



# 2020 FMI OVERVIEW

Featuring FMI's Fourth Quarter 2019 Outlook





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# Navigating a Maturing Cycle in Uncertain Times

*As we head into 2020, we find ourselves at the top of an extended economic cycle, confronted with polarizing geopolitical tensions and increasing uncertainty. Add to that another seismic event—the U.S. election in November—and we have a recipe for an interesting year ahead.*

**By Chris Daum, CEO, FMI**

Having benefited from an unprecedented period of economic expansion and sweeping economic prosperity, the U.S. built environment (along with the companies operating within it) has experienced a very long run rate. With the domestic economy beginning to send mixed messages and indicating decelerating growth—and with the global economy flashing red through 2019 in certain pockets (e.g., China and the Eurozone)—in what direction it turns remains to be seen.

These high levels of domestic and international uncertainty are also playing out in the built environment: In 2020 FMI only predicts a small increase (1%) in engineering and construction spending levels over 2019.

Through 2019, year-end actuals are anticipated to remain flat or slightly down at 0% overall growth, with leading growth segments expected to include a mix of public infrastructure (e.g., power, highway and street, sewage and waste disposal, water supply, and conservation and development), alongside a small number of mixed public and private nonresidential building segments (e.g., public safety, transportation, lodging and office), all with growth rates of 5% or higher.

However, we saw a softening across all residential segments of the industry through 2019 year-end, and we expect further declines through 2020 in multifamily residential, residential improvements, commercial, religious, amusement and recreation, and manufacturing.

Conversely, however, it is encouraging that the latest Nonresidential Construction Index (NRCI) feedback suggests increased optimism heading into Q1 2020, at 53.9. This index score is up considerably from a neutral reading of 50.4 last quarter and is the highest score reported since Q4 2018.

No matter how you dissect the situation, it's impossible to predict how these market and geopolitical dynamics will impact the built environment in the near term and midterm. And therefore, E&C leaders need to ask themselves: How do I create a coherent and flexible strategy that allows my company to take advantage of the strong operating environment we're in today (in terms of backlog and available work) while also keeping a firm eye on the horizon? This is critical because any external factors could have a swift impact on today's operating environment.

*“ In his book ‘Lords of Strategy,’ Walter Kiechel says, ‘It’s easy to conflate strategy with strategic planning, but it’s also dangerous.’ We would agree. Our experience is that many firms have a strategic plan, but far fewer have a clear strategy. With almost half of all construction spending to occur in just 20 metropolitan markets AND megaprojects projected to explode from less than 2% five years ago to 20% of total construction volume over the next three to five years, it’s clear the cheese has moved... and having a clear strategy has never been more critical. ”*

**Scott Winstead, President  
FMI Consulting**



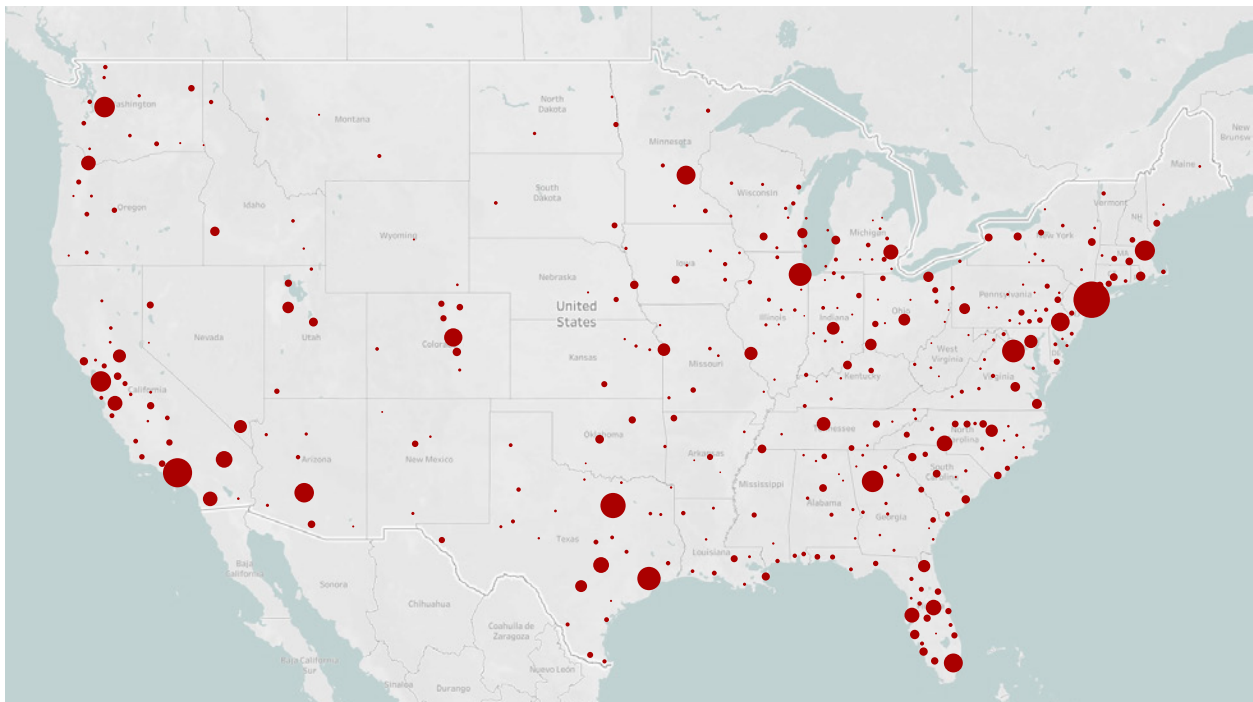
# The Strategy Imperative

*Planning for the future can seem overwhelming in today's VUCA<sup>1</sup> world, particularly since many firms have been lulled into complacency after operating in a strong market for more than a decade.*

Furthermore, many E&C executives don't realize that their markets have shifted dramatically over the past few years, influenced by ever-increasing urbanization that's led to more complex and concentrated building activities. In fact, according to [FMI's latest research](#), annual nonresidential megaproject CPiP is expected to increase more than 400% over the next five years, growing from \$47 billion to just over \$247 billion.

Given this backdrop, it's time to take a step back and take a deep look both within and outside of your organization. The U.S. economy has ebbed and flowed so many times over the last few decades that we now have historical information, data, strategies and insights needed to make smart decisions before, during and after a downturn.

## Exhibit 1. Construction Spending Is Concentrated In Fewer Markets



Total Construction Spending Put In Place by Metro Market (2018) Forecast by Metropolitan Statistical Area (MSA)  
Source: FMI Q1 2019 Construction Outlook

<sup>1</sup> VUCA stands for volatile, uncertain, complex and ambiguous.

Here at FMI, we like to point out the *four pillars of good strategy* that all E&C firms should consider at this time of the market cycle. They are:

1. **Pillar #1: Focus.** At any economic stage, companies should be able to answer the critical “where to play” and “how to win” questions by identifying the right combination of markets, segments and delivery methods to outperform industry peers. This is about more than picking the right strategies and hoping that they work. It also involves understanding what drives value across different markets and segments. From there, you can determine how to deliver and compete on value. **Focus on what you do best and stay true to yourself.**
2. **Pillar #2: Choice.** Even in challenging economic times, companies that make conscientious decisions about who to work with (and why) fare best. Clearly frame your company’s choices around future direction, knowing that good strategy depends just as much on deciding what not to do as it does on what to do. For best results, focus on reconciling the tyranny of the urgent (i.e., today’s fire drill) with the truly important (i.e., initiatives to create tomorrow’s future). And remember: **One poor decision in today’s strong market can be devastating in a downturn.**
3. **Pillar #3: Systems.** Even if your project backlog is overflowing and your finances are healthy, it’s time to prepare for the next downturn. Look closely at how governance, corporate structure, rewards and incentives, and leadership accountability mechanisms (to name a few) align with your firm’s overall strategy. Without this alignment, decisions can often lead to tension within one or more of these systems. For example, if management wants to explore new geographic markets—but if governance isn’t onboard with the idea—the initiative may create friction among those stakeholders. **To avoid such issues, evaluate the business for alignment between systems and strategy.**
4. **Pillar #4: Impact.** Strategy must be impactful for the organization as a whole, and it must have a positive impact on the company’s bottom line. Your strategy is not what you say it is; it’s a sum product of the day-to-day actions, decisions and behaviors of your people. That means every employee must be able to articulate the strategy, understand his or her role in it, and clearly understand how it impacts organizational success. **Without these valued stakeholders onboard, strategy quickly falls by the wayside as employees go back to doing things the way they always have.**

No one can predict the future. By placing energy into the factors that you can control and taking the right actions, your firm will be able to successfully navigate whatever comes its way.

““ Focus does not mean saying yes, it means saying no. ””

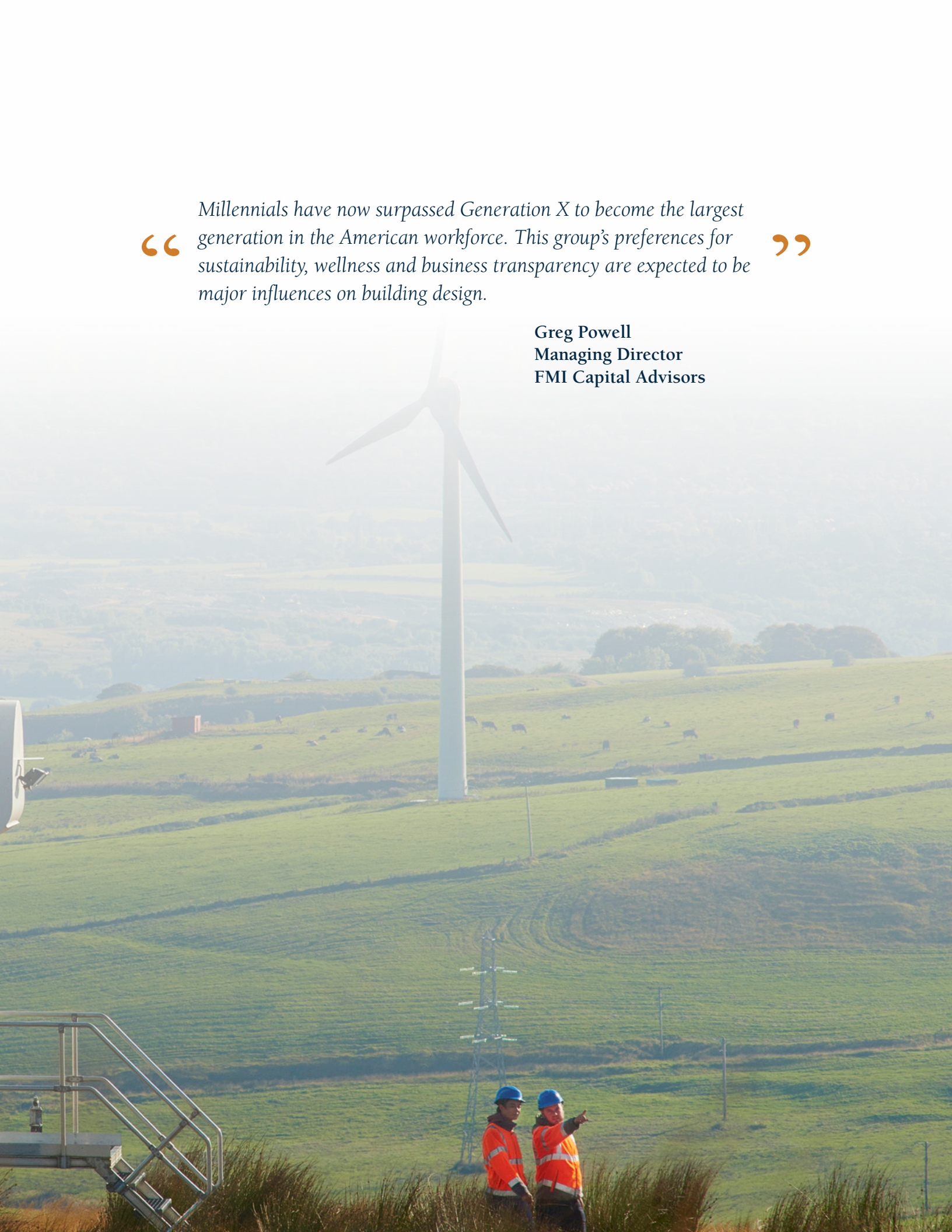
**Steve Jobs**  
**Former CEO of Apple**





“ Millennials have now surpassed Generation X to become the largest generation in the American workforce. This group’s preferences for sustainability, wellness and business transparency are expected to be major influences on building design. ”

**Greg Powell**  
Managing Director  
FMI Capital Advisors



# The Changing Face of Leadership

*According to the Pew Research Center, the U.S. labor force is declining by about 5,900 baby boomers daily on average.<sup>2</sup>*

As these employees exit the workforce, empty seats will increasingly be filled by millennials and Generation Z workers, both of which bring their own set of values, requirements and capabilities to the leadership table. Today's E&C leaders must keep these realities in mind as they prepare their firms for long-term success, understanding that **a significant generational transformation is already underway.**

Both the millennials and Generation Z are giving very clear, global signals around their demands of society, government and the economy. These values are going to shape the priorities and the environment in which the global construction and infrastructure industry operate. For example, issues like diversity, inclusion, transparency, sustainability and environmental responsibility will all be fundamental hallmarks of the next generation of leadership's priorities and values.

These values will also show up in other political, social, governmental and regulatory fronts, all of which significantly impact the built environment. Smart companies realize this and are examining how they attract new talent, how they steward their resources, and how they design and build new structures differently. As the handoff among the baby boomers, generation X and the two younger generations continues to accelerate, this forward thinking will help create an industry that's more adaptable, sustainable and responsive to change.

Flexibility will only become more paramount as we move further into 2020 (and beyond). Put simply, the industry is going to need agile leaders who can play across several different functions and/or at least be competent and conversant within those functions. Additionally, attaining this flexibility will require an investment of time and energy into recognizing the needs of the new generation of leadership and then responding with thorough leadership development, nurturing and training. Absent of these initiatives, even today's largest and most influential E&C companies could quickly find themselves falling behind the industry curve.

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<sup>2</sup> Richard Fry. "Baby Boomers are staying in the labor force at rates not seen in generations for people their age." Pew Research Center. July 24, 2019.



# U.S. Engineering and Construction Outlook

## Key Takeaways

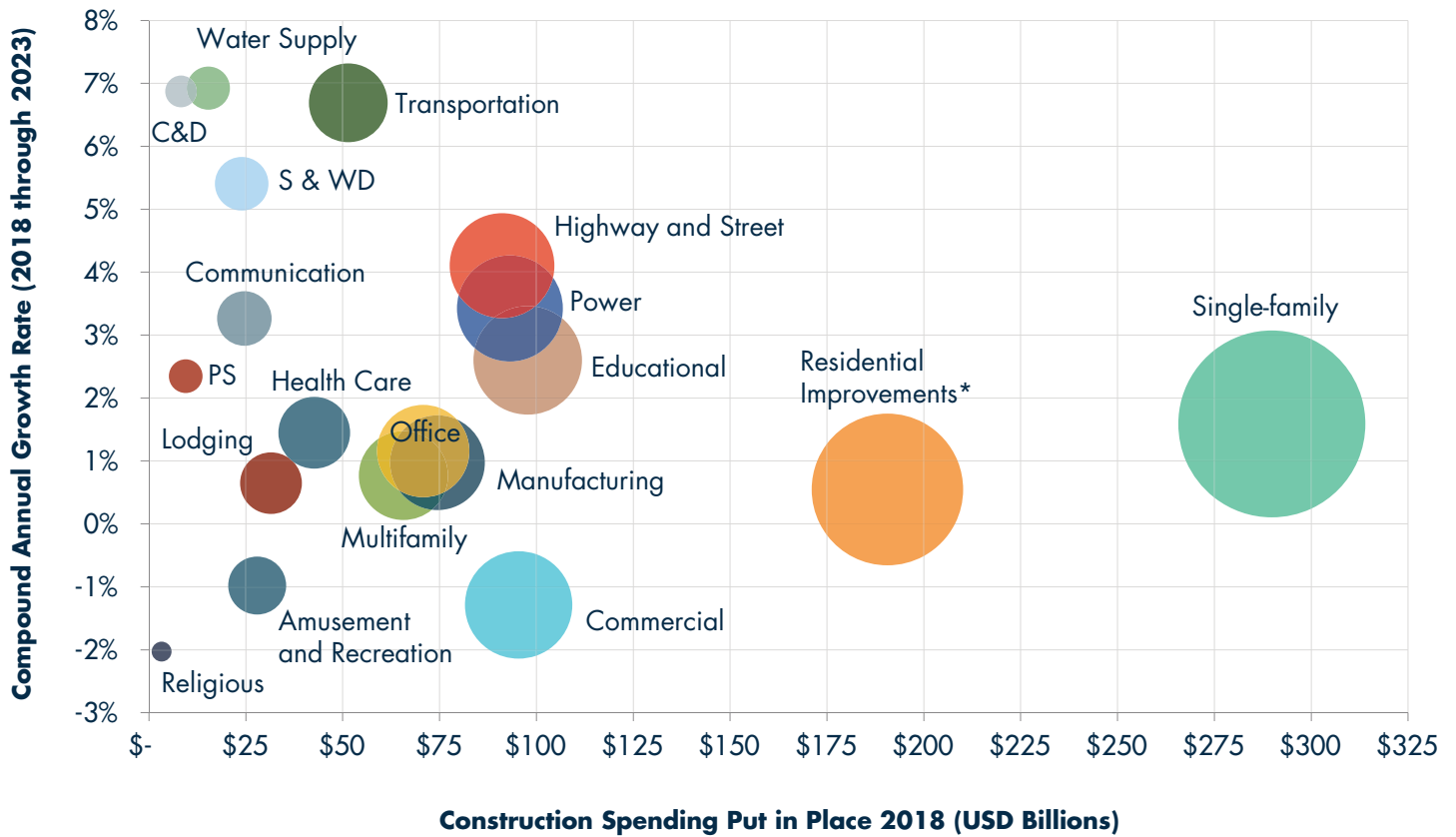
- Total engineering and construction spending for the U.S. is forecast to end 2019 flat with 0% growth compared to 2018.



- Looking ahead to 2020, FMI forecasts a 1 percent increase in engineering and construction spending levels over 2019.
- Primary growth segments in 2019 are expected to include a majority of the public infrastructure segments (including power, highway and street, sewage and waste disposal, water supply, and conservation and development), alongside a small number of mixed public and private nonresidential building segments (public safety, transportation, lodging and office), all with growth rates of 5 percent or higher.
- Most other nonresidential building segments (health care, education, amusement and recreation, communication and manufacturing) are expected to end the year with growth roughly in line with rate of inflation and therefore be considered stable.
- All residential segments (single-family, multifamily and improvements), along with commercial and religious, are expected to end 2019 in decline. Multifamily residential, residential improvements, commercial, religious, amusement and recreation, and manufacturing are anticipated to experience declines in 2020.
- The latest Nonresidential Construction Index (NRCI) feedback suggests increased optimism heading into Q1 2020, at 53.9. The score is up considerably from a neutral reading of 50.4 last quarter and is the highest score since Q4 2018.



## Total Construction Spending Put in Place 2018 and Forecast Growth (2018-2023 CAGR) by Construction Segment

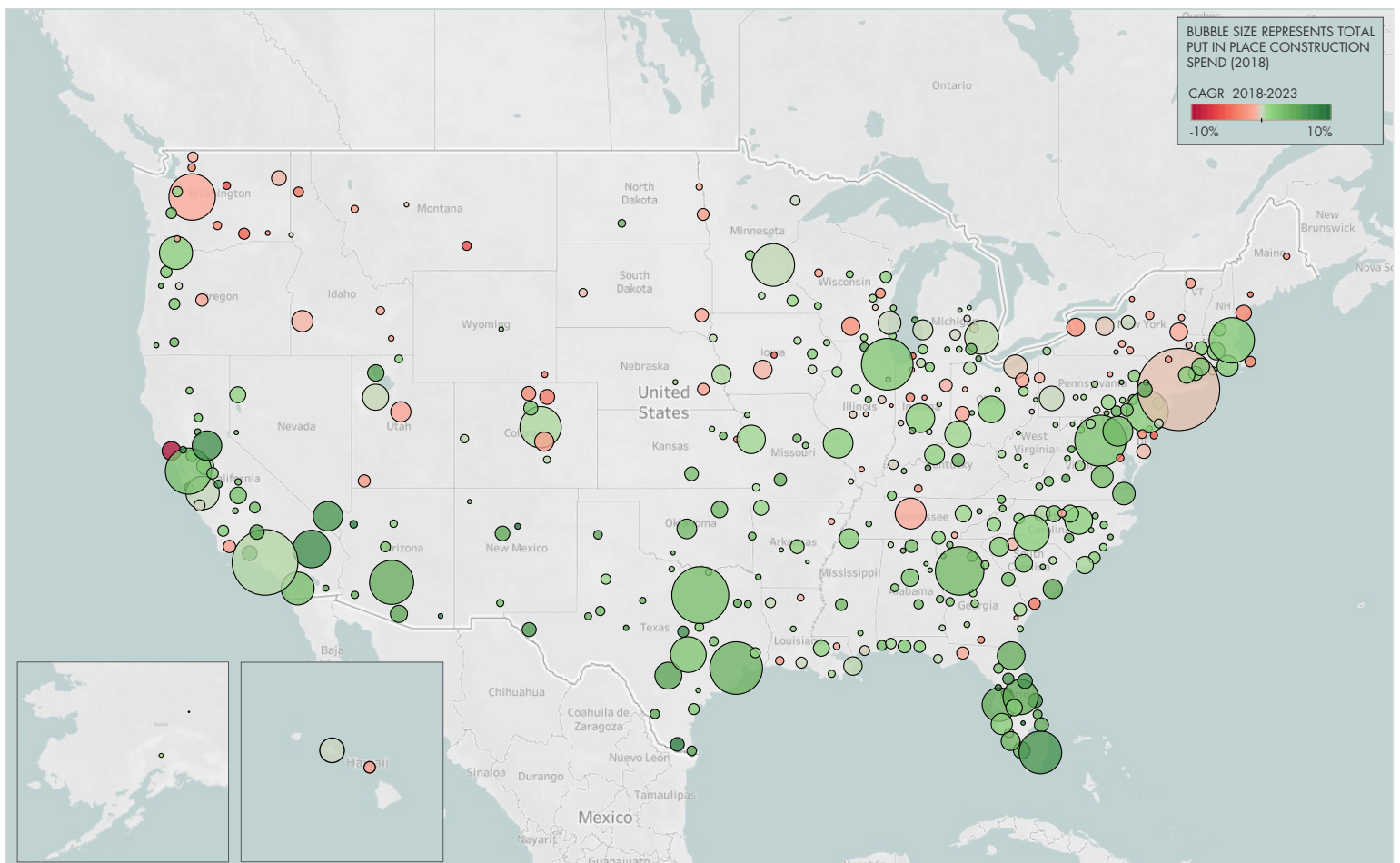


\* Improvements includes additions, alterations and major replacements. It does not include maintenance and repairs.

Source: U.S. Census and FMI Forecast



## Total Construction Spending Put in Place 2018 and Forecast Growth (2018-2023 CAGR) by Metropolitan Statistical Area



Source: FMI Forecast

# Residential Construction Put in Place

## Single-Family Residential

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

**DWN -5%**

**\$276 Billion**

2019/2018 Comparison



2019	<b>DWN</b>	<b>-5%</b>	\$276 B
2020	<b>STA</b>	<b>1%</b>	\$279 B
2021	<b>STA</b>	<b>3%</b>	\$288 B
2022	<b>STA</b>	<b>4%</b>	\$300 B
2023	<b>UP</b>	<b>5%</b>	\$314 B

- Falling mortgage rates, low unemployment and an uptick in wages have alleviated some pressure in single-family construction late in 2019. However, affordability remains a significant challenge across the industry with bloated home prices and consumer credit levels allowing far too few qualified buyers to lead any significant rebound.
- A recent report by ULI and PWC suggests that only 35% of median earners can afford median-priced homes, and the

housing recovery since the Great Recession has been driven largely by new home purchase activity among current homeowners.

- Smart home features, single-family rental properties and co-living spaces will influence buyer behaviors in the coming years while builders navigate rising costs of labor, materials and land acquisition. Builders are only beginning to deliver a meaningful supply of entry-level homes.

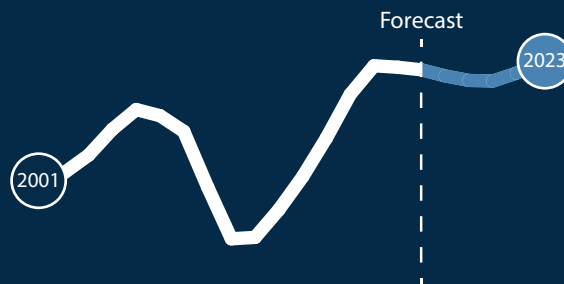
## Multifamily Residential

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

**DWN -3%**

**\$64 Billion**

2019/2018 Comparison



2019	<b>DWN</b>	<b>-3%</b>	\$64 B
2020	<b>DWN</b>	<b>-2%</b>	\$63 B
2021	<b>STA</b>	<b>0%</b>	\$62 B
2022	<b>STA</b>	<b>4%</b>	\$65 B
2023	<b>UP</b>	<b>5%</b>	\$68 B

- Both domestic and foreign investment in multifamily construction stalled over the past two years as larger, high-growth cities backed off from new supply and pivoted to absorption and rent compression. The overall investment climate will remain contested over the next 12-18 months as low and declining returns stabilize. Further, increased and new municipal and state-led rent controls will shape regional markets.
- Opportunities in multifamily construction will be driven by institutional-anchored markets. Urbanization trends continue with secondary and tertiary submarkets experiencing higher growth in coming years, mimicking larger mixed-use projects with low-rise and garden communities.

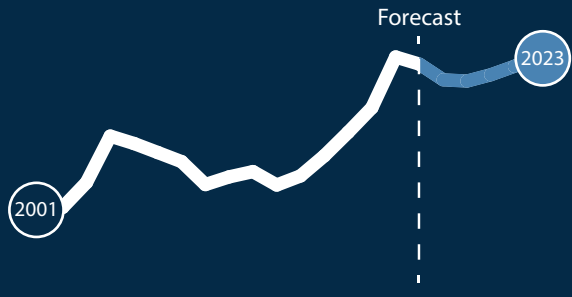
- Demand for multifamily housing is split between individuals who need to rent (e.g., young professionals and a large portion of the workforce) and those who choose to rent for convenience (e.g., late-career/retired baby boomers or transient midcareer professionals). Oncoming supply in recent years has catered largely to Class A luxury space, working against many buyers' aspirational path to ownership.
- Long-term demand is expected to remain healthy, with an estimated additional 4 million new rental units needed over the next decade (source: PWC). Additionally, 3 of 4 new jobs created in the current economy are low-paying and contribute to forming approximately 1 million new rental households each year.



# Improvements

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

**DWN -5%**  
**\$181 Billion**  
 2019/2018 Comparison



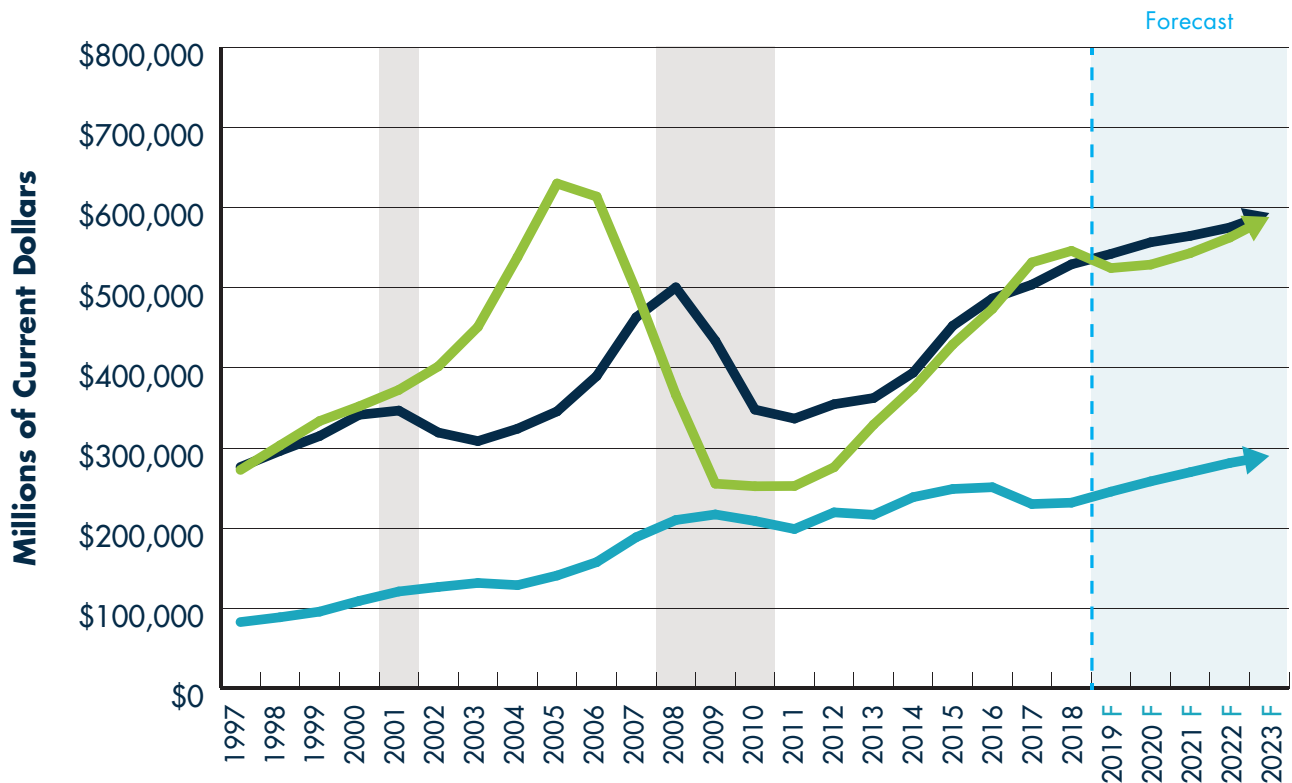
2019	<b>DWN</b>	<b>-5%</b>	\$181 B
2020	<b>STA</b>	<b>0%</b>	\$180 B
2021	<b>STA</b>	<b>2%</b>	\$184 B
2022	<b>STA</b>	<b>3%</b>	\$189 B
2023	<b>STA</b>	<b>3%</b>	\$196 B

Weakness in new home sales, moderated growth in home prices and rent appreciation, decreased rental turnover and moving activity, and rising labor and construction costs have all worked against residential improvements spending through 2019. However, recent adjustments to lending rates have owners pursuing refinance, which typically stimulates improvements spending.

Property owners seeking improvements and renovations will benefit in the short term from eased demand in new single-family and multifamily construction, alleviating project hurdles tied to cost, labor and schedule constraints alongside relaxed competition.

## Total Construction Put in Place Estimated for the United States

Recession Residential Nonresidential Buildings Nonbuilding Structures



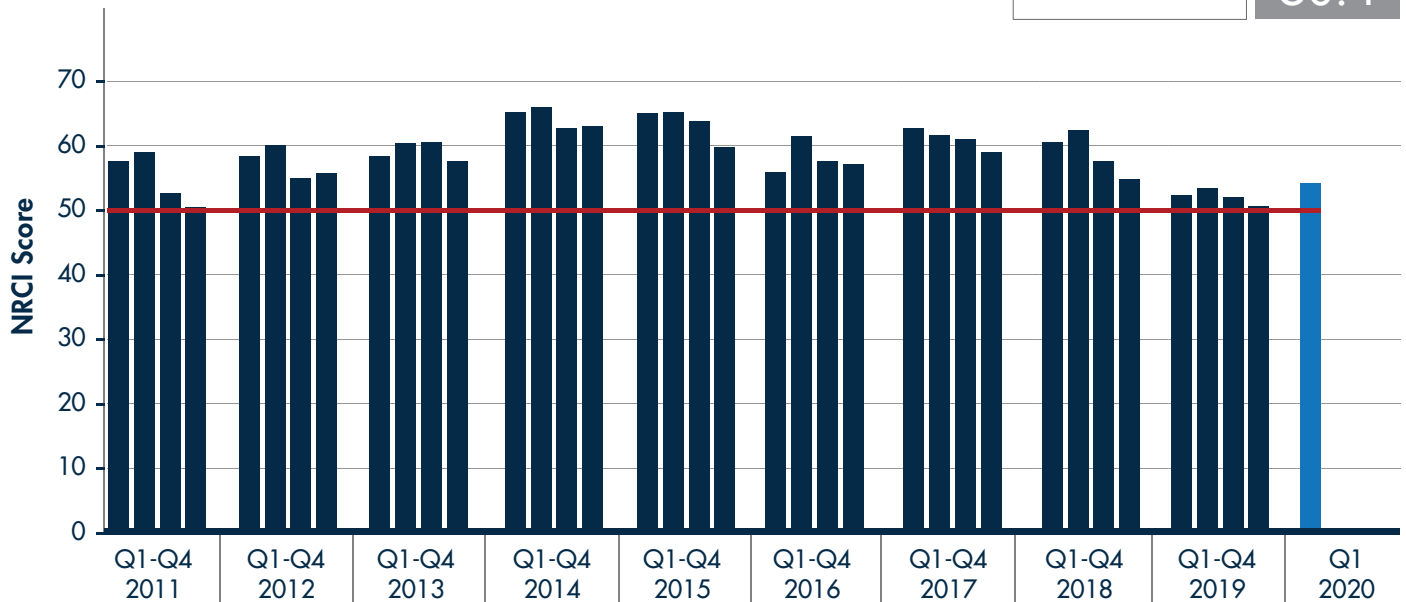
Source: U.S. Census and FMI Forecast

# Nonresidential Buildings Construction Put in Place

## Nonresidential Construction Index (NRCI)

NRCI scores are based on a diffusion index where scores above 50 represent improving or expanding industry conditions, a score of 50 represents conditions remaining the same, and a score below 50 represents worse conditions than last quarter (or contraction).

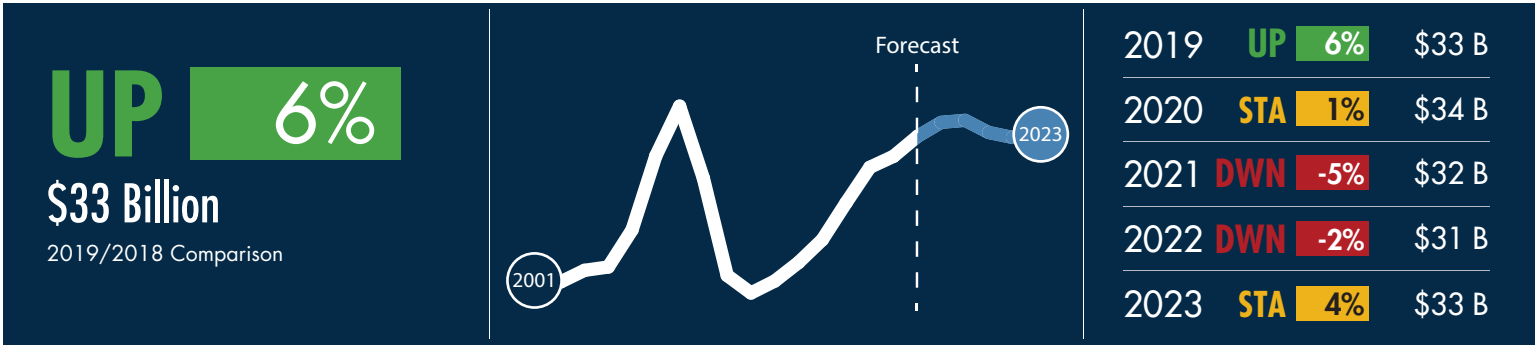
Current NRCI Reading for Q1 2020	<b>53.9</b>
Previous Reading	<b>50.4</b>



The data in the NRCI is presented as a sampling of construction industry executives voluntarily serving as panelists for this FMI survey. Responses are based on their experience and opinions, and the analysis is based on FMI's interpretation of the aggregated results.

# Lodging

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



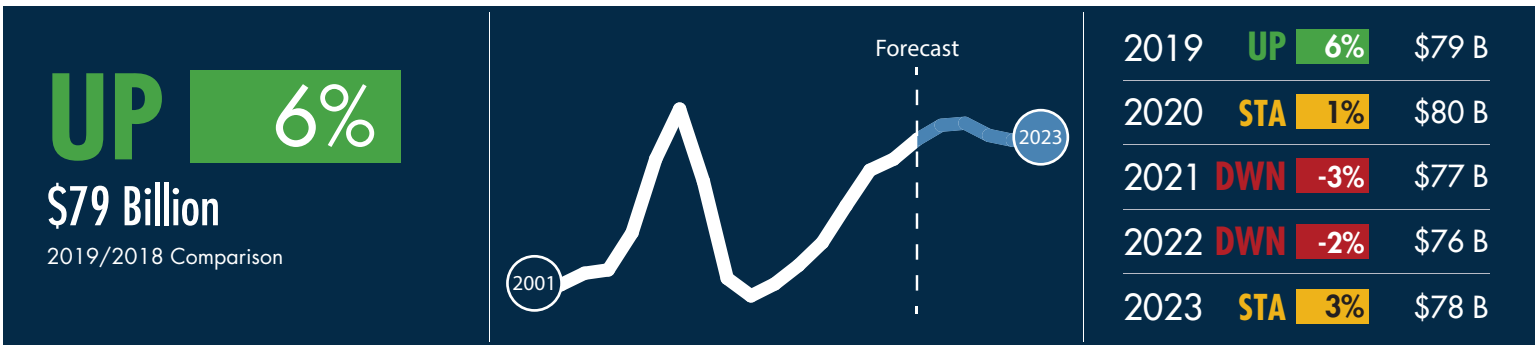
- Low unemployment rates, the global trade environment and the presidential election should boost demand for travel through 2020, but not enough to offset a significant jump in supply coming online.
- Construction and engineering spending in the sector is expected to stall over the forecast period due to declining occupancy and lower than anticipated increases in revenue per available room (RevPAR) rates, as realized through 2019. Additionally, expected lower GDP growth, consumer

spending, a strong U.S dollar and rising costs related to labor and tariff implementation will all weigh heavy on the hospitality industry in the year ahead.

- Uncertainty, along with significant attention surrounding the outcome of the 2020 presidential election, will dampen capital expenditure expectations, potentially reforming immigration policies (impacting industry labor) and adjusting the existing business-friendly climate under the Tax Cuts and Jobs Act of 2017.

# Office

Drivers: Office vacancy rate, unemployment rate



- The political and economic backdrop of 2020 will temper demand for new private office development. Additionally, U.S. unemployment rates are stabilizing at or near 40-year lows.
- Continued high demand for top-quality space in niche segments is expected; segments include technology, life sciences, data centers and coworking spaces. Growth will remain tied primarily to larger urban metropolitans.

- Incoming 5G infrastructure will fuel demand for new data centers in or near large population and business centers.
- Higher leasing activity (especially across technology tenants) as well as an increasing use of flexible office space are two key drivers behind the gradual decline in conventional office construction.

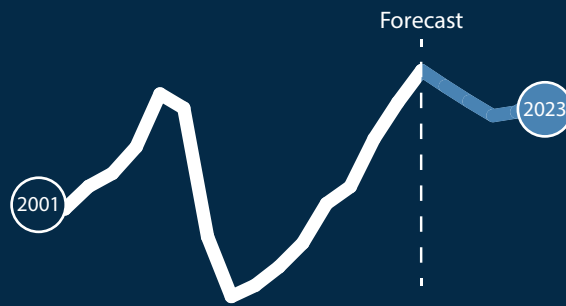
## Commercial

Drivers: Retail sales, CPI, income, home prices, housing starts, housing prices

**DWN -4%**

**\$92 Billion**

2019/2018 Comparison



2019 **DWN -4%** \$92 B

2020 **DWN -4%** \$88 B

2021 **DWN -4%** \$84 B

2022 **STA 1%** \$85 B

2023 **UP 5%** \$89 B

- Trade negotiations and world commerce have slowed through 2019, tempering short-term demand for larger warehousing hubs. However, consumers are increasingly selecting online sellers that are able to provide convenient and fast delivery, thus driving demand for more last-mile (and return center) facilities.
- Middle- and lower-market retail space is finding pressure from multiple angles, including a rise in entertainment and

luxury-focused shopping experiences. Traditional retail has been gradually pressured to hybridize across amusement and recreation, logistics, lodging and office.

- Well-positioned Class A malls, fitness and health, and food and beverage remain in high demand. Additionally, some online brands are beginning to invest strategically in smaller brick-and-mortar storefronts.

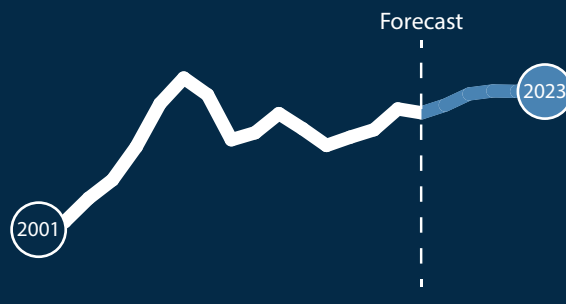
## Health Care

Drivers: Population change, population change in ages 75 and up, uninsured population, government spending, nonresidential structure investment

**STA 2%**

**\$44 Billion**

2019/2018 Comparison



2019 **STA 2%** \$44 B

2020 **STA 3%** \$45 B

2021 **STA 1%** \$45 B

2022 **STA 0%** \$45 B

2023 **STA 1%** \$46 B

- By the end of the decade, the youngest baby boomers will reach 65, and more than 1 in 5 U.S. residents will be 65 years or older. Over this span, Medicare enrollments are expected to increase approximately 50 percent (reaching 79 million), and the program will see a larger share of patients managing multiple chronic conditions, such as combined high blood pressure and diabetes.
- Though industry trends continue to favor medical offices and outpatient facilities, a small number of very large health care campuses are in the design pipeline. Modular and prefabrication techniques, using less on-site labor, are allowing tighter engineering and construction practices and a higher degree of precision across various facility types.

- Advancing technologies across wearables, medical records and customer interface are all improving diagnostic and proactive care. These tools ultimately help people live longer, but require an ongoing and extended need for health care services.
- The Affordable Care Act was recently ruled unconstitutional, given that it now lacks the individual mandate. A complete reversal of the Affordable Care Act could leave 20 million people uninsured.

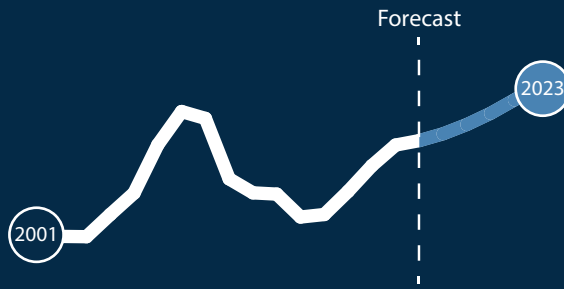
## Educational

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

**STA** **2%**

**\$99 Billion**

2019/2018 Comparison



2019 **STA** **2%** \$99 B

2020 **STA** **2%** \$102 B

2021 **STA** **3%** \$104 B

2022 **STA** **3%** \$108 B

2023 **STA** **3%** \$111 B

- K-12 districts in major cities (e.g., New York, Washington, Los Angeles) are building new schools and expanding, as growing population demands have resulted in increased capacity needs. Additionally, approximately half of all K-12 public schools in the U.S. are at least 50 years old and require significant renovation and upfit.
- Higher education enrollment growth is slowing as the millennial population has outgrown the typical college

age range. Additionally, millennials are taking longer than previous generations to marry and have children, which will impact future K-12 enrollments.

- Weakened endowment returns through 2019 will stall short-term higher education construction spending. However, increased demand for on-campus housing continues with a preference for more high-rise structures closer to campus.

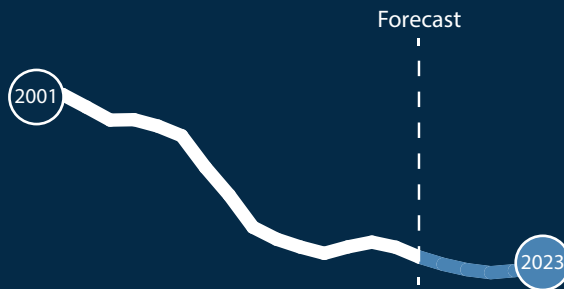
## Religious

Drivers: GDP, population, income, personal savings

**DWN** **-7%**

**\$3 Billion**

2019/2018 Comparison



2019 **DWN** **-7%** \$3 B

2020 **DWN** **-6%** \$3 B

2021 **DWN** **-3%** \$3 B

2022 **STA** **2%** \$3 B

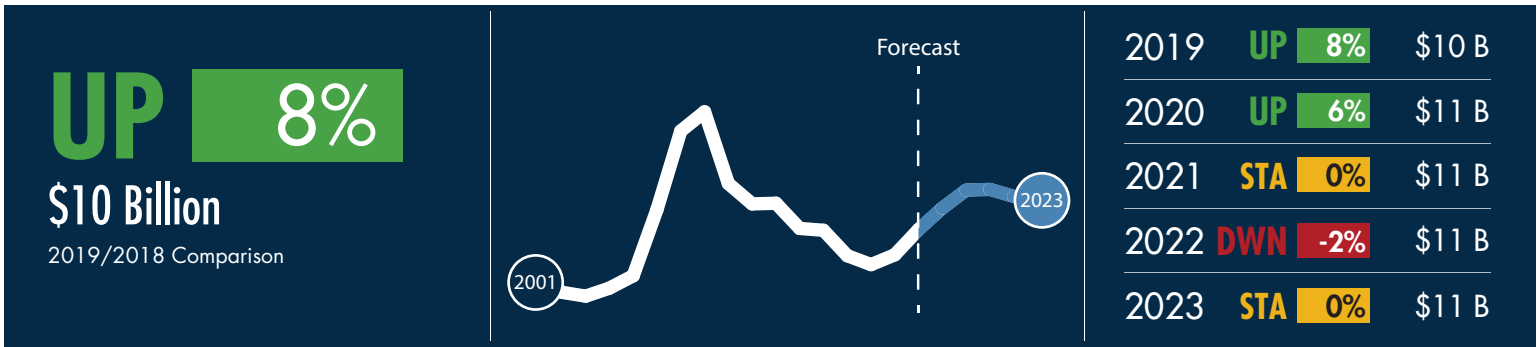
2023 **STA** **4%** \$3 B

- Religious organizations are shifting away from a content-based delivery platform toward shared experiences, missions and movements in an effort to stimulate and attract new members. Similarly, building construction spending is being redirected into structures that help service the broader community's needs, including housing, community and recreational centers, child care, etc.
- Recent updates to a survey from the Pew Research Center identify that religious affiliation and regular attendance have declined steadily across the U.S. over the past decade. Also,

similarly, the study highlights an increasing share of the population identifying as agnostic or atheist. This group, labeled "nones," has grown to a 26 percent share of the population in 2019, up from 17 percent in 2009.

## Public Safety

Drivers: Population, government spending, incarceration rate, nonresidential structure investment

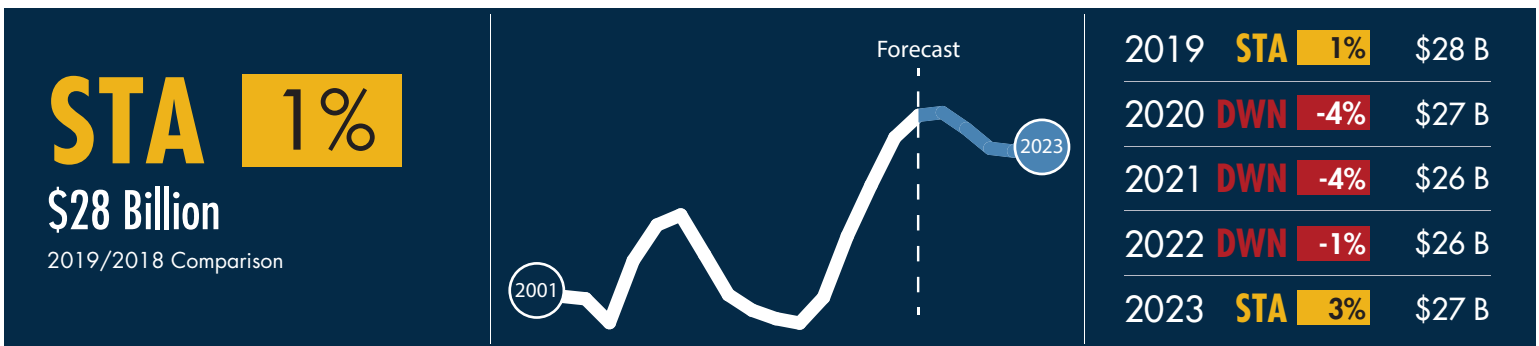


■ Violent crime and theft have been down in recent years, due to improving economic conditions and low unemployment levels. However, high-growth metropolitans continue to require additional emergency response and correctional resources.

■ A few significant prison projects are underway in select metropolitan areas (e.g., Salt Lake City), though the overall U.S. prison population has been in decline for nearly a decade.

## Amusement and Recreation

Drivers: Income, personal savings rate, unemployment rate, employment



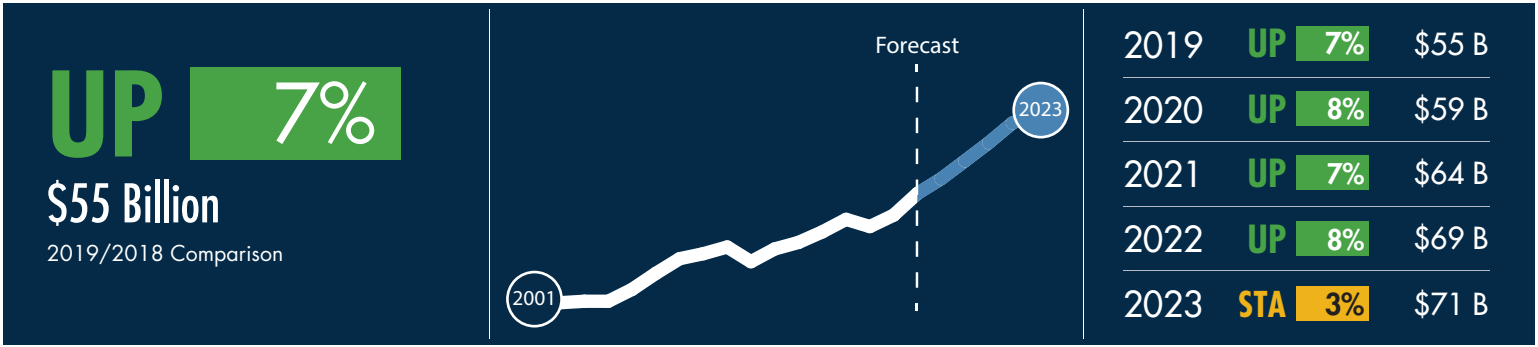
■ Expected slowed growth throughout the economy, led by political and economic uncertainty, will stall private investment in amusement and recreation structures over the next year.

■ As construction winds down on multiple big-budget stadiums and arenas through 2020, few large sports projects remain in the design pipeline. Demand for new, large-scale convention centers and casinos has similarly faded.

■ Future mid- and large-scale amusement and recreation project opportunities across sports, convention centers and casinos will be led by the success of current and planned transportation (airport and rail) investments. Smaller projects are moving into available retail space while also following multifamily suburban expansion.

# Transportation

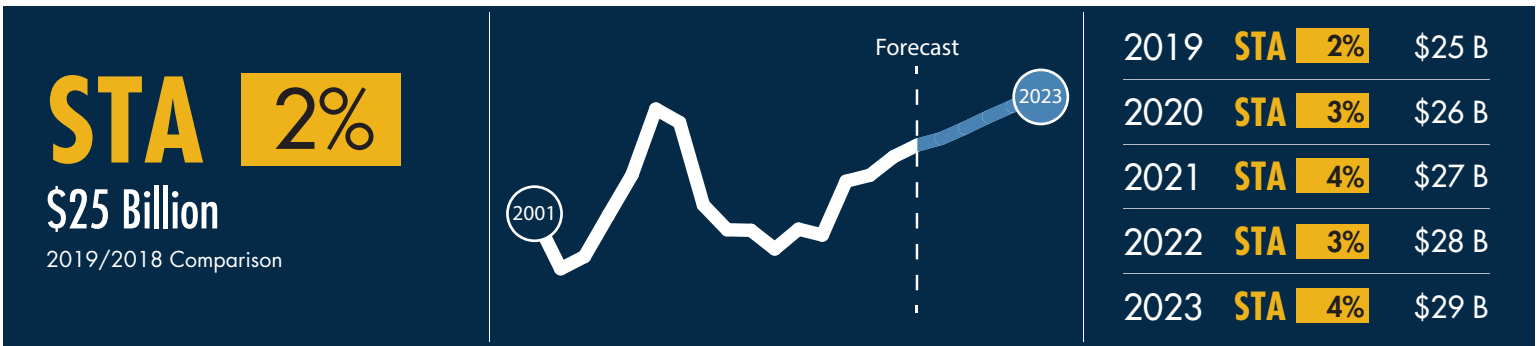
Drivers: Population, government spending, transportation funding



- Large-scale investments in aviation will remain a primary focus through the short term, with 15 airports across 10 states undergoing billion-dollar or more capital expansion programs.
- An increased number of transit and light rail megaprojects are expected to break ground over the coming years across large and densely populated states (e.g., Florida, Texas, California, Massachusetts). Conversely, freight rail investments will be concentrated to a limited number of markets with expanding trade and/or logistics and distribution infrastructure (e.g., Gulf Coast).
- Political uncertainty will weigh heavily on transportation construction spending through 2020 and 2021, against the backdrop of the 2020 presidential election and the expiration of the FAST Act. Likewise, P3 support has shifted to lower-risk and nontraditional transportation ventures, including ticketing, people movers and other smaller and supplementary components of existing systems.

# Communication

Drivers: Population, security/regulation standards, private investment, innovation/technology investment

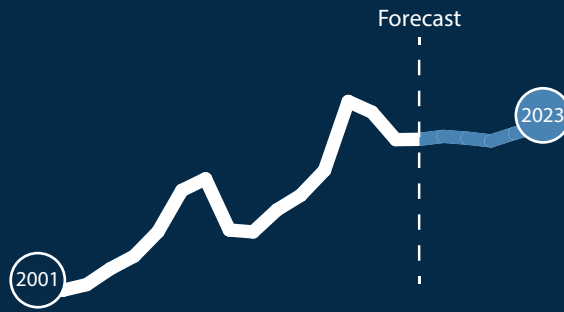


- Major cities are building out their fiber optic network in efforts to fully integrate all homes and businesses. Estimated capital expenditures in fiber and 5G cell towers will need to grow as much as tenfold in order to upgrade current networks to meet projected demand.
- Cisco estimates that internet traffic will double within the next two years as a result of wide-scale interconnectivity, creating an enormous amount of new data generated, processed and stored.
- 5G infrastructure rollout and implementation will allow higher bandwidth across mobile devices, improved machine-to-machine communications and ultra-low latency communications between humans and machines.

# Manufacturing

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

**STA** **1%**  
**\$72 Billion**  
 2019/2018 Comparison



2019	<b>STA</b>	<b>1%</b>	\$72 B
2020	<b>DWN</b>	<b>-1%</b>	\$71 B
2021	<b>DWN</b>	<b>-1%</b>	\$70 B
2022	<b>STA</b>	<b>4%</b>	\$73 B
2023	<b>STA</b>	<b>3%</b>	\$75 B

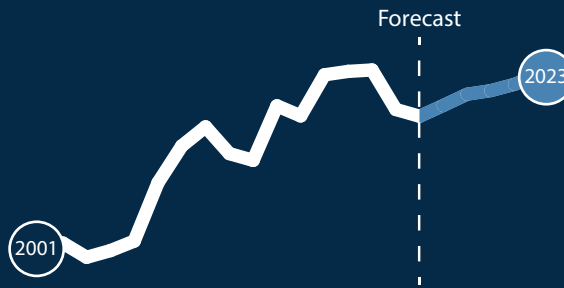
- Signing of a Phase 1 China trade deal entails a dramatic expansion of U.S. food and agriculture product exports as well as an agreement by China to end a requirement of foreign companies to transfer technologies. The deal includes a commitment by China to buy at least \$200 billion in U.S. exports over two years.
- Recent trade negotiations and new tariffs have boosted steel manufacturer profits, spurring expansion investments across the industry. US Steel, Nucor and Steel Dynamics all recently announced billion-dollar capital plans.
- Transportation equipment subsectors will weigh heavily on 2020 spending levels, with declines in production anticipated across aircraft equipment (e.g., Boeing), heavy-duty trucks and light vehicles.

# Nonbuilding Structures Construction Put in Place

## Power

Drivers: Population, industrial production, government spending

**UP** **5%**  
**\$98 Billion**  
 2019/2018 Comparison



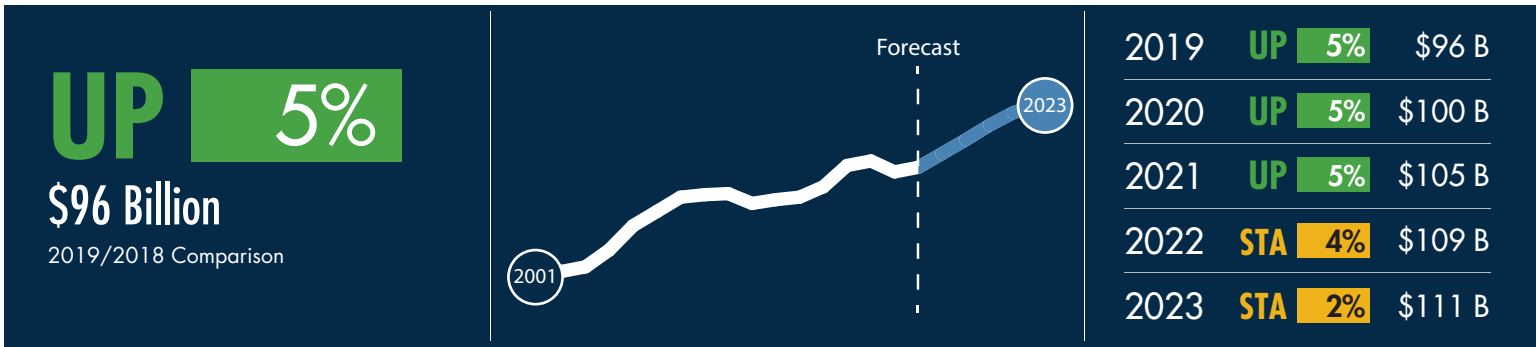
2019	<b>UP</b>	<b>5%</b>	\$98 B
2020	<b>UP</b>	<b>5%</b>	\$102 B
2021	<b>STA</b>	<b>1%</b>	\$104 B
2022	<b>STA</b>	<b>3%</b>	\$106 B
2023	<b>STA</b>	<b>4%</b>	\$110 B

- A series of major LNG projects in Texas and Louisiana as well as various large-scale renewable generation projects (e.g., solar and wind farms) across the East Coast and in Texas and California are projected to drive increased spending levels through 2020.
- The attack on Saudi oil production facilities and the capture of an oil tanker in the Strait of Hormuz have curbed fears of future oil price volatility related to diminished supply from the Middle East.
- Electric and gas transmission and distribution projects will remain active over the next several years as a result of resiliency improvements and regulatory requirements.



# Highway and Street

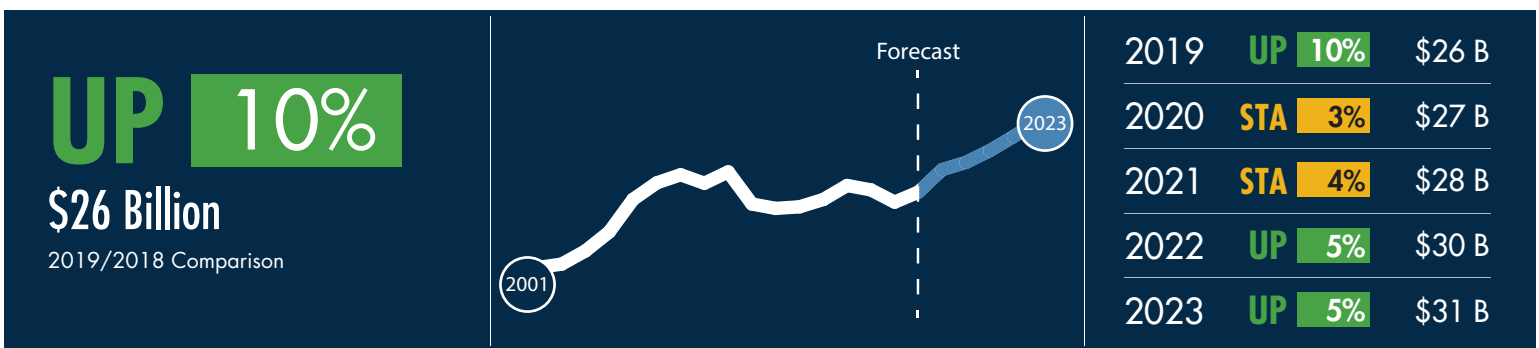
Drivers: Population, government spending, nonresidential structure investment



- The FAST Act is due to expire in 2020, and a successor has been historically slow to follow. As seen in prior cycles, federal funding after 2020 is expected to remain mostly stable through extensions until a new bill is implemented.
- Most states have been successful in recent years boosting revenue sources, but growth in highway and street investment across the country will become increasingly unbalanced, depending on the tools employed. Further, future efforts to expand revenue sources will become difficult if economic growth continues to slow.
- Owners have restructured contract language to transfer project risk more so onto contractors. Similarly, an increasing number of megaprojects are anticipated over the forecast period, with fewer contractors willing to take on that work.
- Use of design-build as a project delivery method is anticipated to expand with owners that historically have had minimal or limited adoption of the process. An emphasis on owner education will be critical to successful utilization of this method.

# Sewage and Waste Disposal

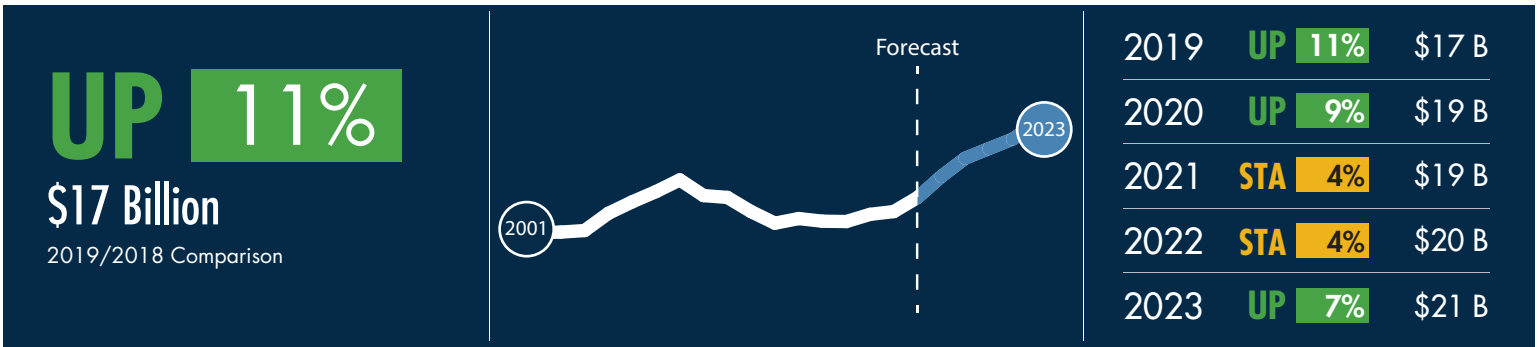
Drivers: Population, industrial production, government spending



- The upcoming U.S. presidential election is expected to pull attention away from passing federal legislation through most of this year, placing a higher emphasis on states and municipalities to lead continued expansion.
- Based on a 2019 Water and Waste Digest (WWD) State of the Industry survey, a majority of municipalities are not anticipating new facility or infrastructure construction, but will require short-term and midterm system renovations.
- Given the critical social functions of the water/wastewater infrastructure, ongoing industry spending will be heavily insulated against economic downturn through the forecast period.

# Water Supply

Drivers: Population, industrial production, government spending

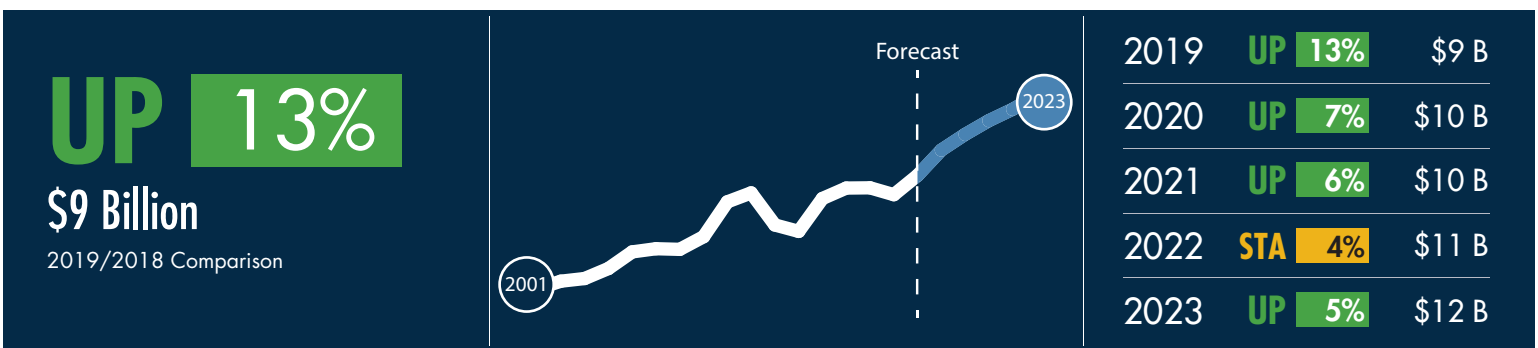


- The most recent draft of the Water Quality Protection and Job Creation Act of 2019 would introduce nearly \$17 billion to the Clean Water State Revolving Fund over the next five years. If enacted, a significant increase in state-level involvement would be required to take advantage of available funds.
- Smart systems are slowly being implemented to monitor volumes, leaks and water quality. Solutions, however, are still fragmented and in early development, but there is a driving interest across ratepayers increasingly demanding transparency.

- Industrial water supply (and wastewater) needs, alongside increased production and larger and more complex industrial facilities, are expected to continue to expand over the outlook period.

# Conservation and Development

Drivers: Population, government spending



- Recent wildfire activity in California and hurricane damage in the Gulf and Atlantic regions between 2018 and 2019 led to the passage of a \$19.1 billion relief package.
- Significant cuts to the EPA's budget are proposed for FY 2020. Additionally, over the past several years the agency's workforce has been reduced to near 30-year lows.

- Stabilized oil prices will stall future investments in petrochemical facilities and diminish some need for ongoing remediation and conservation efforts.

## Construction Put in Place Estimated for the United States

Millions of Current Dollars

4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	194,091	221,683	242,939	270,365	289,855	276,061	279,403	288,499	299,827	313,627
Multifamily	46,250	58,686	66,835	66,404	65,670	63,912	62,639	62,481	64,751	68,234
Improvements*	134,519	148,857	163,913	194,986	190,611	181,014	180,255	184,107	189,328	195,881
<b>Total Residential Buildings</b>	<b>374,860</b>	<b>429,226</b>	<b>473,687</b>	<b>531,755</b>	<b>546,136</b>	<b>520,987</b>	<b>522,296</b>	<b>535,087</b>	<b>553,907</b>	<b>577,743</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	16,738	22,012	27,077	28,660	31,496	33,498	33,785	32,043	31,344	32,531
Office	46,582	56,013	67,907	68,685	74,450	78,707	79,676	77,397	75,718	78,144
Commercial	62,841	66,977	78,696	87,626	95,420	91,542	87,841	84,364	85,278	89,438
Health Care	38,647	39,665	40,574	43,120	42,642	43,590	44,954	45,323	45,267	45,821
Educational	79,681	85,346	91,629	96,685	97,777	99,452	101,724	104,479	107,759	111,165
Religious	3,386	3,598	3,752	3,586	3,262	3,027	2,853	2,755	2,821	2,944
Public Safety	9,437	8,505	8,177	8,539	9,468	10,256	10,913	10,939	10,683	10,633
Amusement and Recreation	16,773	20,527	23,652	26,569	27,924	28,094	27,103	25,904	25,734	26,583
Transportation	42,043	45,106	43,339	46,137	51,446	55,061	59,434	63,865	68,726	71,120
Communication	17,298	21,691	22,179	23,696	24,645	25,175	26,037	26,964	27,821	28,936
Manufacturing	60,645	83,143	79,633	70,682	70,782	71,741	71,158	70,260	72,749	74,976
<b>Total Nonresidential Buildings</b>	<b>394,071</b>	<b>452,583</b>	<b>486,615</b>	<b>503,985</b>	<b>529,312</b>	<b>540,143</b>	<b>545,478</b>	<b>544,293</b>	<b>553,899</b>	<b>572,291</b>
<b>NONBUILDING STRUCTURES</b>										
Power	110,089	111,495	112,067	95,951	93,176	97,612	102,181	103,649	106,243	110,260
Highway and Street	84,743	91,701	93,187	89,620	91,124	95,627	100,150	104,915	108,990	111,414
Sewage and Waste Disposal	23,173	24,599	24,151	22,901	23,931	26,227	26,954	28,158	29,596	31,136
Water Supply	13,380	13,353	13,940	14,168	15,317	17,042	18,523	19,308	20,086	21,407
Conservation and Development	7,310	7,735	7,745	7,464	8,253	9,288	9,927	10,488	10,951	11,506
<b>Total Nonbuilding Structures</b>	<b>238,695</b>	<b>248,883</b>	<b>251,090</b>	<b>230,104</b>	<b>231,801</b>	<b>245,796</b>	<b>257,735</b>	<b>266,519</b>	<b>275,866</b>	<b>285,723</b>
<b>Total Put in Place</b>	<b>\$1,007,626</b>	<b>\$1,130,692</b>	<b>\$1,211,392</b>	<b>\$1,265,844</b>	<b>\$1,307,249</b>	<b>\$1,306,926</b>	<b>\$1,325,510</b>	<b>\$1,345,898</b>	<b>\$1,383,672</b>	<b>\$1,435,756</b>

## Construction Put in Place Estimated for the United States

Change From Prior Year - Current Dollar Basis

4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	13%	14%	10%	11%	7%	-5%	1%	3%	4%	5%
Multifamily	32%	27%	14%	-1%	-1%	-3%	-2%	0%	4%	5%
Improvements*	10%	11%	10%	19%	-2%	-5%	0%	2%	3%	3%
<b>Total Residential Buildings</b>	<b>14%</b>	<b>15%</b>	<b>10%</b>	<b>12%</b>	<b>3%</b>	<b>-5%</b>	<b>0%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	24%	32%	23%	6%	10%	6%	1%	-5%	-2%	4%
Office	23%	20%	21%	1%	8%	6%	1%	-3%	-2%	3%
Commercial	18%	7%	17%	11%	9%	-4%	-4%	-4%	1%	5%
Health Care	-5%	3%	2%	6%	-1%	2%	3%	1%	0%	1%
Educational	1%	7%	7%	6%	1%	2%	2%	3%	3%	3%
Religious	-6%	6%	4%	-4%	-9%	-7%	-6%	-3%	2%	4%
Public Safety	-1%	-10%	-4%	4%	11%	8%	6%	0%	-2%	0%
Amusement and Recreation	10%	22%	15%	12%	5%	1%	-4%	-4%	-1%	3%
Transportation	7%	7%	-4%	6%	12%	7%	8%	7%	8%	3%
Communication	-3%	25%	2%	7%	4%	2%	3%	4%	3%	4%
Manufacturing	15%	37%	-4%	-11%	0%	1%	-1%	-1%	4%	3%
<b>Total Nonresidential Buildings</b>	<b>9%</b>	<b>15%</b>	<b>8%</b>	<b>4%</b>	<b>5%</b>	<b>2%</b>	<b>1%</b>	<b>0%</b>	<b>2%</b>	<b>3%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	18%	1%	1%	-14%	-3%	5%	5%	1%	3%	4%
Highway and Street	4%	8%	2%	-4%	2%	5%	5%	5%	4%	2%
Sewage and Waste Disposal	3%	6%	-2%	-5%	4%	10%	3%	4%	5%	5%
Water Supply	-2%	0%	4%	2%	8%	11%	9%	4%	4%	7%
Conservation and Development	23%	6%	0%	-4%	11%	13%	7%	6%	4%	5%
<b>Total Nonbuilding Structures</b>	<b>10%</b>	<b>4%</b>	<b>1%</b>	<b>-8%</b>	<b>1%</b>	<b>6%</b>	<b>5%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>
<b>Total Put in Place</b>	<b>11%</b>	<b>12%</b>	<b>7%</b>	<b>4%</b>	<b>3%</b>	<b>0%</b>	<b>1%</b>	<b>2%</b>	<b>3%</b>	<b>4%</b>

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

# Regional Summary

Through 2020, as seen in the regional summary table below, the South Atlantic, West South Central and Pacific are all expected to generally outperform other divisions of the country.

FMI expects the top three performing Census divisions through 2019 year-end to include the three divisions which make up the South Census Region; these include the West South Central (+3 percent), East South Central (+1 percent) and the South Atlantic (+1 percent).

- Anticipated top Census divisions for residential spending in 2019 include West South Central (+0 percent), South Atlantic (-2 percent) and East South Central (-3 percent) states.
- Anticipated top Census divisions for nonresidential building spending in 2019 include West North Central (+4 percent), East South Central (+3 percent) and West South Central (+3 percent) states.
- Anticipated top Census divisions for nonbuilding structures spending in 2019 include Pacific (+8 percent), West South Central (+7 percent) and Mountain (+6 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 Construction Put in Place	Projected Growth 2019-2020
Northeast	<b>New England</b>					
	2019	18,347	27,301	6,829	52,478	0.4%
	2020	18,058	27,342	7,264	52,664	
	<b>Mid-Atlantic</b>					
	2019	50,207	80,539	22,649	153,394	0.0%
	2020	49,372	80,522	23,454	153,348	
Midwest	<b>East North Central</b>					
	2019	26,297	68,107	26,249	120,653	0.1%
	2020	25,630	67,763	27,382	120,774	
	<b>West North Central</b>					
	2019	56,072	46,248	20,961	123,281	-1.2%
	2020	53,179	46,012	22,654	121,844	
South	<b>South Atlantic</b>					
	2019	123,011	83,468	46,522	253,001	1.9%
	2020	125,347	84,344	48,044	257,735	
	<b>East South Central</b>					
	2019	16,472	22,284	11,137	49,893	1.0%
	2020	16,474	22,501	11,430	50,405	
<b>West South Central</b>						
2019	52,038	94,679	56,039	202,757	4.2%	
2020	53,564	98,243	59,537	211,344		
West	<b>Mountain</b>					
	2019	55,153	34,945	21,977	112,075	1.2%
	2020	55,201	35,462	22,734	113,397	
	<b>Pacific</b>					
	2019	123,389	82,573	33,433	239,394	1.9%
	2020	125,472	83,289	35,237	243,998	
U.S.	<b>Total United States</b>					
	2019	\$520,987	\$540,143	\$245,796	\$1,306,926	1.4%
	2020	\$522,296	\$545,478	\$257,735	\$1,325,510	



## Construction Put in Place Estimated for New England

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	6,504	7,324	8,483	9,448	10,130	9,377	9,313	9,631	9,971	10,482
Multifamily	1,593	2,150	2,247	2,406	2,405	2,328	2,153	2,039	2,136	2,303
Improvements*	4,571	4,933	5,146	6,933	6,972	6,643	6,592	6,692	7,046	7,447
<b>Total Residential Buildings</b>	<b>12,668</b>	<b>14,407</b>	<b>15,876</b>	<b>18,787</b>	<b>19,508</b>	<b>18,347</b>	<b>18,058</b>	<b>18,362</b>	<b>19,153</b>	<b>20,232</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	865	1,159	1,305	1,670	1,967	2,073	2,131	1,970	1,826	1,928
Office	2,408	2,950	3,282	3,265	3,681	3,853	3,999	3,762	3,629	3,820
Commercial	3,248	3,527	3,849	4,669	4,976	4,744	4,284	3,970	4,111	4,342
Health Care	1,997	2,089	2,010	2,286	2,168	2,207	2,348	2,456	2,475	2,348
Educational	4,118	4,494	4,448	4,919	4,722	4,747	4,825	4,993	5,163	5,346
Religious	175	189	189	191	165	150	142	135	139	147
Public Safety	488	448	395	431	451	478	513	535	548	527
Amusement and Recreation	867	1,081	1,166	1,381	1,500	1,455	1,371	1,172	1,219	1,311
Transportation	2,173	2,375	2,085	2,334	2,753	2,991	3,266	3,600	3,770	3,802
Communication	894	1,142	1,073	1,260	1,259	1,251	1,291	1,313	1,348	1,406
Manufacturing	3,134	4,378	3,875	3,503	3,384	3,352	3,171	3,097	3,209	3,361
<b>Total Nonresidential Buildings</b>	<b>20,367</b>	<b>23,833</b>	<b>23,677</b>	<b>25,908</b>	<b>27,027</b>	<b>27,301</b>	<b>27,342</b>	<b>27,002</b>	<b>27,437</b>	<b>28,337</b>
<b>NONBUILDING STRUCTURES</b>										
Power	3,422	3,388	3,215	2,758	2,464	2,527	2,700	2,893	3,065	3,036
Highway and Street	2,698	2,953	2,872	2,823	2,696	2,790	2,967	3,124	3,256	3,390
Sewage and Waste Disposal	728	768	727	710	725	764	796	839	884	933
Water Supply	416	406	417	442	462	503	537	560	582	618
Conservation and Development	227	235	221	224	228	245	264	275	286	302
<b>Total Nonbuilding Structures</b>	<b>7,491</b>	<b>7,749</b>	<b>7,452</b>	<b>6,958</b>	<b>6,573</b>	<b>6,829</b>	<b>7,264</b>	<b>7,691</b>	<b>8,073</b>	<b>8,278</b>
<b>Total Put in Place</b>	<b>\$40,527</b>	<b>\$45,990</b>	<b>\$47,005</b>	<b>\$51,653</b>	<b>\$53,108</b>	<b>\$52,478</b>	<b>\$52,664</b>	<b>\$53,055</b>	<b>\$54,663</b>	<b>\$56,848</b>

## Construction Put in Place Estimated for New England

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	1%	13%	16%	11%	7%	-7%	-1%	3%	4%	5%
Multifamily	18%	35%	5%	7%	0%	-3%	-7%	-5%	5%	8%
Improvements*	-1%	8%	4%	35%	1%	-5%	-1%	2%	5%	6%
<b>Total Residential Buildings</b>	<b>2%</b>	<b>14%</b>	<b>10%</b>	<b>18%</b>	<b>4%</b>	<b>-6%</b>	<b>-2%</b>	<b>2%</b>	<b>4%</b>	<b>6%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	13%	34%	13%	28%	18%	5%	3%	-8%	-7%	6%
Office	11%	23%	11%	-1%	13%	5%	4%	-6%	-4%	5%
Commercial	7%	9%	9%	21%	7%	-5%	-10%	-7%	4%	6%
Health Care	-14%	5%	-4%	14%	-5%	2%	6%	5%	1%	-5%
Educational	-9%	9%	-1%	11%	-4%	1%	2%	3%	3%	4%
Religious	-14%	8%	0%	1%	-13%	-9%	-5%	-5%	3%	5%
Public Safety	-10%	-8%	-12%	9%	5%	6%	7%	4%	2%	-4%
Amusement and Recreation	0%	25%	8%	18%	9%	-3%	-6%	-14%	4%	7%
Transportation	-3%	9%	-12%	12%	18%	9%	9%	10%	5%	1%
Communication	-12%	28%	-6%	17%	0%	-1%	3%	2%	3%	4%
Manufacturing	5%	40%	-11%	-10%	-3%	-1%	-5%	-2%	4%	5%
<b>Total Nonresidential Buildings</b>	<b>-1%</b>	<b>17%</b>	<b>-1%</b>	<b>9%</b>	<b>4%</b>	<b>1%</b>	<b>0%</b>	<b>-1%</b>	<b>2%</b>	<b>3%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	10%	-1%	-5%	-14%	-11%	3%	7%	7%	6%	-1%
Highway and Street	-1%	9%	-3%	-2%	-5%	4%	6%	5%	4%	4%
Sewage and Waste Disposal	-2%	5%	-5%	-2%	2%	5%	4%	5%	5%	6%
Water Supply	-8%	-2%	3%	6%	4%	9%	7%	4%	4%	6%
Conservation and Development	15%	3%	-6%	2%	2%	8%	8%	4%	4%	6%
<b>Total Nonbuilding Structures</b>	<b>4%</b>	<b>3%</b>	<b>-4%</b>	<b>-7%</b>	<b>-6%</b>	<b>4%</b>	<b>6%</b>	<b>6%</b>	<b>5%</b>	<b>3%</b>
<b>Total Put in Place</b>	<b>1%</b>	<b>13%</b>	<b>2%</b>	<b>10%</b>	<b>3%</b>	<b>-1%</b>	<b>0%</b>	<b>1%</b>	<b>3%</b>	<b>4%</b>

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

New England states include: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island and Vermont



## Construction Put in Place Estimated for Middle Atlantic

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	19,192	24,206	25,766	27,391	28,833	26,705	26,395	26,549	27,181	28,363
Multifamily	4,700	7,106	6,358	6,626	6,016	6,189	5,997	5,767	5,715	5,831
Improvements*	14,846	17,942	16,183	19,863	17,980	17,314	16,980	17,179	17,545	18,068
<b>Total Residential Buildings</b>	<b>38,738</b>	<b>49,255</b>	<b>48,307</b>	<b>53,881</b>	<b>52,829</b>	<b>50,207</b>	<b>49,372</b>	<b>49,494</b>	<b>50,441</b>	<b>52,262</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	2,446	3,140	3,814	3,822	4,472	4,733	4,583	4,243	4,315	4,435
Office	6,808	7,991	9,593	9,228	11,232	12,428	12,761	12,425	11,694	11,341
Commercial	9,184	9,555	11,251	12,752	14,024	13,583	12,696	11,663	11,569	12,125
Health Care	5,648	5,659	5,875	6,185	6,349	6,590	6,761	6,569	6,429	6,534
Educational	11,645	12,175	13,000	13,682	14,350	14,746	15,017	15,121	15,526	16,102
Religious	495	513	553	521	468	426	405	386	394	408
Public Safety	1,379	1,213	1,155	1,174	1,292	1,392	1,457	1,492	1,553	1,597
Amusement and Recreation	2,451	2,928	3,409	3,772	3,884	3,797	3,470	3,251	3,309	3,497
Transportation	6,145	6,435	6,941	7,258	8,366	8,915	9,843	10,676	11,208	11,550
Communication	2,528	3,094	3,136	3,412	3,550	3,608	3,730	3,801	3,913	4,089
Manufacturing	8,863	11,861	11,327	10,652	10,420	10,321	9,799	9,147	9,319	9,589
<b>Total Nonresidential Buildings</b>	<b>57,593</b>	<b>64,566</b>	<b>70,053</b>	<b>72,458</b>	<b>78,409</b>	<b>80,539</b>	<b>80,522</b>	<b>78,773</b>	<b>79,229</b>	<b>81,267</b>
<b>NONBUILDING STRUCTURES</b>										
Power	11,789	12,160	11,592	8,359	8,004	8,075	8,252	8,390	8,709	9,121
Highway and Street	9,295	10,601	10,353	8,809	9,167	9,514	9,960	10,286	10,512	10,828
Sewage and Waste Disposal	2,508	2,755	2,620	2,237	2,302	2,456	2,397	2,346	2,423	2,511
Water Supply	1,433	1,456	1,504	1,412	1,556	1,745	1,952	1,793	1,557	1,639
Conservation and Development	783	844	796	714	783	859	895	926	955	971
<b>Total Nonbuilding Structures</b>	<b>25,807</b>	<b>27,816</b>	<b>26,865</b>	<b>21,532</b>	<b>21,812</b>	<b>22,649</b>	<b>23,454</b>	<b>23,740</b>	<b>24,157</b>	<b>25,069</b>
<b>Total Put in Place</b>	<b>\$122,138</b>	<b>\$141,637</b>	<b>\$145,225</b>	<b>\$147,871</b>	<b>\$153,049</b>	<b>\$153,394</b>	<b>\$153,348</b>	<b>\$152,007</b>	<b>\$153,827</b>	<b>\$158,598</b>

## Construction Put in Place Estimated for Middle Atlantic

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	22%	26%	6%	6%	5%	-7%	-1%	1%	2%	4%
Multifamily	42%	51%	-11%	4%	-9%	3%	-3%	-4%	-1%	2%
Improvements*	19%	21%	-10%	23%	-9%	-4%	-2%	1%	2%	3%
<b>Total Residential Buildings</b>	<b>23%</b>	<b>27%</b>	<b>-2%</b>	<b>12%</b>	<b>-2%</b>	<b>-5%</b>	<b>-2%</b>	<b>0%</b>	<b>2%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	13%	28%	21%	0%	17%	6%	-3%	-7%	2%	3%
Office	12%	17%	20%	-4%	22%	11%	3%	-3%	-6%	-3%
Commercial	8%	4%	18%	13%	10%	-3%	-7%	-8%	-1%	5%
Health Care	-13%	0%	4%	5%	3%	4%	3%	-3%	-2%	2%
Educational	-8%	5%	7%	5%	5%	3%	2%	1%	3%	4%
Religious	-14%	4%	8%	-6%	-10%	-9%	-5%	-5%	2%	4%
Public Safety	-9%	-12%	-5%	2%	10%	8%	5%	2%	4%	3%
Amusement and Recreation	1%	19%	16%	11%	3%	-2%	-9%	-6%	2%	6%
Transportation	-3%	5%	8%	5%	15%	7%	10%	8%	5%	3%
Communication	-11%	22%	1%	9%	4%	2%	3%	2%	3%	4%
Manufacturing	5%	34%	-5%	-6%	-2%	-1%	-5%	-7%	2%	3%
<b>Total Nonresidential Buildings</b>	<b>-1%</b>	<b>12%</b>	<b>8%</b>	<b>3%</b>	<b>8%</b>	<b>3%</b>	<b>0%</b>	<b>-2%</b>	<b>1%</b>	<b>3%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	17%	3%	-5%	-28%	-4%	1%	2%	2%	4%	5%
Highway and Street	5%	14%	-2%	-15%	4%	4%	5%	3%	2%	3%
Sewage and Waste Disposal	3%	10%	-5%	-15%	3%	7%	-2%	-2%	3%	4%
Water Supply	-3%	2%	3%	-6%	10%	12%	12%	-8%	-13%	5%
Conservation and Development	21%	8%	-6%	-10%	10%	10%	4%	3%	3%	2%
<b>Total Nonbuilding Structures</b>	<b>10%</b>	<b>8%</b>	<b>-3%</b>	<b>-20%</b>	<b>1%</b>	<b>4%</b>	<b>4%</b>	<b>1%</b>	<b>2%</b>	<b>4%</b>
<b>Total Put in Place</b>	<b>8%</b>	<b>16%</b>	<b>3%</b>	<b>2%</b>	<b>4%</b>	<b>0%</b>	<b>0%</b>	<b>-1%</b>	<b>1%</b>	<b>3%</b>

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

Middle Atlantic states include: New Jersey, New York and Pennsylvania



## Construction Put in Place Estimated for East North Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	10,863	10,547	12,449	13,751	14,458	13,115	12,815	13,010	13,473	13,982
Multifamily	2,660	2,817	4,391	3,991	3,870	3,760	3,581	3,494	3,622	3,892
Improvements*	7,635	7,103	9,375	10,729	10,256	9,422	9,234	9,386	9,697	10,027
<b>Total Residential Buildings</b>	<b>21,159</b>	<b>20,467</b>	<b>26,215</b>	<b>28,471</b>	<b>28,585</b>	<b>26,297</b>	<b>25,630</b>	<b>25,890</b>	<b>26,792</b>	<b>27,901</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	2,292	3,019	3,500	3,509	4,076	4,181	4,026	3,695	3,553	3,686
Office	6,380	7,683	8,771	8,362	9,374	9,588	9,429	8,937	8,487	8,774
Commercial	8,607	9,186	10,135	11,153	12,408	11,609	10,791	10,258	10,313	11,010
Health Care	5,293	5,440	5,209	5,535	5,561	5,695	5,926	6,103	5,945	5,804
Educational	10,913	11,706	11,823	12,110	12,371	12,535	13,072	13,313	13,500	13,775
Religious	464	493	479	446	398	365	348	332	338	347
Public Safety	1,293	1,167	1,056	1,069	1,091	1,194	1,266	1,198	1,152	1,173
Amusement and Recreation	2,297	2,815	3,040	3,325	3,397	3,336	3,099	3,003	3,139	3,378
Transportation	5,758	6,187	5,464	5,768	6,374	6,769	7,301	7,927	8,378	8,179
Communication	2,369	2,975	2,864	2,990	3,165	3,236	3,295	3,428	3,520	3,641
Manufacturing	8,306	11,404	10,268	8,733	9,359	9,599	9,210	8,563	8,787	9,302
<b>Total Nonresidential Buildings</b>	<b>53,972</b>	<b>62,075</b>	<b>62,609</b>	<b>62,999</b>	<b>67,576</b>	<b>68,107</b>	<b>67,763</b>	<b>66,756</b>	<b>67,112</b>	<b>69,069</b>
<b>NONBUILDING STRUCTURES</b>										
Power	12,050	11,471	11,637	10,503	9,956	10,262	10,632	10,767	10,626	10,335
Highway and Street	9,500	10,000	9,895	9,775	9,886	10,475	11,113	11,937	12,453	12,877
Sewage and Waste Disposal	2,563	2,599	2,493	2,377	2,653	2,863	2,717	2,839	2,919	2,974
Water Supply	1,465	1,374	1,399	1,438	1,529	1,717	1,900	1,815	1,680	1,739
Conservation and Development	800	796	783	767	832	931	1,021	1,063	1,015	966
<b>Total Nonbuilding Structures</b>	<b>26,378</b>	<b>26,240</b>	<b>26,206</b>	<b>24,861</b>	<b>24,857</b>	<b>26,249</b>	<b>27,382</b>	<b>28,422</b>	<b>28,694</b>	<b>28,891</b>
<b>Total Put in Place</b>	<b>\$101,509</b>	<b>\$108,782</b>	<b>\$115,030</b>	<b>\$116,331</b>	<b>\$121,018</b>	<b>\$120,653</b>	<b>\$120,774</b>	<b>\$121,069</b>	<b>\$122,597</b>	<b>\$125,861</b>

## Construction Put in Place Estimated for East North Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	15%	-3%	18%	10%	5%	-9%	-2%	2%	4%	4%
Multifamily	33%	6%	56%	-9%	-3%	-3%	-5%	-2%	4%	7%
Improvements*	12%	-7%	32%	14%	-4%	-8%	-2%	2%	3%	3%
<b>Total Residential Buildings</b>	<b>16%</b>	<b>-3%</b>	<b>28%</b>	<b>9%</b>	<b>0%</b>	<b>-8%</b>	<b>-3%</b>	<b>1%</b>	<b>3%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	18%	32%	16%	0%	16%	3%	-4%	-8%	-4%	4%
Office	17%	20%	14%	-5%	12%	2%	-2%	-5%	-5%	3%
Commercial	12%	7%	10%	10%	11%	-6%	-7%	-5%	1%	7%
Health Care	-10%	3%	-4%	6%	0%	2%	4%	3%	-3%	-2%
Educational	-4%	7%	1%	2%	2%	1%	4%	2%	1%	2%
Religious	-10%	6%	-3%	-7%	-11%	-8%	-5%	-5%	2%	3%
Public Safety	-6%	-10%	-9%	1%	2%	9%	6%	-5%	-4%	2%
Amusement and Recreation	5%	23%	8%	9%	2%	-2%	-7%	-3%	5%	8%
Transportation	1%	7%	-12%	6%	10%	6%	8%	9%	6%	-2%
Communication	-8%	26%	-4%	4%	6%	2%	2%	4%	3%	3%
Manufacturing	10%	37%	-10%	-15%	7%	3%	-4%	-7%	3%	6%
<b>Total Nonresidential Buildings</b>	<b>3%</b>	<b>15%</b>	<b>1%</b>	<b>1%</b>	<b>7%</b>	<b>1%</b>	<b>-1%</b>	<b>-1%</b>	<b>1%</b>	<b>3%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	16%	-5%	1%	-10%	-5%	3%	4%	1%	-1%	-3%
Highway and Street	4%	5%	-1%	-1%	1%	6%	6%	7%	4%	3%
Sewage and Waste Disposal	3%	1%	-4%	-5%	12%	8%	-5%	5%	3%	2%
Water Supply	-3%	-6%	2%	3%	6%	12%	11%	-4%	-7%	3%
Conservation and Development	20%	-1%	-2%	-2%	9%	12%	10%	4%	-5%	-5%
<b>Total Nonbuilding Structures</b>	<b>9%</b>	<b>-1%</b>	<b>0%</b>	<b>-5%</b>	<b>0%</b>	<b>6%</b>	<b>4%</b>	<b>4%</b>	<b>1%</b>	<b>1%</b>
<b>Total Put in Place</b>	<b>7%</b>	<b>7%</b>	<b>6%</b>	<b>1%</b>	<b>4%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>1%</b>	<b>3%</b>

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

East North Central states include: Indiana, Illinois, Michigan, Ohio and Wisconsin



## Construction Put in Place Estimated for West North Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	28,501	26,895	30,672	33,151	32,289	28,685	27,836	28,587	30,244	32,183
Multifamily	6,076	6,253	8,909	7,727	7,216	6,704	6,044	5,763	6,105	6,662
Improvements*	20,032	19,510	21,188	24,104	22,430	20,683	19,299	19,459	19,952	20,748
<b>Total Residential Buildings</b>	<b>54,610</b>	<b>52,658</b>	<b>60,770</b>	<b>64,982</b>	<b>61,934</b>	<b>56,072</b>	<b>53,179</b>	<b>53,809</b>	<b>56,301</b>	<b>59,592</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	1,420	1,889	2,312	2,357	2,426	2,581	2,618	2,494	2,412	2,530
Office	3,953	4,807	5,795	5,562	6,367	7,163	6,992	6,591	6,362	6,713
Commercial	5,332	5,748	6,696	7,419	7,971	7,603	7,049	6,736	6,910	7,247
Health Care	3,279	3,404	3,441	3,611	3,544	3,602	3,630	3,719	3,820	3,901
Educational	6,761	7,325	7,811	8,055	8,183	8,301	8,386	8,668	8,969	9,039
Religious	287	309	317	297	266	244	228	221	225	231
Public Safety	801	730	698	718	837	857	794	770	789	812
Amusement and Recreation	1,423	1,762	2,009	2,212	2,247	2,224	2,139	2,104	2,137	2,196
Transportation	3,567	3,871	3,610	3,763	4,211	4,987	5,663	5,320	5,701	6,277
Communication	1,468	1,862	1,892	1,952	2,059	2,130	2,206	2,285	2,370	2,478
Manufacturing	5,146	7,136	6,784	6,147	6,378	6,555	6,307	5,898	6,351	6,668
<b>Total Nonresidential Buildings</b>	<b>33,438</b>	<b>38,842</b>	<b>41,365</b>	<b>42,093</b>	<b>44,488</b>	<b>46,248</b>	<b>46,012</b>	<b>44,804</b>	<b>46,047</b>	<b>48,092</b>
<b>NONBUILDING STRUCTURES</b>										
Power	9,945	9,660	9,911	8,597	8,315	8,741	9,889	9,427	9,335	9,524
Highway and Street	7,841	8,422	8,427	7,973	7,861	8,066	8,236	8,406	8,512	8,647
Sewage and Waste Disposal	2,115	2,189	2,123	1,987	1,988	2,120	2,278	2,500	2,712	2,851
Water Supply	1,209	1,157	1,191	1,202	1,220	1,306	1,450	1,563	1,614	1,641
Conservation and Development	660	670	667	641	676	728	802	878	948	1,006
<b>Total Nonbuilding Structures</b>	<b>21,769</b>	<b>22,098</b>	<b>22,320</b>	<b>20,400</b>	<b>20,061</b>	<b>20,961</b>	<b>22,654</b>	<b>22,776</b>	<b>23,121</b>	<b>23,669</b>
<b>Total Put in Place</b>	<b>\$109,817</b>	<b>\$113,597</b>	<b>\$124,455</b>	<b>\$127,476</b>	<b>\$126,483</b>	<b>\$123,281</b>	<b>\$121,844</b>	<b>\$121,389</b>	<b>\$125,469</b>	<b>\$131,353</b>

## Construction Put in Place Estimated for West North Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	7%	-6%	14%	8%	-3%	-11%	-3%	3%	6%	6%
Multifamily	24%	3%	42%	-13%	-7%	-7%	-10%	-5%	6%	9%
Improvements*	4%	-3%	9%	14%	-7%	-8%	-7%	1%	3%	4%
<b>Total Residential Buildings</b>	<b>8%</b>	<b>-4%</b>	<b>15%</b>	<b>7%</b>	<b>-5%</b>	<b>-9%</b>	<b>-5%</b>	<b>1%</b>	<b>5%</b>	<b>6%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	30%	33%	22%	2%	3%	6%	1%	-5%	-3%	5%
Office	28%	22%	21%	-4%	14%	12%	-2%	-6%	-3%	6%
Commercial	23%	8%	16%	11%	7%	-5%	-7%	-4%	3%	5%
Health Care	-1%	4%	1%	5%	-2%	2%	1%	2%	3%	2%
Educational	5%	8%	7%	3%	2%	1%	1%	3%	3%	1%
Religious	-1%	7%	3%	-6%	-11%	-8%	-7%	-3%	2%	3%
Public Safety	4%	-9%	-4%	3%	17%	2%	-7%	-3%	2%	3%
Amusement and Recreation	15%	24%	14%	10%	2%	-1%	-4%	-2%	2%	3%
Transportation	11%	9%	-7%	4%	12%	18%	14%	-6%	7%	10%
Communication	2%	27%	2%	3%	5%	3%	4%	4%	4%	5%
Manufacturing	21%	39%	-5%	-9%	4%	3%	-4%	-6%	8%	5%
<b>Total Nonresidential Buildings</b>	<b>14%</b>	<b>16%</b>	<b>6%</b>	<b>2%</b>	<b>6%</b>	<b>4%</b>	<b>-1%</b>	<b>-3%</b>	<b>3%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	22%	-3%	3%	-13%	-3%	5%	13%	-5%	-1%	2%
Highway and Street	10%	7%	0%	-5%	-1%	3%	2%	2%	1%	2%
Sewage and Waste Disposal	8%	3%	-3%	-6%	0%	7%	7%	10%	8%	5%
Water Supply	2%	-4%	3%	1%	1%	7%	11%	8%	3%	2%
Conservation and Development	27%	1%	0%	-4%	6%	8%	10%	10%	8%	6%
<b>Total Nonbuilding Structures</b>	<b>15%</b>	<b>2%</b>	<b>1%</b>	<b>-9%</b>	<b>-2%</b>	<b>4%</b>	<b>8%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>
<b>Total Put in Place</b>	<b>11%</b>	<b>3%</b>	<b>10%</b>	<b>2%</b>	<b>-1%</b>	<b>-3%</b>	<b>-1%</b>	<b>0%</b>	<b>3%</b>	<b>5%</b>

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

West North Central states include: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota and South Dakota





## Construction Put in Place Estimated for South Atlantic

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	39,891	47,630	53,226	59,880	65,256	63,760	65,955	68,889	72,011	74,789
Multifamily	9,512	12,386	13,409	13,811	15,564	15,766	15,333	15,525	16,191	16,985
Improvements*	28,038	32,079	36,529	43,981	44,726	43,485	44,059	45,356	46,725	48,206
<b>Total Residential Buildings</b>	<b>77,440</b>	<b>92,094</b>	<b>103,164</b>	<b>117,673</b>	<b>125,546</b>	<b>123,011</b>	<b>125,347</b>	<b>129,770</b>	<b>134,927</b>	<b>139,980</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	2,396	3,059	4,120	4,787	5,106	5,397	5,546	5,374	5,432	5,624
Office	6,669	7,784	10,325	12,410	12,727	13,254	13,697	13,419	13,735	14,350
Commercial	8,996	9,307	11,927	13,756	14,865	14,495	14,135	13,937	14,273	14,919
Health Care	5,533	5,512	6,127	6,630	6,341	6,512	6,770	6,806	6,435	6,536
Educational	11,407	11,860	13,916	14,953	14,846	15,097	15,327	15,880	16,212	16,654
Religious	485	500	564	550	505	478	448	430	441	464
Public Safety	1,351	1,182	1,243	1,320	1,365	1,467	1,586	1,541	1,412	1,386
Amusement and Recreation	2,401	2,852	3,577	4,103	4,317	4,386	4,199	4,080	4,177	4,264
Transportation	6,019	6,268	6,429	6,982	7,196	7,806	8,360	9,085	10,076	10,356
Communication	2,476	3,014	3,372	3,689	3,850	3,908	4,064	4,208	4,312	4,442
Manufacturing	8,682	11,554	12,086	10,789	10,784	10,667	10,211	10,441	11,082	10,739
<b>Total Nonresidential Buildings</b>	<b>56,416</b>	<b>62,892</b>	<b>73,686</b>	<b>79,967</b>	<b>81,903</b>	<b>83,468</b>	<b>84,344</b>	<b>85,001</b>	<b>87,588</b>	<b>89,732</b>
<b>NONBUILDING STRUCTURES</b>										
Power	18,286	18,292	20,298	19,373	18,311	19,653	20,629	19,762	19,129	19,753
Highway and Street	14,417	15,947	17,869	17,009	17,156	17,589	17,897	18,614	19,464	19,209
Sewage and Waste Disposal	3,889	4,144	4,501	4,321	4,356	4,730	4,687	4,863	5,095	5,344
Water Supply	2,222	2,191	2,524	2,611	2,633	2,820	3,003	3,117	3,392	3,585
Conservation and Development	1,214	1,269	1,415	1,395	1,514	1,730	1,828	1,961	2,087	2,229
<b>Total Nonbuilding Structures</b>	<b>40,028</b>	<b>41,843</b>	<b>46,607</b>	<b>44,709</b>	<b>43,970</b>	<b>46,522</b>	<b>48,044</b>	<b>48,318</b>	<b>49,167</b>	<b>50,120</b>
<b>Total Put in Place</b>	<b>\$173,885</b>	<b>\$196,829</b>	<b>\$223,457</b>	<b>\$242,349</b>	<b>\$251,419</b>	<b>\$253,001</b>	<b>\$257,735</b>	<b>\$263,089</b>	<b>\$271,681</b>	<b>\$279,833</b>

## Construction Put in Place Estimated for South Atlantic

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	7%	19%	12%	13%	9%	-2%	3%	4%	5%	4%
Multifamily	25%	30%	8%	3%	13%	1%	-3%	1%	4%	5%
Improvements*	5%	14%	14%	20%	2%	-3%	1%	3%	3%	3%
<b>Total Residential Buildings</b>	<b>8%</b>	<b>19%</b>	<b>12%</b>	<b>14%</b>	<b>7%</b>	<b>-2%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	21%	28%	35%	16%	7%	6%	3%	-3%	1%	4%
Office	19%	17%	33%	20%	3%	4%	3%	-2%	2%	4%
Commercial	15%	3%	28%	15%	8%	-2%	-2%	-1%	2%	5%
Health Care	-8%	0%	11%	8%	-4%	3%	4%	-2%	-3%	2%
Educational	-2%	4%	17%	7%	-1%	2%	2%	4%	2%	3%
Religious	-8%	3%	13%	-2%	-8%	-5%	-6%	-4%	3%	5%
Public Safety	-3%	-13%	5%	6%	3%	7%	8%	-3%	-8%	-2%
Amusement and Recreation	7%	19%	25%	15%	5%	2%	-4%	-3%	2%	2%
Transportation	4%	4%	3%	9%	3%	8%	7%	9%	11%	3%
Communication	-5%	22%	12%	9%	4%	2%	4%	4%	2%	3%
Manufacturing	12%	33%	5%	-11%	0%	-1%	-4%	2%	6%	-3%
<b>Total Nonresidential Buildings</b>	<b>6%</b>	<b>11%</b>	<b>17%</b>	<b>9%</b>	<b>2%</b>	<b>2%</b>	<b>1%</b>	<b>1%</b>	<b>3%</b>	<b>2%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	11%	0%	11%	-5%	-5%	7%	5%	-4%	-3%	3%
Highway and Street	0%	11%	12%	-5%	1%	3%	2%	4%	5%	-1%
Sewage and Waste Disposal	-1%	7%	9%	-4%	1%	9%	-1%	4%	5%	5%
Water Supply	-7%	-1%	15%	3%	1%	7%	6%	4%	9%	6%
Conservation and Development	16%	5%	12%	-1%	9%	14%	6%	7%	6%	7%
<b>Total Nonbuilding Structures</b>	<b>5%</b>	<b>5%</b>	<b>11%</b>	<b>-4%</b>	<b>-2%</b>	<b>6%</b>	<b>3%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>
<b>Total Put in Place</b>	<b>7%</b>	<b>13%</b>	<b>14%</b>	<b>8%</b>	<b>4%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>	<b>3%</b>

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

South Atlantic states include: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia and West Virginia



## Construction Put in Place Estimated for East South Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	6,038	6,969	7,776	8,472	9,060	8,911	8,941	8,993	9,189	9,447
Multifamily	1,318	1,660	2,041	1,865	1,759	1,681	1,708	1,736	1,803	1,902
Improvements*	4,268	4,720	5,469	6,293	6,158	5,880	5,824	5,988	6,133	6,281
<b>Total Residential Buildings</b>	<b>11,625</b>	<b>13,349</b>	<b>15,286</b>	<b>16,630</b>	<b>16,977</b>	<b>16,472</b>	<b>16,474</b>	<b>16,718</b>	<b>17,126</b>	<b>17,630</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	830	1,019	1,126	1,143	1,263	1,306	1,270	1,344	1,451	1,525
Office	2,311	2,593	2,823	2,697	3,107	3,286	3,215	3,337	3,524	3,690
Commercial	3,118	3,101	3,262	3,597	3,815	3,679	3,637	3,729	4,016	4,260
Health Care	1,918	1,836	1,676	1,751	1,740	1,825	1,968	1,921	1,808	1,851
Educational	3,953	3,951	3,805	3,905	4,032	4,092	3,981	4,031	4,134	4,259
Religious	168	167	154	144	130	119	110	106	108	113
Public Safety	468	394	340	345	363	392	472	590	562	447
Amusement and Recreation	832	950	978	1,072	1,108	1,122	1,202	1,462	1,233	1,135
Transportation	2,086	2,088	1,759	1,825	1,861	1,929	1,867	1,719	1,680	1,686
Communication	858	1,004	922	955	991	998	1,014	1,049	1,089	1,130
Manufacturing	3,009	3,849	3,305	2,816	3,273	3,536	3,763	3,817	3,673	3,717
<b>Total Nonresidential Buildings</b>	<b>19,552</b>	<b>20,953</b>	<b>20,151</b>	<b>20,250</b>	<b>21,683</b>	<b>22,284</b>	<b>22,501</b>	<b>23,104</b>	<b>23,278</b>	<b>23,813</b>
<b>NONBUILDING STRUCTURES</b>										
Power	5,780	5,416	5,222	4,304	4,016	4,253	4,151	3,804	3,867	3,994
Highway and Street	4,557	4,722	4,676	4,381	4,468	4,599	4,849	5,248	5,560	5,727
Sewage and Waste Disposal	1,229	1,227	1,119	1,036	1,056	1,138	1,197	1,179	1,131	1,169
Water Supply	702	649	628	627	644	725	790	824	854	897
Conservation and Development	384	376	351	334	369	423	444	466	483	505
<b>Total Nonbuilding Structures</b>	<b>12,652</b>	<b>12,389</b>	<b>11,997</b>	<b>10,683</b>	<b>10,552</b>	<b>11,137</b>	<b>11,430</b>	<b>11,521</b>	<b>11,894</b>	<b>12,292</b>
<b>Total Put in Place</b>	<b>\$43,829</b>	<b>\$46,691</b>	<b>\$47,433</b>	<b>\$47,563</b>	<b>\$49,212</b>	<b>\$49,893</b>	<b>\$50,405</b>	<b>\$51,342</b>	<b>\$52,298</b>	<b>\$53,734</b>

## Construction Put in Place Estimated for East South Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	17%	15%	12%	9%	7%	-2%	0%	1%	2%	3%
Multifamily	36%	26%	23%	-9%	-6%	-4%	2%	2%	4%	5%
Improvements*	14%	11%	16%	15%	-2%	-5%	-1%	3%	2%	2%
<b>Total Residential Buildings</b>	<b>18%</b>	<b>15%</b>	<b>15%</b>	<b>9%</b>	<b>2%</b>	<b>-3%</b>	<b>0%</b>	<b>1%</b>	<b>2%</b>	<b>3%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	17%	23%	11%	1%	11%	3%	-3%	6%	8%	5%
Office	15%	12%	9%	-4%	15%	6%	-2%	4%	6%	5%
Commercial	11%	-1%	5%	10%	6%	-4%	-1%	3%	8%	6%
Health Care	-11%	-4%	-9%	4%	-1%	5%	8%	-2%	-6%	2%
Educational	-5%	0%	-4%	3%	3%	1%	-3%	1%	3%	3%
Religious	-11%	-1%	-7%	-7%	-10%	-8%	-8%	-4%	2%	5%
Public Safety	-7%	-16%	-14%	1%	5%	8%	21%	25%	-5%	-21%
Amusement and Recreation	4%	14%	3%	10%	3%	1%	7%	22%	-16%	-8%
Transportation	0%	0%	-16%	4%	2%	4%	-3%	-8%	-2%	0%
Communication	-9%	17%	-8%	4%	4%	1%	2%	3%	4%	4%
Manufacturing	9%	28%	-14%	-15%	16%	8%	6%	1%	-4%	1%
<b>Total Nonresidential Buildings</b>	<b>2%</b>	<b>7%</b>	<b>-4%</b>	<b>0%</b>	<b>7%</b>	<b>3%</b>	<b>1%</b>	<b>3%</b>	<b>1%</b>	<b>2%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	10%	-6%	-4%	-18%	-7%	6%	-2%	-8%	2%	3%
Highway and Street	-1%	4%	-1%	-6%	2%	3%	5%	8%	6%	3%
Sewage and Waste Disposal	-3%	0%	-9%	-7%	2%	8%	5%	-1%	-4%	3%
Water Supply	-8%	-8%	-3%	0%	3%	13%	9%	4%	4%	5%
Conservation and Development	14%	-2%	-6%	-5%	11%	14%	5%	5%	4%	5%
<b>Total Nonbuilding Structures</b>	<b>3%</b>	<b>-2%</b>	<b>-3%</b>	<b>-11%</b>	<b>-1%</b>	<b>6%</b>	<b>3%</b>	<b>1%</b>	<b>3%</b>	<b>3%</b>
<b>Total Put in Place</b>	<b>6%</b>	<b>7%</b>	<b>2%</b>	<b>0%</b>	<b>3%</b>	<b>1%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>

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

East South Central states include: Alabama, Kentucky, Mississippi and Tennessee



## Construction Put in Place Estimated for West South Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	22,917	25,457	25,779	28,462	30,224	30,809	31,885	32,646	33,211	34,261
Multifamily	5,788	7,011	6,684	6,548	6,006	5,892	6,073	6,180	6,356	6,538
Improvements*	13,167	14,015	14,271	16,676	15,627	15,338	15,607	15,761	16,152	16,437
<b>Total Residential Buildings</b>	<b>41,871</b>	<b>46,484</b>	<b>46,734</b>	<b>51,686</b>	<b>51,857</b>	<b>52,038</b>	<b>53,564</b>	<b>54,588</b>	<b>55,720</b>	<b>57,236</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	2,488	3,877	4,871	5,041	5,137	5,646	5,878	5,765	5,621	5,777
Office	6,924	9,864	12,207	11,897	12,562	13,027	13,299	12,938	12,849	13,547
Commercial	9,340	11,795	14,105	15,163	16,243	15,695	15,926	15,665	16,046	16,818
Health Care	5,744	6,985	7,249	7,650	7,590	7,727	7,781	7,740	7,908	8,148
Educational	11,843	15,030	16,454	17,400	17,293	17,599	18,118	18,912	19,916	20,855
Religious	503	634	667	635	590	554	522	506	520	549
Public Safety	1,403	1,498	1,470	1,520	1,711	1,932	2,080	2,145	2,080	2,119
Amusement and Recreation	2,493	3,615	4,231	4,731	4,983	5,196	5,275	5,232	5,065	5,099
Transportation	6,249	7,944	7,604	8,050	9,167	9,593	10,311	11,976	13,607	14,702
Communication	2,571	3,820	3,986	4,218	4,578	4,791	5,005	5,235	5,422	5,666
Manufacturing	9,014	14,642	14,291	12,425	12,306	12,920	14,047	14,969	15,645	16,099
<b>Total Nonresidential Buildings</b>	<b>58,572</b>	<b>79,704</b>	<b>87,135</b>	<b>88,730</b>	<b>92,160</b>	<b>94,679</b>	<b>98,243</b>	<b>101,084</b>	<b>104,677</b>	<b>109,380</b>
<b>NONBUILDING STRUCTURES</b>										
Power	23,942	28,891	28,773	23,406	23,579	24,902	26,596	28,622	30,827	33,001
Highway and Street	16,169	17,501	17,536	17,667	17,754	18,588	19,568	20,700	21,730	22,538
Sewage and Waste Disposal	4,772	5,508	5,350	4,892	5,101	5,749	6,046	6,463	6,796	7,079
Water Supply	2,910	3,460	3,567	3,517	3,891	4,408	4,795	5,363	5,827	6,283
Conservation and Development	1,590	2,004	1,997	1,875	2,082	2,394	2,531	2,672	2,822	3,028
<b>Total Nonbuilding Structures</b>	<b>49,383</b>	<b>57,365</b>	<b>57,223</b>	<b>51,357</b>	<b>52,407</b>	<b>56,039</b>	<b>59,537</b>	<b>63,820</b>	<b>68,003</b>	<b>71,929</b>
<b>Total Put in Place</b>	<b>\$149,826</b>	<b>\$183,553</b>	<b>\$191,092</b>	<b>\$191,772</b>	<b>\$196,424</b>	<b>\$202,757</b>	<b>\$211,344</b>	<b>\$219,491</b>	<b>\$228,400</b>	<b>\$238,545</b>

## Construction Put in Place Estimated for West South Central

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	17%	11%	1%	10%	6%	2%	3%	2%	2%	3%
Multifamily	36%	21%	-5%	-2%	-8%	-2%	3%	2%	3%	3%
Improvements*	14%	6%	2%	17%	-6%	-2%	2%	1%	2%	2%
<b>Total Residential Buildings</b>	<b>18%</b>	<b>11%</b>	<b>1%</b>	<b>11%</b>	<b>0%</b>	<b>0%</b>	<b>3%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	50%	56%	26%	3%	2%	10%	4%	-2%	-3%	3%
Office	49%	42%	24%	-3%	6%	4%	2%	-3%	-1%	5%
Commercial	43%	26%	20%	8%	7%	-3%	1%	-2%	2%	5%
Health Care	15%	22%	4%	6%	-1%	2%	1%	-1%	2%	3%
Educational	22%	27%	9%	6%	-1%	2%	3%	4%	5%	5%
Religious	14%	26%	5%	-5%	-7%	-6%	-6%	-3%	3%	6%
Public Safety	20%	7%	-2%	3%	13%	13%	8%	3%	-3%	2%
Amusement and Recreation	34%	45%	17%	12%	5%	4%	2%	-1%	-3%	1%
Transportation	29%	27%	-4%	6%	14%	5%	7%	16%	14%	8%
Communication	18%	49%	4%	6%	9%	5%	4%	5%	4%	4%
Manufacturing	40%	62%	-2%	-13%	-1%	5%	9%	7%	5%	3%
<b>Total Nonresidential Buildings</b>	<b>32%</b>	<b>36%</b>	<b>9%</b>	<b>2%</b>	<b>4%</b>	<b>3%</b>	<b>4%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	39%	21%	0%	-19%	1%	6%	7%	8%	8%	7%
Highway and Street	11%	8%	0%	1%	0%	5%	5%	6%	5%	4%
Sewage and Waste Disposal	15%	15%	-3%	-9%	4%	13%	5%	7%	5%	4%
Water Supply	16%	19%	3%	-1%	11%	13%	9%	12%	9%	8%
Conservation and Development	44%	26%	0%	-6%	11%	15%	6%	6%	6%	7%
<b>Total Nonbuilding Structures</b>	<b>25%</b>	<b>16%</b>	<b>0%</b>	<b>-10%</b>	<b>2%</b>	<b>7%</b>	<b>6%</b>	<b>7%</b>	<b>7%</b>	<b>6%</b>
<b>Total Put in Place</b>	<b>25%</b>	<b>23%</b>	<b>4%</b>	<b>0%</b>	<b>2%</b>	<b>3%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>

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

West South Central states include: Arkansas, Louisiana, Oklahoma and Texas



## Construction Put in Place Estimated for Mountain

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	17,406	19,709	22,035	25,932	29,201	28,362	28,842	29,995	31,490	33,052
Multifamily	4,018	4,961	7,294	8,004	8,033	7,647	7,383	7,315	7,545	7,898
Improvements*	11,984	13,003	16,435	20,076	20,290	19,145	18,976	19,189	19,713	20,413
<b>Total Residential Buildings</b>	<b>33,408</b>	<b>37,673</b>	<b>45,764</b>	<b>54,013</b>	<b>57,524</b>	<b>55,153</b>	<b>55,201</b>	<b>56,499</b>	<b>58,748</b>	<b>61,364</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	1,127	1,393	1,734	1,848	2,137	2,308	2,353	2,096	1,850	1,933
Office	3,137	3,546	4,346	4,363	4,649	4,834	5,119	5,257	4,893	4,947
Commercial	4,231	4,240	5,021	5,819	6,472	6,162	5,820	5,661	5,577	5,715
Health Care	2,602	2,511	2,581	2,832	2,833	2,785	2,905	3,114	3,077	2,993
Educational	5,365	5,403	5,858	6,318	6,457	6,501	6,608	6,810	7,083	7,322
Religious	228	228	238	233	218	202	188	185	190	194
Public Safety	635	538	523	558	639	671	734	703	687	718
Amusement and Recreation	1,129	1,299	1,506	1,751	2,048	2,183	2,124	1,872	1,807	1,903
Transportation	2,831	2,855	2,707	2,952	3,393	3,559	3,708	3,997	4,329	4,533
Communication	1,165	1,373	1,419	1,479	1,493	1,523	1,586	1,670	1,741	1,813
Manufacturing	4,084	5,263	5,088	4,556	4,387	4,217	4,317	4,327	4,260	4,407
<b>Total Nonresidential Buildings</b>	<b>26,535</b>	<b>28,651</b>	<b>31,020</b>	<b>32,709</b>	<b>34,726</b>	<b>34,945</b>	<b>35,462</b>	<b>35,692</b>	<b>35,495</b>	<b>36,479</b>
<b>NONBUILDING STRUCTURES</b>										
Power	9,814	9,450	9,094	8,108	7,922	8,351	8,621	8,968	9,170	9,578
Highway and Street	7,738	8,238	8,363	8,301	8,324	8,675	8,902	9,104	9,340	9,633
Sewage and Waste Disposal	2,087	2,141	2,107	2,111	2,222	2,424	2,515	2,457	2,500	2,590
Water Supply	1,193	1,132	1,182	1,277	1,467	1,664	1,792	1,850	1,928	2,029
Conservation and Development	652	656	662	681	798	863	904	949	998	1,065
<b>Total Nonbuilding Structures</b>	<b>21,484</b>	<b>21,617</b>	<b>21,408</b>	<b>20,478</b>	<b>20,734</b>	<b>21,977</b>	<b>22,734</b>	<b>23,328</b>	<b>23,936</b>	<b>24,895</b>
<b>Total Put in Place</b>	<b>\$81,426</b>	<b>\$87,941</b>	<b>\$98,191</b>	<b>\$107,200</b>	<b>\$112,984</b>	<b>\$112,075</b>	<b>\$113,397</b>	<b>\$115,518</b>	<b>\$118,179</b>	<b>\$122,738</b>

## Construction Put in Place Estimated for Mountain

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	19%	13%	12%	18%	13%	-3%	2%	4%	5%	5%
Multifamily	38%	23%	47%	10%	0%	-5%	-3%	-1%	3%	5%
Improvements*	16%	9%	26%	22%	1%	-6%	-1%	1%	3%	4%
<b>Total Residential Buildings</b>	<b>20%</b>	<b>13%</b>	<b>21%</b>	<b>18%</b>	<b>7%</b>	<b>-4%</b>	<b>0%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	22%	24%	24%	7%	16%	8%	2%	-11%	-12%	4%
Office	21%	13%	23%	0%	7%	4%	6%	3%	-7%	1%
Commercial	17%	0%	18%	16%	11%	-5%	-6%	-3%	-1%	2%
Health Care	-6%	-4%	3%	10%	0%	-2%	4%	7%	-1%	-3%
Educational	-1%	1%	8%	8%	2%	1%	2%	3%	4%	3%
Religious	-7%	0%	4%	-2%	-6%	-7%	-7%	-1%	2%	2%
Public Safety	-2%	-15%	-3%	7%	15%	5%	9%	-4%	-2%	5%
Amusement and Recreation	9%	15%	16%	16%	17%	7%	-3%	-12%	-3%	5%
Transportation	5%	1%	-5%	9%	15%	5%	4%	8%	8%	5%
Communication	-4%	18%	3%	4%	1%	2%	4%	5%	4%	4%
Manufacturing	14%	29%	-3%	-10%	-4%	-4%	2%	0%	-2%	3%
<b>Total Nonresidential Buildings</b>	<b>7%</b>	<b>8%</b>	<b>8%</b>	<b>5%</b>	<b>6%</b>	<b>1%</b>	<b>1%</b>	<b>1%</b>	<b>-1%</b>	<b>3%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	15%	-4%	-4%	-11%	-2%	5%	3%	4%	2%	4%
Highway and Street	3%	6%	2%	-1%	0%	4%	3%	2%	3%	3%
Sewage and Waste Disposal	2%	3%	-2%	0%	5%	9%	4%	-2%	2%	4%
Water Supply	-4%	-5%	4%	8%	15%	13%	8%	3%	4%	5%
Conservation and Development	19%	1%	1%	3%	17%	8%	5%	5%	5%	7%
<b>Total Nonbuilding Structures</b>	<b>8%</b>	<b>1%</b>	<b>-1%</b>	<b>-4%</b>	<b>1%</b>	<b>6%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>4%</b>
<b>Total Put in Place</b>	<b>12%</b>	<b>8%</b>	<b>12%</b>	<b>9%</b>	<b>5%</b>	<b>-1%</b>	<b>1%</b>	<b>2%</b>	<b>2%</b>	<b>4%</b>

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

Mountain states include: Arizona, Colorado, Idaho, New Mexico, Montana, Utah, Nevada and Wyoming



## Construction Put in Place Estimated for Pacific

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	42,779	52,946	56,755	63,877	70,403	66,339	67,422	70,200	73,057	77,067
Multifamily	10,586	14,342	15,502	15,425	14,801	13,946	14,367	14,661	15,278	16,223
Improvements*	29,977	35,552	39,315	46,330	46,174	43,104	43,684	45,096	46,365	48,255
<b>Total Residential Buildings</b>	<b>83,342</b>	<b>102,840</b>	<b>111,572</b>	<b>125,632</b>	<b>131,377</b>	<b>123,389</b>	<b>125,472</b>	<b>129,956</b>	<b>134,700</b>	<b>141,546</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	2,872	3,456	4,295	4,485	4,913	5,273	5,379	5,062	4,884	5,094
Office	7,994	8,796	10,766	10,902	10,750	11,273	11,164	10,730	10,546	10,962
Commercial	10,784	10,517	12,449	13,298	14,645	13,972	13,503	12,746	12,463	13,002
Health Care	6,632	6,228	6,406	6,641	6,515	6,648	6,865	7,095	7,369	7,706
Educational	13,674	13,402	14,515	15,343	15,523	15,834	16,390	16,751	17,254	17,813
Religious	581	565	591	569	522	487	462	456	467	491
Public Safety	1,619	1,336	1,296	1,405	1,719	1,874	2,010	1,965	1,900	1,853
Amusement and Recreation	2,878	3,223	3,737	4,221	4,439	4,396	4,224	3,727	3,648	3,801
Transportation	7,215	7,083	6,740	7,205	8,124	8,512	9,114	9,565	9,977	10,035
Communication	2,968	3,406	3,516	3,742	3,699	3,731	3,845	3,976	4,106	4,271
Manufacturing	10,407	13,056	12,608	11,060	10,490	10,573	10,333	10,002	10,423	11,093
<b>Total Nonresidential Buildings</b>	<b>67,625</b>	<b>71,067</b>	<b>76,919</b>	<b>78,871</b>	<b>81,340</b>	<b>82,573</b>	<b>83,289</b>	<b>82,077</b>	<b>83,037</b>	<b>86,121</b>
<b>NONBUILDING STRUCTURES</b>										
Power	15,061	12,765	12,325	10,541	10,610	10,849	10,711	11,016	11,514	11,918
Highway and Street	12,529	13,317	13,196	12,882	13,811	15,332	16,659	17,496	18,162	18,566
Sewage and Waste Disposal	3,281	3,268	3,111	3,229	3,527	3,983	4,322	4,671	5,137	5,684
Water Supply	1,831	1,529	1,529	1,641	1,916	2,153	2,306	2,422	2,651	2,977
Conservation and Development	1,000	886	853	834	970	1,115	1,239	1,298	1,357	1,435
<b>Total Nonbuilding Structures</b>	<b>33,702</b>	<b>31,765</b>	<b>31,013</b>	<b>29,127</b>	<b>30,835</b>	<b>33,433</b>	<b>35,237</b>	<b>36,904</b>	<b>38,821</b>	<b>40,579</b>
<b>Total Put in Place</b>	<b>\$184,669</b>	<b>\$205,672</b>	<b>\$219,504</b>	<b>\$233,630</b>	<b>\$243,552</b>	<b>\$239,394</b>	<b>\$243,998</b>	<b>\$248,938</b>	<b>\$256,558</b>	<b>\$268,245</b>

## Construction Put in Place Estimated for Pacific

Millions of Current Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	16%	24%	7%	13%	10%	-6%	2%	4%	4%	5%
Multifamily	34%	35%	8%	0%	-4%	-6%	3%	2%	4%	6%
Improvements*	13%	19%	11%	18%	0%	-7%	1%	3%	3%	4%
<b>Total Residential Buildings</b>	<b>17%</b>	<b>23%</b>	<b>8%</b>	<b>13%</b>	<b>5%</b>	<b>-6%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>5%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	28%	20%	24%	4%	10%	7%	2%	-6%	-4%	4%
Office	26%	10%	22%	1%	-1%	5%	-1%	-4%	-2%	4%
Commercial	22%	-2%	18%	7%	10%	-5%	-3%	-6%	-2%	4%
Health Care	-2%	-6%	3%	4%	-2%	2%	3%	3%	4%	5%
Educational	4%	-2%	8%	6%	1%	2%	4%	2%	3%	3%
Religious	-3%	-3%	5%	-4%	-8%	-7%	-5%	-1%	2%	5%
Public Safety	2%	-18%	-3%	8%	22%	9%	7%	-2%	-3%	-2%
Amusement and Recreation	14%	12%	16%	13%	5%	-1%	-4%	-12%	-2%	4%
Transportation	10%	-2%	-5%	7%	13%	5%	7%	5%	4%	1%
Communication	0%	15%	3%	6%	-1%	1%	3%	3%	3%	4%
Manufacturing	19%	25%	-3%	-12%	-5%	1%	-2%	-3%	4%	6%
<b>Total Nonresidential Buildings</b>	<b>12%</b>	<b>5%</b>	<b>8%</b>	<b>3%</b>	<b>3%</b>	<b>2%</b>	<b>1%</b>	<b>-1%</b>	<b>1%</b>	<b>4%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	7%	-15%	-3%	-14%	1%	2%	-1%	3%	5%	4%
Highway and Street	1%	6%	-1%	-2%	7%	11%	9%	5%	4%	2%
Sewage and Waste Disposal	-3%	0%	-5%	4%	9%	13%	8%	8%	10%	11%
Water Supply	-11%	-16%	0%	7%	17%	12%	7%	5%	9%	12%
Conservation and Development	11%	-11%	-4%	-2%	16%	15%	11%	5%	4%	6%
<b>Total Nonbuilding Structures</b>	<b>3%</b>	<b>-6%</b>	<b>-2%</b>	<b>-6%</b>	<b>6%</b>	<b>8%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>
<b>Total Put in Place</b>	<b>12%</b>	<b>11%</b>	<b>7%</b>	<b>6%</b>	<b>4%</b>	<b>-2%</b>	<b>2%</b>	<b>2%</b>	<b>3%</b>	<b>5%</b>

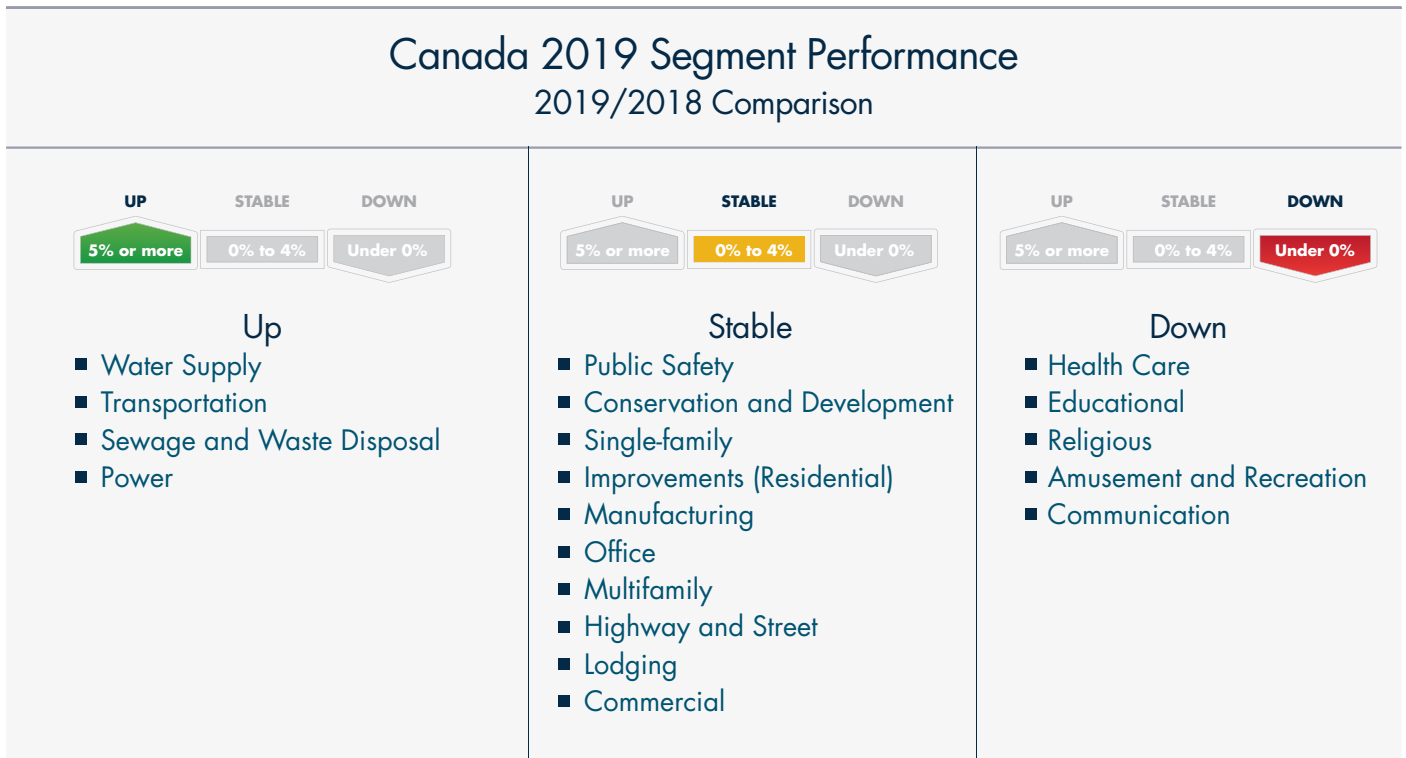
\*Improvements includes additions, alterations and major replacements. It does not include maintenance and repairs.

Pacific states include: Alaska, California, Hawaii, Oregon and Washington



# Canada Engineering and Construction Outlook

Total engineering and construction spending in Canada is anticipated to be just shy of \$295 billion for 2019. This comes to a modest 2 percent increase over 2018 or about \$6 billion in additional investment. Looking ahead to 2020, FMI forecasts total spending to increase 5 percent to top \$307 billion.



Overall, we expect total construction spending across Canada to continue a long-term inflationary growth pattern. Although this does not provide the same opportunities of the double-digit expansion of the early and mid-2000s, considering several of the potential economic disruptors—from provincial policy changes to volatile oil prices to trade uncertainty—a 3 percent Compound Annual Growth Rate (CAGR) through the forecast period seems welcome.

## Province by Province

At the provincial level, over the next five years, Alberta will see the greatest gains in engineering and construction spending, maintaining a 4 percent CAGR. Coming out of a provincial recession led by low oil prices, the economy is still heavily dependent on oil and gas investments continuing. However, the combination of a rebounded and stabilized energy sector, alongside various incentives for business investment, should boost economic recovery and expansion.

By comparison, Ontario's economy is seeing slowing after seeing five years of strong growth. Our forecast points to a modest 1 percent increase in engineering and construction spending in 2019; yet the long-term outlook will track closer to 3 percent CAGR through 2023, driven by transportation and manufacturing investments. The province's economy is anticipated to remain stable due to healthy labor market conditions and strong population growth.

Similarly, spending in British Columbia is forecast to stall, following several years of near double-digit growth. A development at LNG Canada's export terminal in Kitimat, in addition to the related buildings and infrastructure demand that it will require, will be significant. However, slowdown across most other residential and nonresidential building segments will weigh on overall engineering and construction spend, resulting in a 2 percent CAGR over the next five years.

Quebec has seen strong employment and population growth over the last two years, resulting in significant engineering and construction activity. Spending increased 11 percent in 2017 and 8 percent in 2018. In 2019 and 2020, we see these rates slowing (1 percent and 0 percent, respectively) and ultimately shifting to a more moderate long-term pace with a 2 percent CAGR through 2023. Transportation and water supply investments, coupled with a healthy residential market, support anticipated long-term balance.

Despite the challenges presented by oil spills in Newfoundland and Labrador and declining forestry and manufacturing demand in New Brunswick, engineering and construction spending across the Atlantic region is projected to outpace other provinces in 2020. Significant population growth in Nova Scotia and Prince Edward Island fuel demand for additional buildings and infrastructure. Halifax's residential market continues to be one of the most affordable in Canada, alongside stable demand across health care and commercial space. Last, the provincial governments' investment in power and water supply infrastructure round out a 5 percent increase in total construction spend in 2020.

## The Power Segment Remains Dominant

From a segment perspective, power and water supply will lead engineering and construction spending growth in 2020, at 9 percent and 19 percent, respectively. Right now, many of the largest upcoming projects in Canada are power-related. This includes more than a dozen megaprojects valued greater than \$1 billion.

The water supply and wastewater disposal segments combined represent a much smaller share of overall spending, but are forecast to expand at a rate of almost 6 percent CAGR over the next five years, with several large projects planned across the nation.

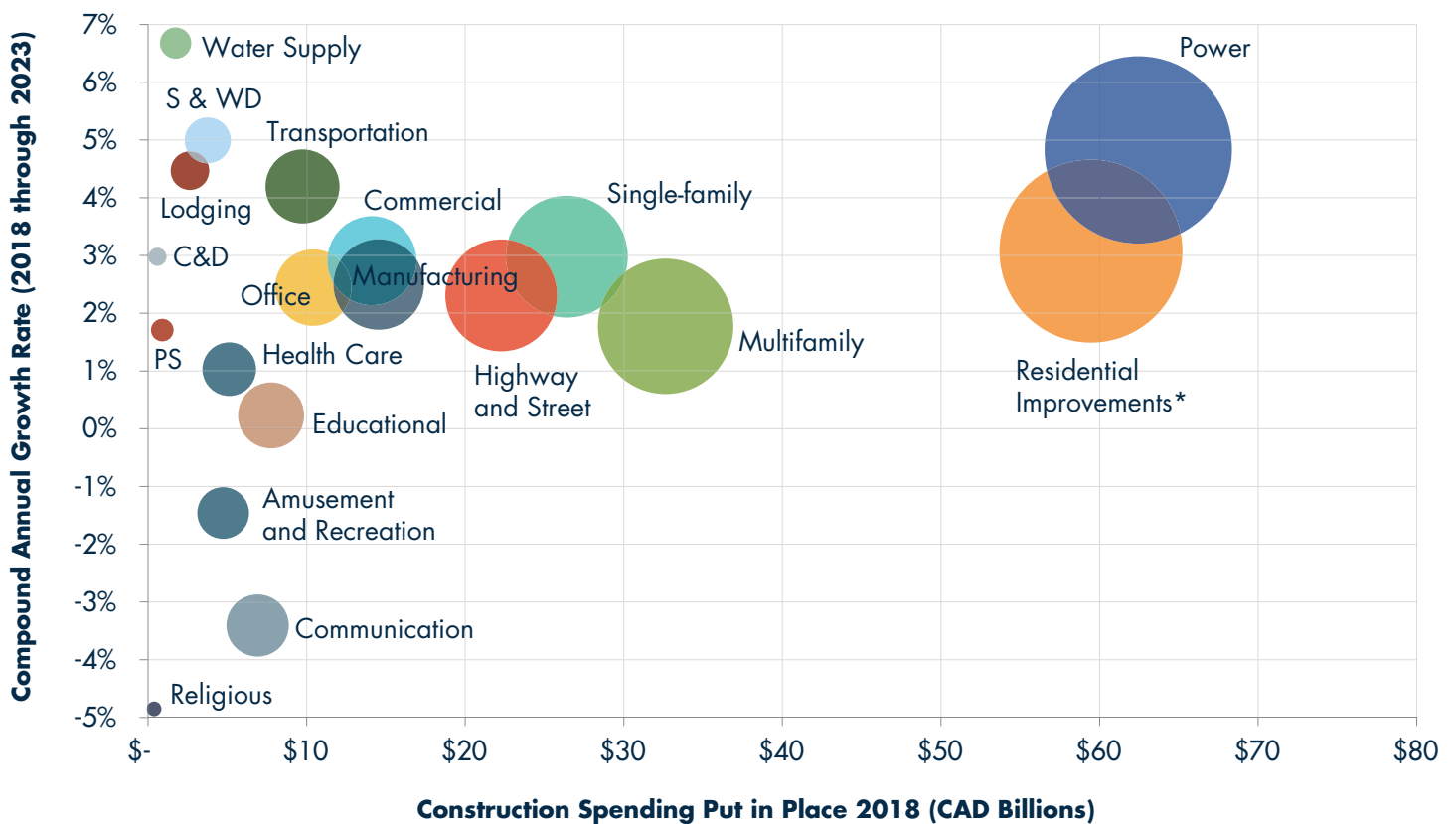
Many of the nonresidential building segments, including commercial, office and lodging, look to hold steady over the next five years, with CAGRs ranging from 3 percent to 5 percent. And while forecast construction spending in the multifamily market begins to slow, single-family construction should stay at or slightly above the long-term rate of inflation.

Overall, Canada's construction industry has many bright spots against a backdrop of global uncertainty, stemming from trade negotiations, the U.S. presidential election cycle and changing provincial and national governmental policies. In 2020, as these uncertainties unravel both at home and abroad, we should start to see a clearer indication of things to come. For now, it's time to take advantage of the many opportunities that exist, assess future options and build resiliency in your organization.





## Total Canadian Construction Spending Put in Place 2018 and Forecast Growth (2018-2023 CAGR) by Construction Segment



Source: Statistics Canada and FMI Forecast

## Construction Put in Place Estimated for Canada

Millions of Current Canadian Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	25,520	25,651	26,984	28,123	26,416	27,323	29,212	29,710	30,124	30,590
Multifamily	23,040	23,529	24,483	28,307	32,635	32,974	33,380	35,392	35,675	36,538
Improvements*	51,543	53,731	55,646	60,764	59,456	60,928	63,035	65,070	67,189	69,175
<b>Total Residential Buildings</b>	<b>100,102</b>	<b>102,912</b>	<b>107,112</b>	<b>117,194</b>	<b>118,507</b>	<b>121,226</b>	<b>125,627</b>	<b>130,173</b>	<b>132,989</b>	<b>136,302</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	2,331	2,728	2,766	2,633	2,646	2,648	2,779	3,012	3,156	3,293
Office	10,869	9,608	9,111	9,628	10,415	10,571	10,981	11,089	11,291	11,750
Commercial	14,498	13,926	13,381	13,568	14,117	14,090	14,664	15,438	15,816	16,292
Health Care	4,700	5,278	4,975	5,018	5,118	4,964	5,232	5,359	5,558	5,534
Educational	5,713	5,999	6,767	7,775	7,757	7,294	7,279	7,721	7,908	7,847
Religious	398	442	413	386	382	354	300	312	315	298
Public Safety	664	953	948	863	898	938	1,010	931	1,039	977
Amusement and Recreation	4,226	3,560	4,432	4,480	4,741	4,184	4,433	4,675	4,788	4,786
Transportation	6,462	6,057	7,056	7,855	9,745	10,648	11,018	12,004	12,314	12,603
Communication	5,047	5,227	5,781	6,578	6,915	6,019	5,854	5,549	5,776	5,815
Manufacturing	14,316	12,978	13,149	12,466	14,545	14,797	15,141	15,657	15,744	16,454
<b>Total Nonresidential Buildings</b>	<b>69,225</b>	<b>66,757</b>	<b>68,779</b>	<b>71,250</b>	<b>77,279</b>	<b>76,506</b>	<b>78,691</b>	<b>81,746</b>	<b>83,705</b>	<b>85,648</b>
<b>NONBUILDING STRUCTURES</b>										
Power	92,947	70,830	61,084	65,579	62,437	66,155	72,122	76,561	79,487	79,033
Highway and Street	16,161	19,044	17,725	20,039	22,266	22,435	23,518	24,112	24,748	24,956
Sewage and Waste Disposal	3,199	5,476	5,114	3,655	3,769	4,004	4,302	4,556	4,694	4,808
Water Supply	5,435	3,707	3,000	1,657	1,742	2,081	2,468	2,559	2,455	2,407
Conservation and Development	134	344	611	505	591	615	624	651	676	684
<b>Total Nonbuilding Structures</b>	<b>117,876</b>	<b>99,401</b>	<b>87,534</b>	<b>91,435</b>	<b>90,805</b>	<b>95,290</b>	<b>103,034</b>	<b>108,439</b>	<b>112,060</b>	<b>111,888</b>
<b>Total Put in Place</b>	<b>\$287,203</b>	<b>\$269,070</b>	<b>\$263,425</b>	<b>\$279,880</b>	<b>\$286,591</b>	<b>\$293,022</b>	<b>\$307,352</b>	<b>\$320,358</b>	<b>\$328,753</b>	<b>\$333,839</b>

## Construction Put in Place Estimated for Canada

Millions of Current Canadian Dollars  
4th Quarter 2019 Forecast (based on Q3 2019 Actuals)

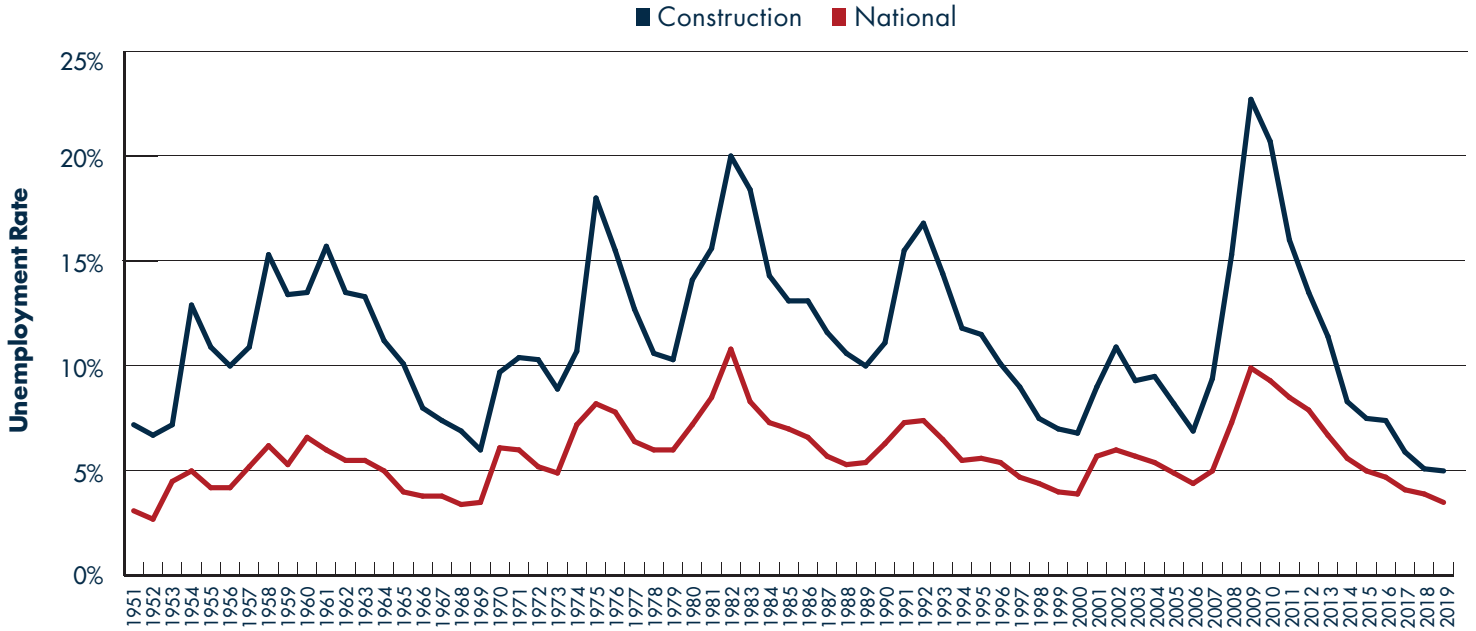
	2014	2015	2016	2017	2018	2019E	2020F	2021F	2022F	2023F
<b>RESIDENTIAL BUILDINGS</b>										
Single-family	1%	1%	5%	4%	-6%	3%	7%	2%	1%	2%
Multifamily	13%	2%	4%	16%	15%	1%	1%	6%	1%	2%
Improvements*	6%	4%	4%	9%	-2%	2%	3%	3%	3%	3%
<b>Total Residential Buildings</b>	<b>6%</b>	<b>3%</b>	<b>4%</b>	<b>9%</b>	<b>1%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>	<b>2%</b>
<b>NONRESIDENTIAL BUILDINGS</b>										
Lodging	8%	17%	1%	-5%	1%	0%	5%	8%	5%	4%
Office	1%	-12%	-5%	6%	8%	1%	4%	1%	2%	4%
Commercial	3%	-4%	-4%	1%	4%	0%	4%	5%	2%	3%
Health Care	2%	12%	-6%	1%	2%	-3%	5%	2%	4%	0%
Educational	-2%	5%	13%	15%	0%	-6%	0%	6%	2%	-1%
Religious	19%	11%	-7%	-7%	-1%	-7%	-15%	4%	1%	-5%
Public Safety	-27%	44%	-1%	-9%	4%	4%	8%	-8%	12%	-6%
Amusement and Recreation	24%	-16%	24%	1%	6%	-12%	6%	5%	2%	0%
Transportation	-2%	-6%	16%	11%	24%	9%	3%	9%	3%	2%
Communication	124%	4%	11%	14%	5%	-13%	-3%	-5%	4%	1%
Manufacturing	-14%	-9%	1%	-5%	17%	2%	2%	3%	1%	5%
<b>Total Nonresidential Buildings</b>	<b>2%</b>	<b>-4%</b>	<b>3%</b>	<b>4%</b>	<b>8%</b>	<b>-1%</b>	<b>3%</b>	<b>4%</b>	<b>2%</b>	<b>2%</b>
<b>NONBUILDING STRUCTURES</b>										
Power	13%	-24%	-14%	7%	-5%	6%	9%	6%	4%	-1%
Highway and Street	-3%	18%	-7%	13%	11%	1%	5%	3%	3%	1%
Sewage and Waste Disposal	2%	71%	-7%	-29%	3%	6%	7%	6%	3%	2%
Water Supply	-9%	-32%	-19%	-45%	5%	19%	19%	4%	-4%	-2%
Conservation and Development	81%	157%	78%	-17%	17%	4%	1%	4%	4%	1%
<b>Total Nonbuilding Structures</b>	<b>9%</b>	<b>-16%</b>	<b>-12%</b>	<b>4%</b>	<b>-1%</b>	<b>5%</b>	<b>8%</b>	<b>5%</b>	<b>3%</b>	<b>0%</b>
<b>Total Put in Place</b>	<b>6%</b>	<b>-6%</b>	<b>-2%</b>	<b>6%</b>	<b>2%</b>	<b>2%</b>	<b>5%</b>	<b>4%</b>	<b>3%</b>	<b>2%</b>

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



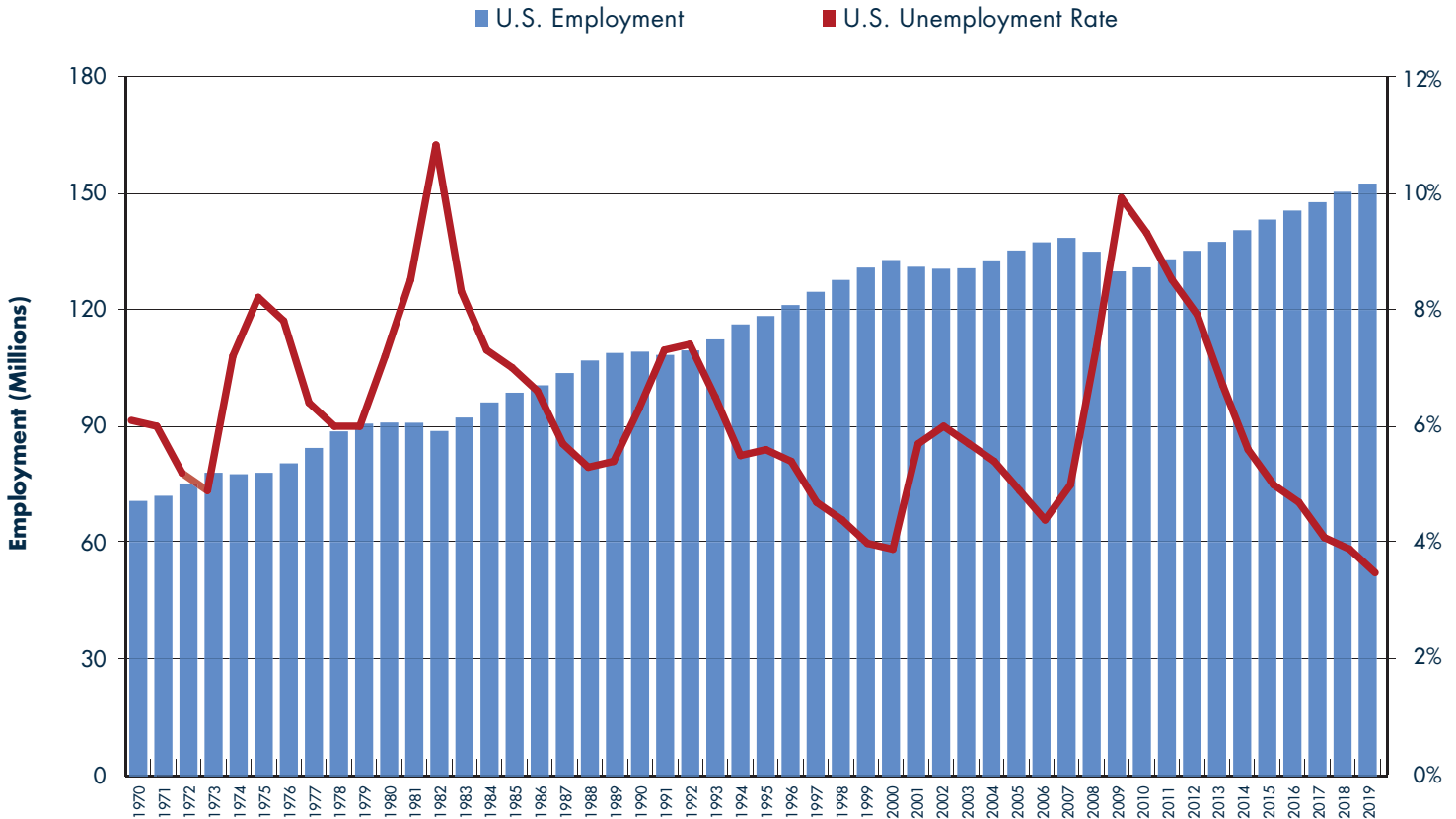
# United States Appendix Charts

## Construction Unemployment vs. National Unemployment



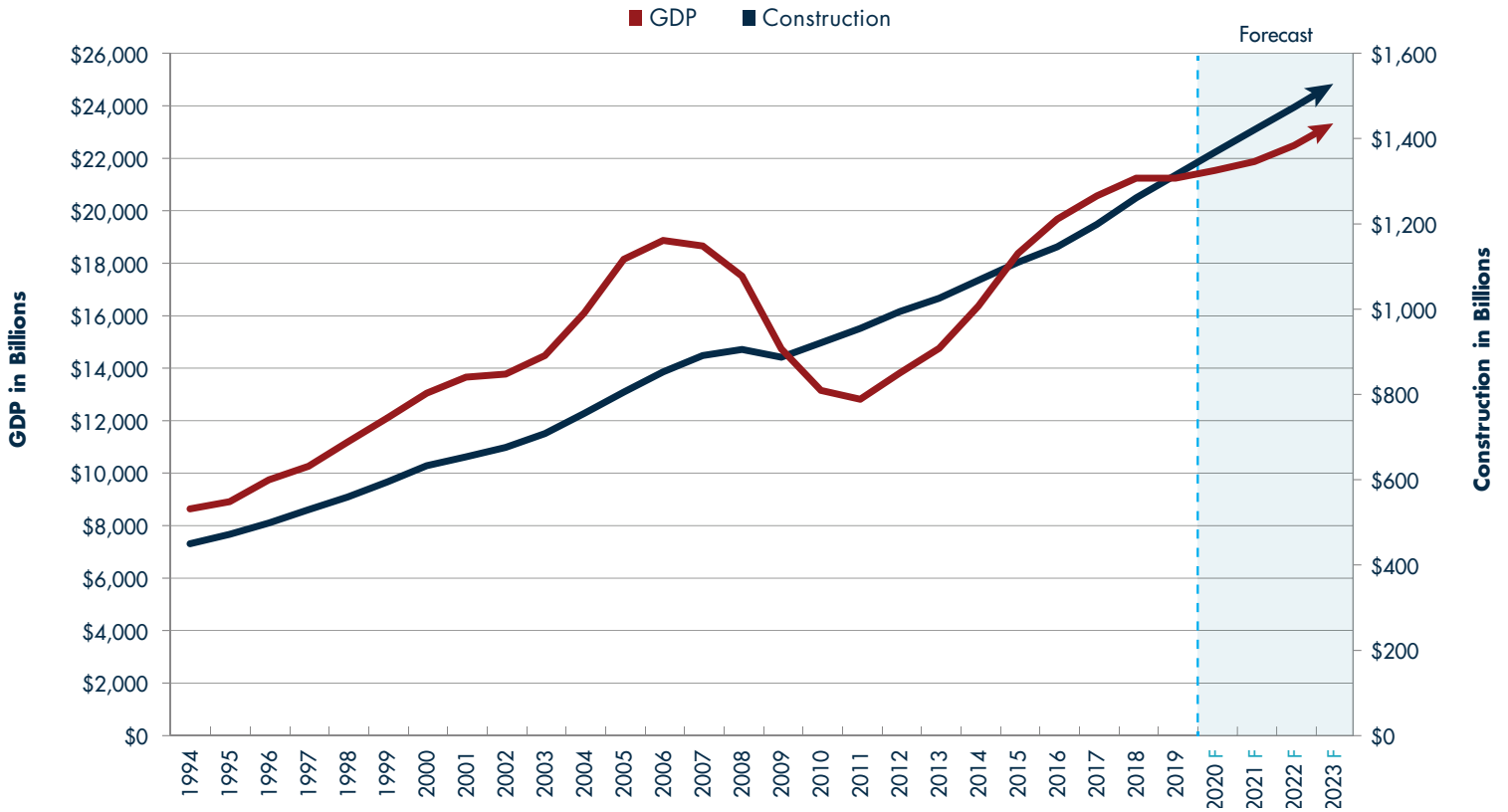
Source: U.S. Department of Labor, AGC of America | Annual – End Period

## Employment and Unemployment Rate Comparison



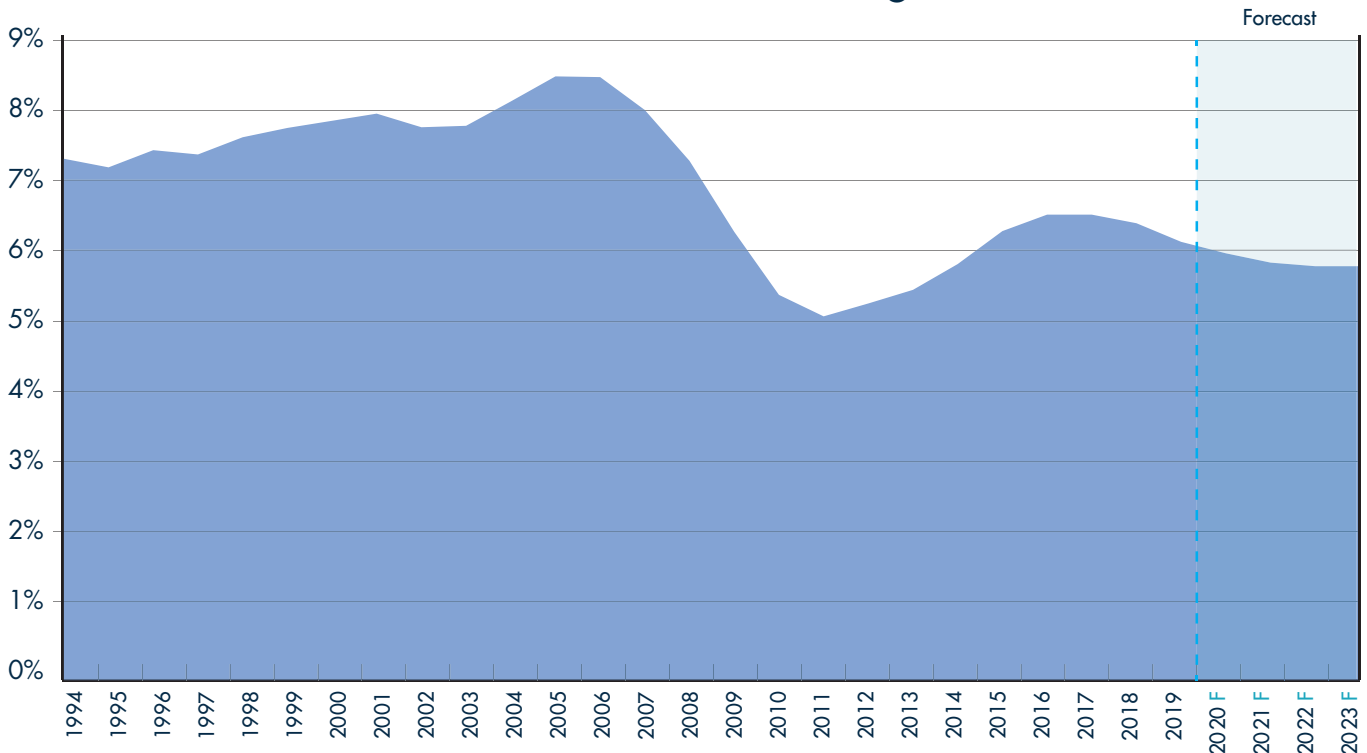
Source: U.S. Department of Labor | Annual – End Period

# Construction Spending and Nominal GDP



Source: Bureau of Labor Statistics

# Construction as a Percentage of GDP



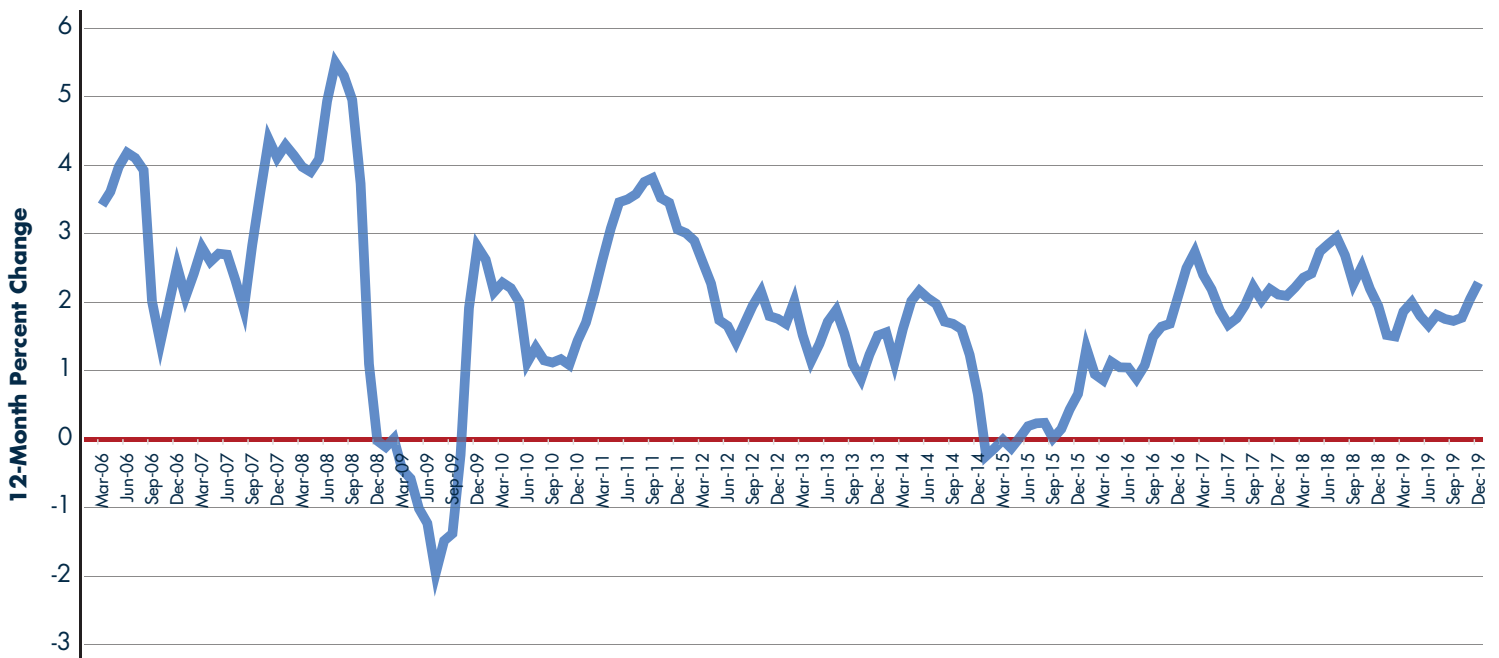
Source: Bloomberg

## 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 the Authors

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**Chris Daum** is the president and chief executive officer of FMI Corporation. Chris oversees the management of all FMI businesses and services and leads the firm's strategic growth efforts. Previously, Chris served as president and senior managing director of FMI Capital Advisors, the firm's investment banking subsidiary, where he also led the firm's utility infrastructure practice. Chris can be reached at [cdaum@fminet.com](mailto:cdaum@fminet.com).



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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 has 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).



**Emily Beardall** is a senior analyst for FMI's strategy practice. Emily is responsible for creating and developing tools to deliver innovative solutions for our clients. She is committed to utilizing these strategic tools to improve company performance and profitability. Emily can be reached at [ebeardall@fminet.com](mailto:ebeardall@fminet.com).

# Exclusively Focused on the Built Environment

## Who We Are

FMI is a leading consulting and investment banking firm dedicated exclusively to the Built Environment.

We serve 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.

### **FMI** CONSULTING

FMI has more relationships in the industry than any other consulting firm. We leverage decades of focused experience and expertise to advise on strategy, leadership and organizational development, performance, technology and innovation.

#### PRACTICE AREAS

##### Strategy

- Market Research
- Market Strategy
- Business Development
- Strategic Planning

##### Leadership & Organizational Development

- Leadership & Talent Development
- Succession Management
- High-performing Teams
- Corporate Governance
- Executive Coaching

##### Performance

- Operations
- Risk Management
- Compensation
- Peer Groups

##### Technology & Innovation

- Tech Market Accelerator
- Tech Partner Program
- Tech Readiness Assessment
- Tech Sourcing & Adoption
- Integrated Business Intelligence

### **FMI** CAPITAL ADVISORS

FMI Capital Advisors, a subsidiary of FMI Corporation, is a leading investment banking firm exclusively serving the Built Environment. With more than 700 completed M&A transactions, our industry focus enables us to maximize value for our clients through our deep market knowledge, strong technical expertise and unparalleled network of industry relationships.

#### SECTOR EXPERTISE

- Architecture, Engineering & Environmental
- Building Products
- Chemicals
- Construction Materials
- Contractors
- Energy Service & Equipment
- Energy Solutions & Cleantech
- Utility Transmission & Distribution

#### SERVICES

- M&A Advisory
- ESOP Advisory
- Valuations
- Ownership Transfer

#### EXECUTIVE EDUCATION

- Acquisitions in the Construction Industry
- Ownership Transfer & Management Succession





## for the Built Environment

### TRAINING PROGRAMS

Over 10,000 industry leaders have completed FMI training programs, which span the entire management spectrum, from new managers to senior executives.

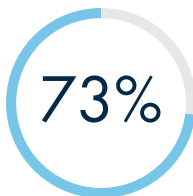
- Emerging Managers Institute
- Field Leader Institute
- Project Manager Academy
- Construction Executive Program
- Leadership Institute
- Leading Operational Excellence
- Construction Selling Skills
- Market & Selling Strategies
- Ownership Transfer & Management Succession
- Acquisitions in the Construction Industry

### FMI PEER GROUPS

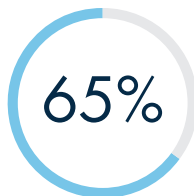
FMI manages nearly 50 individual peer groups across the industry. Connecting businesses through networking, expanding visions and providing feedback.

- Organizational Structure and Development
- Human Resources
- Business Development
- Information Technology
- Operations Management
- Financial Management

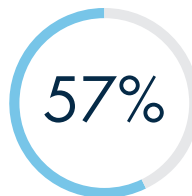
### FMI CLIENT HIGHLIGHTS



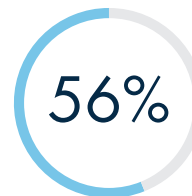
ENR Top 400  
**LARGEST  
CONTRACTORS**



ENR Top 200  
**SPECIALTY  
CONTRACTORS**



ENR Top 100  
**DESIGN  
FIRMS**



ENR Top 200  
**ENVIRONMENTAL  
FIRMS**



ENR Top 100  
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