Dodge Data and Analytics

2017 Construction Outlook

December, 2016

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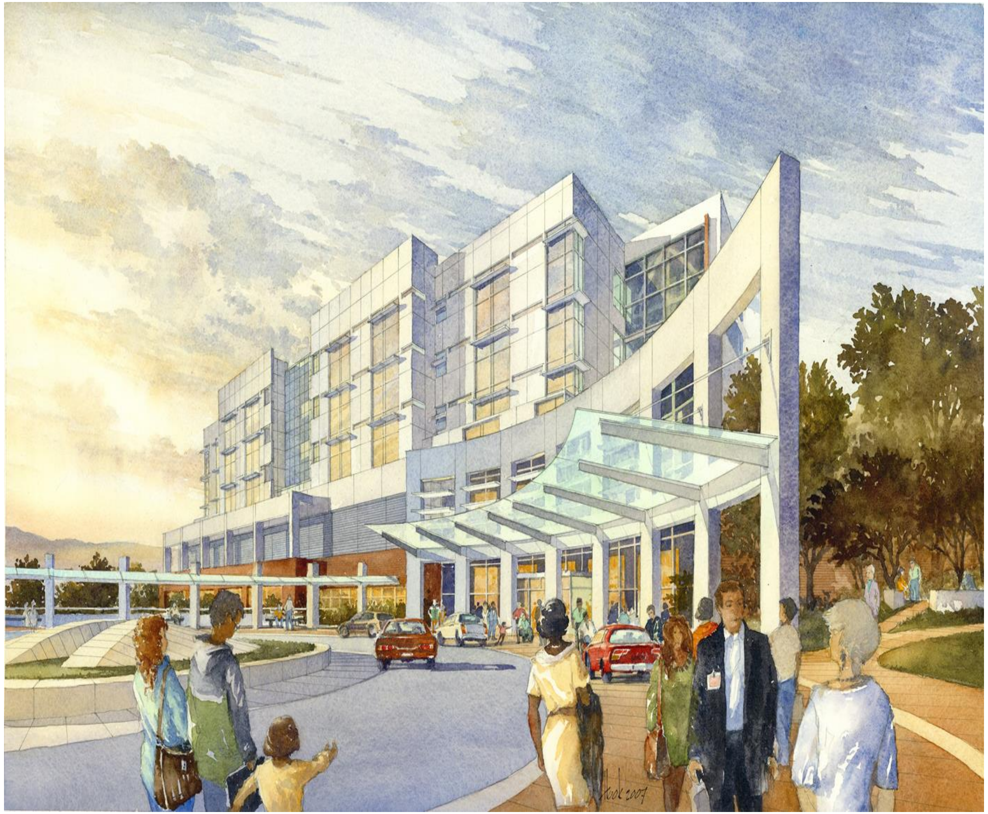
Senior Director

DODGE DATA & ANALYTICS

Today’s Agenda

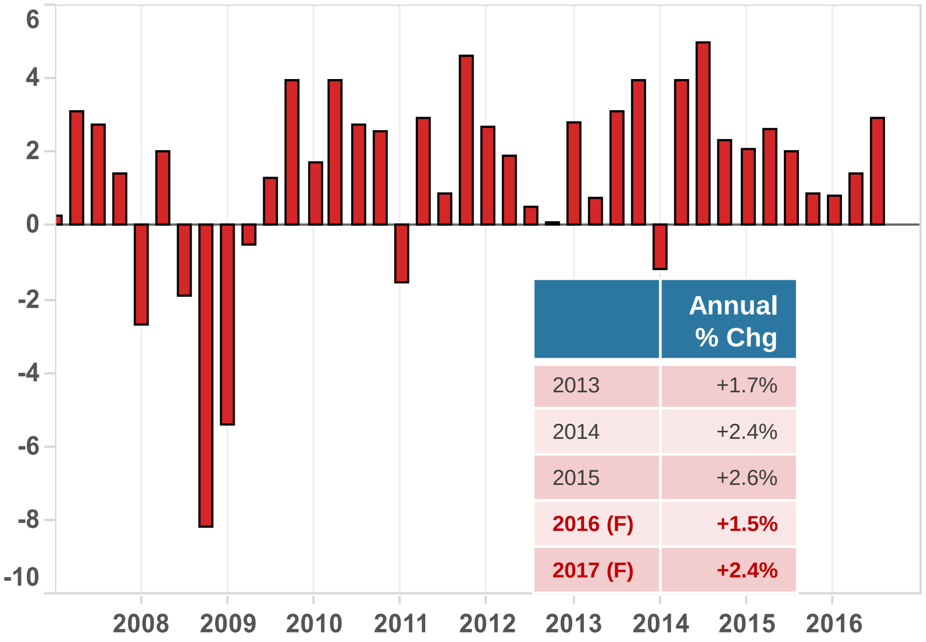
- Macroeconomic Overview
- Residential Outlook
- Commercial Outlook
- Institutional Outlook
- Nonbuilding Outlook
- Final Thoughts



U.S. Macroeconomic Overview

Economic growth has underwhelmed

U.S. Gross Domestic Product
(Annualized Quarterly Percent Change)



	Annual % Chg
2013	+1.7%
2014	+2.4%
2015	+2.6%
2016 (F)	**+1.5%**
2017 (F)	**+2.4%**

Source: Bureau of Economic Analysis

Negatives:

- Brexit vote/weakness in Europe.
- Weak growth in China.
- Strong dollar.
- Tightening lending standards.

Positives:

- Consumer spending holding up.
- Healthy job growth.
- Low interest rates and oil prices.
- Corp. profits up, stock market up after Jan swoon.
- Recovering fiscal position of state/local governments

U.S. Macroeconomic Overview

Election results could have profound impact on construction activity

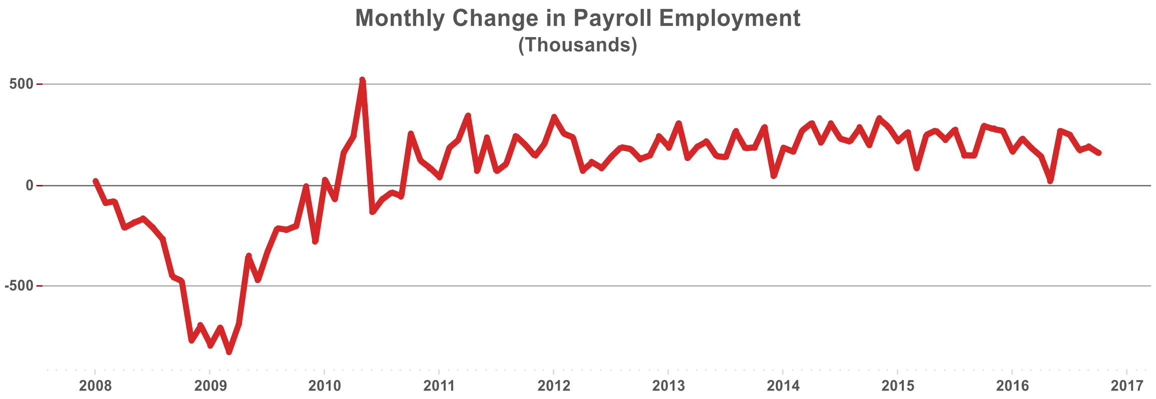
President: Donald Trump (R)
Senate: GOP maintains slim majority
House of Representatives: GOP maintains majority

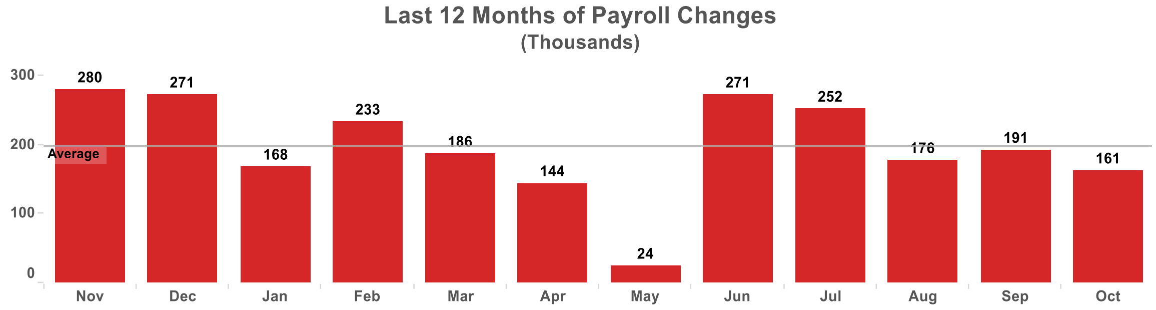
Sampling of Major Education Bond Proposals

- CA Prop 51 - $9 billion - APPROVED
- Capistrano CA Unified School District - $889 million - FAILED
- El Paso TX ISD - $669 million - APPROVED
- Denver CO Public Schools - $472 million - APPROVED
- Pearland TX ISD - $220 million - APPROVED
- Corpus Christi TX ISD - $194 million – APPROVED

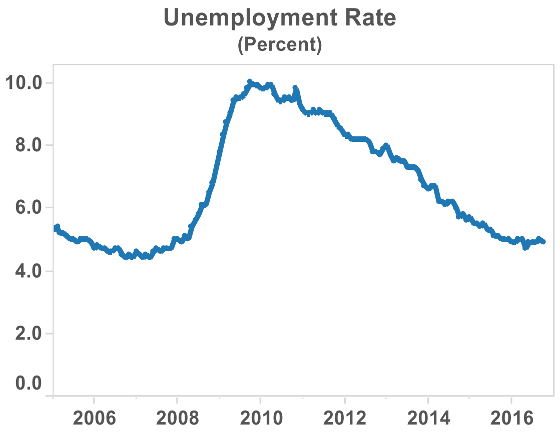
U.S. Macroeconomic Overview

Pattern of employment growth has been uneven





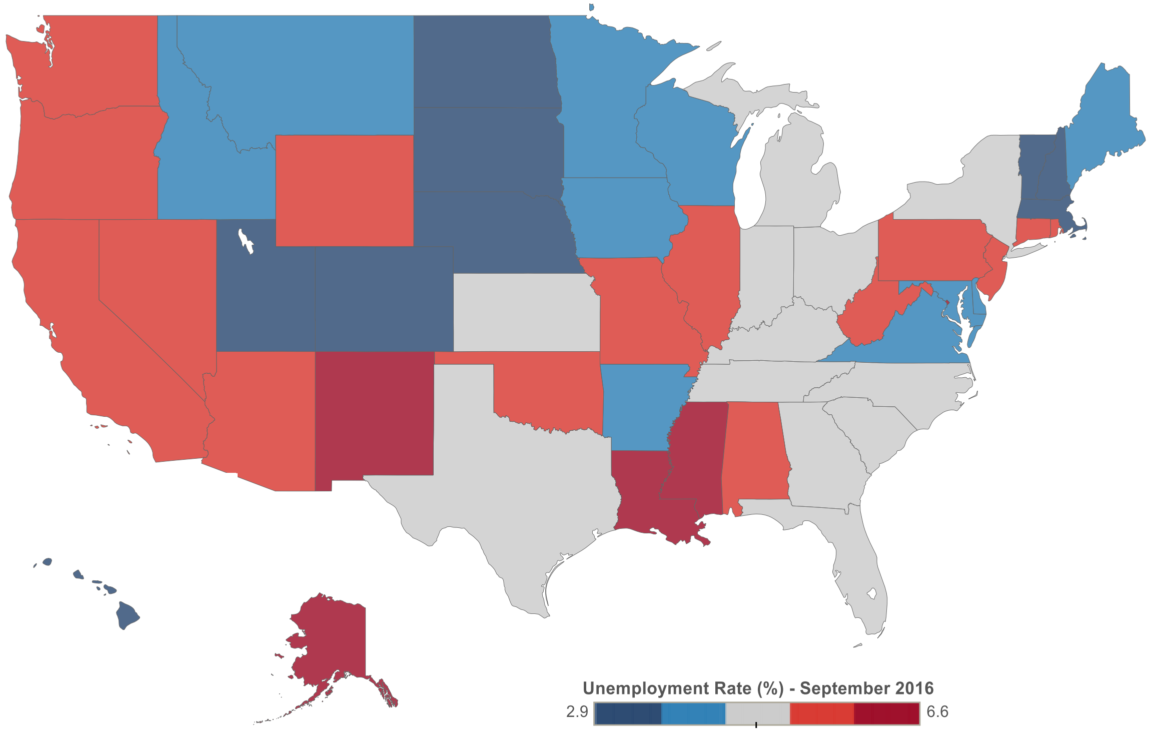
Source: Bureau of Labor Statistics



- 3.1 million jobs created 2014, the most since 2000
- 2.7 million jobs created in 2015
- Unemployment rate at 4.6%

U.S. Unemployment Rates

Unemployment rates making gains across the country



Source: Bureau of Labor Statistics

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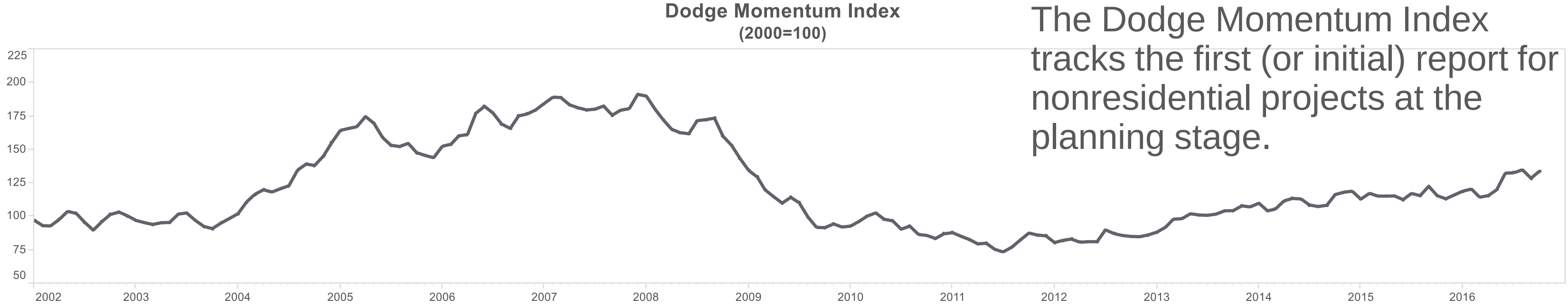
Lowest Unemployment Rates
Precent - September 2016

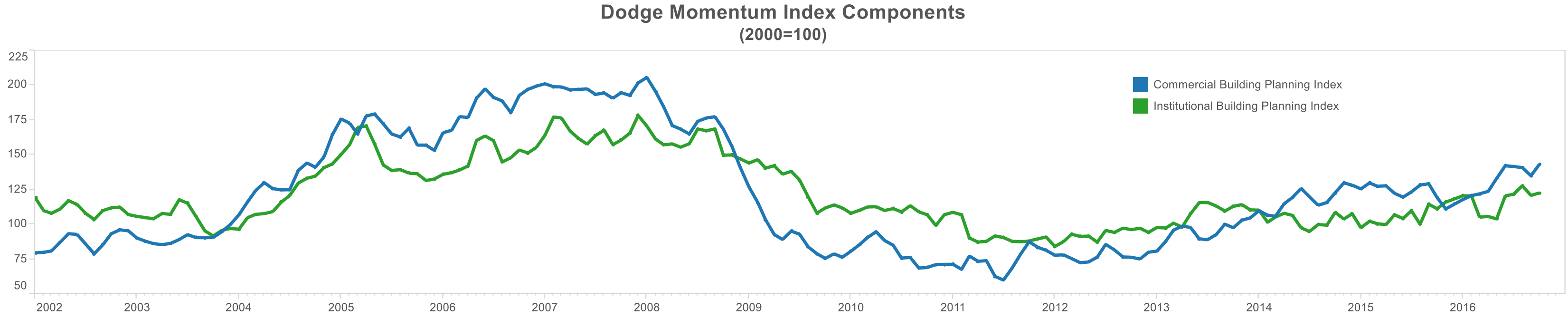
New Hampshire	2.9
South Dakota	2.9
North Dakota	3.0
Nebraska	3.2
Hawaii	3.3
Vermont	3.3
Utah	3.4
Colorado	3.6
Massachusetts	3.6
Idaho	3.8
Arkansas	4.0
Minnesota	4.0
Virginia	4.0
Maine	4.1
Wisconsin	4.1

U.S. Construction Market Indicators

The Dodge Momentum Index offers insight on what's ahead



The Dodge Momentum Index tracks the first (or initial) report for nonresidential projects at the planning stage.



Residential Outlook

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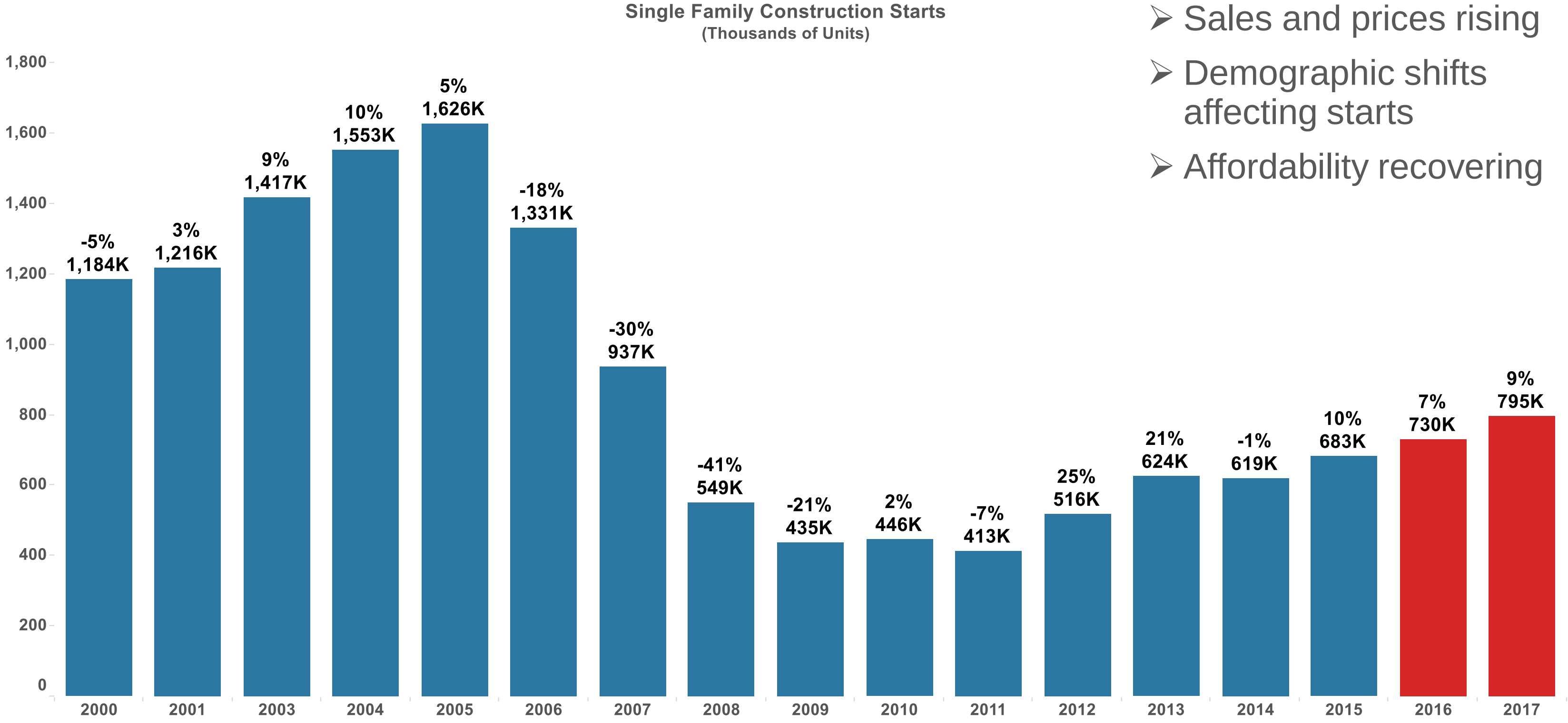
Single Family Housing Starts

Single family growth proceeding, but at sluggish pace



- Sales and prices rising
- Demographic shifts affecting starts
- Affordability recovering

Source: Dodge Data & Analytics

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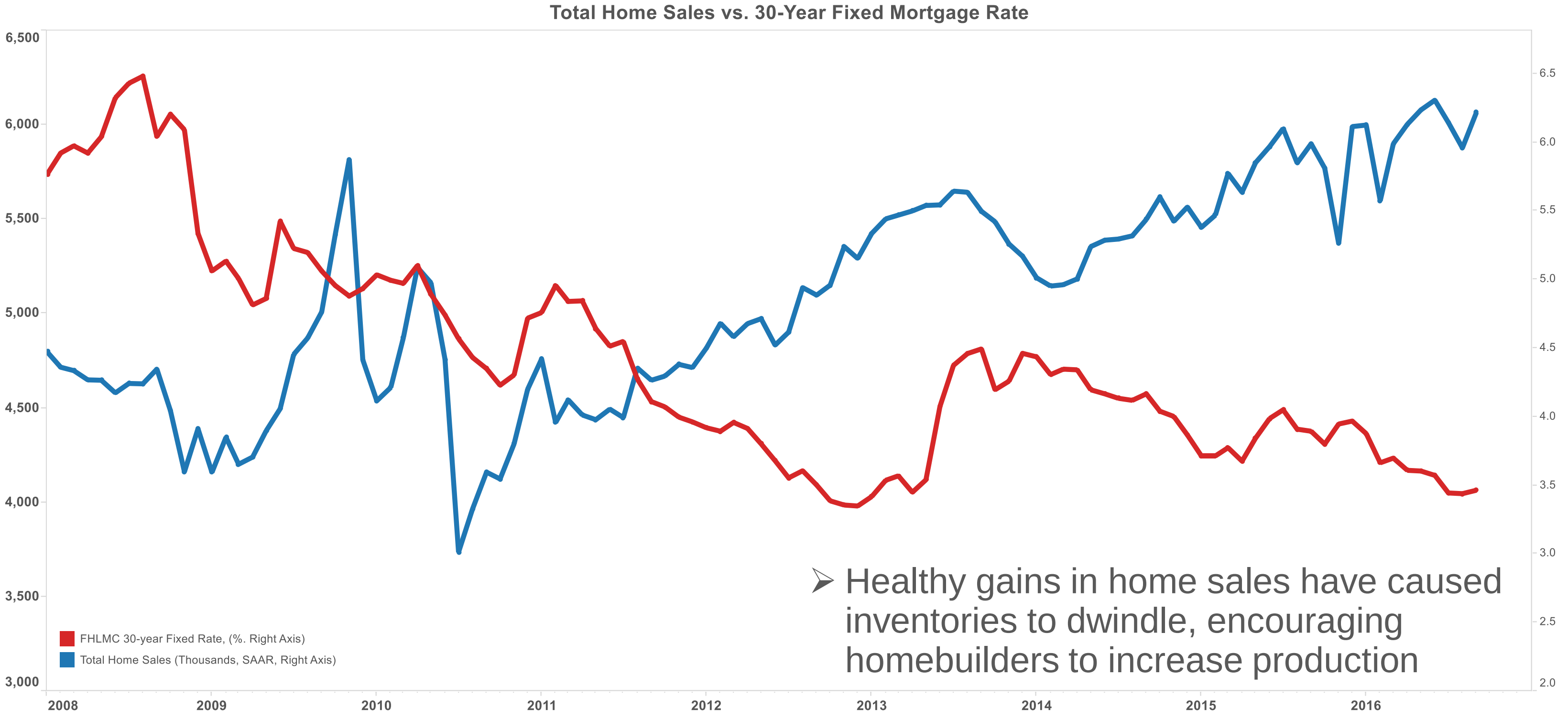
Single Family Housing Starts

Rising home sales has caused inventory to dwindle



- Healthy gains in home sales have caused inventories to dwindle, encouraging homebuilders to increase production

Source: National Association of Realtors/U.S. Federal Reserve

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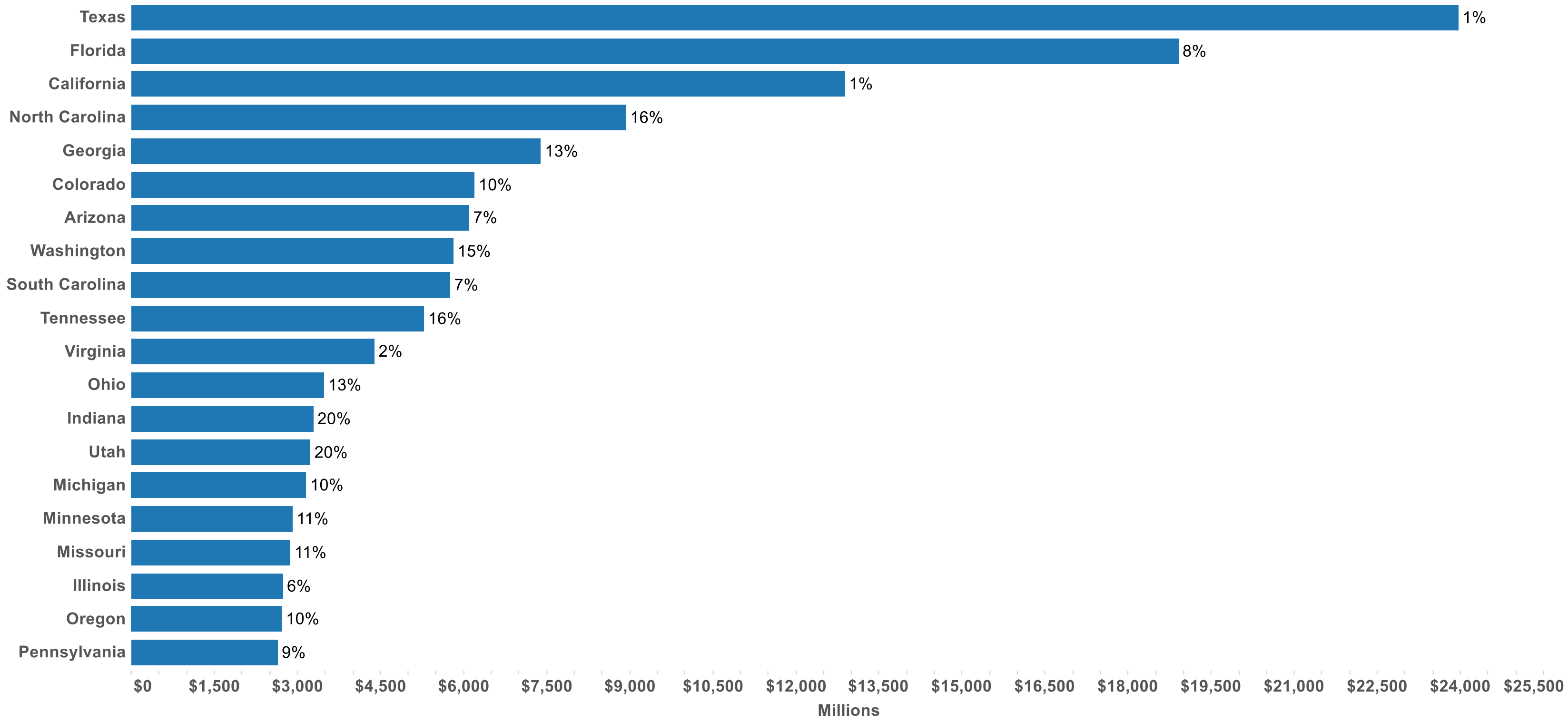
Single Family Housing Starts

Top year-to-date states in 2016 ranked by dollar value – October 2016



Source: Dodge Data & Analytics

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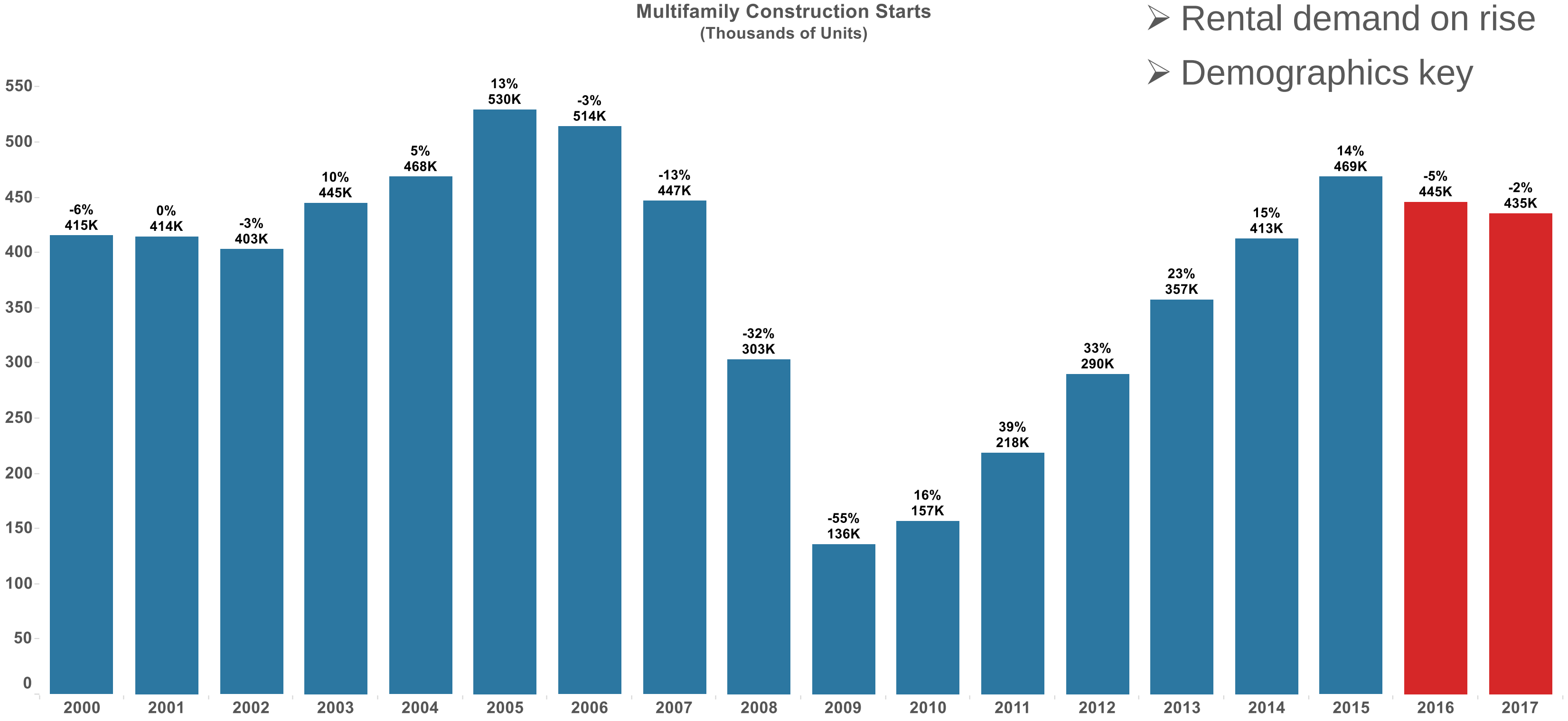
Multifamily Housing Starts

Multifamily housing to lose momentum in 2016

- ➢ Rental demand on rise
- ➢ Demographics key



Source: Dodge Data & Analytics

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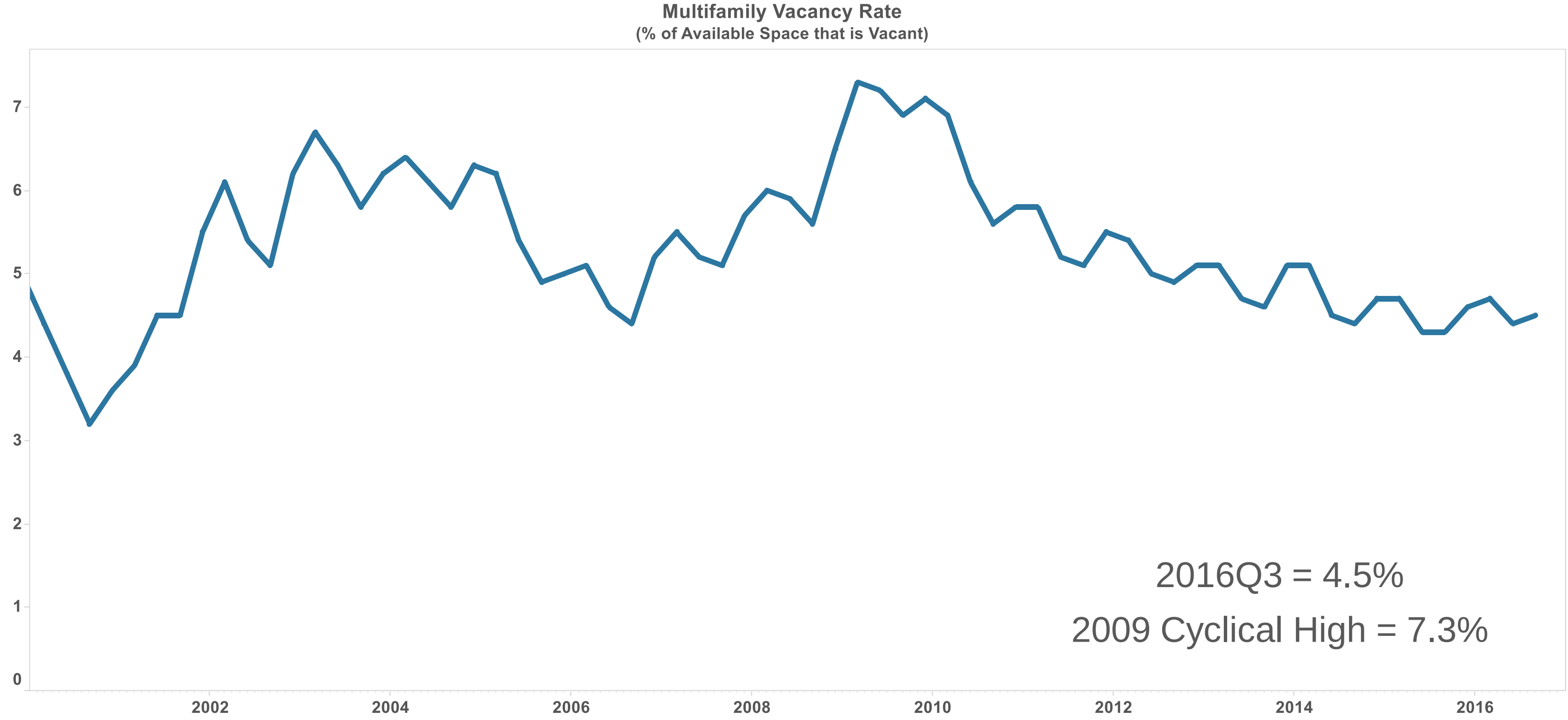
U.S. Multifamily Housing Starts

Multifamily vacancy rates have started to rise

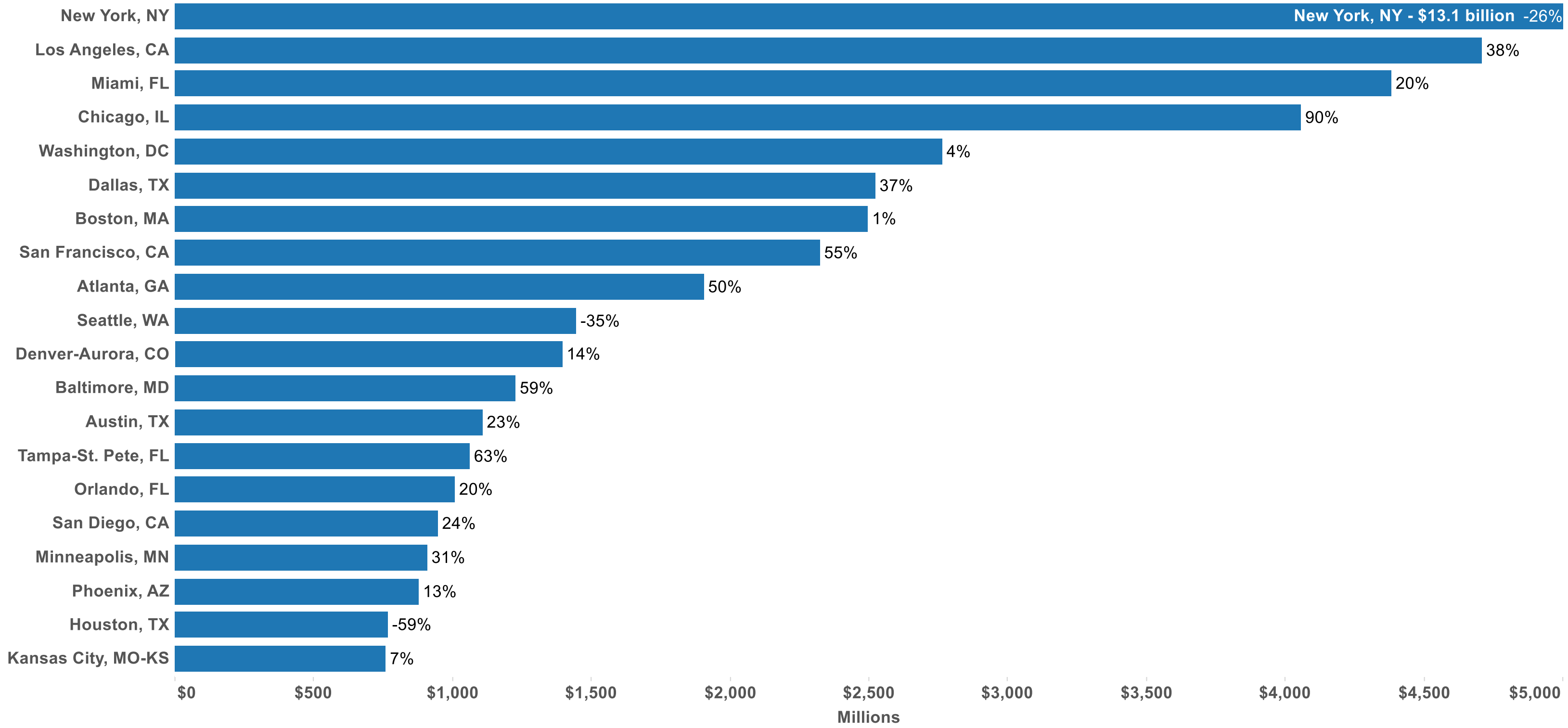


Source: CB Richard Ellis Econometric Advisors

DODGE DATA & ANALYTICS

Multifamily Housing Starts

Top year-to-date metros in 2016 ranked by dollar value – October 2016



Source: Dodge Data & Analytics

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Commercial Construction Outlook

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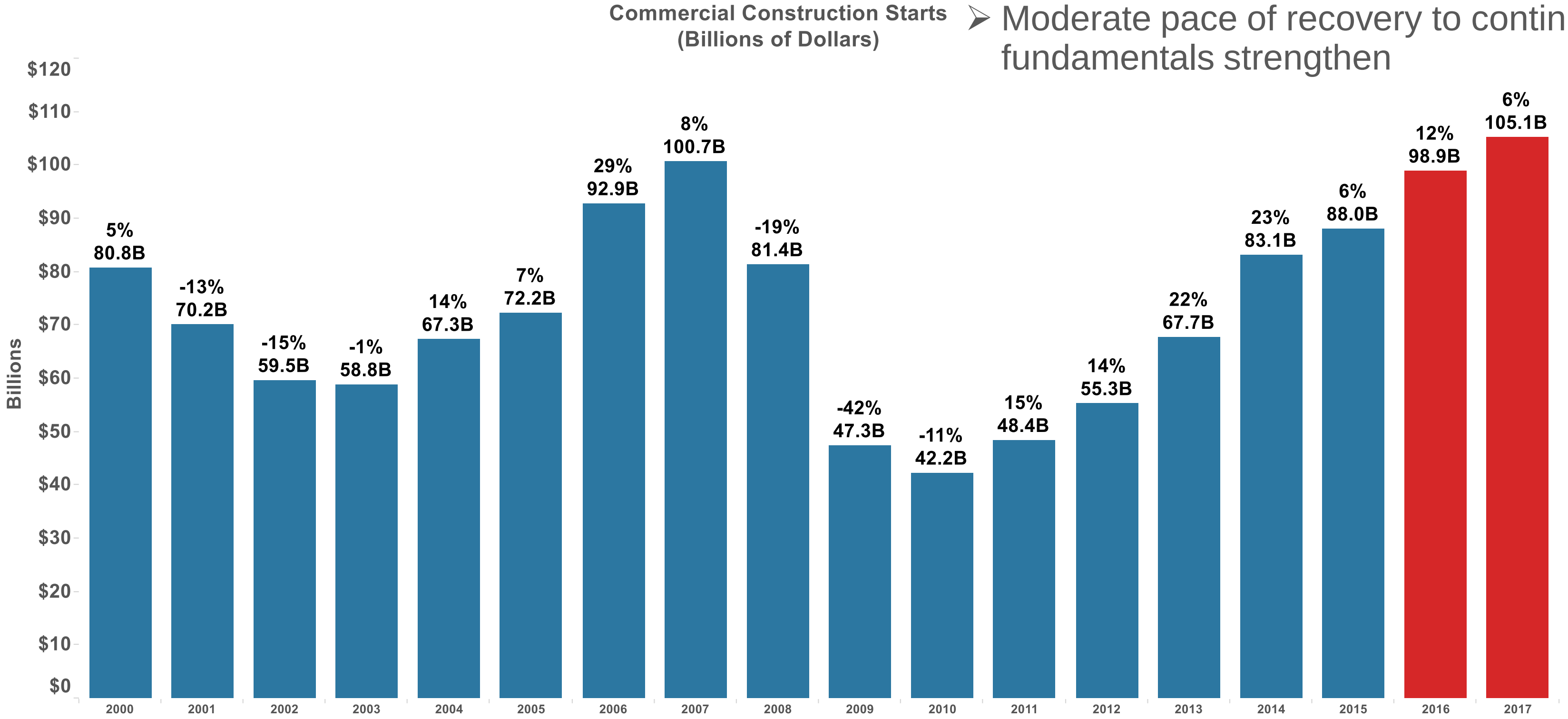
U.S. Commercial Building Starts

Commercial construction has made great progress

- Moderate pace of recovery to continue as fundamentals strengthen



Source: Dodge Data & Analytics

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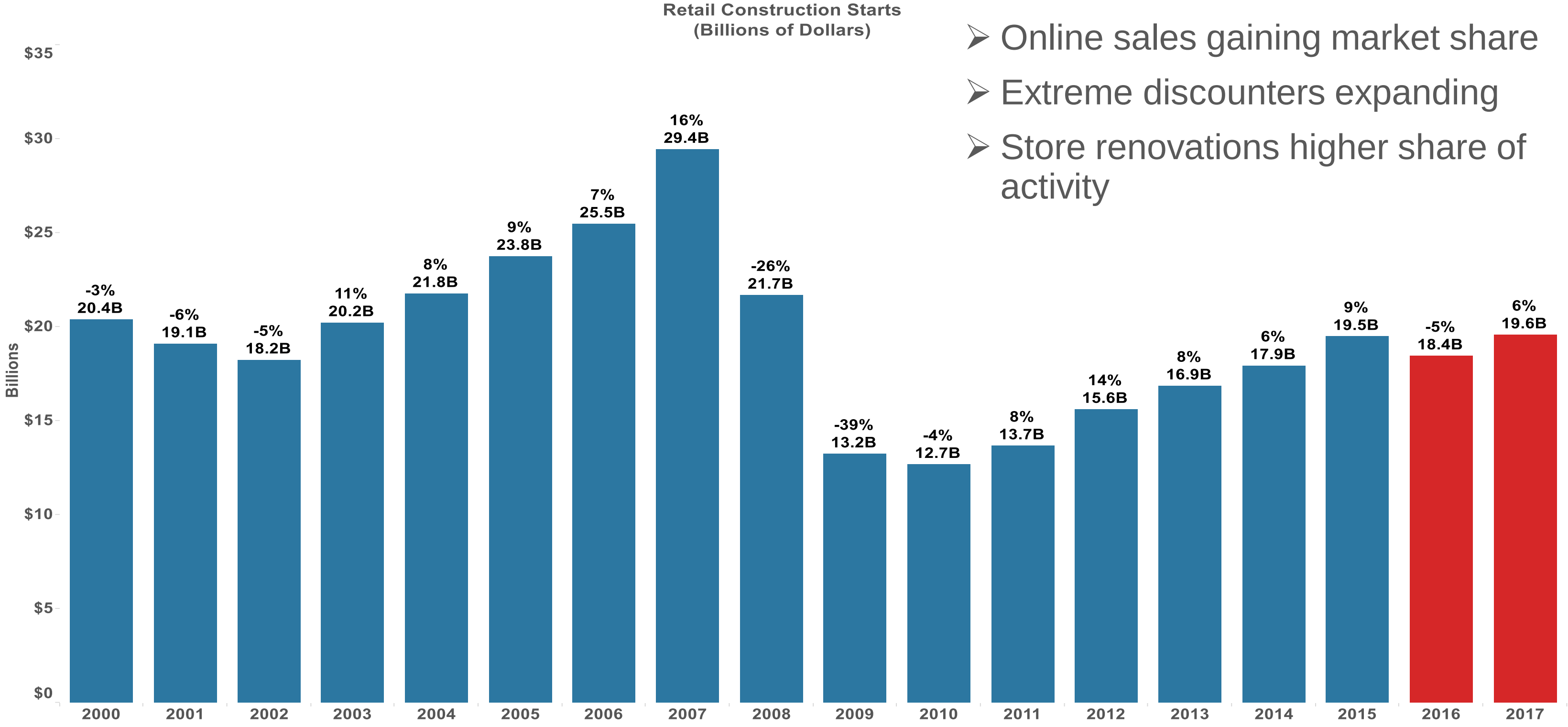
Includes stores, offices, warehouses, hotels and auto sector

U.S. Retail Building Starts

Store construction making slow progress due to weak single family starts



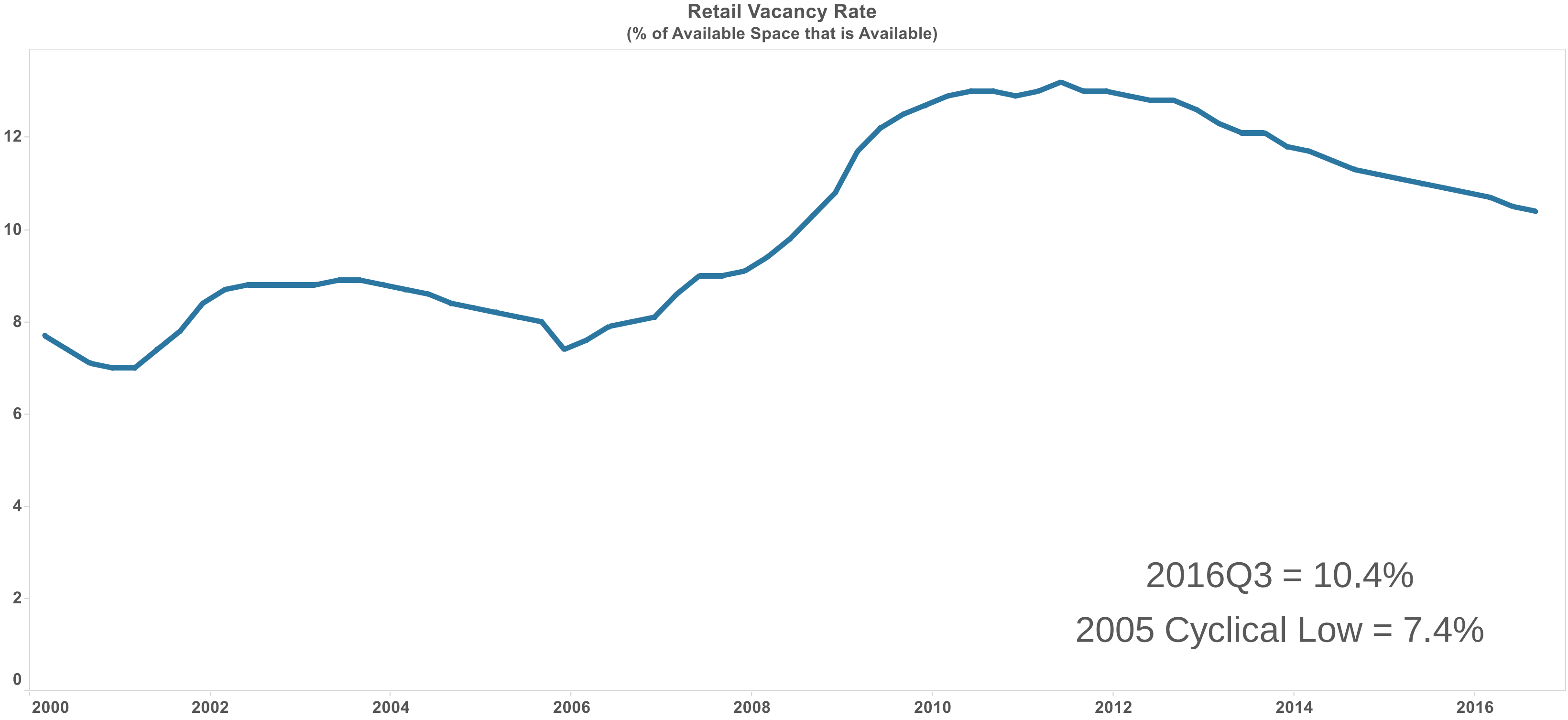
- ➢ Online sales gaining market share
- ➢ Extreme discounters expanding
- ➢ Store renovations higher share of activity

Source: Dodge Data & Analytics

DODGE DATA & ANALYTICS

U.S. Retail Building Starts

Retail availability rates are falling … slowly



Source: CB Richard Ellis Econometric Advisors

U.S. Retail Building Starts

Year-to-date retail starts by segment – through October 2016

Retail Construction Starts (Millions of Dollars)

	2014	2015	2016
Stores	10,123 4%	12,064 19%	9,426 -22%
Food/Beverage Service	2,611 4%	2,672 2%	2,980 12%
Shopping Centers	2,900 8%	2,216 -24%	2,929 32%
Total Retail	15,634 5%	16,951 8%	15,335 -10%

Source: Dodge Data & Analytics

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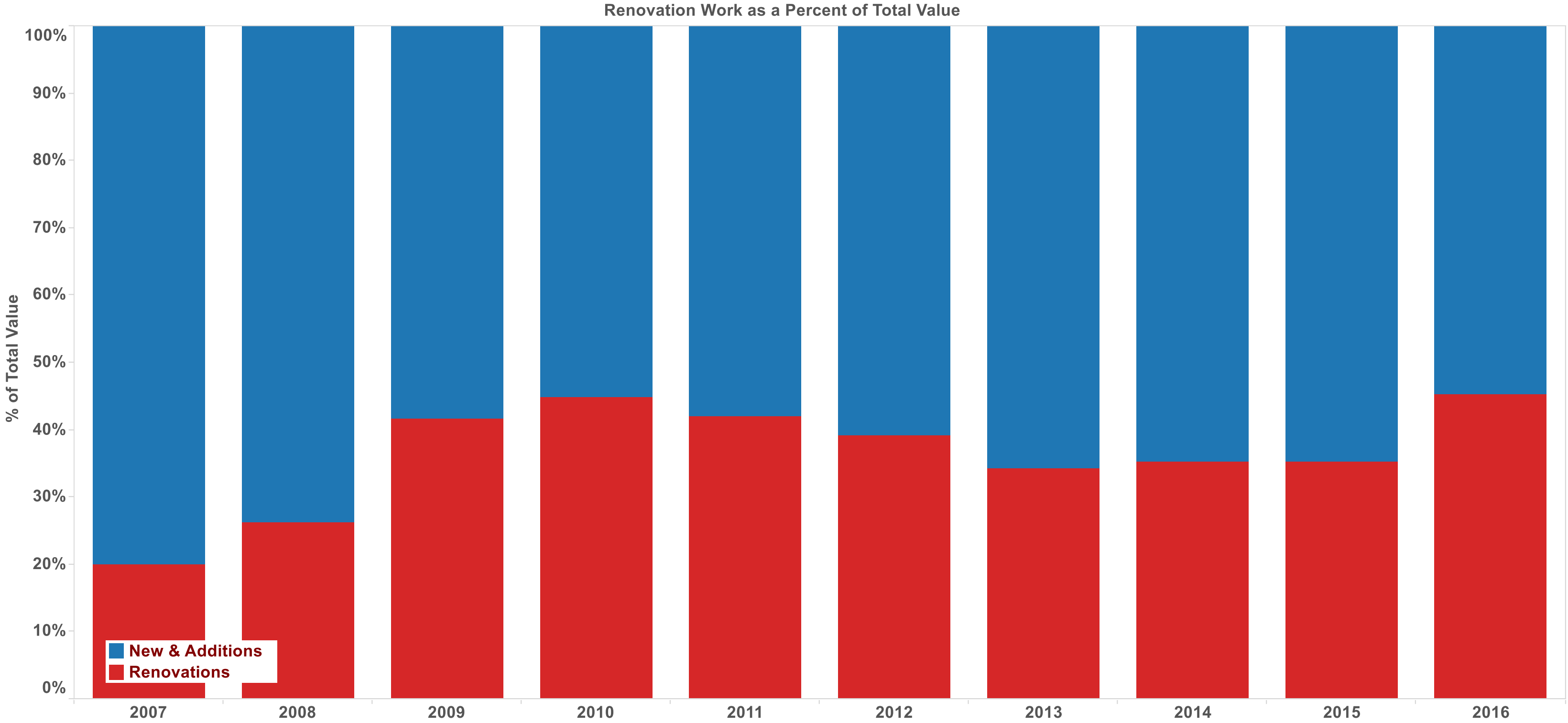
U.S. Retail Building Starts

Renovations becoming more significant portion of total work



Source: Dodge Data & Analytics

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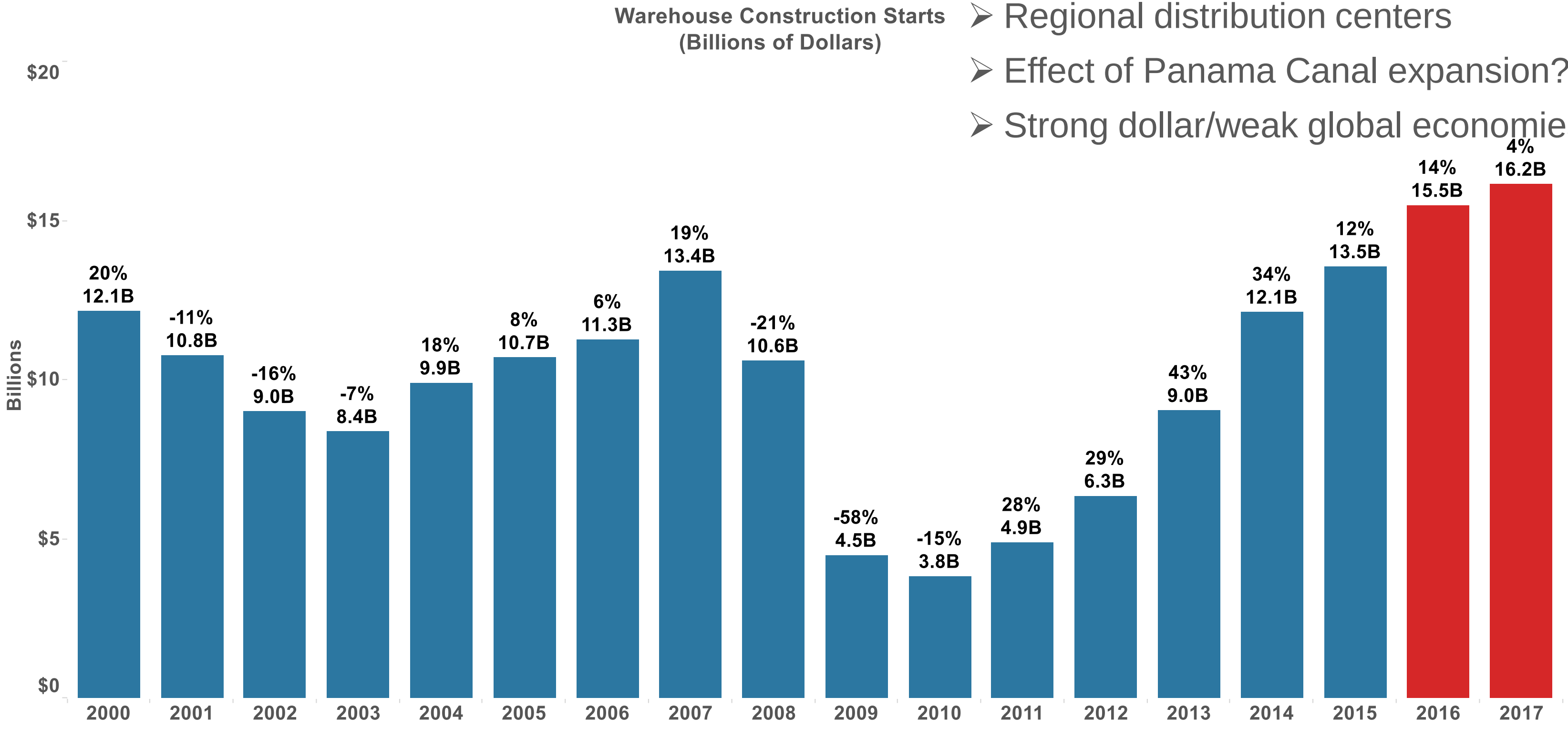
U.S. Warehouse Building Starts

Warehouse construction continues to see healthy growth

- Regional distribution centers
- Effect of Panama Canal expansion?
- Strong dollar/weak global economies



Source: Dodge Data & Analytics

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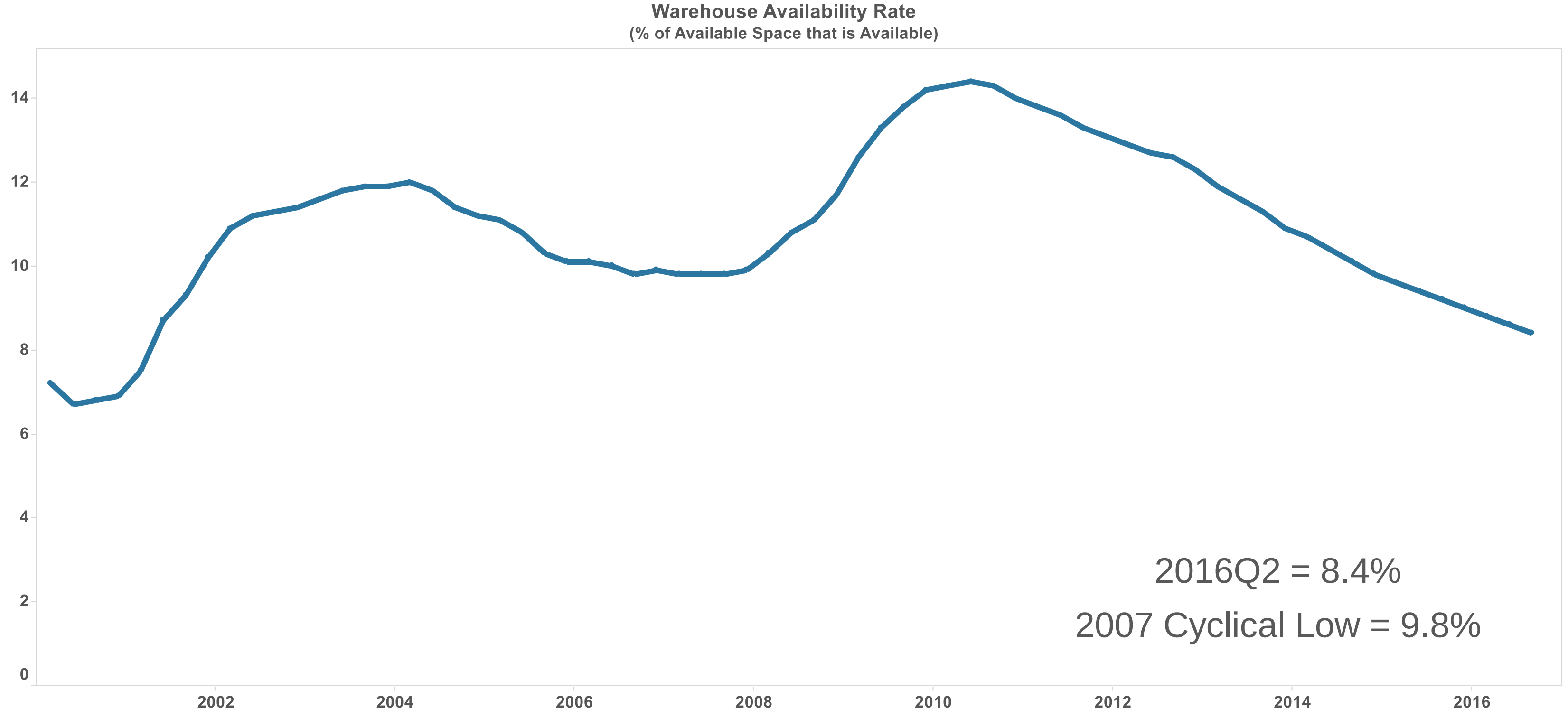
U.S. Warehouse Building Starts

Warehouse vacancy rate continues to tumble

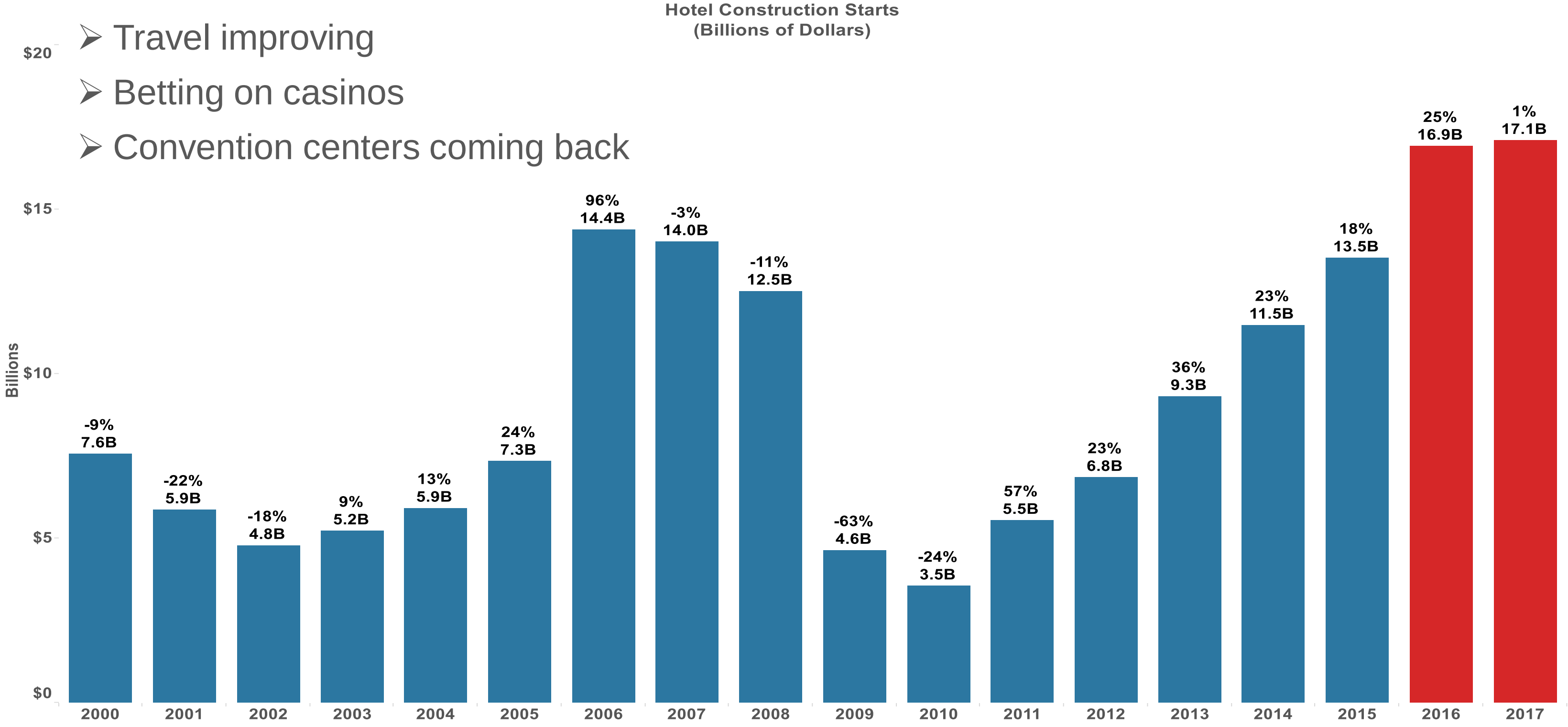


Source: CB Richard Ellis Econometric Advisors

U.S. Hotel Building Starts

Hotel growth rates to ease after several solid years

- ➢ Travel improving
- ➢ Betting on casinos
- ➢ Convention centers coming back



Source: Dodge Data & Analytics

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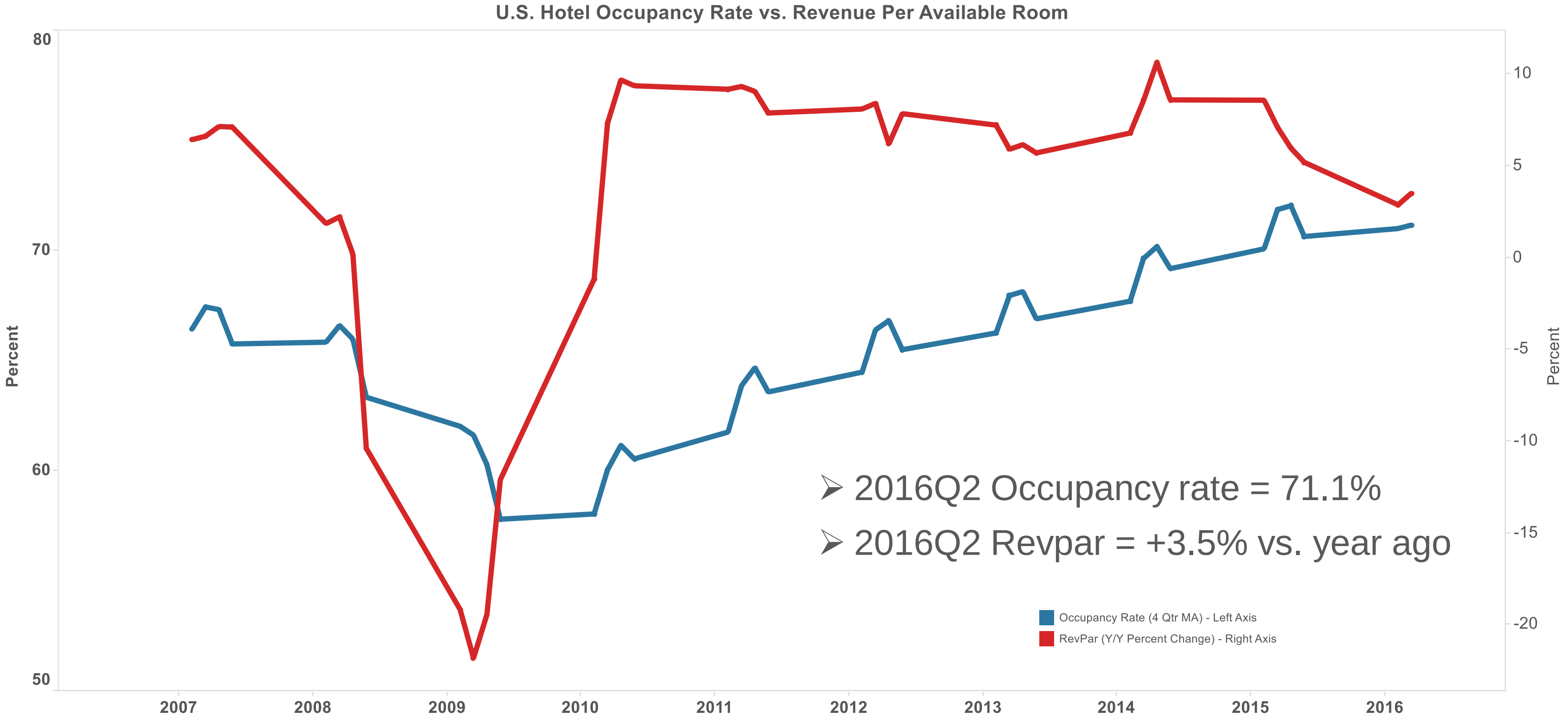
U.S. Hotel Building Starts

Hotel occupancy improving, but revenue growth has eased



Source: CB Richard Ellis Econometric Advisors

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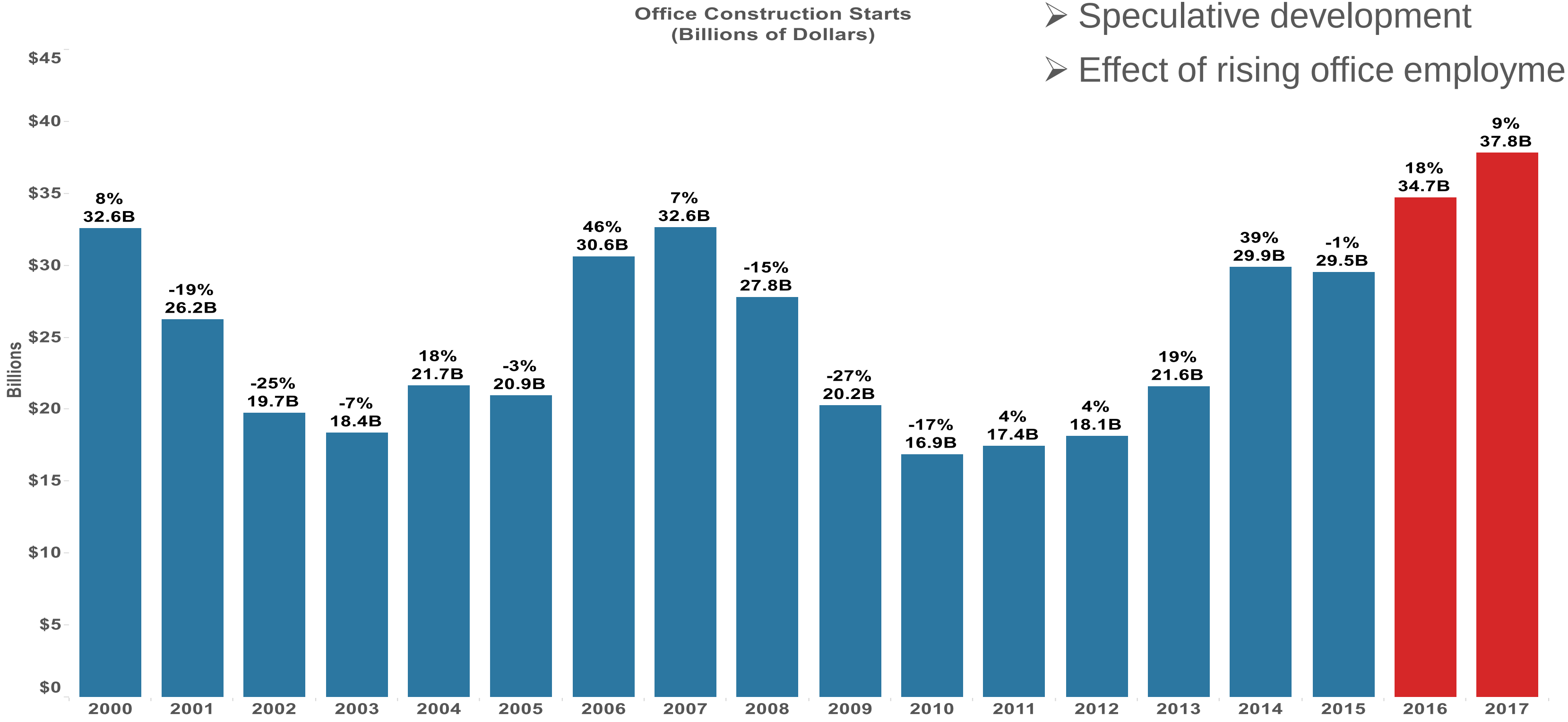
U.S. Office Building Starts

Construction sputters, but moves forward

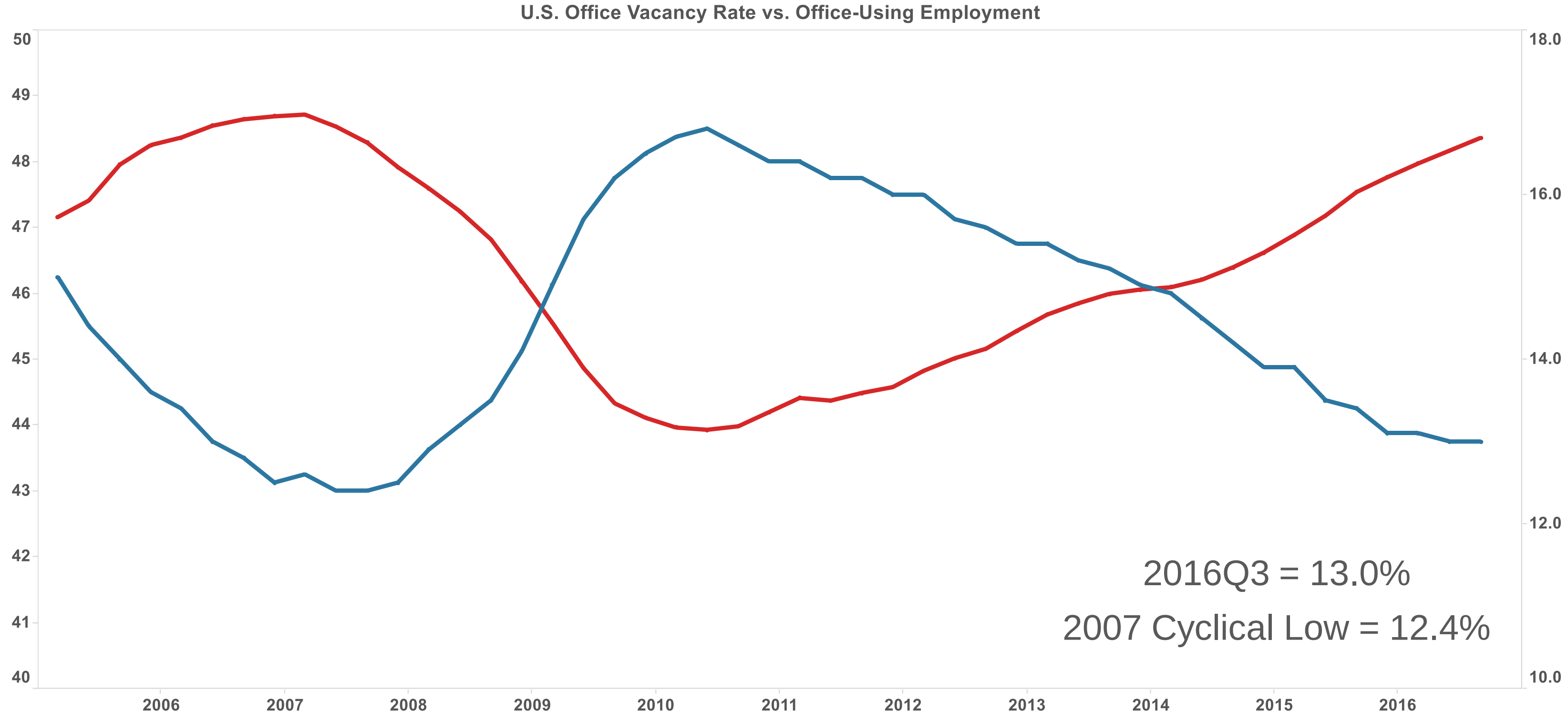
- Data centers/HQs driving growth
- Speculative development
- Effect of rising office employment



Source: Dodge Data & Analytics

U.S. Office Building Starts

Office market fundamentals continue to show marked improvement



Source: CB Richard Ellis Econometric Advisors

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U.S. Office Building Starts

Year-to-date 2016 largest office projects – through October 2016

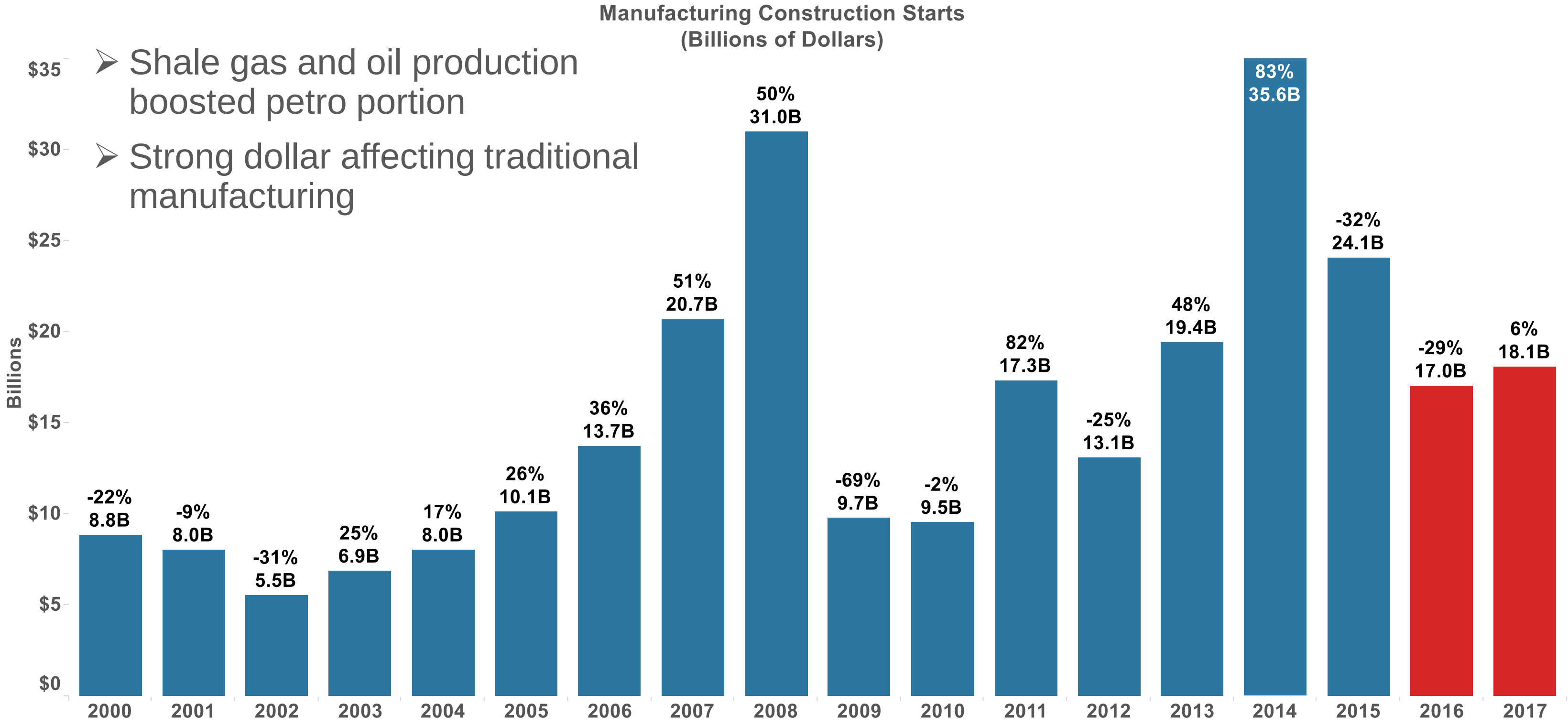
Title	City/State	Start Month	Millions	Area (Thou. SF)
3 Hudson Boulevard Office Building	New York, New York	2016:09	$2,000	1,800
One Vanderbilt Tower Office Building	New York, New York	2016:09	$1,500	1,733
One & Three Gotham Center Office Tower	Long Island City, New York	2016:10	$682	972
Supernap of Michigan Data Center Facility	Grand Rapids, Michigan	2016:07	$400	0
Toyota Corporate Campus	Plano, Texas	2016:03	$293	402
Facebook Data Center 3	Forest City, North Carolina	2016:02	$288	480
New Design Center at Product Campus	Dearborn, Michigan	2016:09	$280	700
Southport Waterfront Corporate Campus	Renton, Washington	2016:02	$275	751
655 New York Ave Office Building	Washington, D.C.	2016:02	$266	691
Facebook Los Lunas Data Center - Bldg 1	Los Lunas, New Mexico	2016:10	$250	510
Park Tower at Transbay	San Francisco, California	2016:01	$242	805
CNA Financial HQ Office Tower	Chicago, Illinois	2016:04	$223	875
Four Constitution Square Office Building	Washington, D.C.	2016:09	$209	535
NCR Headquarters Office Building	Atlanta, Georgia	2016:04	$200	516
Facebook Data Center (Third Data Center)	Prineville, Oregon	2016:02	$200	488

Source: Dodge Data & Analytics

U.S. Manufacturing Building Starts

Manufacturing value to fall in 2016 as global crude prices plummet, or?

- Shale gas and oil production boosted petro portion
- Strong dollar affecting traditional manufacturing



Source: Dodge Data & Analytics

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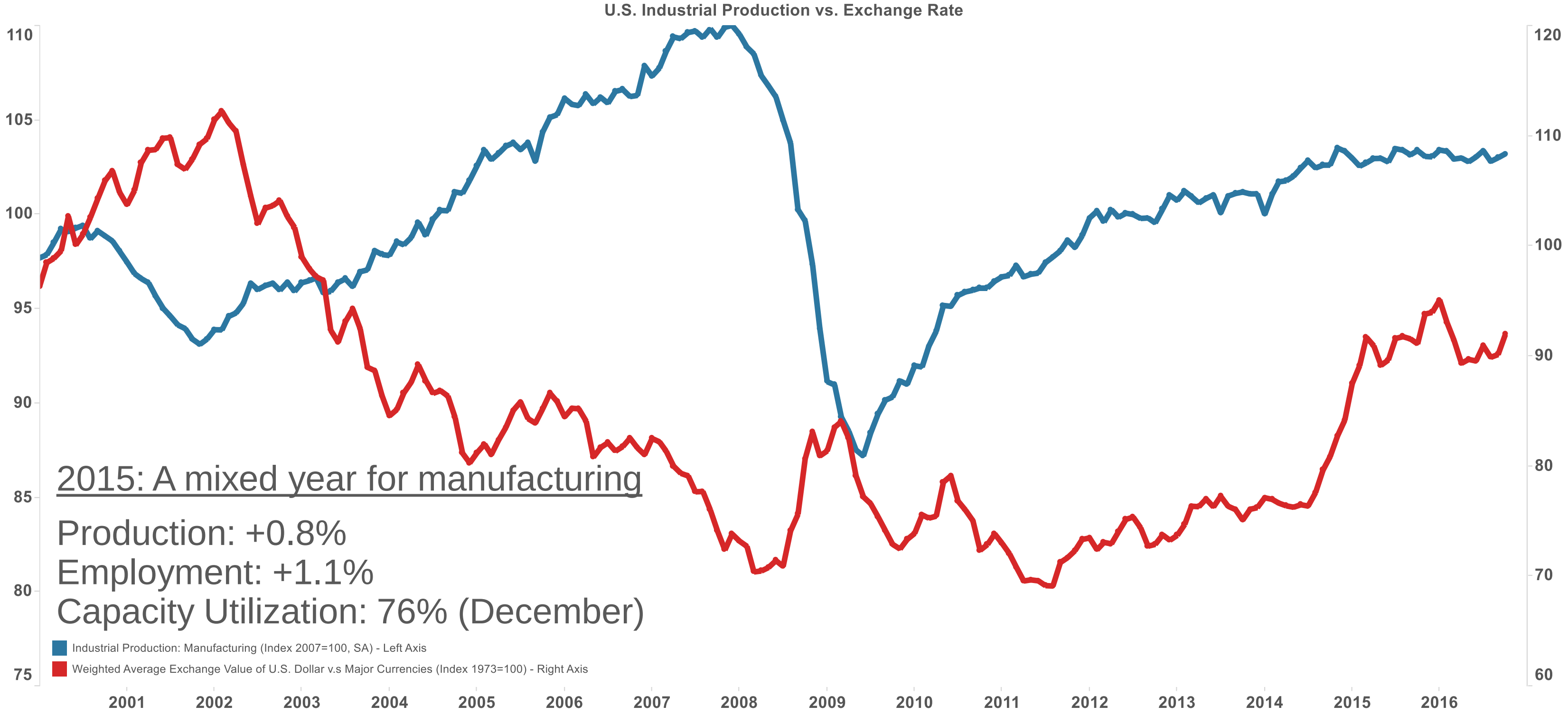
U.S. Manufacturing Building Starts

Manufacturing output posted gain in 2015, but strong dollar having effect



Source: U.S. Federal Reserve Board

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Institutional Construction Outlook

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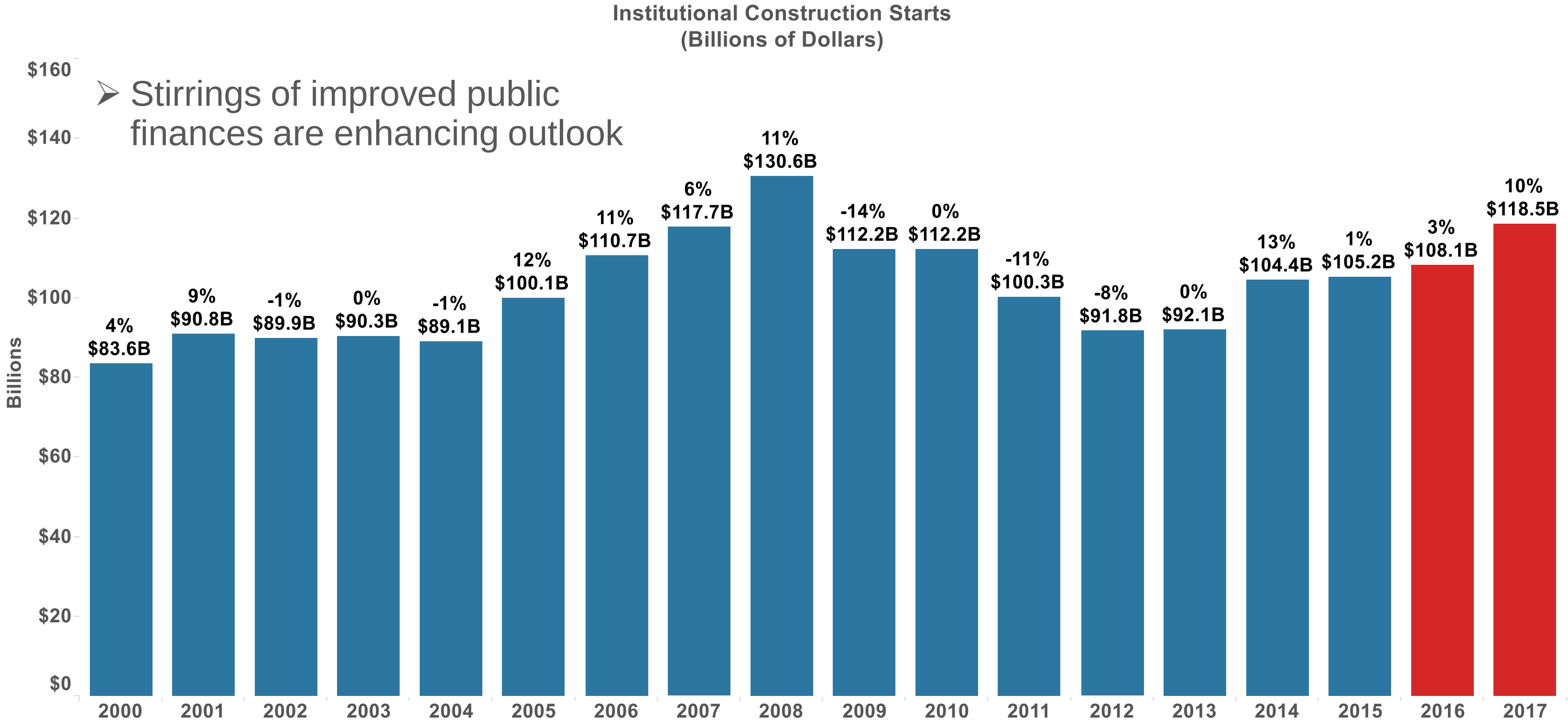
U.S. Institutional Building Starts

Institutional buildings are beginning to turn corner

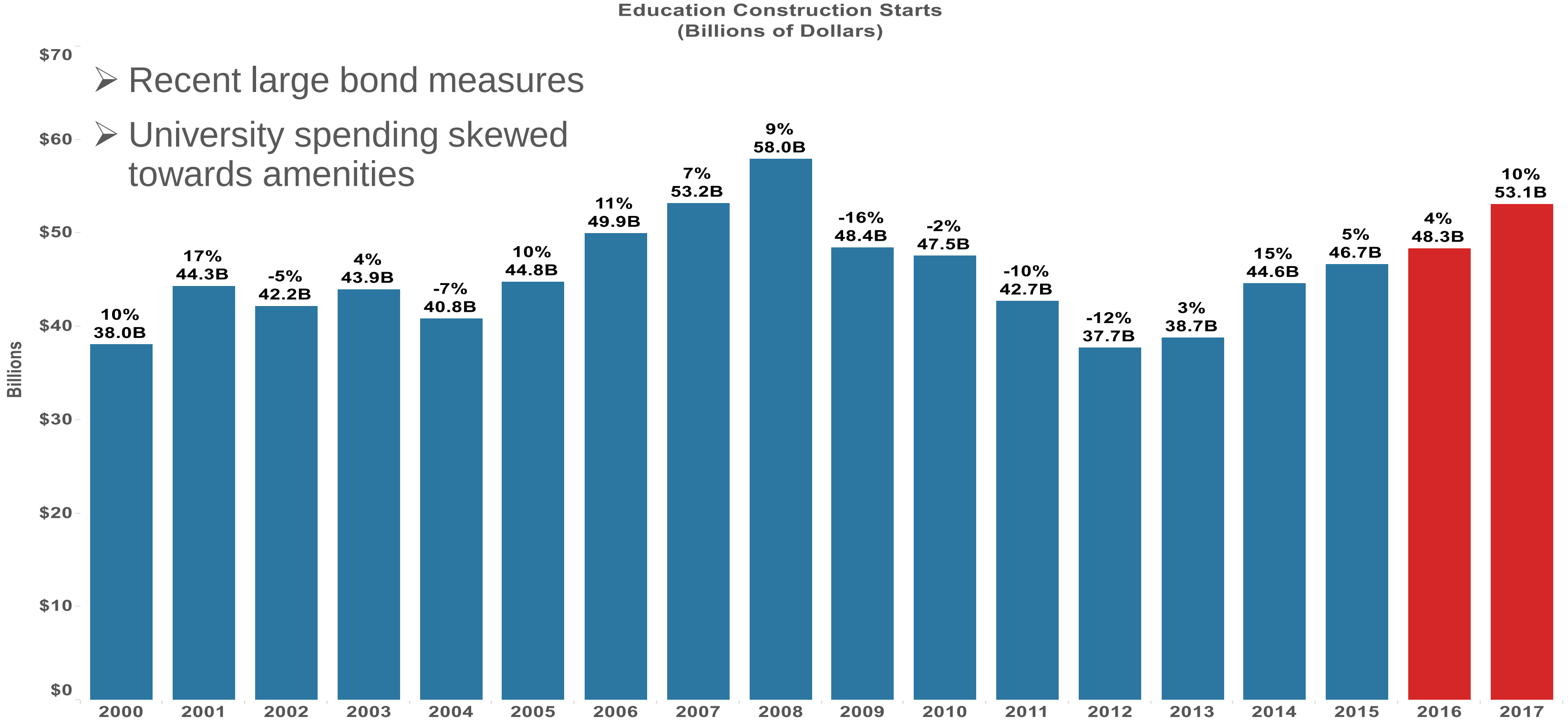


Source: Dodge Data & Analytics

U.S. Education Building Starts

Education building starts on the move

- Recent large bond measures
- University spending skewed towards amenities



Source: Dodge Data & Analytics

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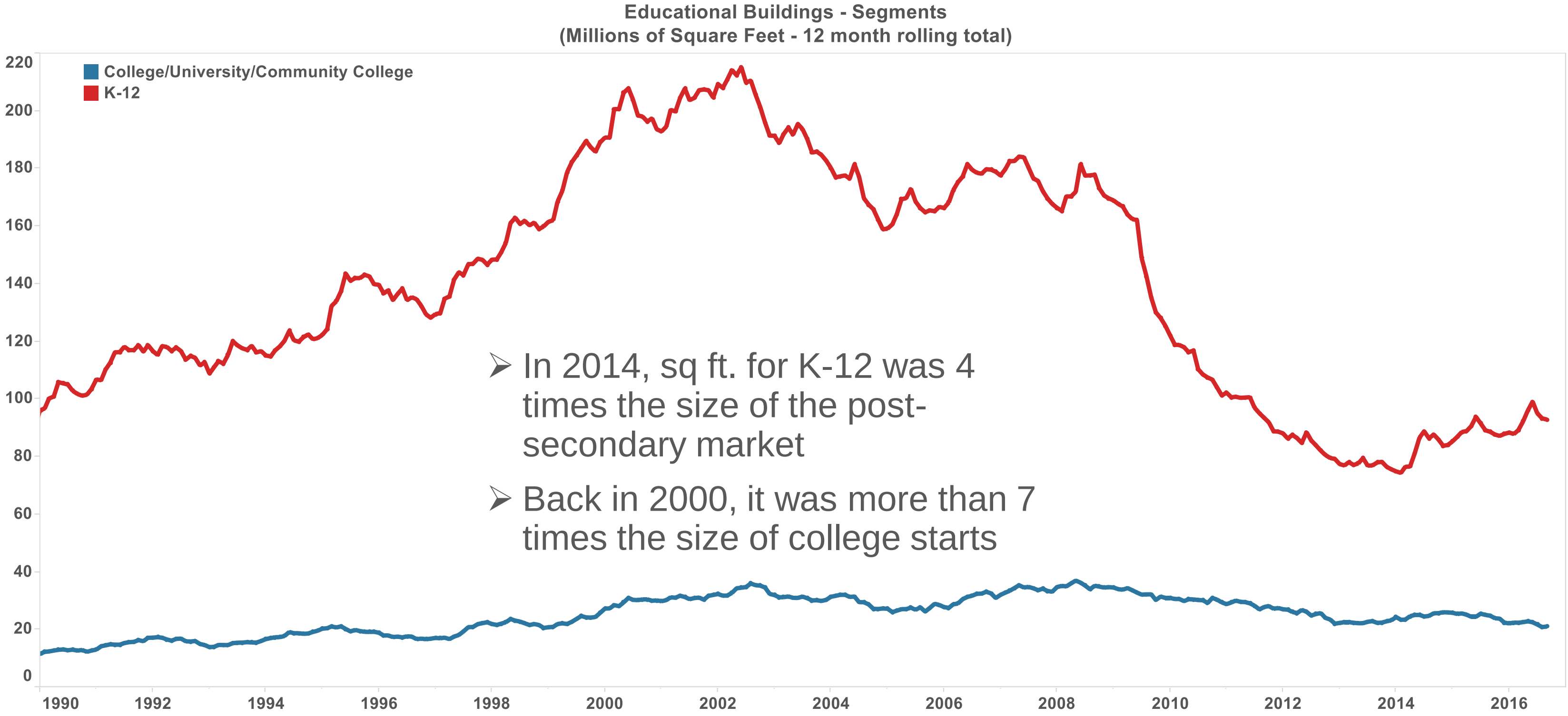
U.S. Education Building Starts

K-12 starts are larger, but more volatile than college/university starts



- In 2014, sq ft. for K-12 was 4 times the size of the post-secondary market
- Back in 2000, it was more than 7 times the size of college starts

Source: Dodge Data & Analytics

DODGE DATA & ANALYTICS

U.S. Education Building Starts

Year-to-date education starts by segment – through October 2016

Education Construction Starts
(Millions of Dollars)

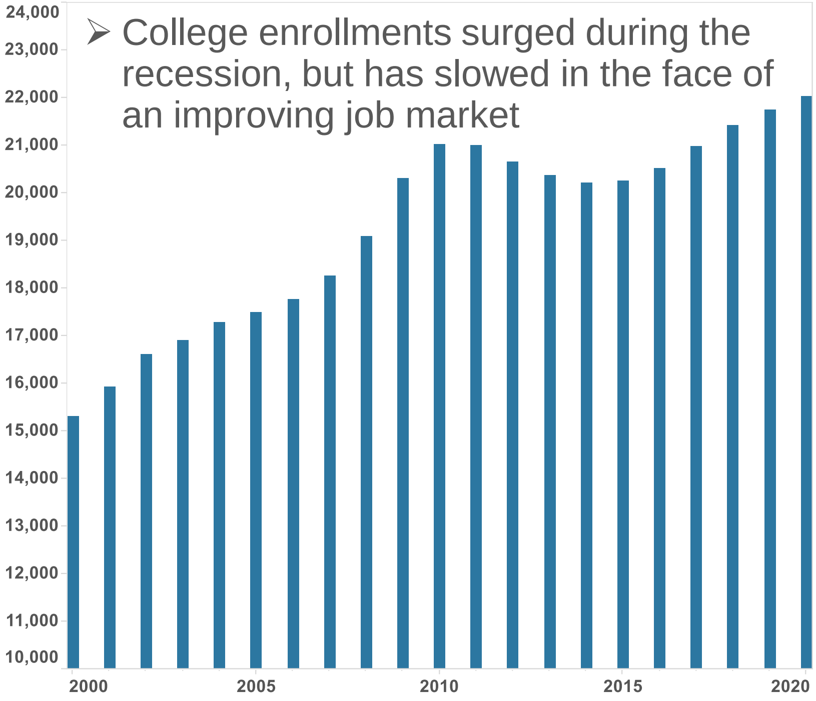
	2014	2015	2016
Senior High Schools	10,536 20%	10,221 -3%	11,024 8%
Primary Schools	8,713 15%	8,871 2%	10,009 13%
Colleges/Universities Except Community	8,506 15%	8,808 4%	7,736 -12%
Junior High Schools	3,054 35%	3,479 14%	4,073 17%
Laboratories/Testing/R&D	3,101 36%	3,238 4%	2,265 -30%
Special Schools	1,240 6%	1,566 26%	1,705 9%
Community Colleges	1,188 -16%	1,273 7%	1,391 9%
Museums	717 -32%	1,422 98%	1,355 -5%
Libraries	887 -6%	1,086 22%	838 -23%
Vocational Schools	691 -10%	512 -26%	797 56%
Total Education	38,632 15%	40,476 5%	41,195 2%

Source: Dodge Data & Analytics

U.S. Education Building Starts

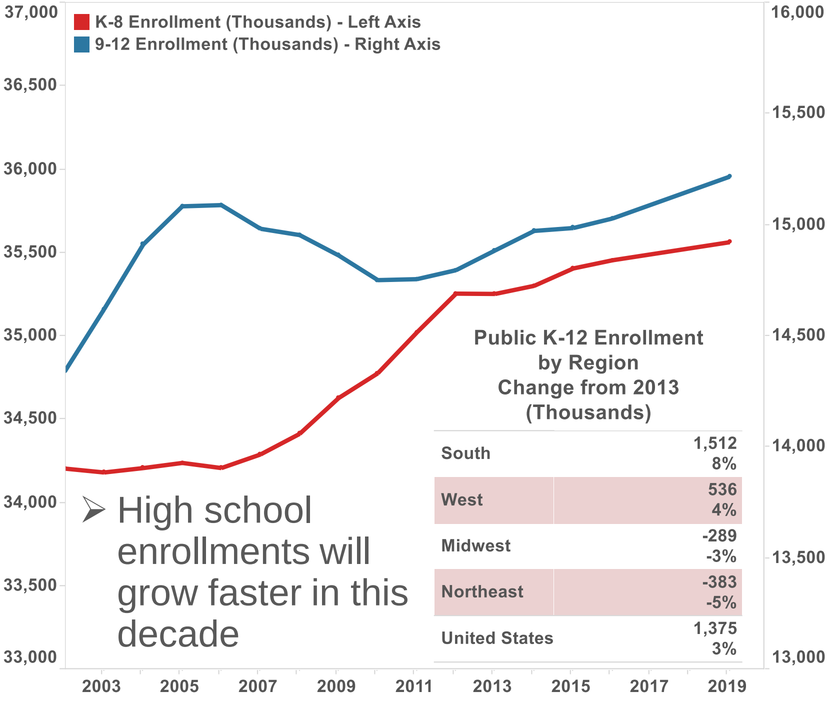
Enrollment growth ultimately drives activity for many segments

College Enrollment Projections
(Thousands)



- College enrollments surged during the recession, but has slowed in the face of an improving job market

Projections of Public School Enrollments by Grade
(Thousands)



- High school enrollments will grow faster in this decade

Public K-12 Enrollment by Region Change from 2013 (Thousands)

South	1,512 8%
West	536 4%
Midwest	-289 -3%
Northeast	-383 -5%
United States	1,375 3%

Source: National Center for Education Statistics

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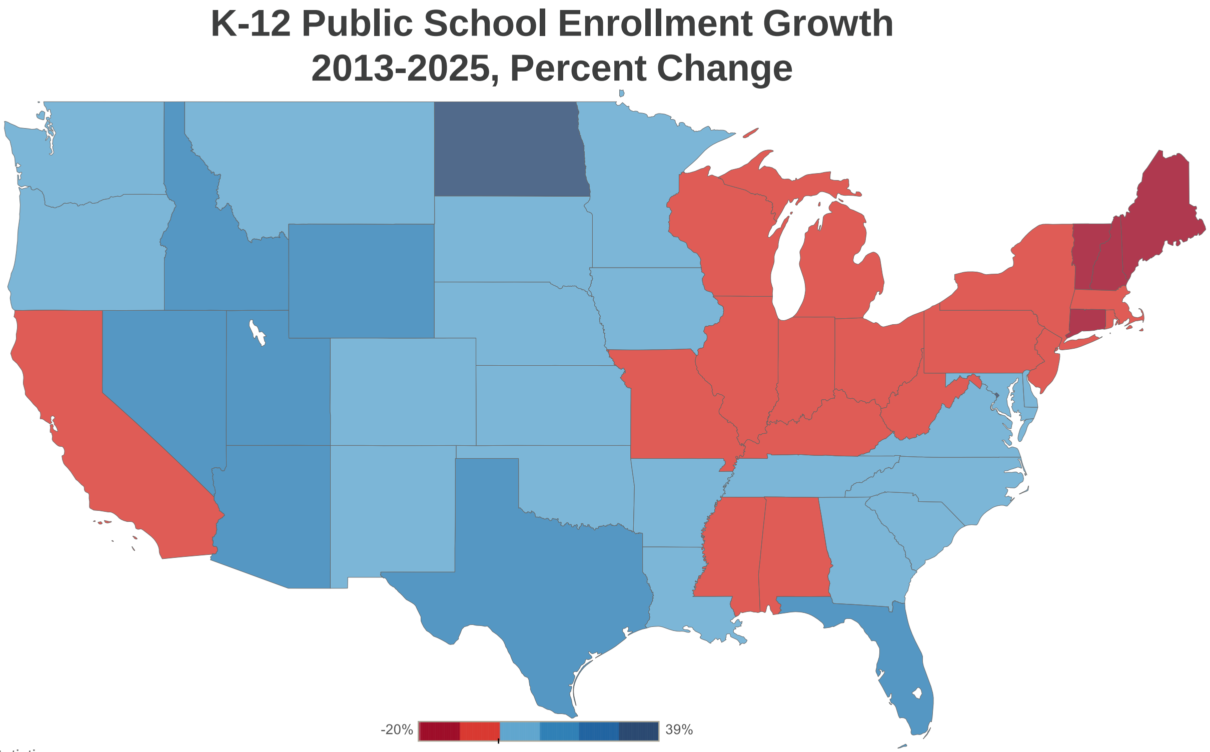
U.S. Education Building Starts

Public school enrollment growth is strongest in South and West



Source: National Center for Education Statistics

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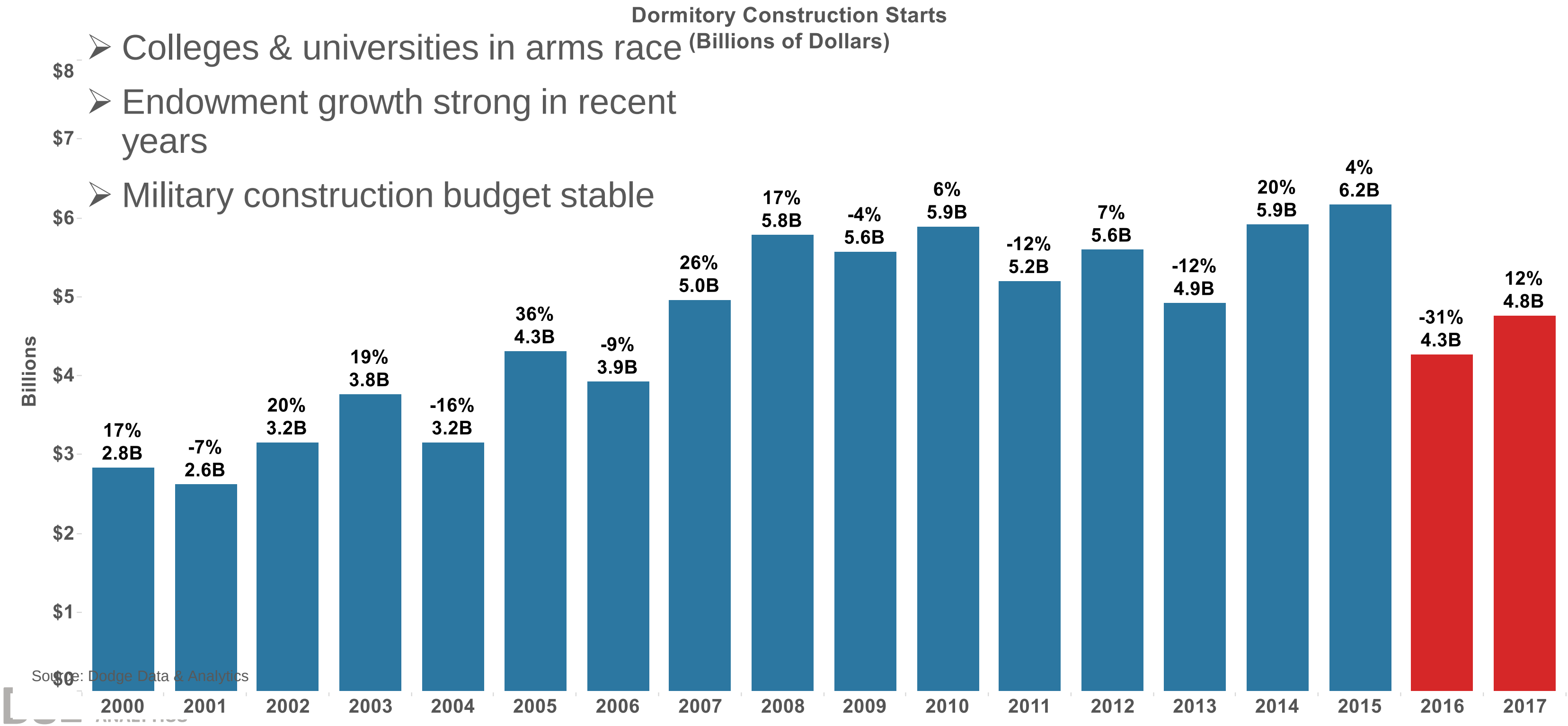
U.S. Dormitory Building Starts

Dorm starts have been hovering – some growth

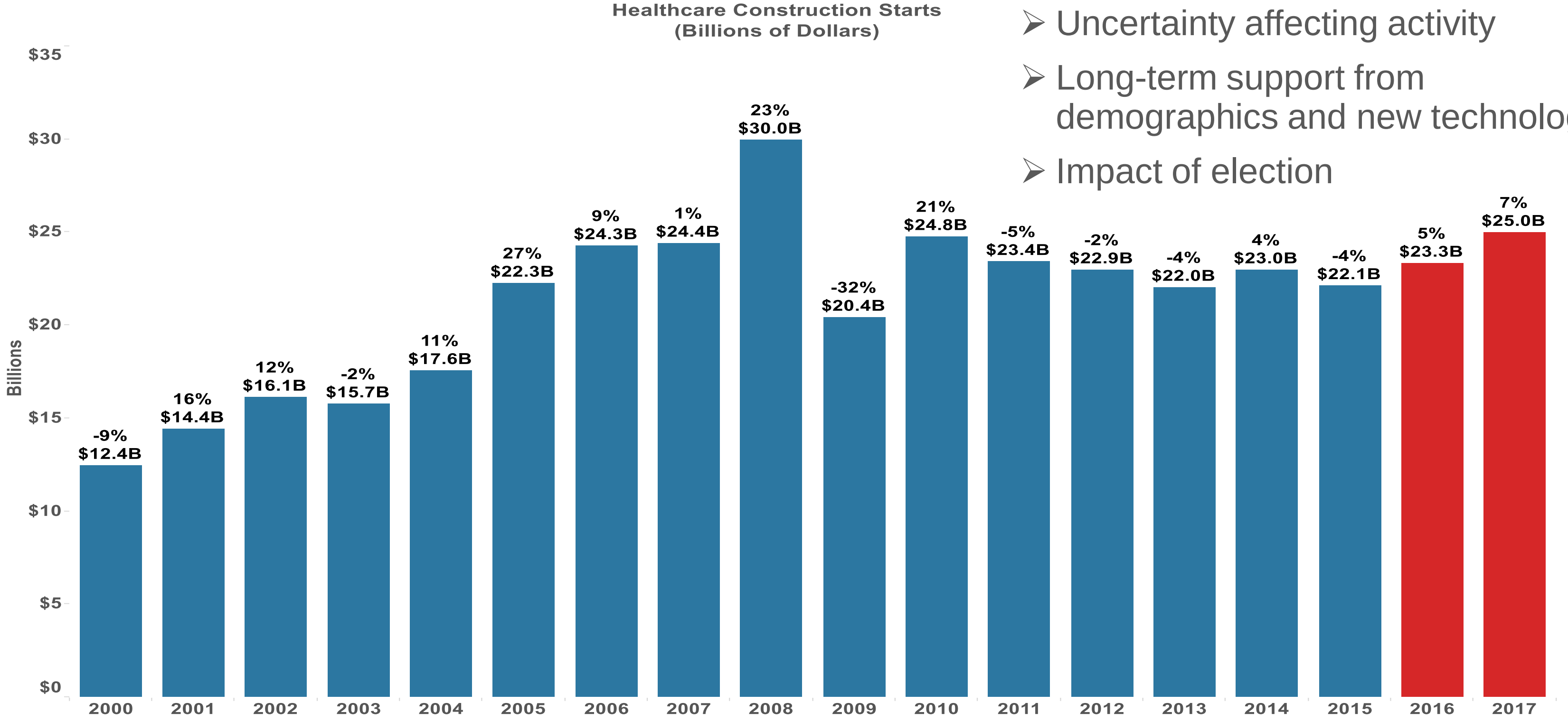
- Colleges & universities in arms race
- Endowment growth strong in recent years
- Military construction budget stable



Source: Dodge Data & Analytics

U.S. Healthcare Building Starts

Recovery in healthcare facilities kept on hold



- ➢ Uncertainty affecting activity
- ➢ Long-term support from demographics and new technology
- ➢ Impact of election

Source: Dodge Data & Analytics

U.S. Healthcare Building Starts

Top states for total and age 65+ population growth from 2010-2030

Population Change 2010-2030
(Thousands)

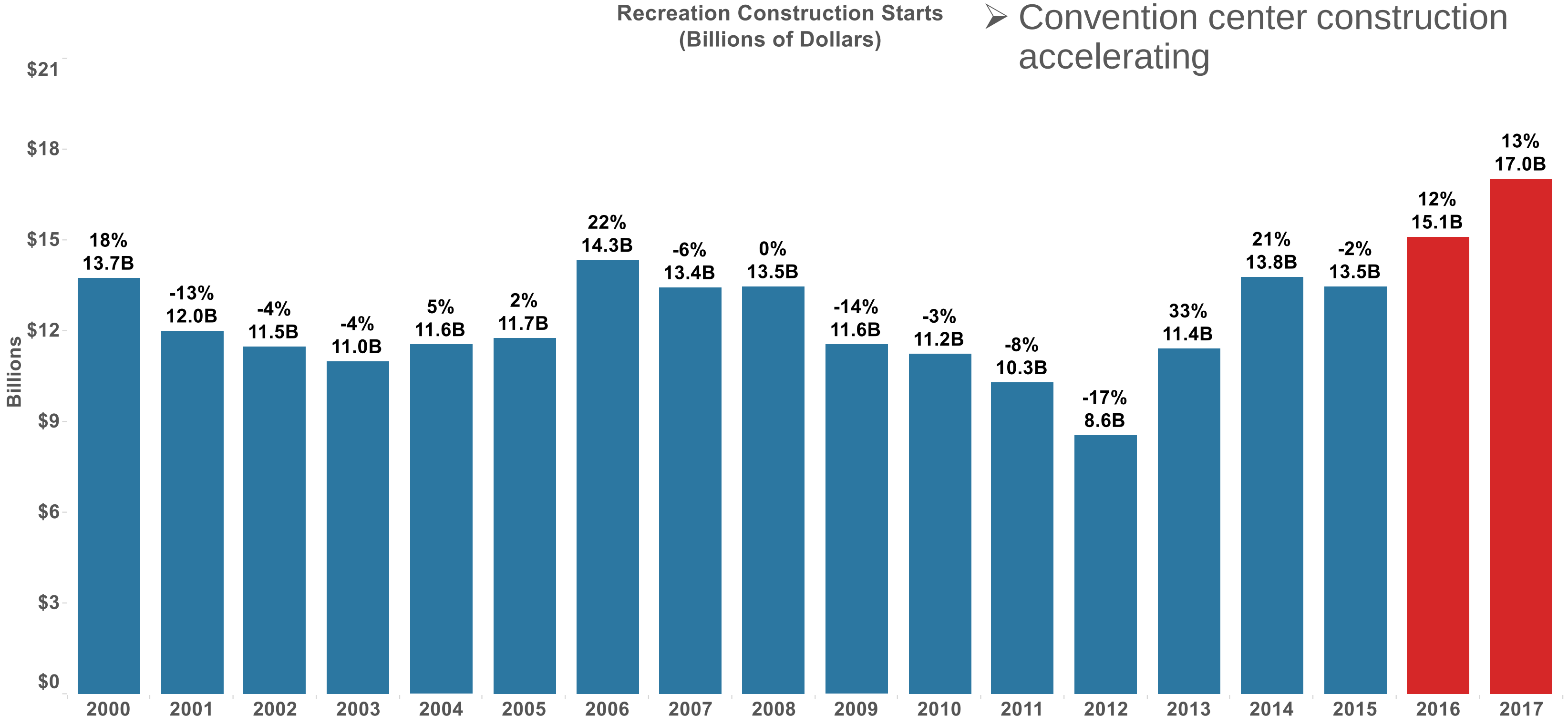
Total Population, All Ages		Over 65	
United States	43,031 14%	United States	29,374 66%
Texas	7,669 29%	Florida	3,932 108%
Florida	7,626 39%	California	3,567 74%
California	6,562 17%	Texas	2,563 86%
Arizona	3,056 46%	Arizona	1,254 123%
North Carolina	2,330 24%	New York	1,216 43%
Georgia	1,919 19%	North Carolina	990 70%
Washington	1,858 27%	Pennsylvania	904 43%
Virginia	1,388 17%	Georgia	896 75%
Nevada	1,227 44%	Virginia	767 69%
Colorado	942 18%	Illinois	766 44%

Source: Moody's Analytics

U.S. Recreation Building Starts

Large projects in pipeline to boost starts

- Large projects boosted annual level
- Convention center construction accelerating



Source: Dodge Data & Analytics

DODGE DATA & ANALYTICS

U.S. Recreation Building Starts

Year-to-date recreation starts by segment – through October 2016

Amusement Construction Starts (Millions of Dollars)

	2015	2016
Miscellaneous Recreational	3,332 -12%	4,466 34%
Gyms/Field Houses	2,309 -12%	2,836 23%
Arenas/Coliseums	1,102 -58%	1,295 18%
Exhibition Halls	1,304 167%	1,089 -17%
Theaters	1,373 32%	1,045 -24%
Clubs and Lodges	739 25%	702 -5%
Communications Bldgs	570 -21%	460 -19%
Auditoriums	233 18%	154 -34%
Bowling Alleys	53 59%	38 -29%
Total Recreation	11,013 -9%	12,086 10%

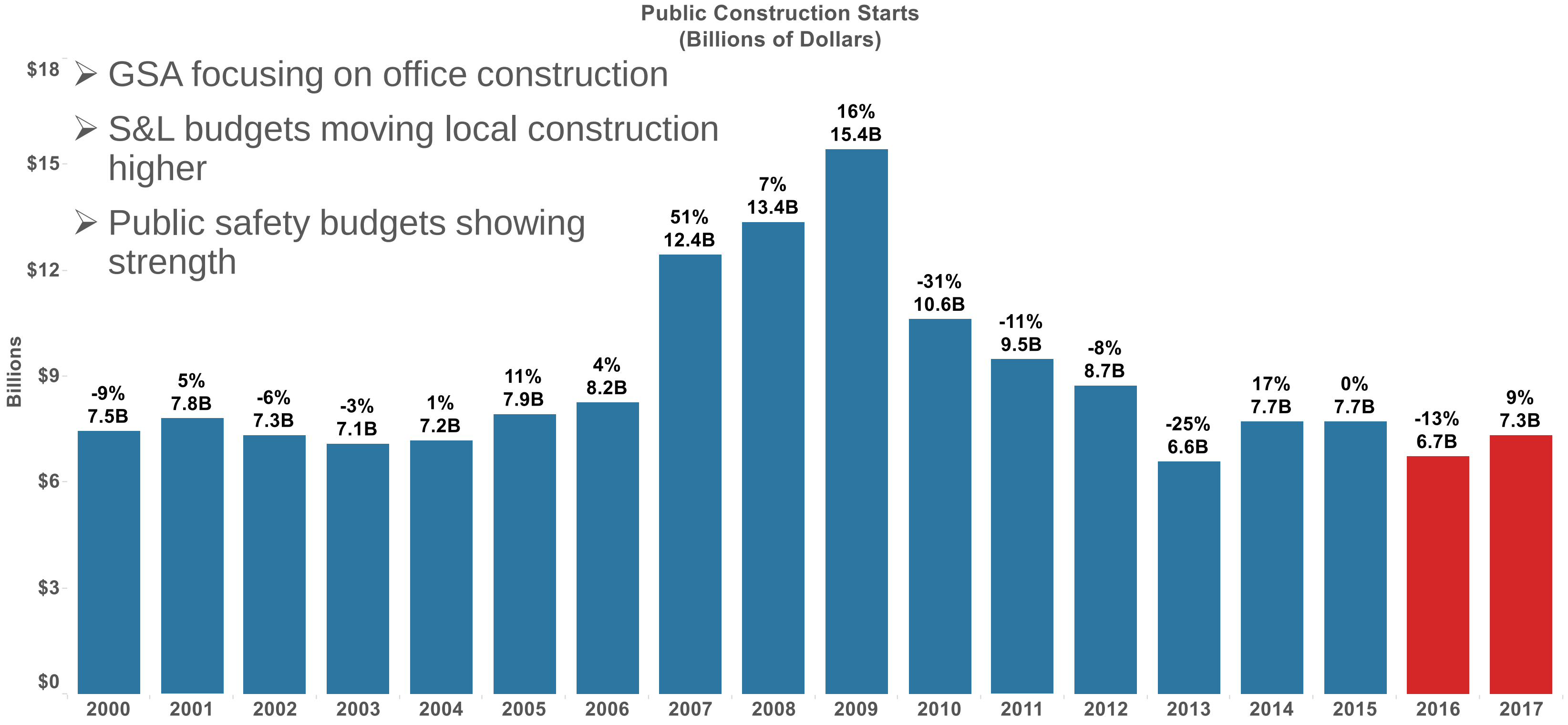
Casinos

Source: Dodge Data & Analytics

U.S. Public Building Starts

Public buildings have yet to post meaningful recovery

- GSA focusing on office construction
- S&L budgets moving local construction higher
- Public safety budgets showing strength



Source: Dodge Data & Analytics

DODGE DATA & ANALYTICS

U.S. Public Building Starts

Year-to-date public starts by segment – through October 2016

Public Construction Starts (Millions of Dollars)

	2015	2016
Police/Fire Stations	1,638 15%	1,781 9%
Capitols/Court Houses/City Halls	1,913 -29%	1,779 -7%
Armories/Military Buildings	1,900 17%	1,369 -28%
Detention Facilities	1,461 0%	915 -37%
Post Offices	14 -19%	19 31%
Total Public	6,927 -4%	5,863 -15%

Source: Dodge Data & Analytics

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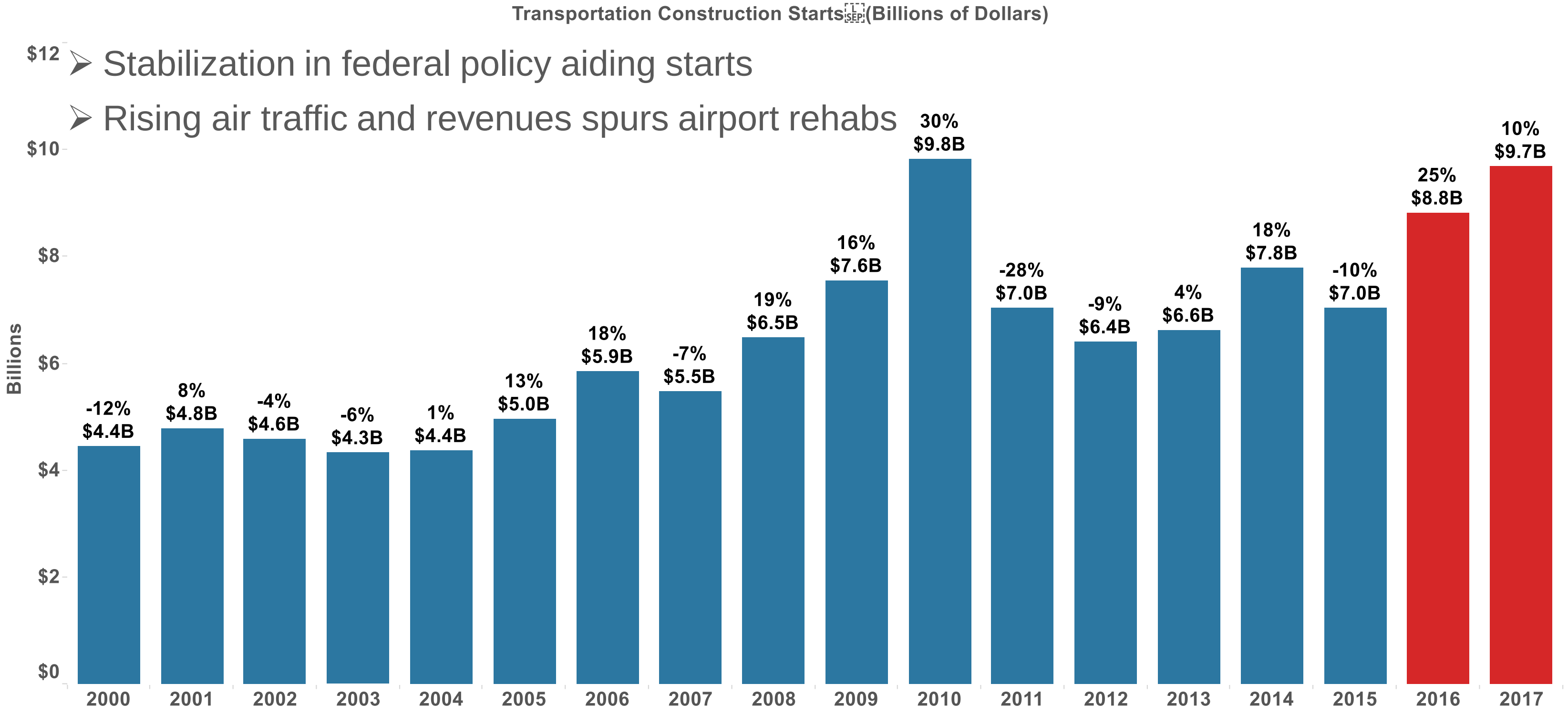
U.S. Transportation Building Starts

Starts to expand after a weak 2015

- Stabilization in federal policy aiding starts
- Rising air traffic and revenues spurs airport rehabs



Source: Dodge Data & Analytics

Nonbuilding Outlook

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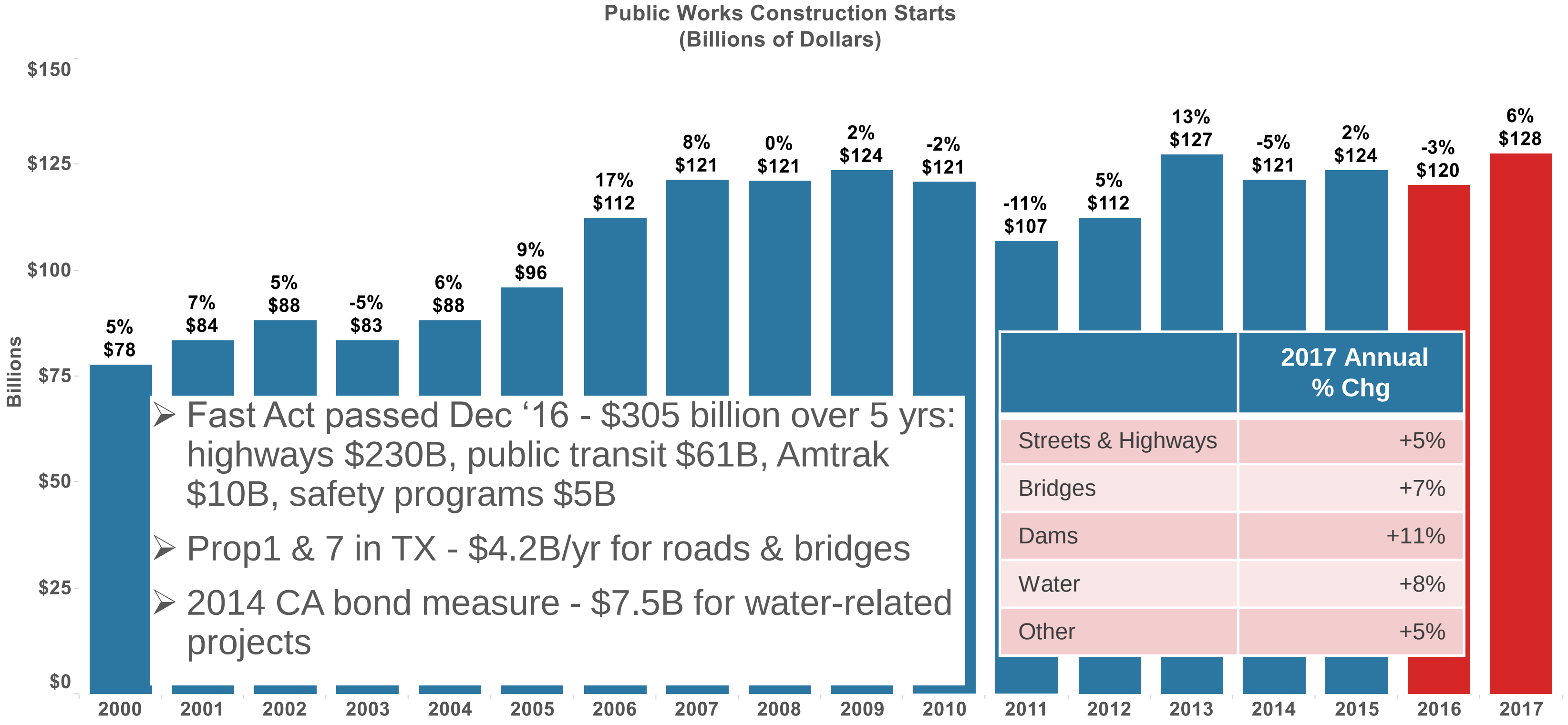
U.S. Public Works Starts

Highways and bridges strengthened in 2015



- Fast Act passed Dec ‘16 - $305 billion over 5 yrs: highways $230B, public transit $61B, Amtrak $10B, safety programs $5B
- Prop1 & 7 in TX - $4.2B/yr for roads & bridges
- 2014 CA bond measure - $7.5B for water-related projects

	2017 Annual % Chg
Streets & Highways	+5%
Bridges	+7%
Dams	+11%
Water	+8%
Other	+5%

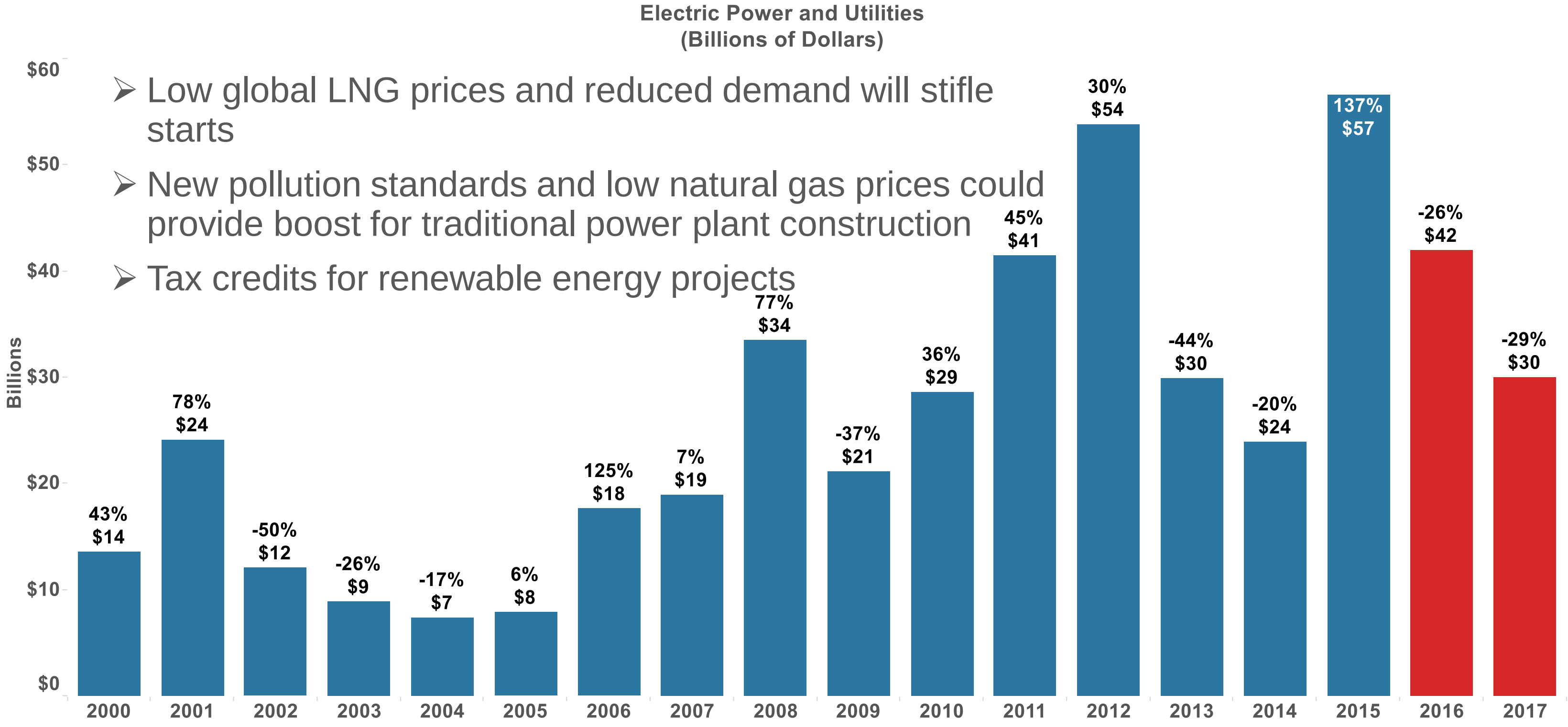
Source: Dodge Data & Analytics

DODGE DATA & ANALYTICS

U.S. Electric Power & Gas Starts

Massive LNG plants provided boost in 2015, but will retreat in 2016

- Low global LNG prices and reduced demand will stifle starts
- New pollution standards and low natural gas prices could provide boost for traditional power plant construction
- Tax credits for renewable energy projects



Source: Dodge Data & Analytics

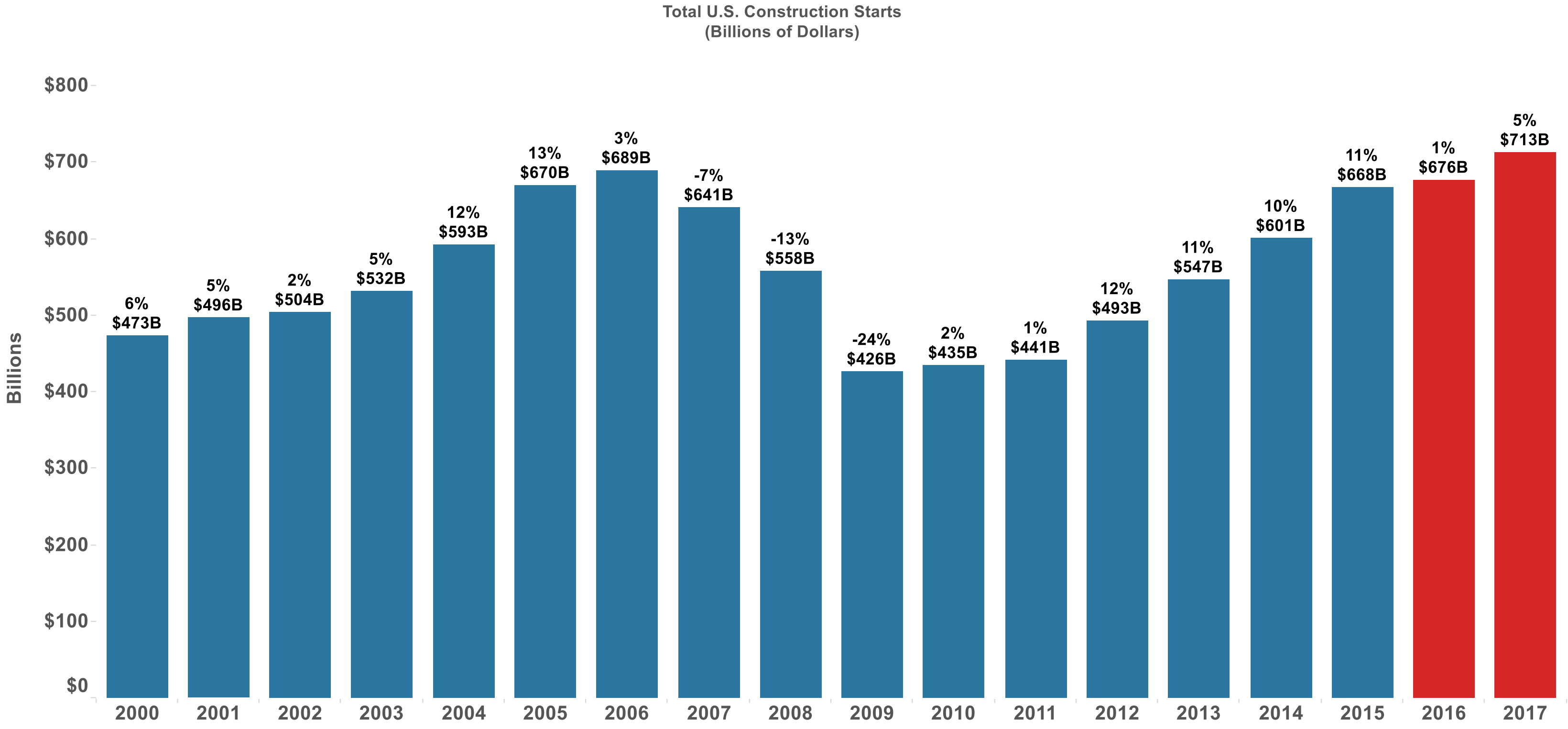
DODGE DATA & ANALYTICS

Total Construction Outlook

DODGE DATA & ANALYTICS

U.S. Total Construction Starts

Total Construction cycle to rise 5% in 2017



Source: Dodge Data & Analytics

DODGE DATA & ANALYTICS

U.S. Total Construction Starts

Total construction is expected to be up 1% in 2016 and 5% in 2017

	2011	2012	2013	2014	2015	2016	2017
Residential	$127	$167	$211	$233	$270	$290	$314
	4%	31%	27%	10%	16%	7%	8%
Nonbuilding	$148	$166	$157	$145	$180	$162	$158
	-1%	12%	-5%	-8%	24%	-10%	-3%
Institutional	$100	$92	$92	$104	$105	$108	$119
	-11%	-8%	0%	13%	1%	3%	10%
Commercial	$48	$55	$68	$83	$88	$99	$105
	15%	14%	22%	23%	6%	12%	6%
Industrial	$17	$13	$19	$36	$24	$17	$18
	82%	-25%	48%	83%	-32%	-29%	6%
Total Construction	$441	$493	$547	$601	$668	$676	$713
	1%	12%	11%	10%	11%	1%	5%

Source: Dodge Data & Analytics

Thank You!

DODGE DATA & ANALYTICS

The Big Picture

Total construction will be up 13% in 2015 as the recovery becomes more complete

U.S. Construction Starts
(Billions of Dollars)

	2011	2012	2013	2014	2015	2016
Residential	$127	$166	$210	$232	$272	$316
	4%	31%	26%	10%	18%	16%
Nonbuilding	$148	$166	$156	$143	$182	$157
	-1%	12%	-6%	-8%	28%	-14%
Institutional	$100	$92	$92	$104	$110	$120
	-11%	-8%	0%	13%	6%	9%
Commercial	$48	$55	$67	$81	$84	$94
	15%	14%	22%	21%	4%	11%
Industrial	$17	$13	$19	$35	$25	$25
	82%	-25%	42%	89%	-28%	-1%
Total Construction	$441	$492	$544	$595	$675	$712
	1%	12%	11%	9%	13%	6%