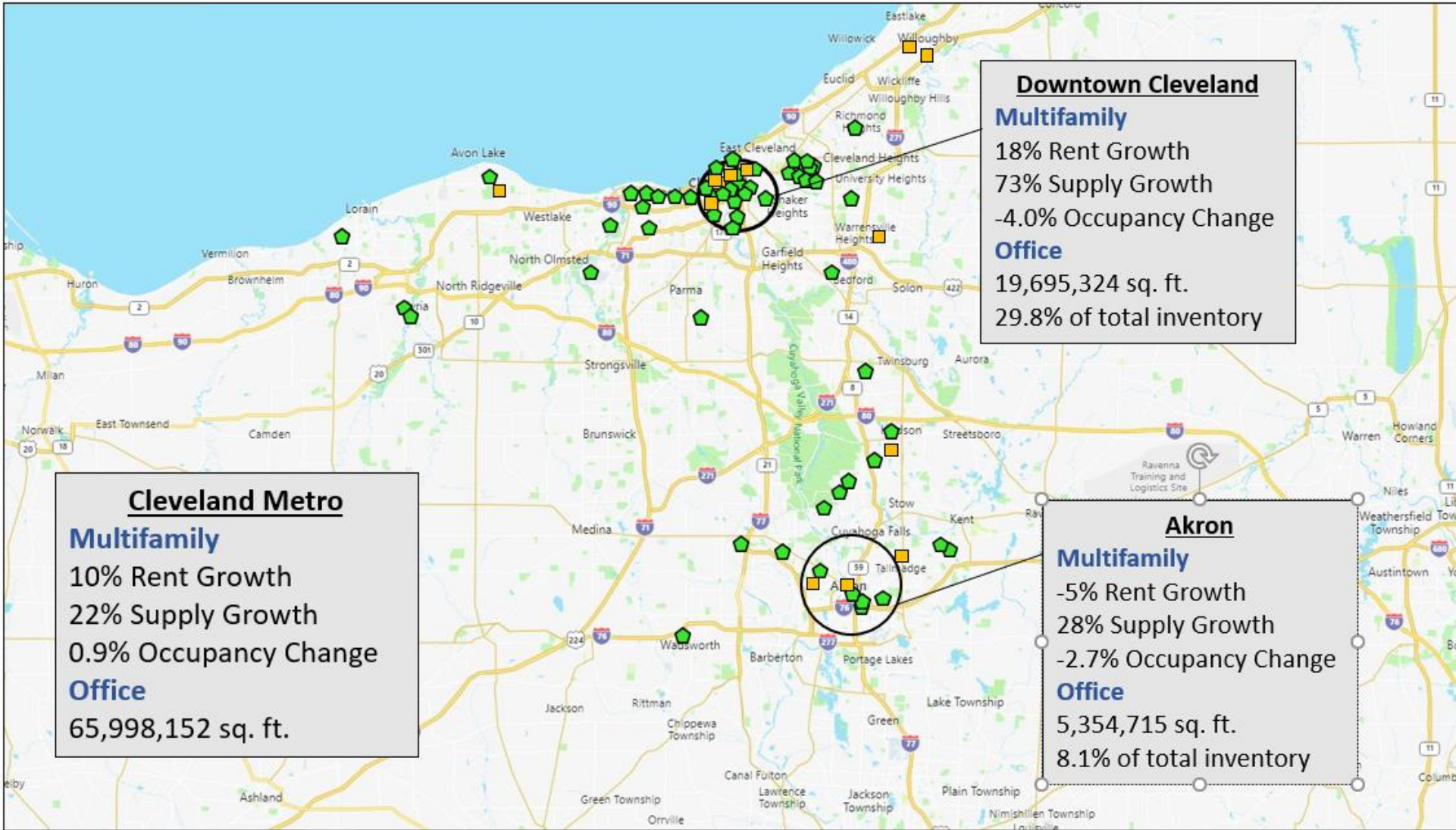
Source: IRS Statistics of Income (SOI); Moody's Analytics



# Cleveland Employment Growth May 2014 – May 2019



# Cleveland Intellectual Capital Nodes

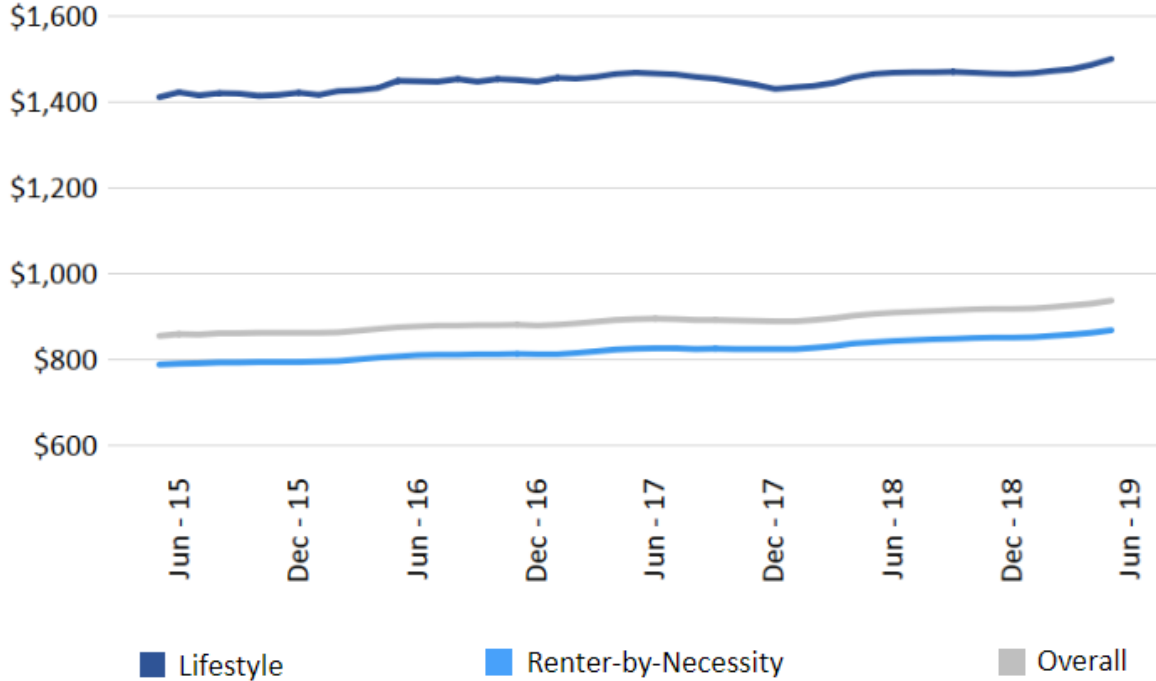


■ Office Development

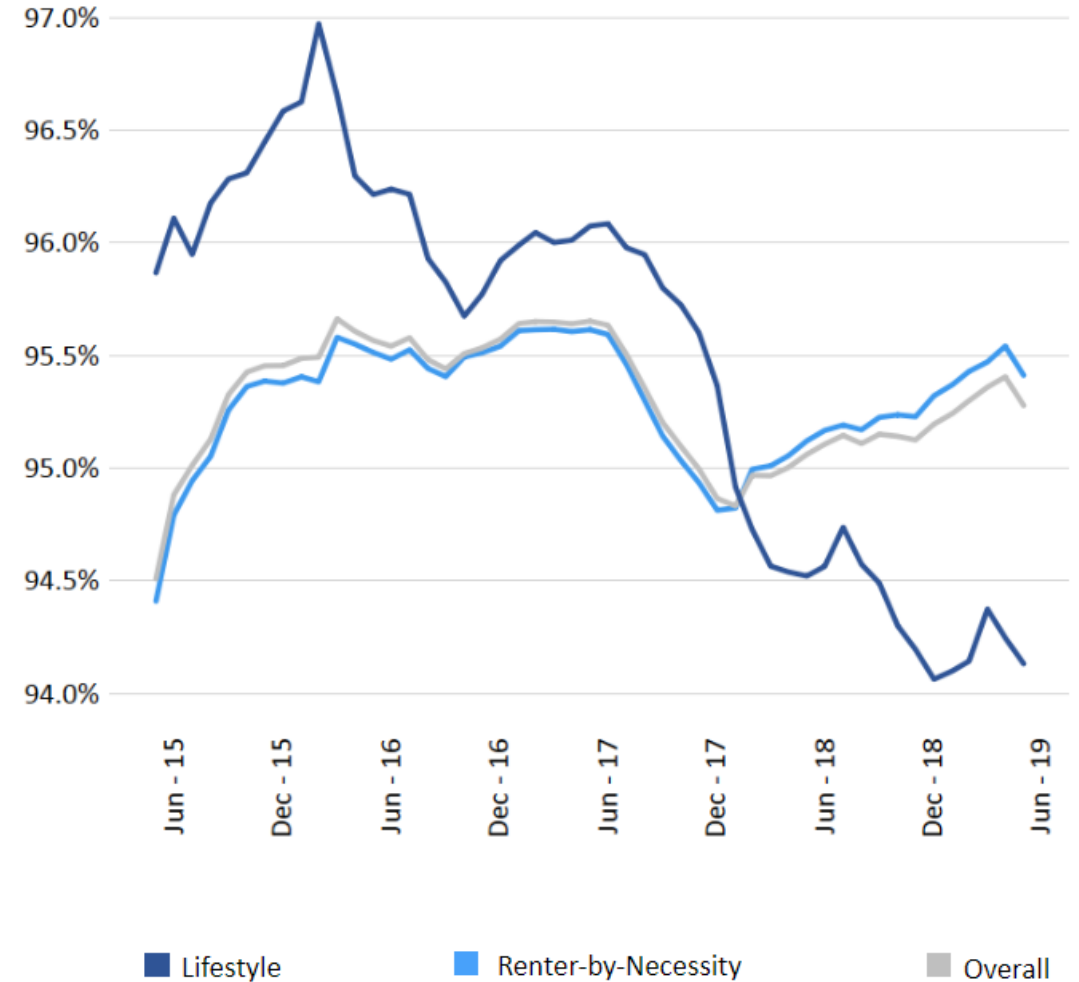
◆ Multifamily Development

# Multifamily Rents & Occupancy: Cleveland

Average Rents



Average Occupancy

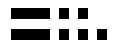


Asset Class	Rent CAGR 2015-2019	Rent Growth 2018-2019
Lifestyle	1.5%	2.4%
Renter-by-Necessity	2.4%	3.3%
Overall	2.3%	3.4%

\*Rent and occupancy data June 2015 – June 2019

Source: Yardi® Matrix





# Cleveland Top 5 Submarkets Multifamily Rent & Occupancy Forecasts

	2018			2019 Forecast			2020 Forecast		
Submarket	Rent Growth	Avg Rent	Occupancy	Rent Growth	Rent	Occupancy	Rent Growth	Rent	Occupancy
Lorain - downtown	1.2%	\$605	96.8%	5.3%	\$638	96.7%	1.8%	\$649	96.1%
Copley	0.8%	\$933	97.3%	4.8%	\$978	97.7%	1.8%	\$996	97.5%
Jefferson	1.7%	\$575	94.0%	4.8%	\$603	94.4%	1.8%	\$614	93.8%
Portage	2.7%	\$1,037	94.8%	4.3%	\$1,081	93.9%	1.5%	\$1,098	93.6%
Lake	-0.3%	\$992	97.0%	4.0%	\$1,031	96.8%	2.5%	\$1,057	96.5%
<b>Cleveland</b>	<b>2.9%</b>	<b>\$919</b>	<b>95.0%</b>	<b>2.2%</b>	<b>\$935</b>	<b>94.7%</b>	<b>1.9%</b>	<b>\$953</b>	<b>94.4%</b>

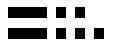


# Cleveland Office Fundamentals



Asset Class	Count	Sq. Ft. (Thous.)	Direct Sq. Ft. Available (Thous.)	Sublease Sq. Ft. Available (Thous.)	Total Sq. Ft. Available (Thous.)	Direct Asking Rate	Market Asking Rate	Direct Vacancy	Sublease Vacancy	Overall Vacancy
A & A+	109	27,634	2,813	95	2,908	\$22.09	\$21.95	15.3%	0.5%	15.9%
B	303	33,840	4,069	50	4,118	\$19.54	\$19.53	17.6%	0.2%	17.8%
C	19	1,888	322	0	322	\$13.88	\$13.88	37.3%	0.0%	37.3%
<b>TOTAL</b>	<b>431</b>	<b>63,362</b>	<b>7,204</b>	<b>145</b>	<b>7,348</b>	<b>\$19.86</b>	<b>\$19.83</b>	<b>17.0%</b>	<b>0.3%</b>	<b>17.4%</b>



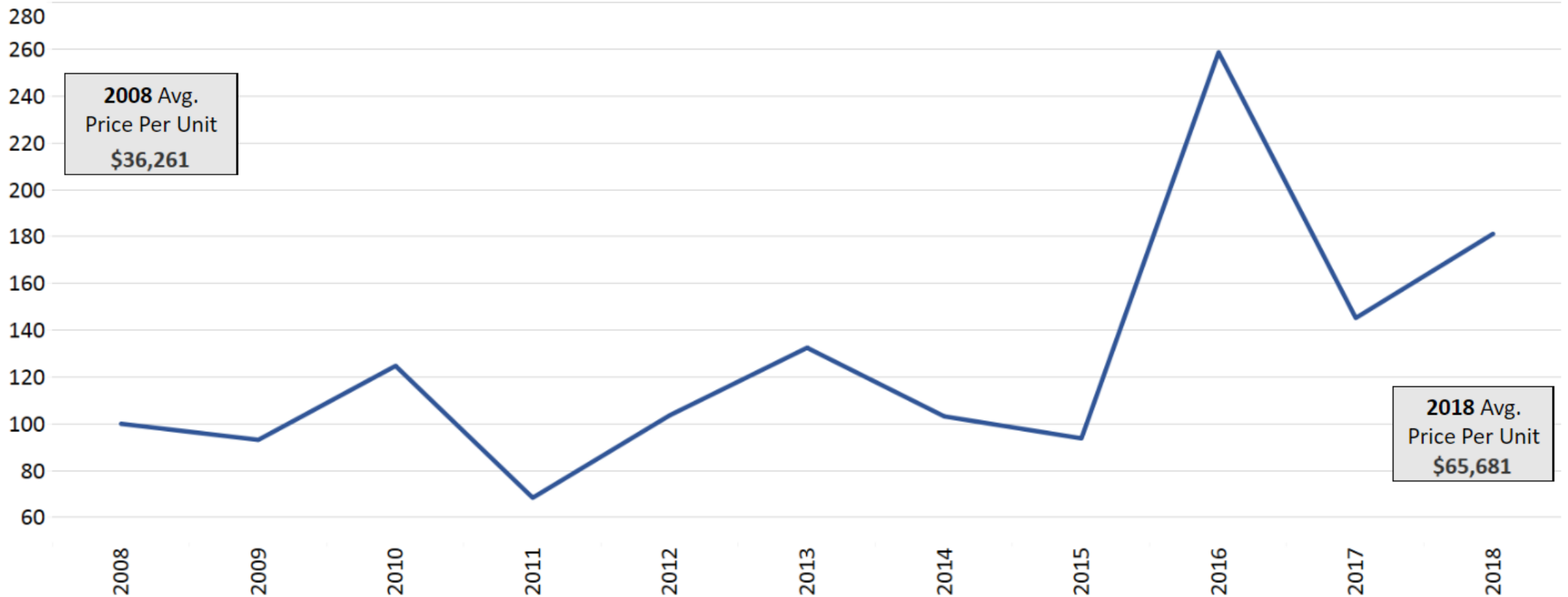


# Multifamily Sales Prices: Cleveland



Price Per Unit Index 2008 = 100

**10-Year Growth: 81.1%**  
**10-Year CAGR: 6.1%**

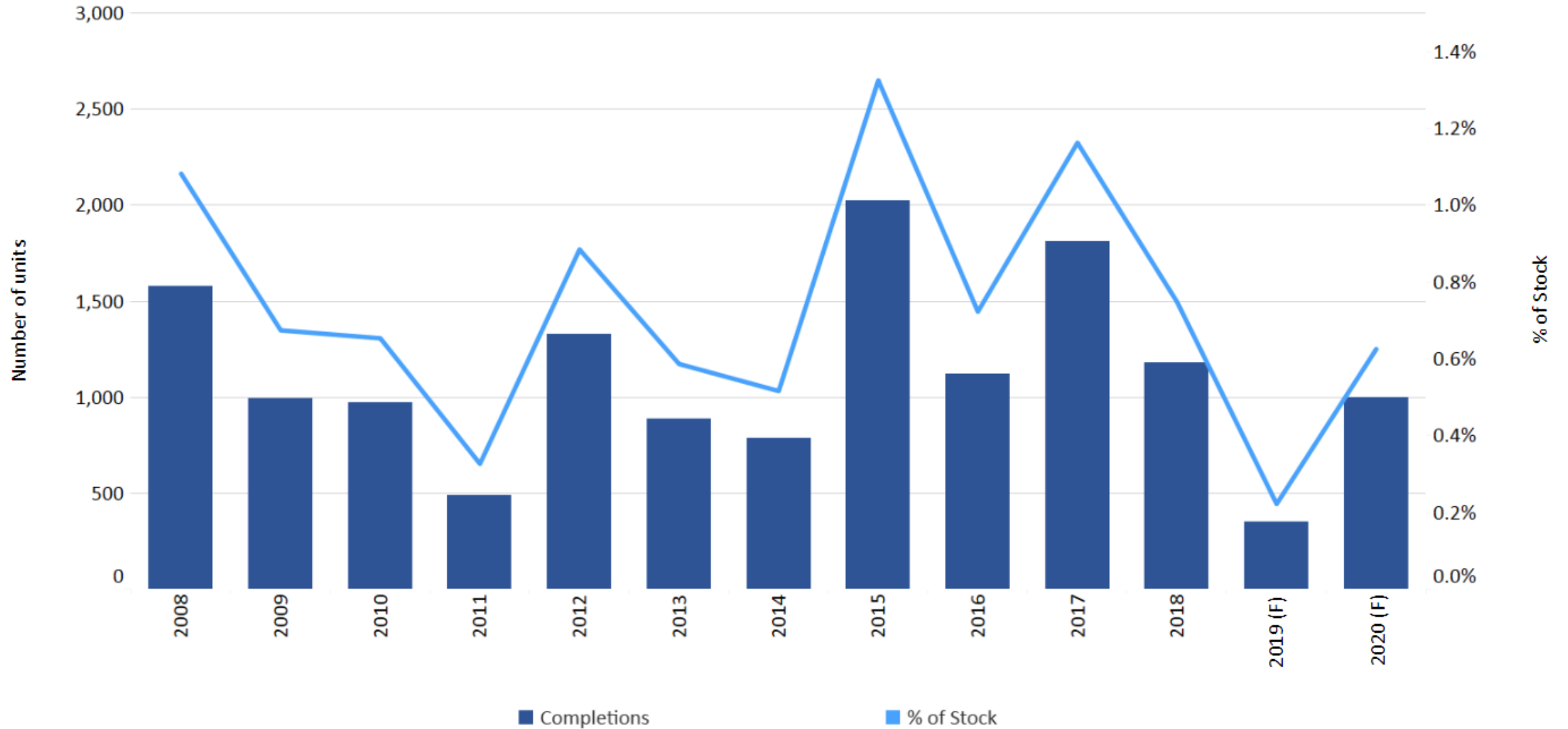


**2008 Avg.**  
Price Per Unit  
**\$36,261**

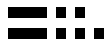
**2018 Avg.**  
Price Per Unit  
**\$65,681**

Source: Yardi® Matrix

# Multifamily Supply Pipeline: Cleveland



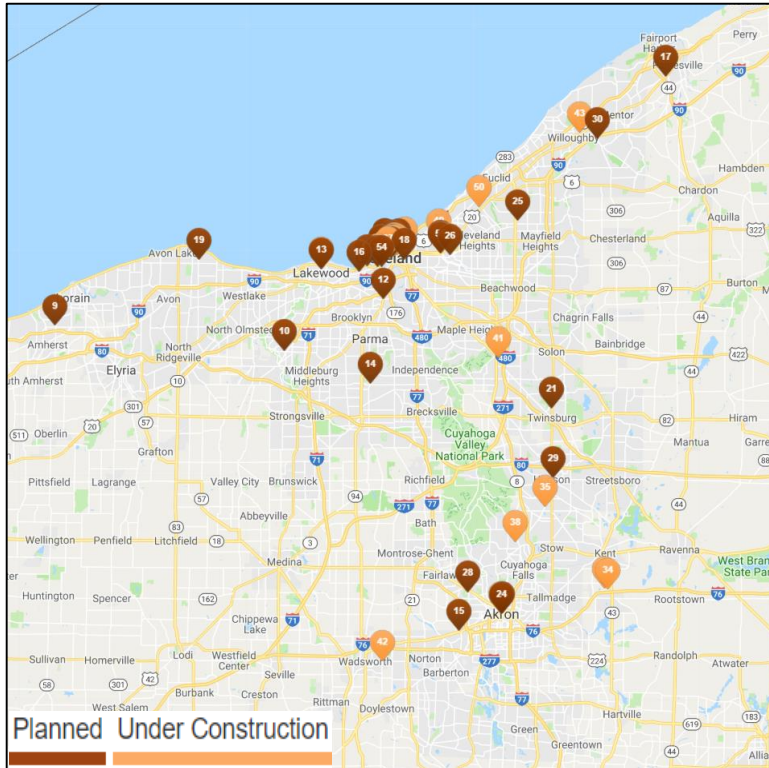
Source: Yardi® Matrix



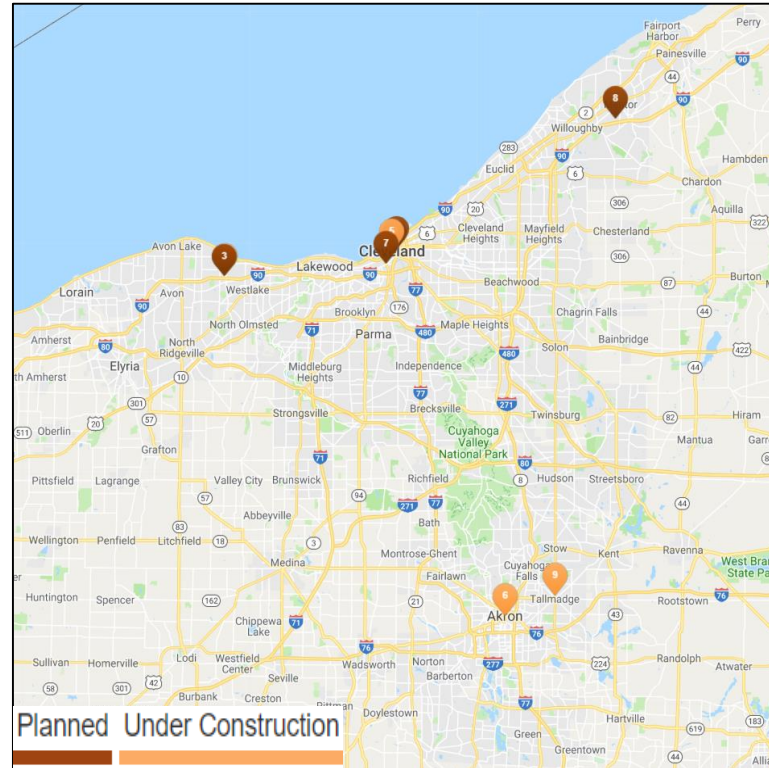
# Cleveland Development Pipeline



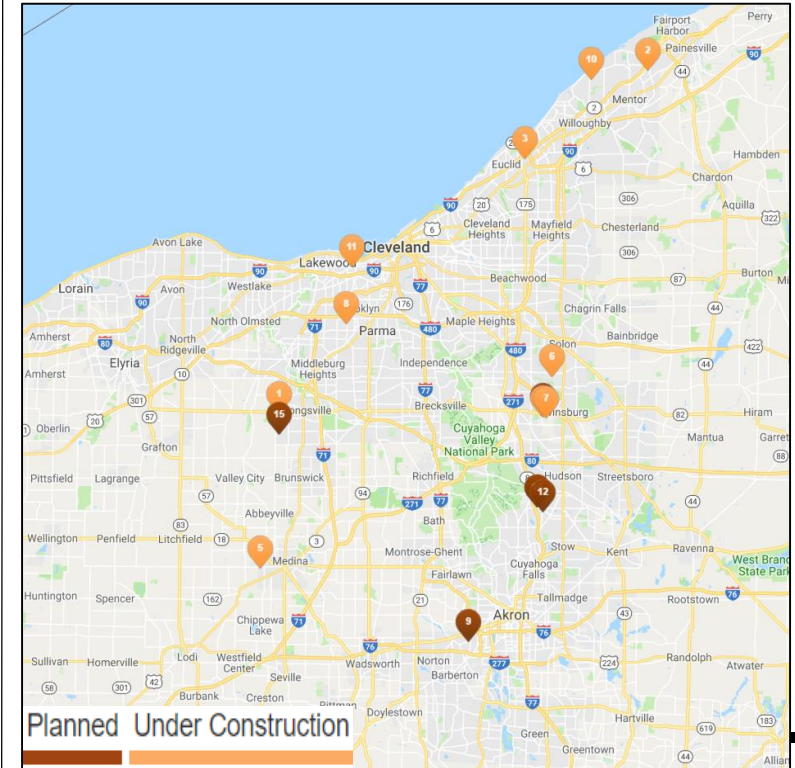
## Multifamily



## Office



## Industrial



Property Status	# of Units	% of Existing Stock
Under Construction	2,926	1.8%
Planned	6,686	4.2%

Property Status	Sq. Ft.	% of Existing Stock
Under Construction	868,480	1.3%
Planned	1,169,000	1.8%

Property Status	Sq. Ft.	% of Existing Stock
Under Construction	2,404,017	1.4%
Planned	1,402,772	0.8%

\*As of July 2019  
Source: Yardi® Matrix



# Top 5 Cleveland Submarkets With Construction Activity



## Multifamily

## Office

## Industrial

Submarket	Units Under Construction	% of Existing Stock	Submarket	Sq. Ft. Construction	% of Existing Stock	Submarket	Sq. Ft. Construction	% of Existing Stock
Cleveland-Downtown	1,516	20.8%	Downtown	581,400	3.1%	Medina County	506,000	6.0%
Goodrich-Kirtland Park	51	9.1%	Akron	229,710	2.3%	North Summit County	680,400	5.3%
Cleveland Heights	276	8.8%	Western Cuyahoga County	57,370	1.9%	Southern Cuyahoga County	179,296	2.7%
Ohio City	158	6.9%	N/A*	N/A*	N/A*	Lake County	259,995	2.1%
Lakewood	182	6.9%	N/A*	N/A*	N/A*	Eastern Cuyahoa County	434,000	1.7%
<b>Cleveland</b>	<b>2,926</b>	<b>1.8%</b>	<b>Cleveland</b>	<b>868,480</b>	<b>1.3%</b>	<b>Cleveland</b>	<b>2,404,017</b>	<b>1.4%</b>

\*Only three submarkets in Cleveland currently have office space under construction

\*As of July 2019

Source: Yardi® Matrix



# SUMMARY



**1** Domestic migration out of Cleveland is unfavorable for multifamily and office demand. Employment growth in Cleveland was below national rates over the past five years, but wage growth was greater than national rates over the same period.

**2** Multifamily rents are rising, primarily in the Renter-by-Necessity asset class. Overall occupancy has been rising fairly steadily since late 2017, but Lifestyle occupancy has fluctuated a lot during that same period. Multifamily completions peaked in 2015, but there are still a number of projects in the pipeline.

**3** Office fundamentals remain positive, with class A & A+ asking rates significantly higher than B and C assets. Cleveland only has about 1.4% of sq. ft. under construction as a percentage of existing stock, and most of that new supply will be added in the Medina County submarket.





# NEW TECHNOLOGIES EMERGING

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# Technology's Impact on Commercial Real Estate



## ALREADY IN PROGRESS

### UTILITY OPTIMIZATION

Independent monitoring of HVAC and all associated system and independent correction, optimization and fault notification

### SMART HOME/BUILDING

Automate locks, rekeying, maintenance, guest entry

### VIRTUAL & AUGMENTED REALITY

Sell, inspect, repair pre-completion and post completion

### AI: MACHINE LEARNING

Prescriptive recommendations based on learned patterns and predicted outcomes

## COMING SOON

### DIGITAL ASSISTANTS

Alexa, Google Home, Smart AI that will enable digital actions: pay bills, appointments, etc.

### MACHINE LEARNING: EVERYTHING

Everything that is developed and deployed will have some form of machine learning behind it: investments, asset management, operations, maintenance, construction

### CHAT BOTS

Artificial intelligence natural language interactions: calls, emails, chat, helpers

## RESEARCH & DEVELOPMENT

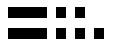
### AUTONOMOUS TRANSPORTATION

Deliveries, parking, ride-sharing

### ENERGY

Batteries and solar energy



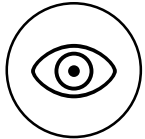


# Technology Risks to Keep in Mind



## Security

Regulatory burden is so high, people will look to third party providers to manage security of their IoT and AI networks

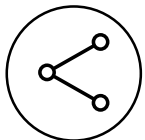


## Privacy

What is considered “private” and what isn’t?

- It’s a fluid definition

Need to default to a conservative view of privacy



## Operational Management

Who’s going to manage all the connected devices?

Who fields support calls?

What happens when something gets disconnected?

**ALTHOUGH TECHNOLOGY ENABLES  
A PLUG AND PLAY ABILITY:**

Selecting, implementing and managing an enterprise wide “smart” technology platform needs a planned, thoughtful and process oriented approach to be successful.





# 2019 OUTLOOK



- GDP and employment will continue to grow, but at a slower, choppier pace.
- Supply/demand conditions in multifamily will continue to favor mild rate growth, with higher rates in the tech hub and tertiary markets.
- A decent economy coupled with the demographic shift of jobs will continue to create office demand in tech hub cities, providing a solid base for office-using sectors.
- For new investments, it's a **sharpshooter's game** to find the right deal at the right price.
- On the operational side its about finding revenue and cost trimming opportunities to grow your NOI from your existing assets.
- The use of new technology is already impacting commercial space in help with costs, especially around **utility consumption**. This will accelerate as the technologies are more widely adopted.



THANK YOU

FOR ANY QUESTIONS PLEASE FEEL FREE TO CONTACT ME

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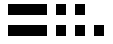
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