



Industry Focus. Powerful Results.™

# 2018 FMI Overview

Featuring FMI's Fourth Quarter 2017 Construction Outlook





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# The Forecast Looks Strong, but Don't Lose Sight of the Big Picture

*FMI executives share their retrospectives on how 2017 shaped up for the engineering and construction (E&C) industry and discuss what's ahead for the next 12 months.*

**By Chris Daum, CEO, FMI Corporation**

Looking at E&C market conditions in the U.S. and Canada right now—and barring any unforeseen events—both are about as good as we can expect them to be. In both countries, the demand for investment in all types of infrastructure is very strong and pervasive. Broadly speaking and looking across the breadth of the built environment as a whole, and based on industry backlogs that are (on average) booked through 2018, the next 12 months should be as good as—or even better than—2017.

We're currently in a low-inflation, full-employment environment in the U.S. In Canada, we're seeing a stabilized and moderately improving economy. Combined, these factors are helping to drive growth in the North American E&C market. In the U.S., we're seeing the potential for material tax reform with the passing of the new tax overhaul laws and expect this new level of corporate tax reform to serve as an additional catalyst for economic growth and investment. In Canada, various tax incentives are also being discussed, mainly related to capital investment and capital gains.

“ I think CEOs are generally positive and upbeat about growth right now, but there's also an undercurrent about when the cycle might correct itself since this run has lasted so long. The 2009 downturn still rings very loudly in executives' minds, so they're looking at how to pro-actively address business challenges while the market is still strong. ”

**Scott Winstead, President  
FMI Management Consulting**



# Meeting Infrastructure Demands

Today, the E&C industry in the U.S. and Canada is a smaller part of the North American gross domestic product (GDP) than it has been historically, and the amount of investment in infrastructure far outweighs the quantity of available and accessible public finance. To reverse this trend, the planning, financing and constructability must be done more efficiently and with a lower risk profile to meet the infrastructure demands of today and tomorrow.

Basically, as an industry, we must address this question: How do we do the same or more with existing or less financing than has historically been available? That's a key challenge that we should all focus on as we strive to accomplish more with the same (or fewer) resources within the context of a lower overall risk profile. Achieving this goal isn't going to be easy, particularly in a business environment where industry veterans with extensive know-how and experience are retiring at an alarming rate. And as the workforce ages out, many business owners are retiring right along with it. This marks a huge shift and the beginning of a new era in which younger generations take over the \$1.4 trillion E&C legacy that was established by the baby-boom generation over decades.

Concurrently, the capital associated with the sustenance of the broader E&C industry is turning over. Any new capital that's coming into the industry is likely to be foreign-sourced and based on infusions from outside of the industry and/or from countries outside of North America. This will drive the need for new business models; the continuation of emerging megafirms; new project delivery models; and innovative ways to plan, design, construct and assemble E&C projects. The new, competing business models will likely be more efficient than their predecessors, be managed in a lower-risk environment, and emerge across all industry segments.



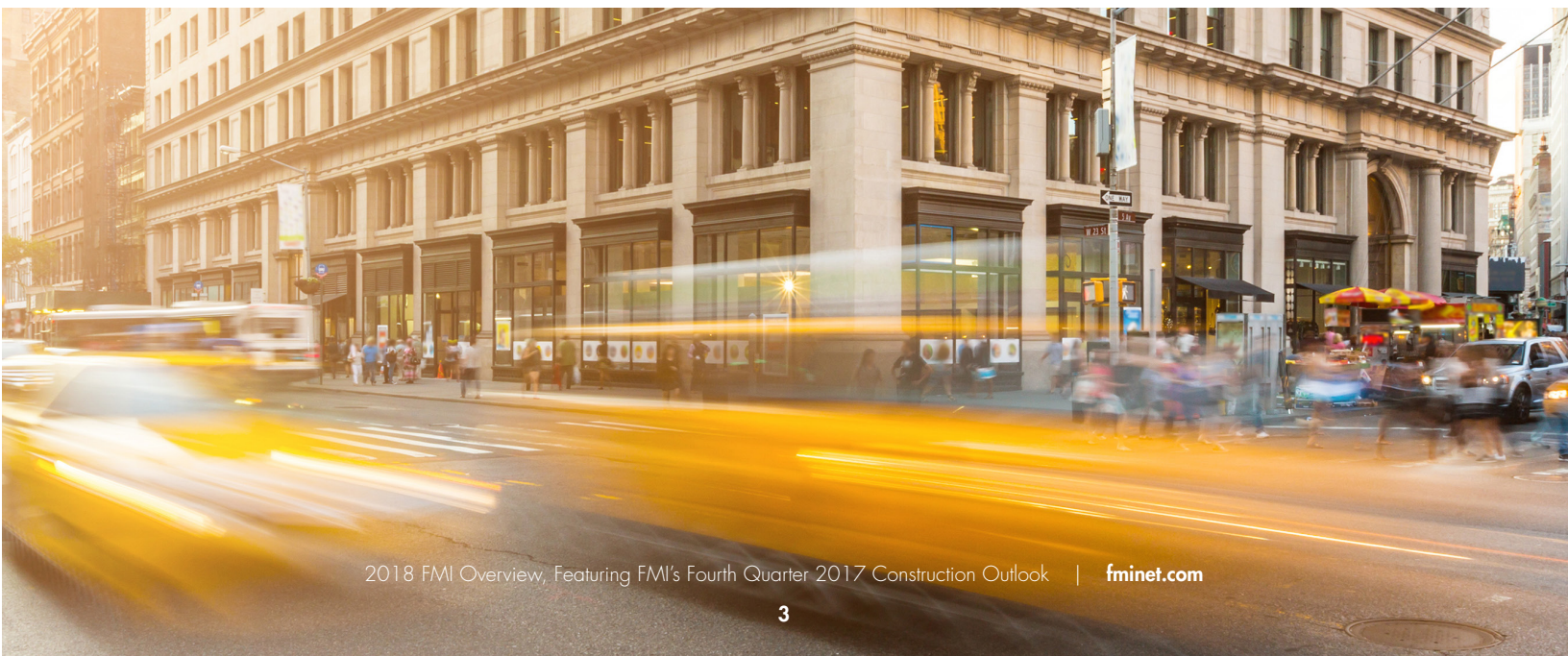
# Urbanization Takes Hold

Among the key E&C themes we expect to prevail in 2018 is the increased urbanization of the North American population and infrastructure. This shift will create winners and losers in E&C, which will be facing increasing complexities, demand for new building and delivery systems, and better resource utilization, management and cost associated with urban growth and development. In a similar vein, key changes are taking place from a social-demographic viewpoint and are pushing new changes in value systems and world philosophies.

From an economic-value proposition standpoint, stewardship of the environment, resources and sustainability are all becoming deeply embedded into the social contracts of the North American population. This directly impacts design and construction expectations, including where structures are built; how buildings are operated; and their impacts on the physical, human and social environments. Such factors will ultimately inform public policy and subsequently translate into governmental regulation.

*Manufacturing technologies are making their way to the construction site. The automation and movement of materials and goods—which have been around for a couple of decades in manufacturing, but not in construction—plus just-in-time ordering and remanufacturing are all starting to move into job sites. There’s a lot to choose from, and E&C firms really need to be selective when picking which technologies will truly help them work better, smarter and faster.*

**Michael Kulchisky, Managing Director  
FMI Corporation**









# Industry Consolidation Doesn't Slow Down

When developing their strategic priorities for the coming year, E&C firms should pay particularly close attention to the level of capital that's leaving the industry—along with the people who know the industry best. With industry participation 99% privately owned, the capital has to turn over at some point.

Here at FMI, we expect to see significant and sustained high levels of merger and acquisition (M&A) activity as firms are sold or continue to expand their footprints, driving more industry consolidation and reshaping the business landscape. This, in turn, will accelerate the bifurcation of the industry into a combination of very large, complex, sophisticated, multimarket-sector businesses across different geographies, as well as the smaller niche firms that are more focused in scope, geographic reach and market influence.

Of course, we're already seeing this happen in E&C, but it's a trend that will be stimulated by the fact that those companies with capital will put that capital to work, and those firms without the capital will likely be sold. As part of this shift, we'll see a proliferation of lower- and middle-market firms adopt employee stock ownership plans (ESOPs) while also broadening out employee ownership of privately owned companies.

*The M&A market for companies providing services, equipment, materials and technologies to the built environment has expanded over the last few years, and we expect M&A activity to remain robust in 2018. International buyers are aggressively seeking North American acquisition targets. Private equity funds continue to enter the sector and build companies with scale and scope through multiple acquisitions. M&A remains a primary and effective tool large industry players use to drive growth and strengthen market positions.*

**Tim Huckaby, President  
FMI Capital Advisors, Inc.**

“ Right now, talent acquisition and retention, leader development and diversification are all big themes for leading firms looking to position themselves while the market is still positive. ”

Scott Winstead, President  
FMI Management Consulting





# Developing Strategic Priorities for the Year Ahead

As an industry, we can't just ignore technology trends and continue to do business as usual. For example, we expect to see more than \$500 million of new, private capital being designated to investment funds that back startup firms focused on innovative construction technology or service solutions to address the productivity and risk issues in our industry. This is just one sign of the times and an indicator of how both new and established companies will have to embrace new business models that help them be more productive, efficient, innovative and creative in their approach to designing, manufacturing and building projects.

When developing strategic priorities for the year ahead, E&C firms should strive to stay focused on the long-term view while also taking advantage of the “now,” with the understanding that this will require good balance, solid leadership, deliberate succession planning and a holistic approach to business growth. Combined, these factors will help companies fully leverage the opportunities that are on their plates right now while also making the most out of future prospects.

Going forward, E&C companies will also have to be more proactive and intentional about understanding how their supply chains are changing and how everything from design and preconstruction to procurement to delivery to operations is evolving. For example, what's happening right now with construction manufacturing, 3-D printing, robotics, AR/VR, wearables and drones transforming job sites, etc., are all significant material indicators of how things are changing. To compete effectively, companies need to be aware of—and develop proactive strategies for managing—these shifts and develop transformative plans for participating in these emerging ecosystems. This may mean changing business models, embracing new technologies that lead to efficiencies, participating on project teams (i.e., by working with a joint venture partner) and/or selling to larger entities.

**Most importantly, owners and leaders of E&C firms must not mistake a healthy robust market as an excuse to practice business as usual.** Instead, pay attention to the fundamental transformations and irreversible trends that are currently impacting the industry, look carefully at how you're operating today, and then come up with ways to become more proactive about transforming your company to become even more competitive and agile in today's new and changing marketplace.

*The companies that are just chasing opportunities tend to struggle the most. Right now, it's a feast out there, and many companies can't control their addictions to pursue new markets. If they haven't learned how to say no, they can get into trouble and wind up burning a lot of energy trying to get out of those predicaments—versus enjoying the ability to create a stronger equity base that establishes success for the future.*

**Ron Magnus, Managing Director  
FMI's Center for Strategic Leadership**







# Fourth Quarter 2017 FMI Construction Outlook

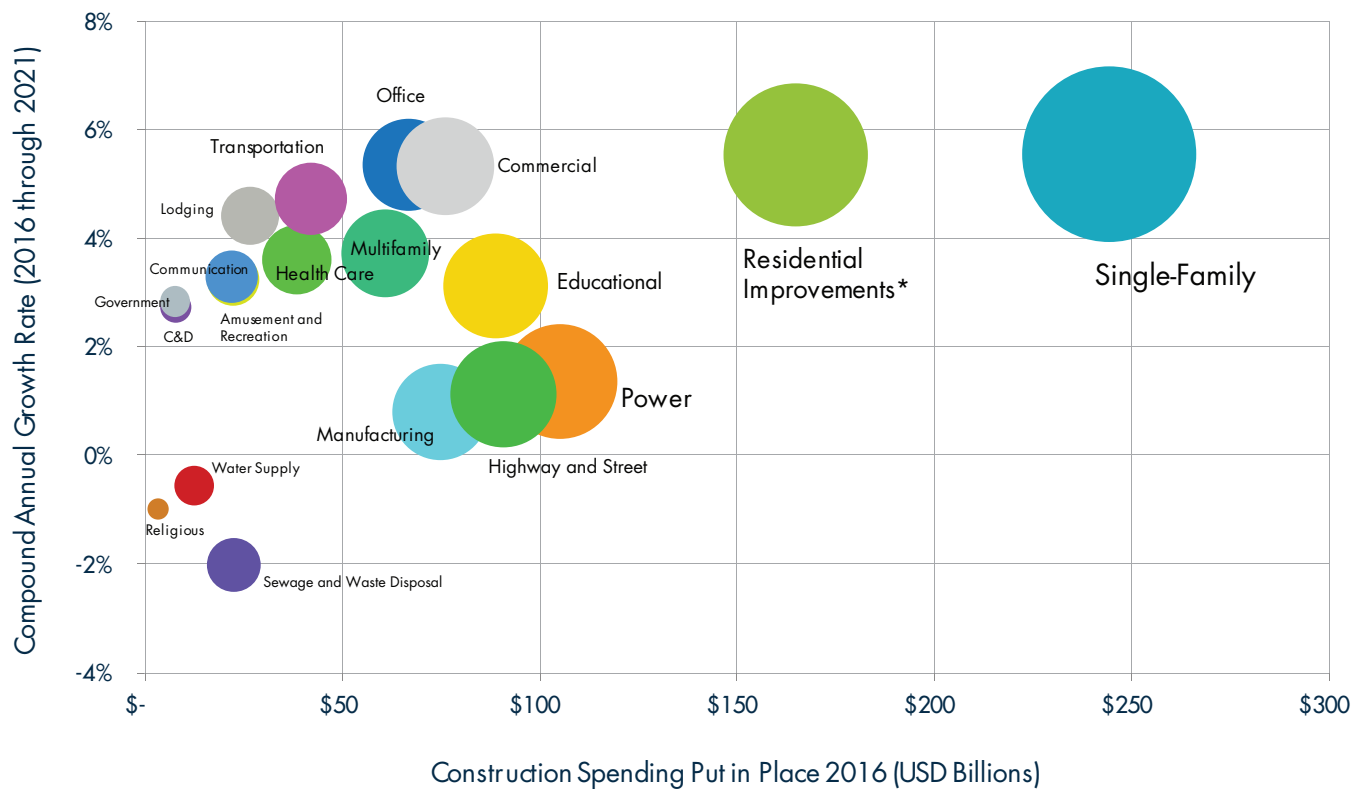
## Key Takeaways

- Total engineering and construction spending for the U.S. is forecast to end 4 percent higher in 2017 compared to 2016.



- Spending growth in 2017 has been led by residential and select private nonresidential segments. The top-three performing segments in 2017 include residential improvements (+14 percent), single-family residential (+8 percent) and commercial (+11 percent). The bottom-three performing segments include manufacturing (-16 percent), sewage and waste disposal (-14 percent) and religious (-7 percent).
- Looking ahead to 2018, FMI continues to forecast a 5 percent increase in spending levels over 2017.
- Primary growth segments in 2018 are expected to include office, commercial, residential and lodging – all with forecast growth rates of 5 percent or more. Most other segments are likely to grow roughly with the rate of inflation and therefore are considered stable. Religious, sewage and waste disposal, and water supply are the only three segments expected to experience decline through 2018.
- Southern and western markets are expected to continue to outperform other regions across the country. Through 2018, FMI forecasts the top-three performing Census divisions will include the Mountain (+7 percent), South Atlantic (+6 percent) and Pacific (+6 percent) states.

## Total Construction Spending Put in Place 2016 and Forecast Growth (2016-2021 CAGR) by Construction Segment

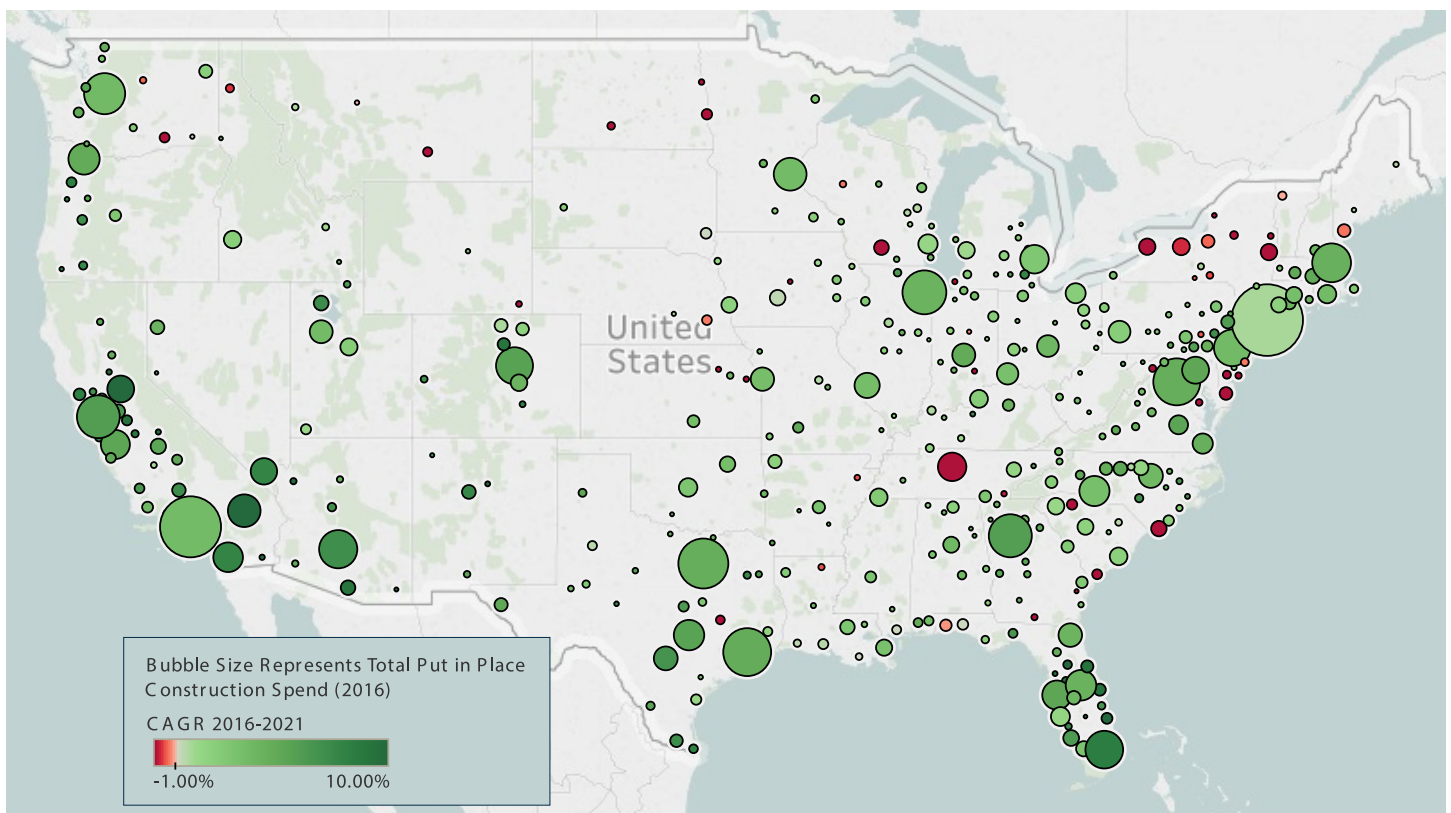


\* Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.

Source: U.S. Census and FMI Forecast



## Total Construction Spending Put in Place 2016 and Forecast Growth (2016-2021 CAGR) by Metropolitan Statistical Area



Source: FMI

# Residential Construction Put in Place

## Single-Family Residential

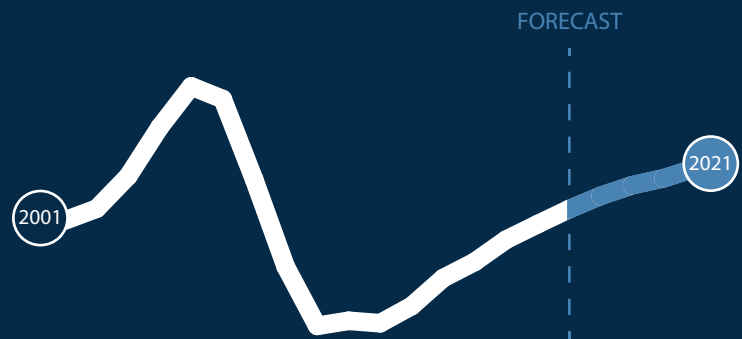
- Factors increasing demand for homeownership include our nation's low unemployment rate, wage improvements, tax restructure and increasing interest rates. Additionally, many metropolitan areas around the country are facing a shortage of single-family homes, creating attractive seller's markets.
- As home prices steadily rise and urban living continues to expand and create congestion, younger buyers and families are expected to more readily depart multifamily residences for the benefits of a single-family home.

*Drivers: unemployment rate, core CPI, income, mortgage rate, home prices, housing starts, housing permits*

**UP** **8%**

**\$267 Billion**

2017/2016 Comparison



## Multifamily Residential

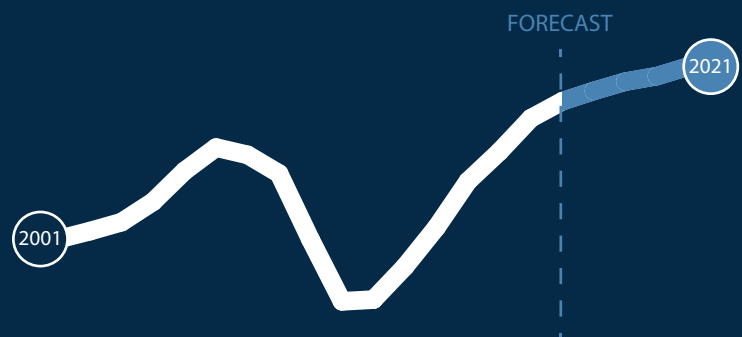
- Single-family residential factors related to pricing, supply and/or location are encouraging buyers to consider multifamily options.
- Multifamily vacancy rates remain at historical lows, even with the considerable supply increases seen in 2016 and 2017. Vacancy rates, however, have begun to show signs of bottoming, with rental growth decelerating into late 2017. Overbuilding is (speculatively) occurring in select markets.
- Continued strong investment in other nonresidential building markets, including corporate relocations, expanding urban centers, sports facilities, convention centers and transportation infrastructure, will continue to offer long-term opportunities for multifamily markets.

*Drivers: unemployment rate, core CPI, income, mortgage rate, home prices, housing starts, housing permits*

**UP** **7%**

**\$65 Billion**

2017/2016 Comparison





## Improvements

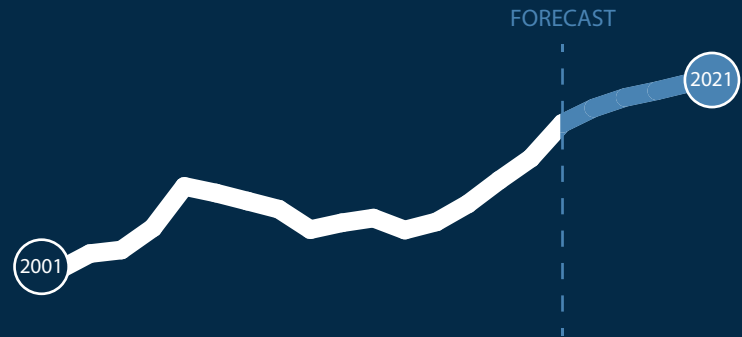
- New home sales in both single-family and multifamily markets have been influencing above-average improvements. Typically, improvements spending occurs just before the sale of a home (by the seller) and just after a home is purchased (by the buyer). As home prices, starts and sales continue to rise across the country, growth in improvements expenditures will remain elevated.
- Considering the broader market, low unemployment rates, increasing wages and higher home prices have contributed to strengthened improvements spending through 2017.

*Drivers: unemployment rate, core CPI, income, mortgage rate, home prices, housing starts, housing permits*

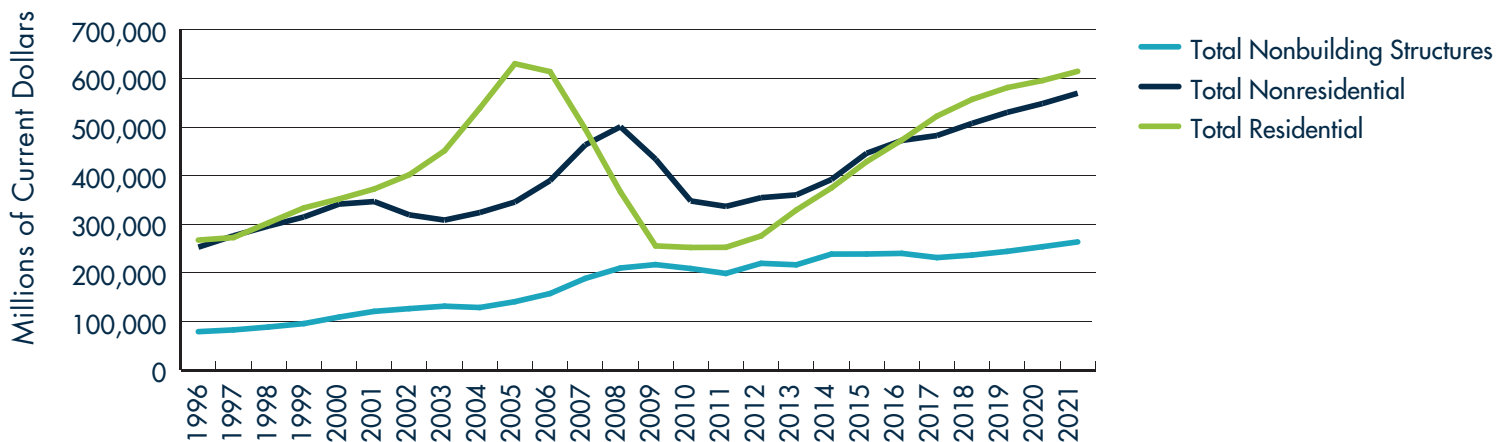
**UP** **14%**

**\$190 Billion**

2017/2016 Comparison



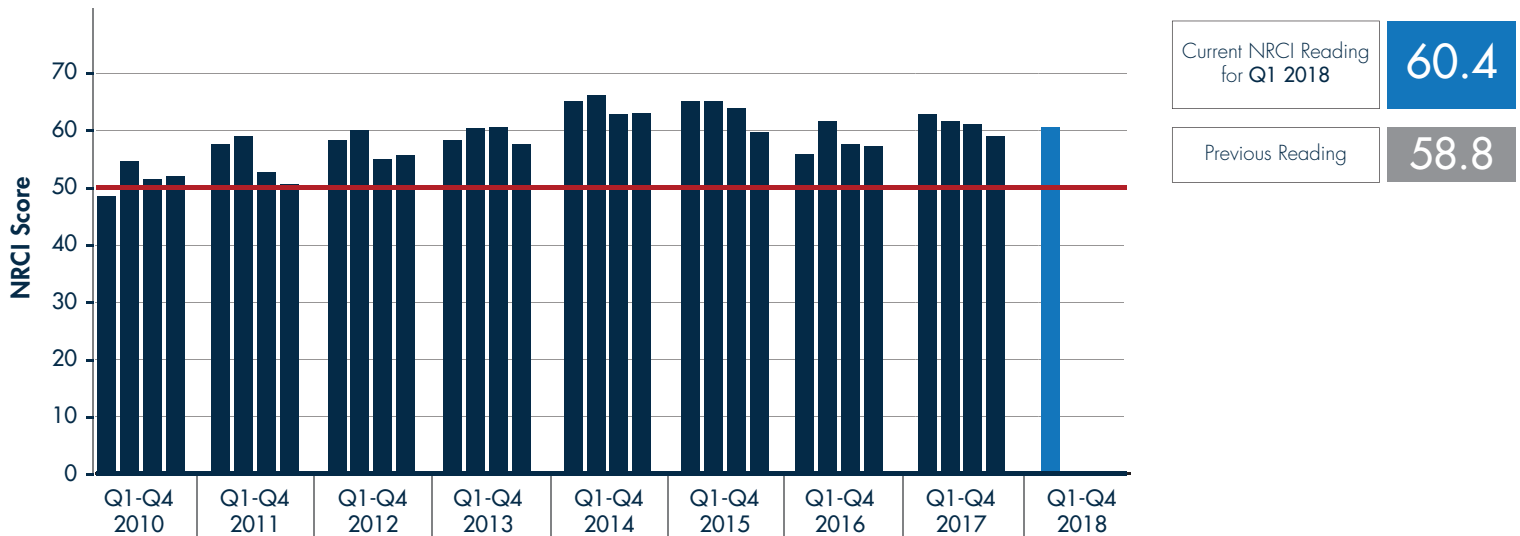
## Total Construction Put in Place Estimated for the U.S.



Source: U.S. Census and FMI Forecast

# Nonresidential Buildings Construction Put in Place

Nonresidential Construction Index (NRCI) Score Since Inception Q1 2010 to Q1 2018  
(Scores above 50 indicate expansion; scores below 50 indicate contraction.)



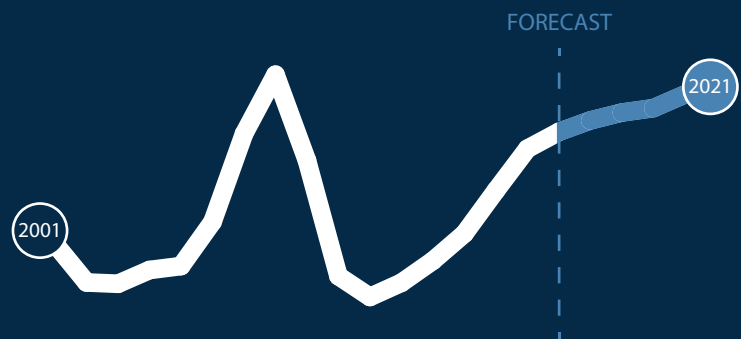
## Lodging

- Lodging spending remains strong after several years of double-digit, year-over-year growth rates since 2012. In many cases a small number of very large metropolitan areas are driving regional growth in lodging investments, often associated with mixed-use space and redevelopment, sports facilities and/or convention center investments.
- States are increasingly using large casino projects (e.g., Florida, Maryland, etc.) to help boost tax revenues. While these developments often draw significant lodging investment, oncoming supply in these and surrounding areas is outpacing demand, causing increasing vacancy rates.

Drivers: occupancy rate, RevPAR, average daily rate, room starts

**UP** **8%**  
**\$29 Billion**

2017/2016 Comparison





## Office

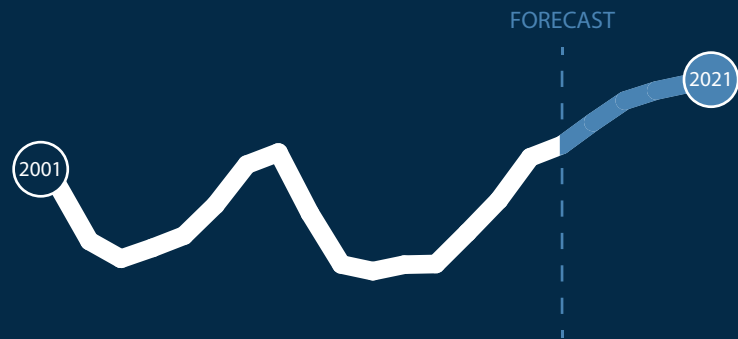
- Reduced corporate tax rates going into 2018 are anticipated to instill opportunities for increased capital investments. This past December a massive reduction in corporate taxes, from 35 percent to 21 percent, was passed by the Senate and House of Representatives. Though corporations are expected to navigate a variety of strategies, overall increased capital expenditures can be expected.
- Holding back forecast growth is the slowdown in the development of high-tech office space alongside an increasing use of companies offering remote flexibility. Companies now more than ever are allowing their workforce the ability to work remotely, reducing overhead and square footage requirements. In effect, co-working and other related spaces are expected to become increasingly prevalent. Also, data centers and mission-critical facilities are becoming a larger niche component of corporate facilities spending.

*Drivers: office vacancy rate, unemployment rate*

**UP** **5%**

**\$71 Billion**

2017/2016 Comparison



## Commercial

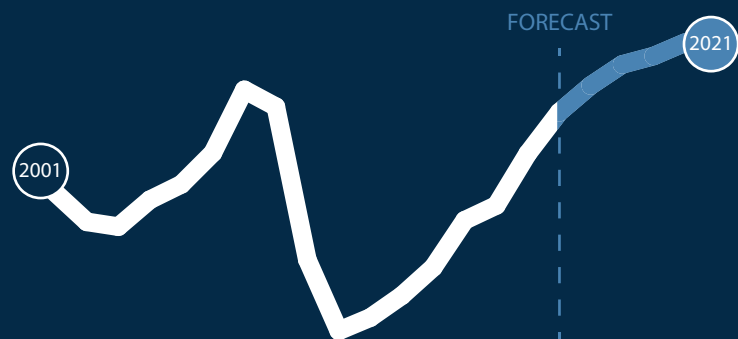
- Increased profits can be expected. As an industry that pays one of the highest average corporate tax rates, the commercial/retail sector is expected to be one of the largest beneficiaries of the new corporate tax legislation. Those that will benefit the most are U.S.-based companies that create a majority of their profits within the states. Rarely will these companies be able to benefit from research and development spending or other manufacturing deductions.
- The ongoing rise in e-commerce from the likes of Amazon will continue to reshape and drive demand for warehouse and distribution center spending in commercial markets.

*Drivers: retail sales, CPI, income, home prices, housing starts, housing prices*

**UP** **11%**

**\$85 Billion**

2017/2016 Comparison



## Health Care

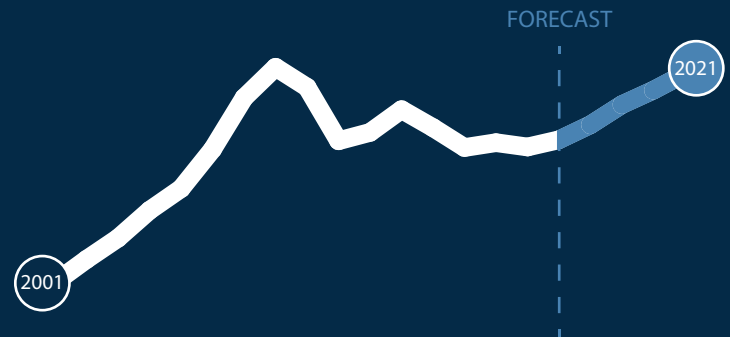
- A reduction in the overall corporate tax rate is a major benefit to health care owners. Access to tax-exempt bond markets continues for nonprofits (60 percent of the sector), but new limits on interest expense deductions will favor owners with less leverage.
- Uncertainty around federal health care policy continues to delay capital investments. Due to the repeal of the Affordable Care Act, providers anticipate an increased number of uninsured patients, cutting into profitability.
- Overall movement away from large-scale new hospital investments with an emphasis on expansions and renovation projects.

*Drivers: population change younger than age 18, population change ages 18-24, stock markets, government spending, nonresidential structure investment*

**UP** **2%**

**\$39 Billion**

2017/2016 Comparison



## Education

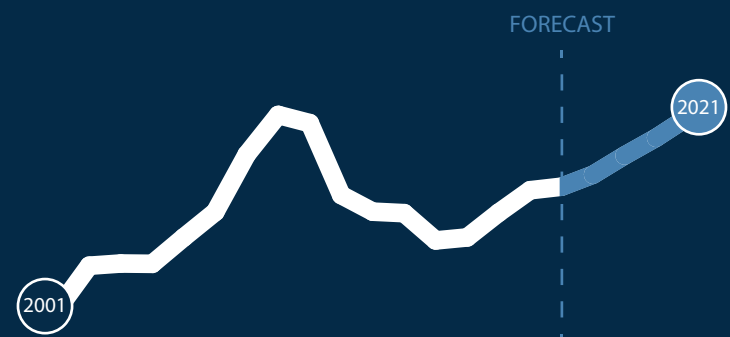
- The tax overhaul is expected to positively impact both public and private education markets. Public markets will benefit through the continued tax-free status of private activity bond financing; private markets will benefit from new streams to fund private school tuitions; and both will benefit from the various favorable credits included. However, based on the restructure of taxpayers' available deductions/limits, there are potential risks for reduced state and local funding into public schools as well as decreased donations toward colleges.
- K-12 enrollments are seen increasing in more than half of the states.
- Increased use of flexible space to accommodate year-round schools.

*Drivers: population change younger than age 18, population change ages 18-24, stock markets, government spending, nonresidential structure investment*

**UP** **1%**

**\$90 Billion**

2017/2016 Comparison





## Religious

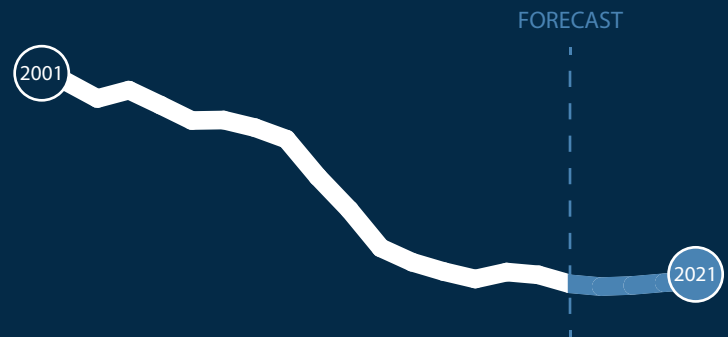
- Donations are expected to fall in 2018, a primary revenue source for capital spending. Organizations anticipate that under the restructured tax plan, individuals will have less incentive to make donations to meet the new standard deduction limits and/or to meet the new cap on state and local deductions.
- Ongoing improved (and, in many cases, creative) space utilization continues to occur in nontraditional facilities, including renovated storefronts, movie theaters and other venues.
- Demographic shifts and trends are shaping demand for facilities across various (regional and local) markets.

*Drivers: GDP, population, income, personal savings*

**DWN -7%**

**\$3 Billion**

2017/2016 Comparison



## Public Safety

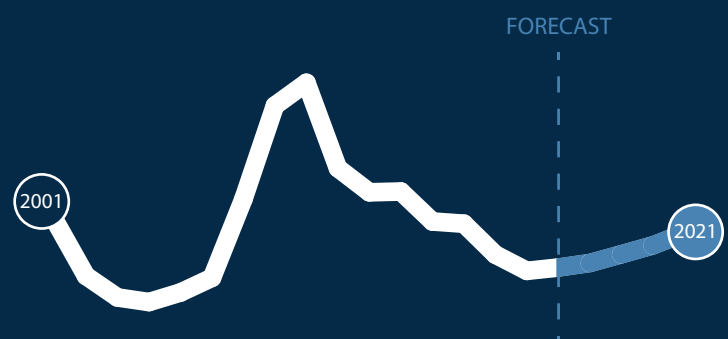
- Similar to education markets, the broader public/government sector spending will benefit from the uninterrupted flow of private activity bond financing under new tax reform.
- Overcrowding in correctional facilities is a national issue. State and local governments are facing significant fiscal constraints. However, ongoing and increased interest in privatization of facilities can be expected under Trump's administration.

*Drivers: population, government spending, incarceration rate, nonresidential structure investment*

**UP 1%**

**\$8 Billion**

2017/2016 Comparison



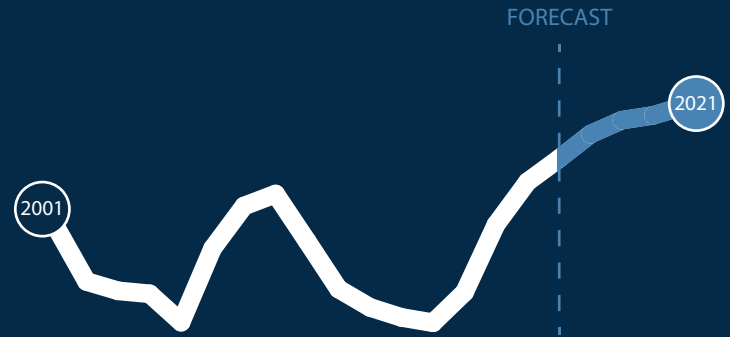
## Amusement and Recreation

- Several big-budget sports stadiums are underway, with others in planning. Though it was under debate, a provision to maintain access to tax-exempt bonds for the funding of professional sports venues has passed.
- Increased casino investment is seen nationwide in efforts to help boost state and local tax revenues.

*Drivers: income, personal savings rate, unemployment rate, employment*

**UP** **5%**  
**\$24 Billion**

2017/2016 Comparison



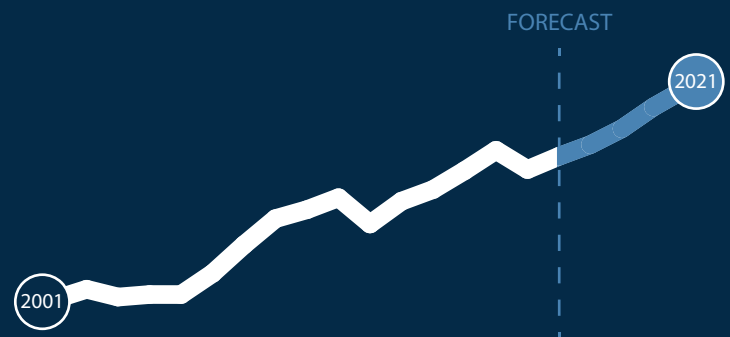
## Transportation

- Airports estimate over \$100 billion in infrastructure needs over the next five years, 60 percent of which will be financed through private activity bonds. The corporate tax rate reduction is expected to incentivize spending towards engineering and construction, equipment and jobs.
- Airports are planning for the accommodation of new wide-body aircraft through larger terminals, storage facilities and other related structures
- There is much-needed repair underway at hurricane-damaged ports, specifically in Houston and Miami.

*Drivers: population, government spending, transportation funding*

**UP** **4%**  
**\$44 Billion**

2017/2016 Comparison





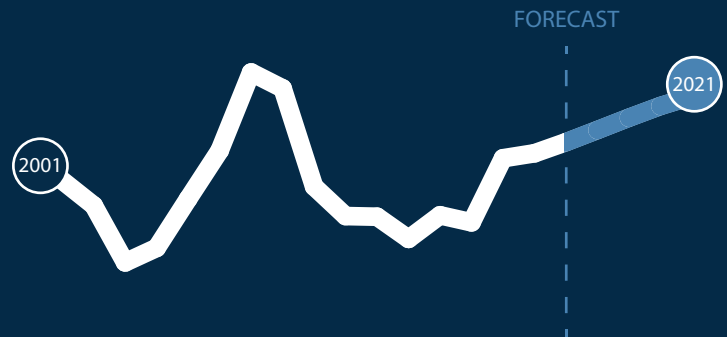
## Communication

- Demand for bandwidth continues to grow at an exponential rate, and connectivity is increasingly becoming a requirement for local and regional economic activity and growth (e.g., co-working spaces). Alongside bandwidth, innovation and technology demands are increasing more rapidly than ever.
- Within the tax restructure, the bonus depreciation provision that allows companies to immediately write down the full value of capital expenditures through 2022 is expected to generate big savings and a push for increased investment. Network operators are among the largest beneficiaries of this provision due to their inherent equipment needs. One example, AT&T, committed to increasing its capital spending by \$1 billion in 2018 if the legislation passed.

*Drivers: population, security/regulation standards, private investment, innovation/technology investment*

**UP** **3%**  
**\$23 Billion**

2017/2016 Comparison



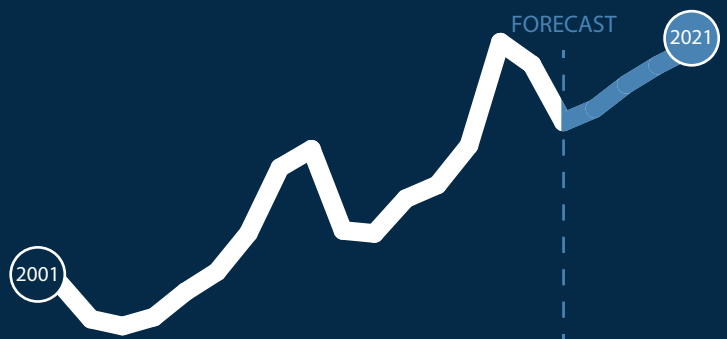
## Manufacturing

- The tax overhaul will have mixed results across manufacturing, but should make the U.S. a more attractive base for operations. Being able to write down equipment expenses through 2022 will help boost short-term investment. Also, provisions aimed at repatriating and taxing foreign profits will generally favor domestic manufacturing and encourage the displacement of profits being held overseas by international manufacturers. Last, reform preserves important research and development tax credits.
- Manufacturing capacity utilization rates remain below historical averages. However, many new projects and facility upgrades, including a potential second-wave of large-scale refining and petrochemical investments along the Gulf Coast, are in planning stages.

*Drivers: PMI, industrial production, capacity utilization, durable goods orders, manufacturing inventories*

**DWN** **-16%**  
**\$64 Billion**

2017/2016 Comparison



# Nonbuilding Structures Construction Put in Place

## Power

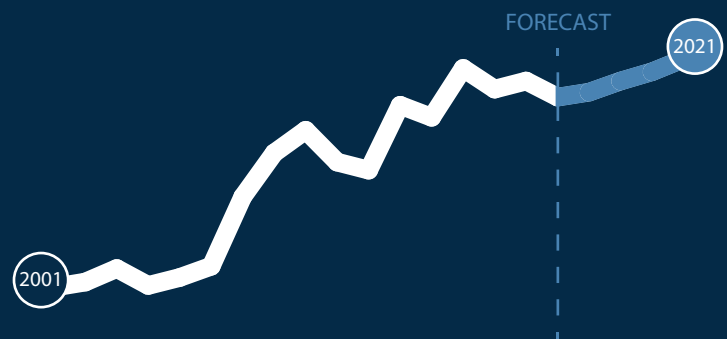
- Capital spending will continue to be directed towards electric and gas transmission and distribution infrastructure because of national renovation requirements, increasing use of distributed energy resources (DERs) and shifting dynamics in generation sources (e.g., natural gas and renewables).
- The outlook for the natural gas transmission and distribution investment is strong. Natural gas-fired power plants are the primary source of any new utility-scale generating capacity. Additionally, demand is seen increasing in industrial use, exports and residential heating.
- The 2017 tax restructure maintained favorable renewable energy tax credits and boosted FMI's outlook towards wind and solar project spending.

*Drivers: population, industrial production, government spending*

**DWN -5%**

**\$100 Billion**

2017/2016 Comparison



## Highway and Street

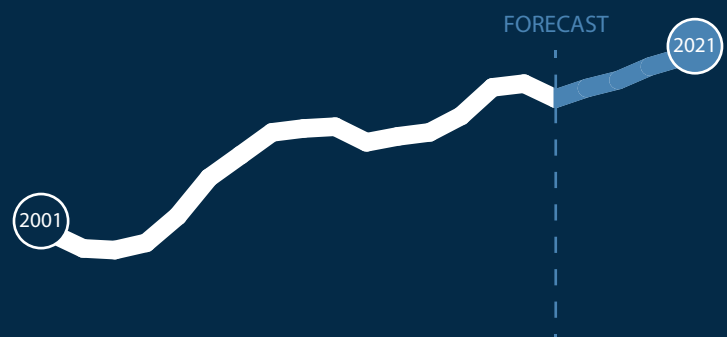
- Federal funding is expected to remain flat through the outlook period, and states are increasingly pushing for higher gas tax and user fees in order to increase revenues.
- Projects generally are becoming larger and more complex while state agencies struggle to maintain a limited pool of resources. As a result, alternative delivery methods (e.g., design-build) continue to gain traction, where much of the project management and oversight can be outsourced. Private interest and financing tools are available, but various hurdles continue to weigh on P3 investment opportunities.
- Electric and autonomous vehicles continue to push boundaries in this space, creating both disruption as well as new opportunities.

*Drivers: population, government spending, nonresidential structure investment*

**DWN -3%**

**\$88 Billion**

2017/2016 Comparison





## Sewage and Waste Disposal

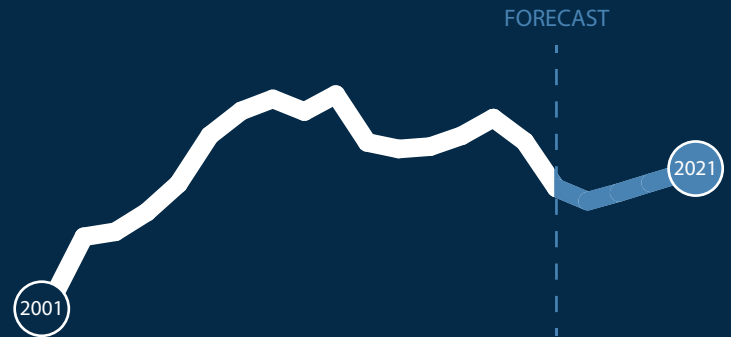
- Spending is directed at compliance, leaving limited resources to plan, build, maintain or improve infrastructure. Local governments are caught in an unsustainable financial situation resulting from eliminated or reduced federal assistance, but maintained mandates and regulations.
- There is continued uncertainty around the Trump administration's plans and decisions for the EPA. The market for private investment is expected to continue to evolve and grow. Privatized roles include ownership, P3s, third-party operation and other maintenance contracts.

*Drivers: population, industrial production, government spending*

**DWN -14%**

**\$20 Billion**

2017/2016 Comparison



## Water Supply

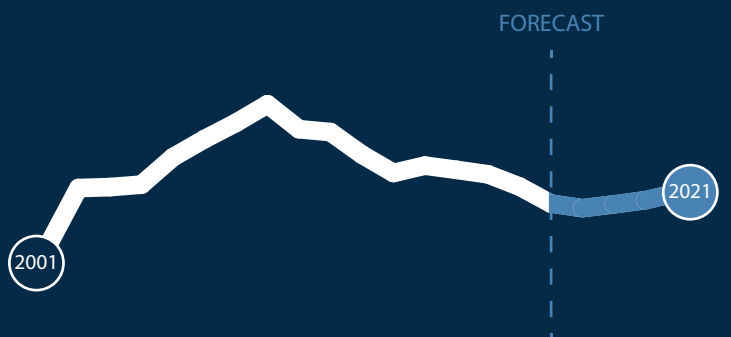
- Similar to sewage and waste disposal, funding and resources needed to plan, build, maintain or improve infrastructure are crippled by an unsustainable financial situation.
- Many anticipate technology advancements will aid in supply constraints, including connectivity and monitoring solutions for resources and asset management (e.g., smart irrigation, visualization) as well as increased reuse opportunities and projects to help meet high-capacity industrial needs.

*Drivers: population, industrial production, government spending*

**DWN -7%**

**\$12 Billion**

2017/2016 Comparison



## Conservation and Development

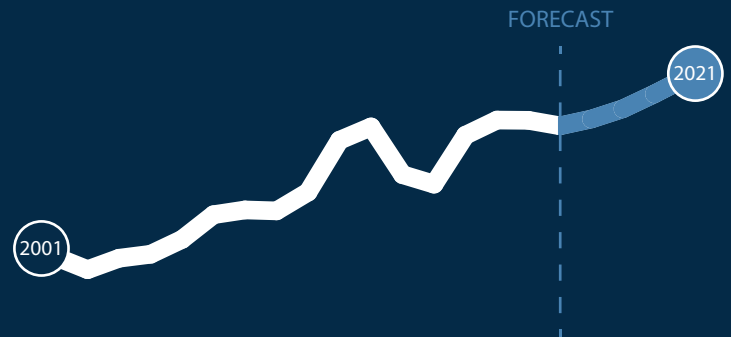
- Federal budget cuts and the current administration's reprioritization of the programs continue to be a drag on conservation and development spending.
- Cleanup efforts related to hurricane damages in Texas and Florida are expected to boost investment levels in both 2018 and 2019.

*Drivers: population, government spending*

**DWN** **-2%**

**\$8 Billion**

2017/2016 Comparison





## Construction Put in Place Estimated for the United States

Millions of Current Dollars  
4th Quarter 2017 Forecast (based on Q3 2017 Actuals)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	133,668	171,837	194,091	224,595	245,890	266,533	284,704	299,281	308,869	322,513
Multifamily	25,758	35,169	46,250	53,355	61,369	65,457	67,934	70,156	71,477	73,787
Improvements*	116,631	122,210	134,519	150,812	165,902	189,850	200,384	207,647	212,186	217,414
<b>Total Residential Buildings</b>	<b>276,057</b>	<b>329,217</b>	<b>374,860</b>	<b>428,762</b>	<b>473,161</b>	<b>521,840</b>	<b>553,022</b>	<b>577,085</b>	<b>592,533</b>	<b>613,714</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	10,836	13,484	16,738	21,908	26,923	28,949	30,322	31,269	31,796	33,441
Office	37,800	37,979	46,582	55,521	67,262	70,615	76,940	82,816	85,587	87,424
Commercial	47,335	53,159	62,841	65,899	76,578	85,077	90,594	94,913	96,651	99,427
Health Care	42,544	40,689	38,647	39,147	38,703	39,446	40,994	43,067	44,550	46,256
Education	84,672	79,060	79,681	84,771	89,391	90,126	92,607	96,554	100,198	104,411
Religious	3,846	3,590	3,386	3,577	3,501	3,254	3,177	3,211	3,285	3,336
Public Safety	10,431	9,506	9,437	8,484	7,982	8,085	8,225	8,494	8,769	9,146
Amusement and Recreation	15,480	15,207	16,773	20,258	22,455	23,645	24,912	25,629	25,877	26,371
Transportation	37,862	39,459	42,043	44,843	42,205	44,023	45,627	47,819	50,792	53,251
Communication	16,165	17,783	17,298	21,696	22,038	22,801	23,634	24,479	25,283	25,947
Manufacturing	47,741	50,548	58,648	79,930	75,328	63,498	66,255	71,263	75,220	78,513
<b>Total Nonresidential Buildings</b>	<b>354,712</b>	<b>360,464</b>	<b>392,074</b>	<b>446,034</b>	<b>472,366</b>	<b>479,519</b>	<b>503,286</b>	<b>529,514</b>	<b>548,006</b>	<b>567,523</b>
<b>NONBUILDING STRUCTURES</b>										
Power	97,434	93,317	110,089	102,972	105,755	100,233	101,934	105,760	108,943	113,330
Highway and Street	80,546	81,364	84,743	90,626	91,390	88,310	90,501	92,129	94,929	96,835
Sewage and Waste Disposal	22,261	22,425	23,173	24,380	22,771	19,590	18,680	19,278	19,950	20,604
Water Supply	13,218	13,597	13,380	13,150	12,522	11,646	11,407	11,603	11,818	12,193
Conservation and Development	6,228	5,967	7,310	7,726	7,719	7,568	7,756	8,037	8,445	8,887
<b>Total Nonbuilding Structures</b>	<b>219,687</b>	<b>216,670</b>	<b>238,695</b>	<b>238,854</b>	<b>240,157</b>	<b>227,346</b>	<b>230,277</b>	<b>236,806</b>	<b>244,085</b>	<b>251,849</b>
<b>Total Put in Place</b>	<b>\$850,456</b>	<b>\$906,351</b>	<b>\$1,005,629</b>	<b>\$1,113,650</b>	<b>\$1,185,684</b>	<b>\$1,228,705</b>	<b>\$1,286,586</b>	<b>\$1,343,405</b>	<b>\$1,384,624</b>	<b>\$1,433,086</b>

\*Improvements includes additions, alterations and major replacements. It does not include maintenance and repairs.

## Construction Put in Place Estimated for the United States

Change From Prior Year - Current Dollar Basis  
4th Quarter 2017 Forecast (based on Q3 2017 Actuals)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	22%	29%	13%	16%	9%	8%	7%	5%	3%	4%
Multifamily	45%	37%	32%	15%	15%	7%	4%	3%	2%	3%
Improvements*	-7%	5%	10%	12%	10%	14%	6%	4%	2%	2%
<b>Total Residential Buildings</b>	<b>9%</b>	<b>19%</b>	<b>14%</b>	<b>14%</b>	<b>10%</b>	<b>10%</b>	<b>6%</b>	<b>4%</b>	<b>3%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	19%	24%	24%	31%	23%	8%	5%	3%	2%	5%
Office	5%	0%	23%	19%	21%	5%	9%	8%	3%	2%
Commercial	11%	12%	18%	5%	16%	11%	6%	5%	2%	3%
Health Care	6%	-4%	-5%	1%	-1%	2%	4%	5%	3%	4%
Education	0%	-7%	1%	6%	5%	1%	3%	4%	4%	4%
Religious	-9%	-7%	-6%	6%	-2%	-7%	-2%	1%	2%	2%
Public Safety	0%	-9%	-1%	-10%	-6%	1%	2%	3%	3%	4%
Amusement and Recreation	-3%	-2%	10%	21%	11%	5%	5%	3%	1%	2%
Transportation	9%	4%	7%	7%	-6%	4%	4%	5%	6%	5%
Communication	-9%	10%	-3%	25%	2%	3%	4%	4%	3%	3%
Manufacturing	18%	6%	16%	36%	-6%	-16%	4%	8%	6%	4%
<b>Total Nonresidential Buildings</b>	<b>5%</b>	<b>2%</b>	<b>9%</b>	<b>14%</b>	<b>6%</b>	<b>2%</b>	<b>5%</b>	<b>5%</b>	<b>3%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	30%	-4%	18%	-6%	3%	-5%	2%	4%	3%	4%
Highway and Street	2%	1%	4%	7%	1%	-3%	2%	2%	3%	2%
Sewage and Waste Disposal	-2%	1%	3%	5%	-7%	-14%	-5%	3%	3%	3%
Water Supply	-7%	3%	-2%	-2%	-5%	-7%	-2%	2%	2%	3%
Conservation and Development	-17%	-4%	23%	6%	0%	-2%	2%	4%	5%	5%
<b>Total Nonbuilding Structures</b>	<b>10%</b>	<b>-1%</b>	<b>10%</b>	<b>0%</b>	<b>1%</b>	<b>-5%</b>	<b>1%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>
<b>Total Put in Place</b>	<b>8%</b>	<b>7%</b>	<b>11%</b>	<b>11%</b>	<b>6%</b>	<b>4%</b>	<b>5%</b>	<b>4%</b>	<b>3%</b>	<b>3%</b>

\*Improvements includes additions, alterations and major replacements. It does not include maintenance and repairs.

# Regional Summary

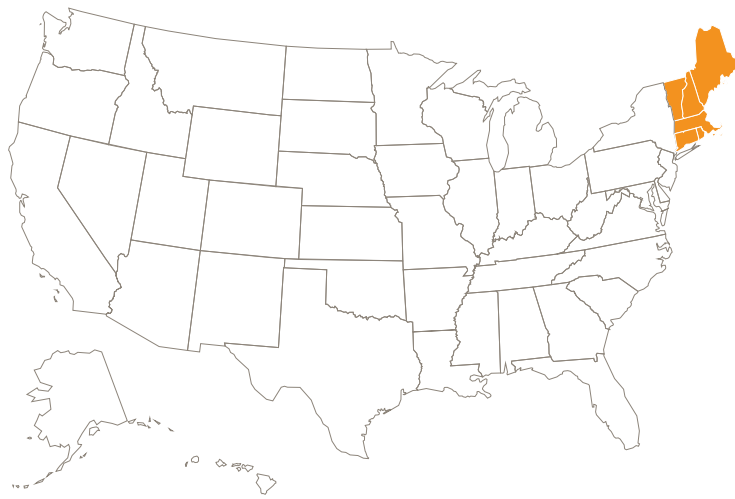
Through 2018, as seen in our regional forecasts below, southern and western markets are expected to generally outperform other regions of the country. Overall, FMI expects the three top-performing Census Divisions to include Mountain (+7 percent), South Atlantic (+6 percent) and Pacific (+6 percent) states.

- Anticipated top Census Divisions for residential spending in 2018 include Mountain (+10 percent), South Atlantic (+9 percent) and Pacific (+7 percent) states.
- Anticipated top Census Divisions for nonresidential building spending in 2018 include Mountain (+6 percent), Mid-Atlantic (+5 percent) and Pacific (+5 percent) states.
- Anticipated top Census Divisions for nonbuilding structures spending in 2018 include West South Central (+3 percent), South Atlantic (+2 percent) and East North Central (+2 percent) states.

## U.S. Construction Put in Place

Regional Forecast Summary (Millions of Current Dollars)

	Year	Total Residential	Total Nonresidential Buildings	Total Nonbuilding Structures	Total Put in Place	Projected Growth 2017-2018
Northeast	New England					
	2017	16,172	23,092	6,703	45,966	2.5%
	2018	16,255	24,095	6,784	47,134	
	Mid-Atlantic					
	2017	50,345	67,842	23,623	141,809	3.6%
	2018	51,957	71,405	23,533	146,895	
Midwest	East North Central					
	2017	28,982	61,436	24,164	114,581	4.6%
	2018	30,758	64,464	24,661	119,883	
	West North Central					
	2017	63,469	40,473	20,246	124,188	2.3%
	2018	65,400	41,936	19,763	127,099	
South	South Atlantic					
	2017	114,842	72,247	42,382	229,471	6.3%
	2018	124,765	75,845	43,274	243,884	
	East South Central					
	2017	17,224	19,658	10,453	47,335	2.3%
	2018	17,610	20,511	10,326	48,447	
	West South Central					
	2017	49,243	86,529	50,732	186,504	4.1%
	2018	51,120	90,936	52,077	194,132	
West	Mountain					
	2017	53,894	31,291	20,287	105,472	7.0%
	2018	59,108	33,160	20,572	112,840	
	Pacific					
	2017	127,670	76,953	28,756	233,379	5.5%
	2018	136,049	80,936	29,287	246,272	



## New England Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

											Change From Prior Year		
	2013	2014	2015	2016	2017	2018	2019	2020	2021		2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>													
Single-Family	6,419	6,504	7,505	8,767	9,101	9,369	9,848	10,170	10,725		17%	4%	3%
Multifamily	1,352	1,593	1,826	1,820	1,605	1,580	1,633	1,715	1,784		0%	-12%	-2%
Improvements*	4,629	4,571	5,054	5,264	5,466	5,306	5,461	5,617	5,759		4%	4%	-3%
<b>Total Residential</b>	<b>12,400</b>	<b>12,668</b>	<b>14,385</b>	<b>15,852</b>	<b>16,172</b>	<b>16,255</b>	<b>16,942</b>	<b>17,502</b>	<b>18,268</b>		<b>10%</b>	<b>2%</b>	<b>1%</b>
<b>NONRESIDENTIAL BUILDINGS</b>													
Lodging	769	865	1,154	1,306	1,392	1,462	1,515	1,547	1,632		13%	7%	5%
Office	2,165	2,408	2,924	3,264	3,579	3,916	4,216	4,361	4,453		12%	10%	9%
Commercial	3,031	3,248	3,470	3,716	4,101	4,381	4,598	4,674	4,809		7%	10%	7%
Health Care	2,320	1,997	2,062	1,878	1,894	1,975	2,085	2,165	2,254		-9%	1%	4%
Educational	4,508	4,118	4,464	4,338	4,333	4,459	4,665	4,855	5,072		-3%	0%	3%
Religious	205	175	188	170	156	153	156	160	163		-10%	-8%	-2%
Public Safety	542	488	447	387	389	397	412	427	446		-13%	0%	2%
Amusement and Recreation	867	867	1,067	1,090	1,137	1,198	1,239	1,260	1,291		2%	4%	5%
Transportation	2,250	2,173	2,361	2,007	2,059	2,204	2,315	2,458	2,566		-15%	3%	7%
Communication	1,014	894	1,143	1,069	1,096	1,140	1,186	1,230	1,266		-6%	3%	4%
Manufacturing	2,882	3,031	4,209	3,655	2,956	2,810	2,921	3,110	3,258		-13%	-19%	-5%
<b>Total Nonresidential Buildings</b>	<b>20,552</b>	<b>20,264</b>	<b>23,488</b>	<b>22,881</b>	<b>23,092</b>	<b>24,095</b>	<b>25,308</b>	<b>26,247</b>	<b>27,209</b>		<b>-3%</b>	<b>1%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>													
Power	3,100	3,422	3,129	3,143	2,931	3,069	3,208	3,211	3,293		0%	-7%	5%
Highway and Street	2,721	2,698	2,919	2,822	2,679	2,692	2,650	2,675	2,702		-3%	-5%	0%
Sewage and Waste Disposal	745	728	761	682	552	507	514	526	535		-10%	-19%	-8%
Water Supply	452	416	400	366	329	307	302	300	303		-8%	-10%	-7%
Conservation and Development	198	227	235	225	212	209	209	218	228		-4%	-6%	-2%
<b>Total Nonbuilding Structures</b>	<b>7,215</b>	<b>7,491</b>	<b>7,442</b>	<b>7,238</b>	<b>6,703</b>	<b>6,784</b>	<b>6,883</b>	<b>6,929</b>	<b>7,062</b>		<b>-3%</b>	<b>-7%</b>	<b>1%</b>
<b>Total Put in Place</b>	<b>40,167</b>	<b>40,424</b>	<b>45,316</b>	<b>45,971</b>	<b>45,966</b>	<b>47,134</b>	<b>49,133</b>	<b>50,677</b>	<b>52,538</b>		<b>1%</b>	<b>0%</b>	<b>3%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.





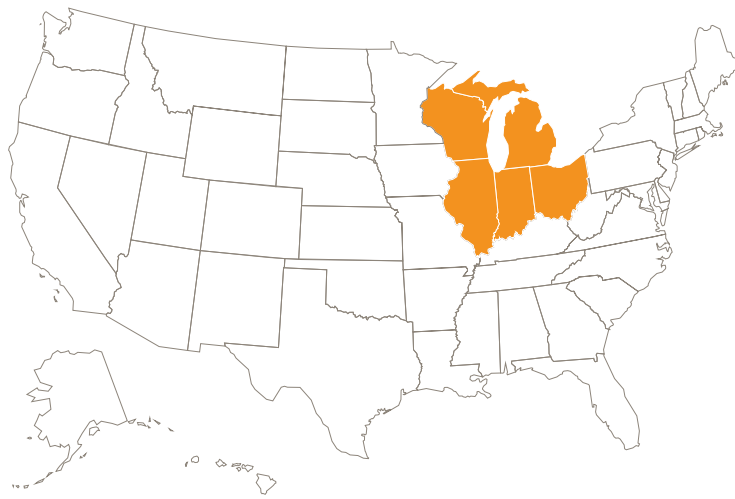
## Middle Atlantic Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	15,694	19,192	24,804	26,630	28,212	30,005	31,594	32,707	33,444	7%	6%	6%
Multifamily	3,305	4,700	6,036	4,738	4,434	4,648	5,051	5,454	5,663	-22%	-6%	5%
Improvements*	12,457	14,846	18,383	16,555	17,699	17,305	17,796	18,350	19,155	-10%	7%	-2%
<b>Total Residential</b>	<b>31,456</b>	<b>38,738</b>	<b>49,223</b>	<b>47,922</b>	<b>50,345</b>	<b>51,957</b>	<b>54,440</b>	<b>56,510</b>	<b>58,262</b>	<b>-3%</b>	<b>5%</b>	<b>3%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	2,161	2,446	3,125	3,804	4,053	4,241	4,396	4,483	4,727	22%	7%	5%
Office	6,087	6,808	7,921	9,505	9,854	10,737	11,564	11,944	12,198	20%	4%	9%
Commercial	8,520	9,184	9,401	10,821	11,943	12,706	13,339	13,539	13,931	15%	10%	6%
Health Care	6,521	5,648	5,585	5,469	5,516	5,728	6,048	6,271	6,529	-2%	1%	4%
Educational	12,671	11,645	12,093	12,631	12,617	12,933	13,533	14,062	14,693	4%	0%	3%
Religious	575	495	510	495	456	444	451	463	472	-3%	-8%	-2%
Public Safety	1,523	1,379	1,210	1,128	1,132	1,150	1,194	1,236	1,293	-7%	0%	2%
Amusement and Recreation	2,437	2,451	2,890	3,173	3,310	3,475	3,593	3,651	3,739	10%	4%	5%
Transportation	6,324	6,145	6,397	6,659	7,160	7,565	7,872	7,954	7,988	4%	8%	6%
Communication	2,850	2,528	3,095	3,114	3,192	3,306	3,441	3,564	3,668	1%	3%	4%
Manufacturing	8,101	8,571	11,403	10,644	8,609	9,119	9,577	9,054	8,913	-7%	-19%	6%
<b>Total Nonresidential Buildings</b>	<b>57,770</b>	<b>57,301</b>	<b>63,631</b>	<b>67,443</b>	<b>67,842</b>	<b>71,405</b>	<b>75,009</b>	<b>76,220</b>	<b>78,151</b>	<b>6%</b>	<b>1%</b>	<b>5%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	10,114	11,789	11,231	11,288	10,499	10,702	11,151	11,126	11,237	1%	-7%	2%
Highway and Street	8,879	9,295	10,476	10,134	9,295	9,228	9,353	9,599	9,743	-3%	-8%	-1%
Sewage and Waste Disposal	2,431	2,508	2,730	2,449	1,964	1,765	1,704	1,703	1,709	-10%	-20%	-10%
Water Supply	1,474	1,433	1,434	1,313	1,115	1,018	997	967	963	-8%	-15%	-9%
Conservation and Development	647	783	843	810	751	821	877	927	957	-4%	-7%	9%
<b>Total Nonbuilding Structures</b>	<b>23,544</b>	<b>25,807</b>	<b>26,714</b>	<b>25,994</b>	<b>23,623</b>	<b>23,533</b>	<b>24,082</b>	<b>24,322</b>	<b>24,609</b>	<b>-3%</b>	<b>-9%</b>	<b>0%</b>
<b>Total Put in Place</b>	<b>112,770</b>	<b>121,846</b>	<b>139,568</b>	<b>141,359</b>	<b>141,809</b>	<b>146,895</b>	<b>153,531</b>	<b>157,052</b>	<b>161,022</b>	<b>1%</b>	<b>0%</b>	<b>4%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.



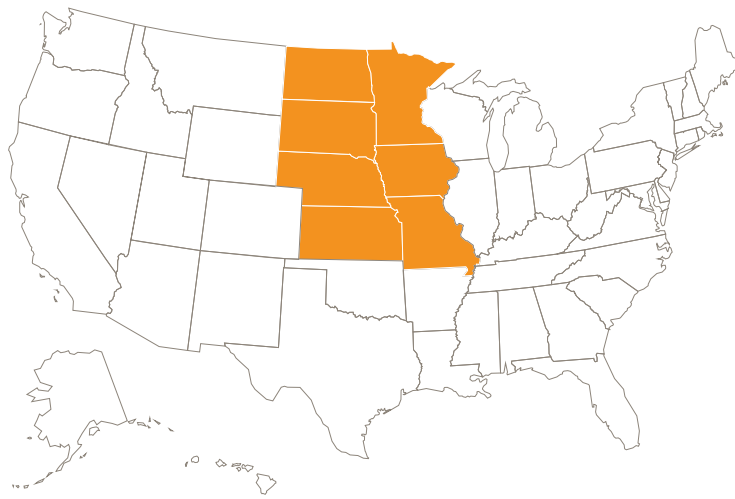
## East North Central Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	9,480	10,863	10,665	12,638	13,188	13,692	14,953	15,662	16,210	18%	4%	4%
Multifamily	1,996	2,660	2,595	3,795	4,653	5,126	5,693	6,148	6,275	46%	23%	10%
Improvements*	6,837	7,635	7,182	9,474	11,141	11,940	12,487	12,909	13,503	32%	18%	7%
<b>Total Residential</b>	<b>18,314</b>	<b>21,159</b>	<b>20,442</b>	<b>25,908</b>	<b>28,982</b>	<b>30,758</b>	<b>33,132</b>	<b>34,719</b>	<b>35,988</b>	<b>27%</b>	<b>12%</b>	<b>6%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	1,943	2,292	3,005	3,497	3,705	3,860	3,957	4,002	4,184	16%	6%	4%
Office	5,473	6,380	7,615	8,736	9,009	9,774	10,701	10,962	11,100	15%	3%	8%
Commercial	7,660	8,607	9,039	9,946	10,920	11,566	12,007	12,087	12,331	10%	10%	6%
Health Care	5,863	5,293	5,369	5,027	5,044	5,214	5,444	5,598	5,779	-6%	0%	3%
Educational	11,393	10,913	11,627	11,610	11,536	11,773	12,181	12,553	13,006	0%	-1%	2%
Religious	517	464	491	455	417	404	406	413	417	-7%	-8%	-3%
Public Safety	1,370	1,293	1,164	1,037	1,035	1,047	1,075	1,104	1,144	-11%	0%	1%
Amusement and Recreation	2,191	2,297	2,779	2,916	3,026	3,163	3,235	3,259	3,310	5%	4%	5%
Transportation	5,686	5,758	6,151	5,372	5,481	5,603	5,932	6,591	7,216	-13%	2%	2%
Communication	2,563	2,369	2,976	2,862	2,918	3,009	3,098	3,182	3,247	-4%	2%	3%
Manufacturing	7,284	8,033	10,963	9,783	8,345	9,051	10,131	11,291	12,068	-11%	-15%	8%
<b>Total Nonresidential Buildings</b>	<b>51,943</b>	<b>53,699</b>	<b>61,177</b>	<b>61,240</b>	<b>61,436</b>	<b>64,464</b>	<b>68,168</b>	<b>71,041</b>	<b>73,803</b>	<b>0%</b>	<b>0%</b>	<b>5%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	10,398	12,050	10,594	10,918	10,530	10,824	11,365	11,333	11,502	3%	-4%	3%
Highway and Street	9,128	9,500	9,883	9,803	9,706	10,104	10,291	10,556	10,555	-1%	-1%	4%
Sewage and Waste Disposal	2,499	2,563	2,576	2,369	1,982	1,832	1,883	1,957	2,030	-8%	-16%	-8%
Water Supply	1,515	1,465	1,353	1,270	1,182	1,110	1,106	1,116	1,150	-6%	-7%	-6%
Conservation and Development	665	800	795	783	762	791	821	859	891	-1%	-3%	4%
<b>Total Nonbuilding Structures</b>	<b>24,204</b>	<b>26,378</b>	<b>25,201</b>	<b>25,144</b>	<b>24,164</b>	<b>24,661</b>	<b>25,466</b>	<b>25,820</b>	<b>26,128</b>	<b>0%</b>	<b>-4%</b>	<b>2%</b>
<b>Total Put in Place</b>	<b>94,461</b>	<b>101,236</b>	<b>106,821</b>	<b>112,292</b>	<b>114,581</b>	<b>119,883</b>	<b>126,766</b>	<b>131,580</b>	<b>135,919</b>	<b>5%</b>	<b>2%</b>	<b>5%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.



## West North Central Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	26,630	28,501	27,197	30,595	31,093	31,251	33,396	35,385	36,435	12%	2%	1%
Multifamily	4,882	6,076	5,761	7,700	7,705	8,696	8,750	8,817	8,953	34%	0%	13%
Improvements*	19,206	20,032	19,726	21,412	24,671	25,453	26,256	26,757	27,318	9%	15%	3%
<b>Total Residential</b>	<b>50,718</b>	<b>54,610</b>	<b>52,685</b>	<b>59,707</b>	<b>63,469</b>	<b>65,400</b>	<b>68,403</b>	<b>70,959</b>	<b>72,706</b>	<b>13%</b>	<b>6%</b>	<b>3%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	1,095	1,420	1,880	2,310	2,460	2,550	2,618	2,656	2,790	23%	6%	4%
Office	3,085	3,953	4,765	5,772	5,981	6,457	7,016	7,560	7,992	21%	4%	8%
Commercial	4,319	5,332	5,656	6,571	7,250	7,641	8,173	8,660	9,048	16%	10%	5%
Health Care	3,306	3,279	3,360	3,321	3,348	3,444	3,602	3,716	3,854	-1%	1%	3%
Educational	6,423	6,761	7,275	7,670	7,659	7,777	8,060	8,333	8,673	5%	0%	2%
Religious	292	287	307	300	277	267	269	274	278	-2%	-8%	-3%
Public Safety	772	801	728	685	687	692	711	733	763	-6%	0%	1%
Amusement and Recreation	1,235	1,423	1,739	1,927	2,009	2,090	2,140	2,163	2,207	11%	4%	4%
Transportation	3,206	3,567	3,849	3,549	3,639	3,702	3,815	4,024	4,185	-8%	3%	2%
Communication	1,445	1,468	1,862	1,891	1,938	1,988	2,050	2,112	2,165	2%	2%	3%
Manufacturing	4,107	4,976	6,860	6,464	5,226	5,328	5,594	5,860	6,115	-6%	-19%	2%
<b>Total Nonresidential Buildings</b>	<b>29,285</b>	<b>33,268</b>	<b>38,280</b>	<b>40,461</b>	<b>40,473</b>	<b>41,936</b>	<b>44,048</b>	<b>46,091</b>	<b>48,070</b>	<b>6%</b>	<b>0%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	8,151	9,945	8,922	9,299	9,103	8,802	8,601	8,533	8,717	4%	-2%	-3%
Highway and Street	7,156	7,841	8,323	8,349	7,818	7,727	7,609	7,689	7,739	0%	-6%	-1%
Sewage and Waste Disposal	1,959	2,115	2,169	2,018	1,678	1,583	1,662	1,718	1,743	-7%	-17%	-6%
Water Supply	1,188	1,209	1,139	1,082	1,001	1,026	1,095	1,152	1,206	-5%	-7%	2%
Conservation and Development	521	660	669	667	645	624	636	656	685	0%	-3%	-3%
<b>Total Nonbuilding Structures</b>	<b>18,975</b>	<b>21,769</b>	<b>21,223</b>	<b>21,415</b>	<b>20,246</b>	<b>19,763</b>	<b>19,602</b>	<b>19,749</b>	<b>20,090</b>	<b>1%</b>	<b>-5%</b>	<b>-2%</b>
<b>Total Put in Place</b>	<b>98,977</b>	<b>109,647</b>	<b>112,187</b>	<b>121,583</b>	<b>124,188</b>	<b>127,099</b>	<b>132,052</b>	<b>136,799</b>	<b>140,866</b>	<b>8%</b>	<b>2%</b>	<b>2%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.





## South Atlantic Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	37,200	39,891	48,165	53,073	57,746	61,891	65,112	66,885	70,473	10%	9%	7%
Multifamily	7,628	9,512	11,412	13,188	14,109	16,084	18,015	18,826	19,561	16%	7%	14%
Improvements*	26,828	28,038	32,434	36,914	42,987	46,791	48,884	50,011	51,234	14%	16%	9%
<b>Total Residential</b>	<b>71,656</b>	<b>77,440</b>	<b>92,012</b>	<b>103,175</b>	<b>114,842</b>	<b>124,765</b>	<b>132,011</b>	<b>135,723</b>	<b>141,269</b>	<b>12%</b>	<b>11%</b>	<b>9%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	1,984	2,396	3,044	3,989	4,339	4,558	4,711	4,799	5,060	31%	9%	5%
Office	5,588	6,669	7,715	9,965	10,549	11,540	12,394	12,788	13,058	29%	6%	9%
Commercial	7,822	8,996	9,157	11,345	12,786	13,656	14,297	14,496	14,913	24%	13%	7%
Health Care	5,987	5,533	5,440	5,734	5,906	6,156	6,482	6,714	6,989	5%	3%	4%
Educational	11,633	11,407	11,780	13,244	13,508	13,900	14,504	15,056	15,729	12%	2%	3%
Religious	528	485	497	519	488	478	484	496	505	4%	-6%	-2%
Public Safety	1,399	1,351	1,179	1,183	1,212	1,236	1,280	1,324	1,384	0%	2%	2%
Amusement and Recreation	2,238	2,401	2,815	3,327	3,544	3,735	3,851	3,909	4,003	18%	7%	5%
Transportation	5,806	6,019	6,231	6,128	6,418	6,616	6,996	7,549	7,880	-2%	5%	3%
Communication	2,617	2,476	3,015	3,265	3,417	3,553	3,688	3,816	3,926	8%	5%	4%
Manufacturing	7,437	8,396	11,107	11,160	10,081	10,418	11,015	11,586	12,136	0%	-10%	3%
<b>Total Nonresidential Buildings</b>	<b>53,037</b>	<b>56,130</b>	<b>61,982</b>	<b>69,858</b>	<b>72,247</b>	<b>75,845</b>	<b>79,703</b>	<b>82,532</b>	<b>85,582</b>	<b>13%</b>	<b>3%</b>	<b>5%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	16,423	18,286	16,894	19,109	18,759	19,105	20,059	21,171	22,441	13%	-2%	2%
Highway and Street	14,417	14,417	15,760	17,156	16,443	17,126	17,608	18,233	18,686	9%	-4%	4%
Sewage and Waste Disposal	3,947	3,889	4,107	4,147	3,698	3,560	3,731	3,876	4,004	1%	-11%	-4%
Water Supply	2,393	2,222	2,157	2,223	2,151	2,140	2,175	2,192	2,249	3%	-3%	0%
Conservation and Development	1,050	1,214	1,268	1,370	1,330	1,342	1,392	1,471	1,564	8%	-3%	1%
<b>Total Nonbuilding Structures</b>	<b>38,229</b>	<b>40,028</b>	<b>40,186</b>	<b>44,005</b>	<b>42,382</b>	<b>43,274</b>	<b>44,965</b>	<b>46,944</b>	<b>48,945</b>	<b>10%</b>	<b>-4%</b>	<b>2%</b>
<b>Total Put in Place</b>	<b>162,922</b>	<b>173,599</b>	<b>194,179</b>	<b>217,037</b>	<b>229,471</b>	<b>243,884</b>	<b>256,679</b>	<b>265,198</b>	<b>275,796</b>	<b>12%</b>	<b>6%</b>	<b>6%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.



## East South Central Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	5,158	6,038	7,047	7,894	8,474	8,875	9,249	9,559	9,950	12%	7%	5%
Multifamily	968	1,318	1,529	1,917	2,232	2,301	2,280	2,194	2,252	25%	16%	3%
Improvements*	3,741	4,268	4,773	5,527	6,518	6,434	6,268	6,180	6,255	16%	18%	-1%
<b>Total Residential</b>	<b>9,867</b>	<b>11,625</b>	<b>13,349</b>	<b>15,338</b>	<b>17,224</b>	<b>17,610</b>	<b>17,798</b>	<b>17,933</b>	<b>18,457</b>	<b>15%</b>	<b>12%</b>	<b>2%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	711	830	1,014	1,125	1,193	1,238	1,261	1,276	1,336	11%	6%	4%
Office	2,004	2,311	2,570	2,812	2,900	3,076	3,195	3,273	3,319	9%	3%	6%
Commercial	2,804	3,118	3,051	3,201	3,515	3,709	3,901	4,121	4,293	5%	10%	6%
Health Care	2,147	1,918	1,812	1,618	1,656	1,705	1,770	1,838	1,900	-11%	2%	3%
Educational	4,171	3,953	3,925	3,737	3,714	3,776	3,882	4,002	4,152	-5%	-1%	2%
Religious	189	168	166	146	134	130	129	132	133	-12%	-8%	-3%
Public Safety	502	468	393	334	333	336	343	352	365	-15%	0%	1%
Amusement and Recreation	802	832	938	939	974	1,015	1,031	1,039	1,057	0%	4%	4%
Transportation	2,082	2,086	2,076	1,729	1,764	1,797	1,838	1,933	2,003	-17%	2%	2%
Communication	938	858	1,004	921	940	965	987	1,014	1,036	-8%	2%	3%
Manufacturing	2,667	2,910	3,700	3,149	2,534	2,764	3,047	3,212	3,025	-15%	-20%	9%
<b>Total Nonresidential Buildings</b>	<b>19,017</b>	<b>19,453</b>	<b>20,649</b>	<b>19,711</b>	<b>19,658</b>	<b>20,511</b>	<b>21,382</b>	<b>22,192</b>	<b>22,620</b>	<b>-5%</b>	<b>0%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	5,254	5,780	5,002	4,900	4,545	4,377	4,408	4,408	4,543	-2%	-7%	-4%
Highway and Street	4,613	4,557	4,666	4,399	4,158	4,285	4,344	4,381	4,449	-6%	-5%	3%
Sewage and Waste Disposal	1,263	1,229	1,216	1,063	883	816	808	826	845	-13%	-17%	-8%
Water Supply	766	702	639	570	527	494	474	471	478	-11%	-8%	-6%
Conservation and Development	336	384	375	351	340	353	362	376	397	-6%	-3%	4%
<b>Total Nonbuilding Structures</b>	<b>12,231</b>	<b>12,652</b>	<b>11,899</b>	<b>11,284</b>	<b>10,453</b>	<b>10,326</b>	<b>10,396</b>	<b>10,462</b>	<b>10,711</b>	<b>-5%</b>	<b>-7%</b>	<b>-1%</b>
<b>Total Put in Place</b>	<b>41,115</b>	<b>43,730</b>	<b>45,897</b>	<b>46,333</b>	<b>47,335</b>	<b>48,447</b>	<b>49,576</b>	<b>50,587</b>	<b>51,789</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.



## West South Central Construction Put in Place

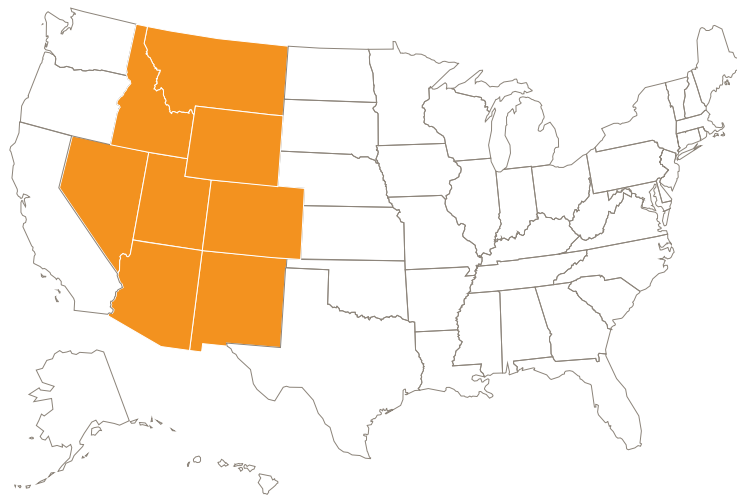
Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	19,605	22,917	25,743	25,914	26,712	27,169	27,347	27,670	28,777	1%	3%	2%
Multifamily	4,258	5,788	6,460	5,777	5,532	5,594	5,577	5,435	5,574	-11%	-4%	1%
Improvements*	11,558	13,167	14,171	14,421	16,999	18,357	19,211	19,359	19,576	2%	18%	8%
<b>Total Residential</b>	<b>35,420</b>	<b>41,871</b>	<b>46,374</b>	<b>46,112</b>	<b>49,243</b>	<b>51,120</b>	<b>52,135</b>	<b>52,464</b>	<b>53,926</b>	<b>-1%</b>	<b>7%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	1,654	2,488	3,858	4,866	5,259	5,523	5,719	5,818	6,121	26%	8%	5%
Office	4,659	6,924	9,778	12,158	12,788	13,984	15,044	15,502	15,794	24%	5%	9%
Commercial	6,521	9,340	11,605	13,842	15,499	16,548	17,354	17,573	18,038	19%	12%	7%
Health Care	4,992	5,744	6,894	6,996	7,159	7,459	7,868	8,139	8,453	1%	2%	4%
Educational	9,699	11,843	14,929	16,158	16,374	16,844	17,606	18,251	19,024	8%	1%	3%
Religious	440	503	630	633	591	579	587	601	611	0%	-7%	-2%
Public Safety	1,166	1,403	1,494	1,443	1,469	1,498	1,553	1,604	1,674	-3%	2%	2%
Amusement and Recreation	1,866	2,493	3,568	4,059	4,296	4,526	4,675	4,738	4,842	14%	6%	5%
Transportation	4,841	6,249	7,897	7,477	7,779	8,017	8,413	8,981	9,622	-5%	4%	3%
Communication	2,182	2,571	3,821	3,983	4,142	4,305	4,477	4,626	4,749	4%	4%	4%
Manufacturing	6,201	8,717	14,076	13,616	11,172	11,653	12,817	14,107	15,309	-3%	-18%	4%
<b>Total Nonresidential Buildings</b>	<b>44,221</b>	<b>58,275</b>	<b>78,551</b>	<b>85,231</b>	<b>86,529</b>	<b>90,936</b>	<b>96,115</b>	<b>99,942</b>	<b>104,236</b>	<b>9%</b>	<b>2%</b>	<b>5%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	17,250	23,942	26,683	26,997	24,001	24,883	26,485	28,010	29,421	1%	-11%	4%
Highway and Street	14,534	16,169	17,296	17,373	17,123	17,464	17,854	18,707	19,553	0%	-1%	2%
Sewage and Waste Disposal	4,145	4,772	5,459	5,085	4,634	4,701	4,994	5,248	5,579	-7%	-9%	1%
Water Supply	2,513	2,910	3,408	3,240	2,937	2,956	3,045	3,136	3,280	-5%	-9%	1%
Conservation and Development	1,103	1,590	2,002	1,997	2,037	2,073	2,179	2,285	2,408	0%	2%	2%
<b>Total Nonbuilding Structures</b>	<b>39,545</b>	<b>49,383</b>	<b>54,848</b>	<b>54,692</b>	<b>50,732</b>	<b>52,077</b>	<b>54,557</b>	<b>57,387</b>	<b>60,242</b>	<b>0%</b>	<b>-7%</b>	<b>3%</b>
<b>Total Put in Place</b>	<b>119,186</b>	<b>149,529</b>	<b>179,773</b>	<b>186,035</b>	<b>186,504</b>	<b>194,132</b>	<b>202,806</b>	<b>209,793</b>	<b>218,405</b>	<b>3%</b>	<b>0%</b>	<b>4%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.





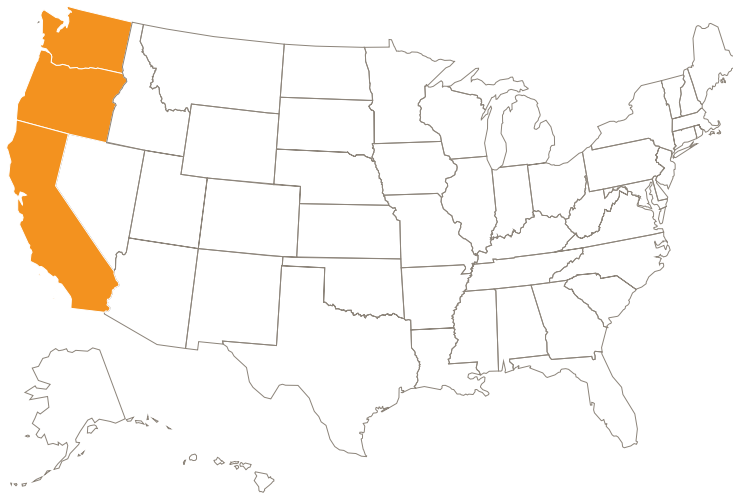
## Mountain Construction Put in Place

Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	14,662	17,406	19,931	22,769	26,770	30,831	32,945	33,743	35,445	14%	18%	15%
Multifamily	2,910	4,018	4,571	6,305	7,946	7,563	7,469	7,413	7,679	38%	26%	-5%
Improvements*	10,358	11,984	13,147	16,608	19,178	20,713	21,522	21,954	22,422	26%	15%	8%
<b>Total Residential</b>	<b>27,930</b>	<b>33,408</b>	<b>37,649</b>	<b>45,681</b>	<b>53,894</b>	<b>59,108</b>	<b>61,937</b>	<b>63,109</b>	<b>65,545</b>	<b>21%</b>	<b>18%</b>	<b>10%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	920	1,127	1,387	1,732	1,908	2,009	2,074	2,116	2,233	25%	10%	5%
Office	2,593	3,137	3,515	4,328	4,638	5,087	5,455	5,638	5,763	23%	7%	10%
Commercial	3,629	4,231	4,172	4,928	5,622	6,019	6,292	6,391	6,582	18%	14%	7%
Health Care	2,778	2,602	2,478	2,490	2,597	2,713	2,853	2,960	3,084	0%	4%	4%
Educational	5,397	5,365	5,366	5,752	5,939	6,127	6,384	6,638	6,942	7%	3%	3%
Religious	245	228	226	225	214	210	213	219	223	-1%	-5%	-2%
Public Safety	649	635	537	514	533	545	563	584	611	-4%	4%	2%
Amusement and Recreation	1,038	1,129	1,282	1,445	1,558	1,708	1,759	1,706	1,689	13%	8%	10%
Transportation	2,694	2,831	2,839	2,662	2,822	2,916	3,022	3,205	3,413	-6%	6%	3%
Communication	1,214	1,165	1,373	1,418	1,502	1,566	1,623	1,682	1,733	3%	6%	4%
Manufacturing	3,451	3,949	5,060	4,847	3,958	4,259	4,669	4,779	4,868	-4%	-18%	8%
<b>Total Nonresidential Buildings</b>	<b>24,607</b>	<b>26,401</b>	<b>28,236</b>	<b>30,342</b>	<b>31,291</b>	<b>33,160</b>	<b>34,908</b>	<b>35,918</b>	<b>37,141</b>	<b>7%</b>	<b>3%</b>	<b>6%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	8,551	9,814	8,728	8,533	8,459	8,605	8,858	9,366	10,048	-2%	-1%	2%
Highway and Street	7,506	7,738	8,142	8,285	8,299	8,550	8,704	8,942	9,191	2%	0%	3%
Sewage and Waste Disposal	2,055	2,087	2,122	2,002	1,781	1,694	1,741	1,812	1,877	-6%	-11%	-5%
Water Supply	1,246	1,193	1,115	1,074	1,063	1,026	1,022	1,033	1,062	-4%	-1%	-3%
Conservation and Development	547	652	655	662	685	697	709	751	801	1%	4%	2%
<b>Total Nonbuilding Structures</b>	<b>19,904</b>	<b>21,484</b>	<b>20,761</b>	<b>20,556</b>	<b>20,287</b>	<b>20,572</b>	<b>21,035</b>	<b>21,903</b>	<b>22,978</b>	<b>-1%</b>	<b>-1%</b>	<b>1%</b>
<b>Total Put in Place</b>	<b>72,441</b>	<b>81,292</b>	<b>86,646</b>	<b>96,579</b>	<b>105,472</b>	<b>112,840</b>	<b>117,879</b>	<b>120,930</b>	<b>125,665</b>	<b>11%</b>	<b>9%</b>	<b>7%</b>

\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.



## Pacific Construction Put in Place

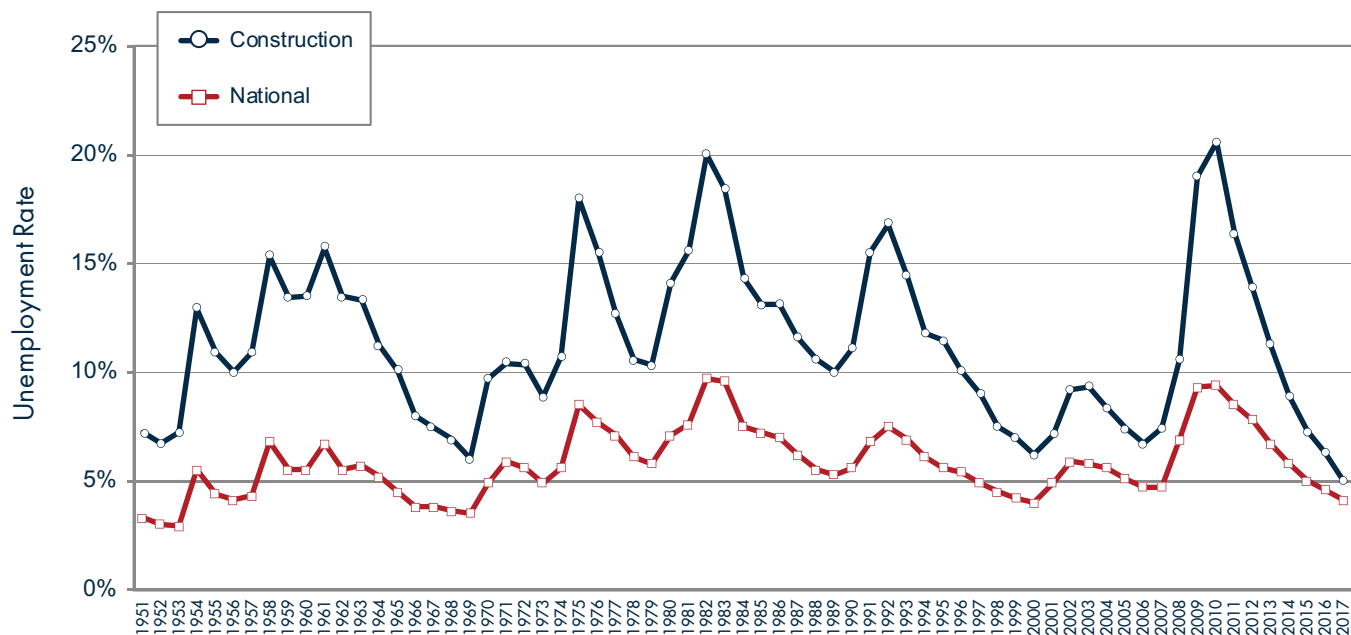
Millions of Current Dollars

4th Quarter 2017 Forecast, Based on 3rd Quarter 2017 Actuals

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Change From Prior Year		
										2016	2017	2018
<b>RESIDENTIAL BUILDINGS</b>												
Single-Family	36,989	42,779	53,537	57,609	65,237	71,621	74,837	77,088	81,055	8%	13%	10%
Multifamily	7,871	10,586	13,163	16,129	17,241	16,343	15,688	15,475	16,046	23%	7%	-5%
Improvements*	26,596	29,977	35,943	39,727	45,192	48,085	49,761	51,050	52,191	11%	14%	6%
<b>Total Residential</b>	<b>71,456</b>	<b>83,342</b>	<b>102,643</b>	<b>113,465</b>	<b>127,670</b>	<b>136,049</b>	<b>140,287</b>	<b>143,614</b>	<b>149,292</b>	<b>11%</b>	<b>13%</b>	<b>7%</b>
<b>NONRESIDENTIAL BUILDINGS</b>												
Lodging	2,246	2,872	3,440	4,292	4,641	4,879	5,018	5,099	5,357	25%	8%	5%
Office	6,325	7,994	8,718	10,723	11,314	12,370	13,231	13,559	13,746	23%	6%	9%
Commercial	8,853	10,784	10,348	12,209	13,441	14,367	14,950	15,110	15,483	18%	10%	7%
Health Care	6,776	6,632	6,147	6,170	6,326	6,600	6,915	7,149	7,415	0%	3%	4%
Educational	13,167	13,674	13,311	14,251	14,448	15,019	15,739	16,448	17,121	7%	1%	4%
Religious	598	581	562	558	522	511	515	527	534	-1%	-7%	-2%
Public Safety	1,583	1,619	1,332	1,273	1,296	1,324	1,363	1,406	1,465	-4%	2%	2%
Amusement and Recreation	2,533	2,878	3,181	3,580	3,790	4,002	4,106	4,152	4,233	13%	6%	6%
Transportation	6,572	7,215	7,042	6,621	6,903	7,207	7,615	8,097	8,378	-6%	4%	4%
Communication	2,962	2,968	3,407	3,513	3,655	3,803	3,929	4,055	4,157	3%	4%	4%
Manufacturing	8,418	10,064	12,551	12,009	10,617	10,854	11,492	12,222	12,821	-4%	-12%	2%
<b>Total Nonresidential Buildings</b>	<b>60,033</b>	<b>67,282</b>	<b>70,039</b>	<b>75,200</b>	<b>76,953</b>	<b>80,936</b>	<b>84,874</b>	<b>87,823</b>	<b>90,711</b>	<b>7%</b>	<b>2%</b>	<b>5%</b>
<b>NONBUILDING STRUCTURES</b>												
Power	14,077	15,061	11,789	11,567	11,405	11,566	11,626	11,784	12,129	-2%	-1%	1%
Highway and Street	12,412	12,529	13,161	13,070	12,789	13,326	13,715	14,147	14,216	-1%	-2%	4%
Sewage and Waste Disposal	3,383	3,281	3,239	2,955	2,417	2,220	2,241	2,286	2,283	-9%	-18%	-8%
Water Supply	2,051	1,831	1,506	1,384	1,341	1,330	1,387	1,452	1,500	-8%	-3%	-1%
Conservation and Development	900	1,000	885	853	805	846	853	902	956	-4%	-6%	5%
<b>Total Nonbuilding Structures</b>	<b>32,822</b>	<b>33,702</b>	<b>30,579</b>	<b>29,830</b>	<b>28,756</b>	<b>29,287</b>	<b>29,822</b>	<b>30,570</b>	<b>31,084</b>	<b>-2%</b>	<b>-4%</b>	<b>2%</b>
<b>Total Put in Place</b>	<b>164,311</b>	<b>184,326</b>	<b>203,262</b>	<b>218,495</b>	<b>233,379</b>	<b>246,272</b>	<b>254,983</b>	<b>262,007</b>	<b>271,086</b>	<b>7%</b>	<b>7%</b>	<b>6%</b>

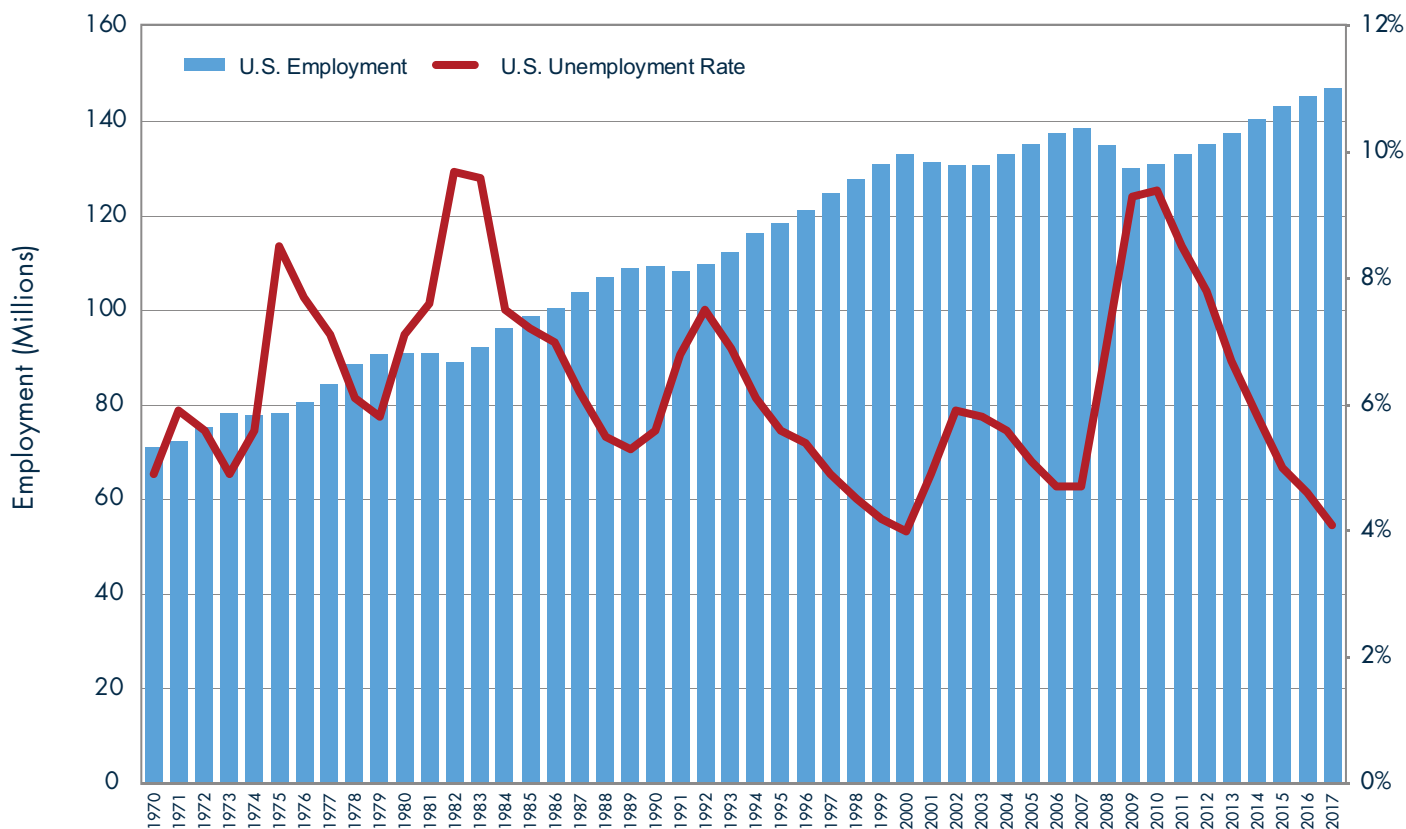
\*Improvements include additions, alterations and major replacements. It does not include maintenance and repairs.

## Construction Unemployment Rates



Source: Bureau of Labor Statistics

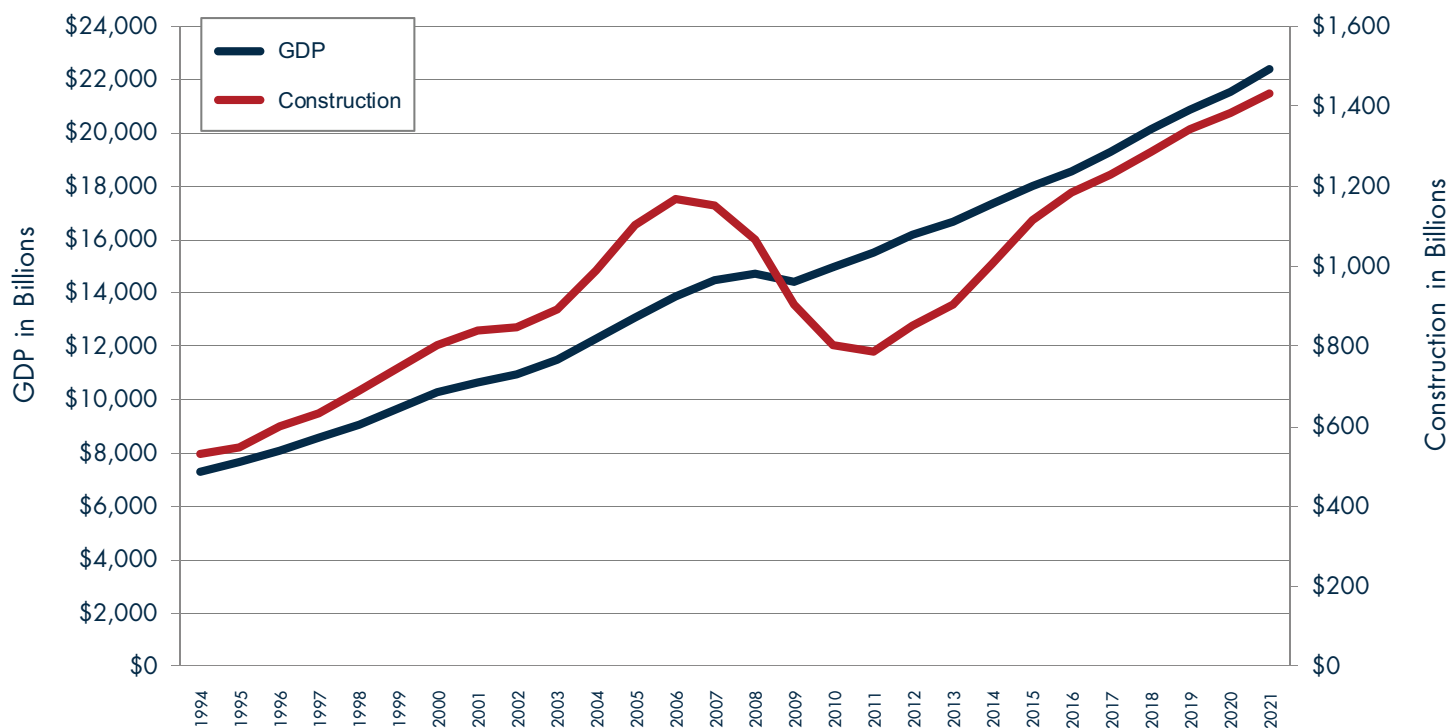
## Employment and Unemployment Rate Comparison



Source: Bureau of Labor Statistics

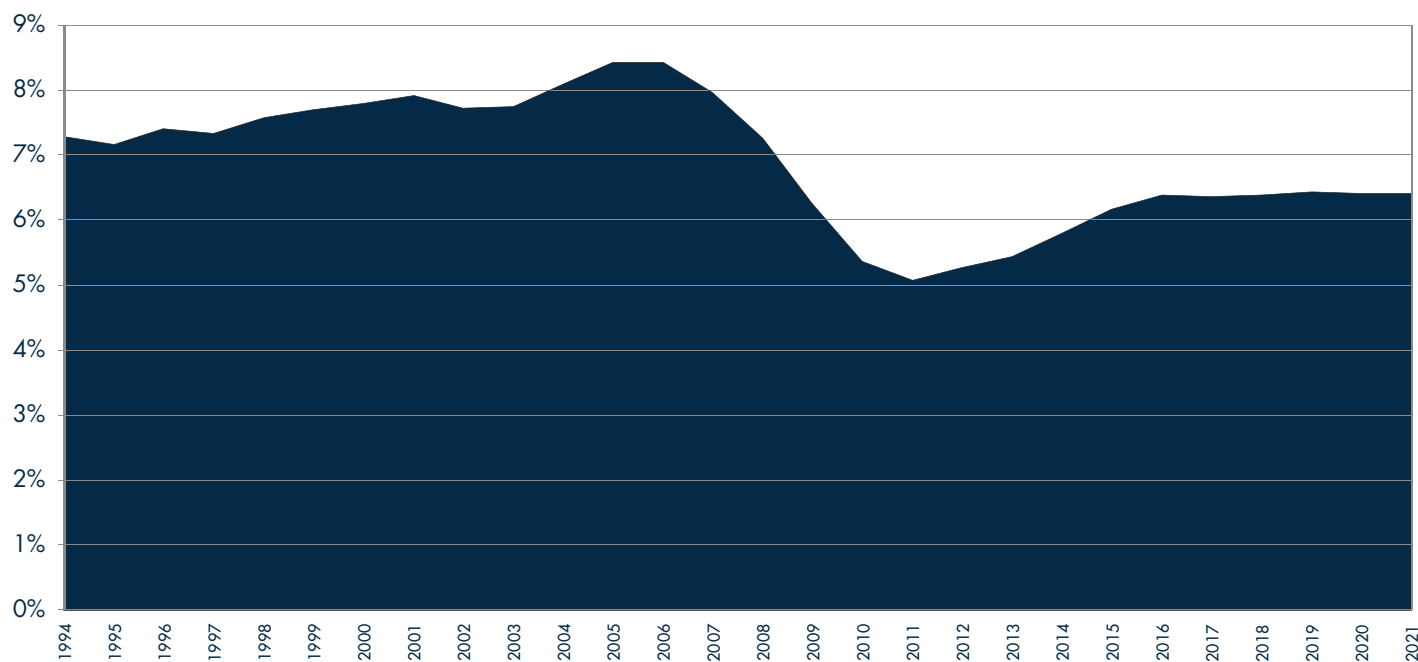


## Construction Spending and Nominal GDP



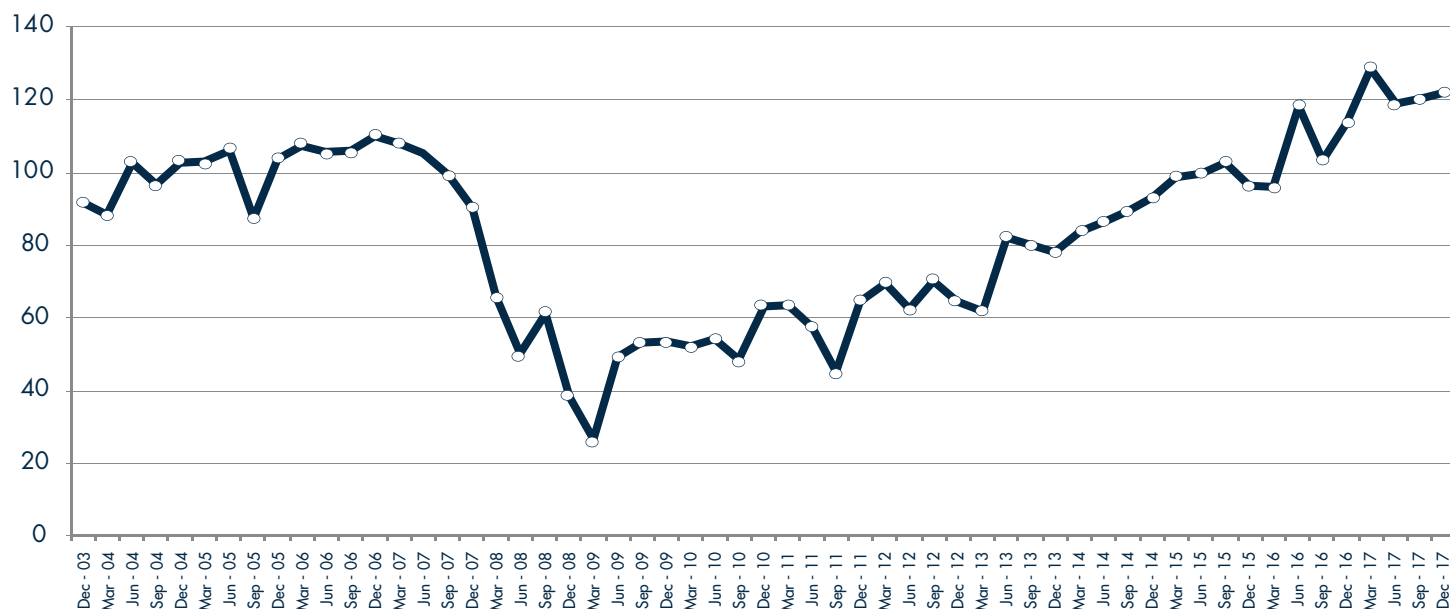
Source: Bureau of Labor Statistics

## Construction as a Percentage of GDP



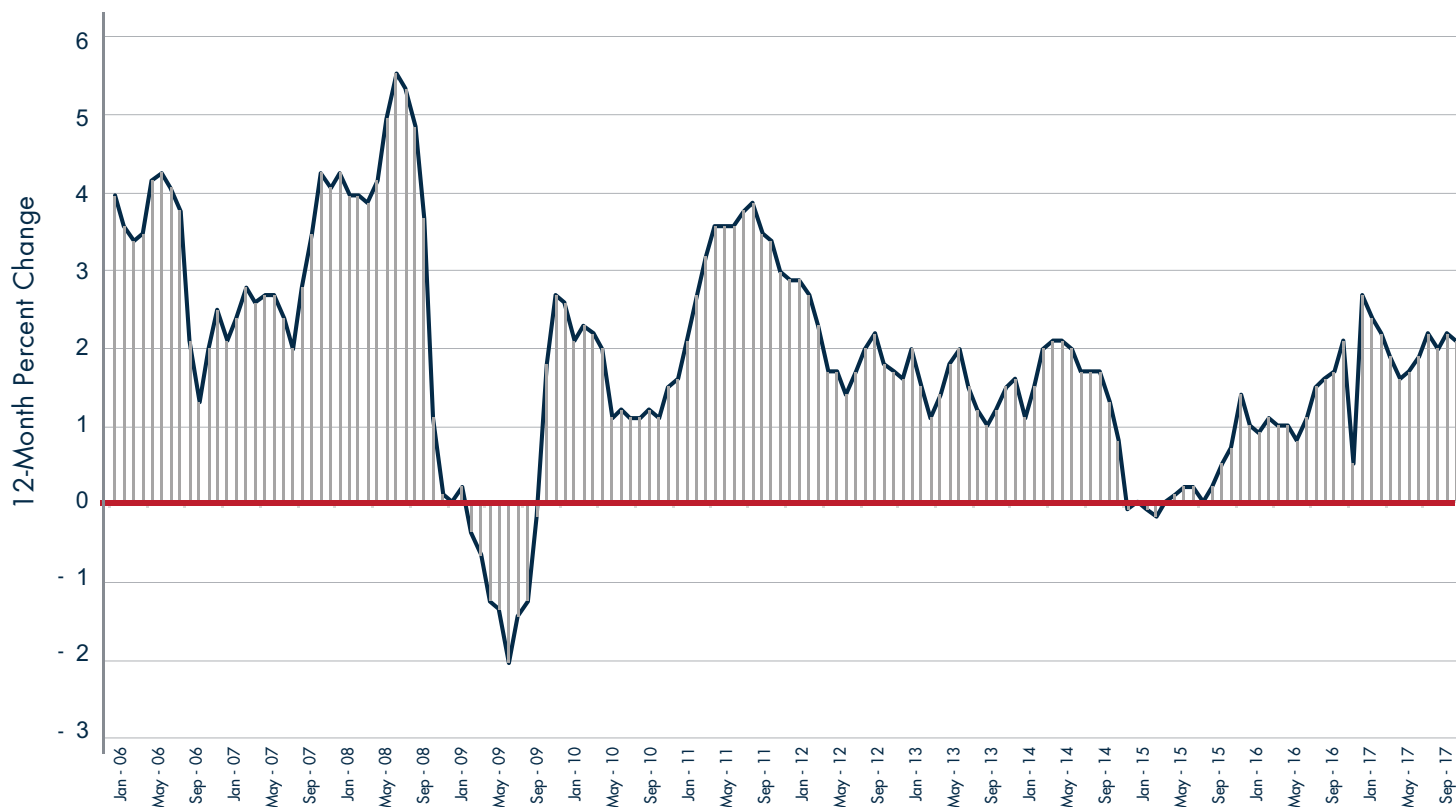
Source: Bloomberg

## Conference Board Consumer Confidence Index



Source: Bureau of Labor Statistics

## Consumer Price Index All Urban Consumer, 12-Month Percent Change



Source: Bureau of Labor Statistics







## About FMI

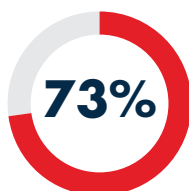
For over 65 years, FMI has been the leading **management consulting and investment banking** firm dedicated exclusively to **engineering and construction, infrastructure and the built environment**.

FMI serves all sectors of the industry as a trusted advisor. More than six decades of context, connections and insights lead to transformational outcomes for our clients and the industry.

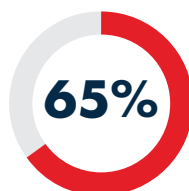
### Sector Expertise

- A/E and Environmental
- General Contractors/CM
- Heavy Civil
- Industrial
- Specialty Trades
- Utility T&D
- Cleantech and Energy Services
- Construction Materials
- Building Products
- Oil and Gas
- Private Equity
- Owners

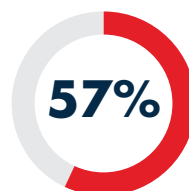
## FMI Client Highlights



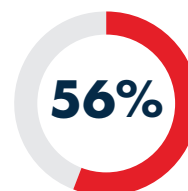
of the ENR  
**Top-400**  
**LARGEST**  
**CONTRACTORS**



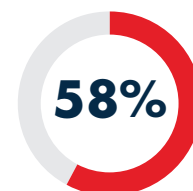
of the ENR  
**Top-200**  
**SPECIALTY**  
**CONTRACTORS**



of the ENR  
**Top-100**  
**DESIGN**  
**FIRMS**



of the ENR  
**Top-200**  
**ENVIRONMENTAL**  
**FIRMS**



of the ENR  
**Top-100**  
**CM FOR**  
**FEE FIRMS**

# About the Authors

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**Brian Strawberry** is a senior economist with FMI. Brian's expertise is in economic and statistical modeling. He leads FMI's efforts in market sizing, forecasting, and building product/construction material pricing and consumption trends. Brian's combination of analytical skills and creative problem-solving abilities have proven valuable for many contractors, owners and private equity groups as well as industry associations and internal research initiatives. Brian can be reached at [bstrawberry@fminet.com](mailto:bstrawberry@fminet.com).

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