



Industry Focus. Powerful Results.™

FMI's Construction Outlook

Third Quarter Report





Key Takeaways

- Total construction spending put in place for the U.S. is forecast to end up 4% in 2017 compared to 2016.

2017 Construction Segments



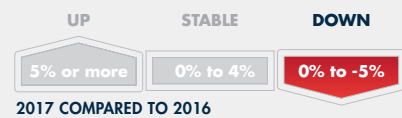
Up

- Single-family
- Multifamily
- Improvements
- Lodging
- Office
- Commercial



Stable

- Health Care
- Amusement and Recreation
- Transportation
- Communication



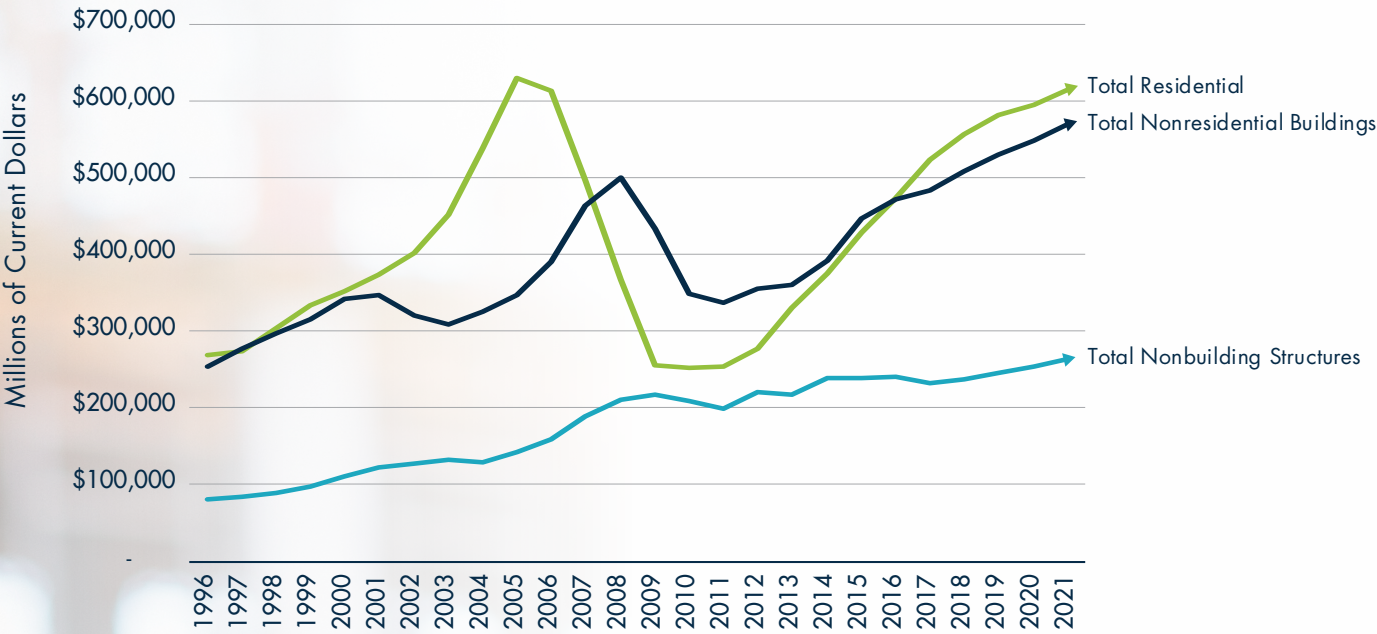
Down

- Educational
- Religious
- Public Safety
- Manufacturing
- Power
- Highway and Street
- Sewage and Waste
- Water Supply
- Conservation and Development

- Looking ahead to 2018, FMI continues to forecast a 5% increase in total construction spending over 2017.
- The primary growth segments in 2018 are expected to include residential, commercial, lodging, office and manufacturing—all with forecast growth of 5% or more. Most other segments are likely to grow roughly with the rate of inflation and may therefore be considered stable. Sewage and waste and water supply are the only segments expected to decline in 2018.

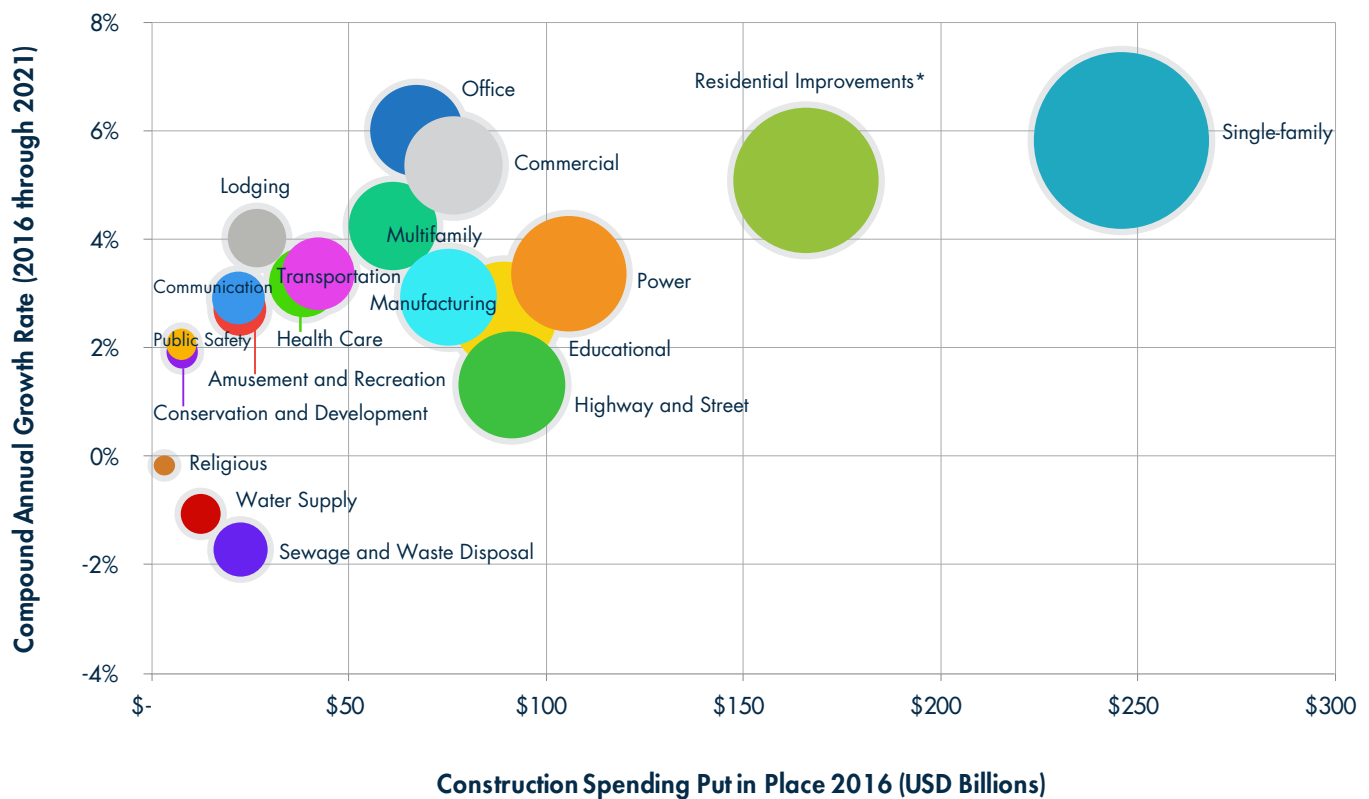


Total Construction Put in Place Estimated for the U.S.



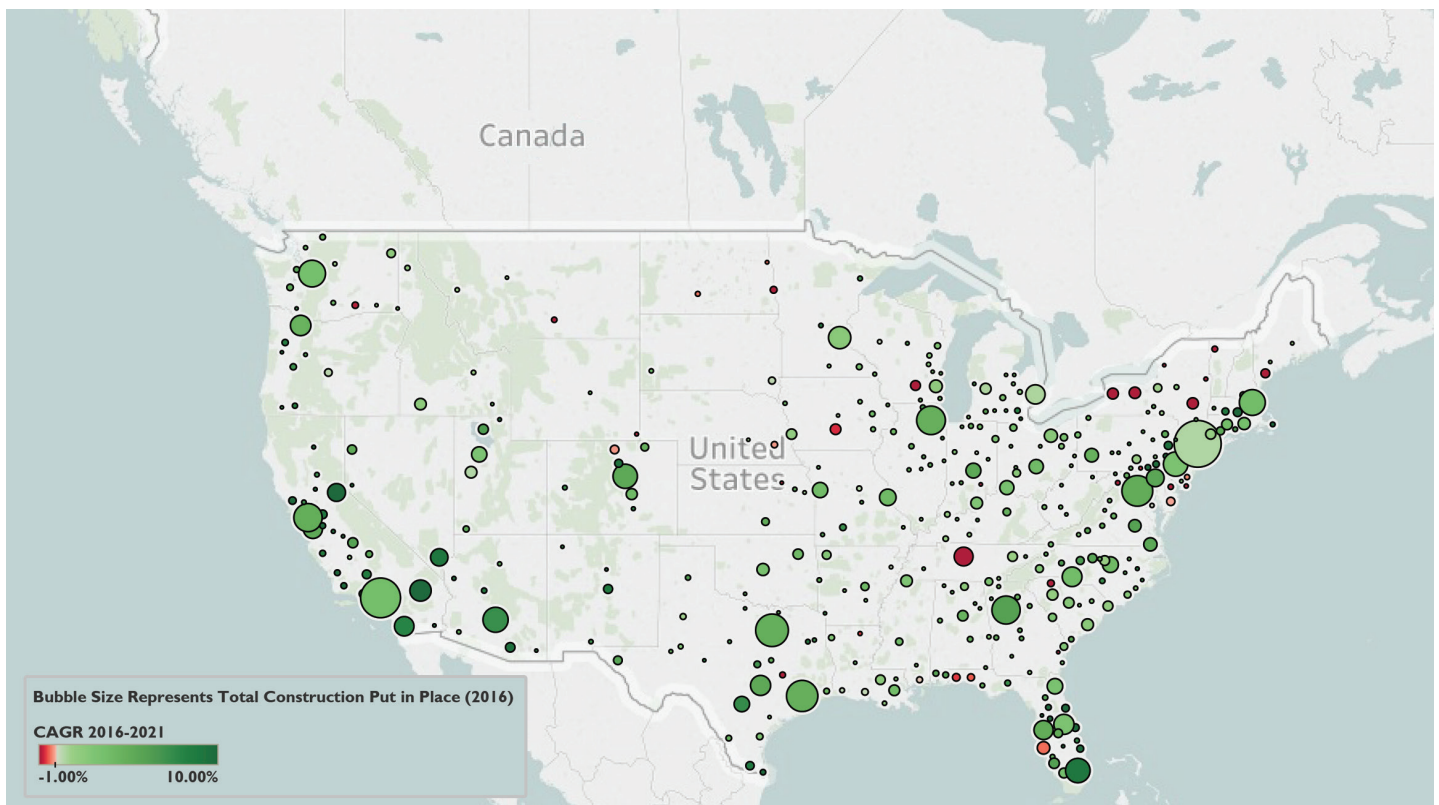
Source: U.S. Census and FMI Forecast

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



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

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



RESIDENTIAL BUILDING

Single-family

- Unemployment at or below “full employment” rate and wage improvement creating many first-time homebuyers
- Home sales up, creating a shortage of housing stock in many metropolitan markets across the U.S.

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

UP 9%
\$267.2 Billion

2017/2016 Comparison



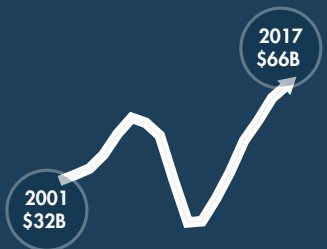
Multifamily

- Vacancy rates remain at historical lows
- Tight inventory of houses for sale, driving many to multifamily
- Potential overbuilding beginning to occur in some markets

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

UP 7%
\$65.7 Billion

2017/2016 Comparison



Improvements

- New homes market has been influencing above-average improvement investments
- Rising home prices, starts and sales in select markets will continue

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

UP 14%
\$189.6 Billion

2017/2016 Comparison

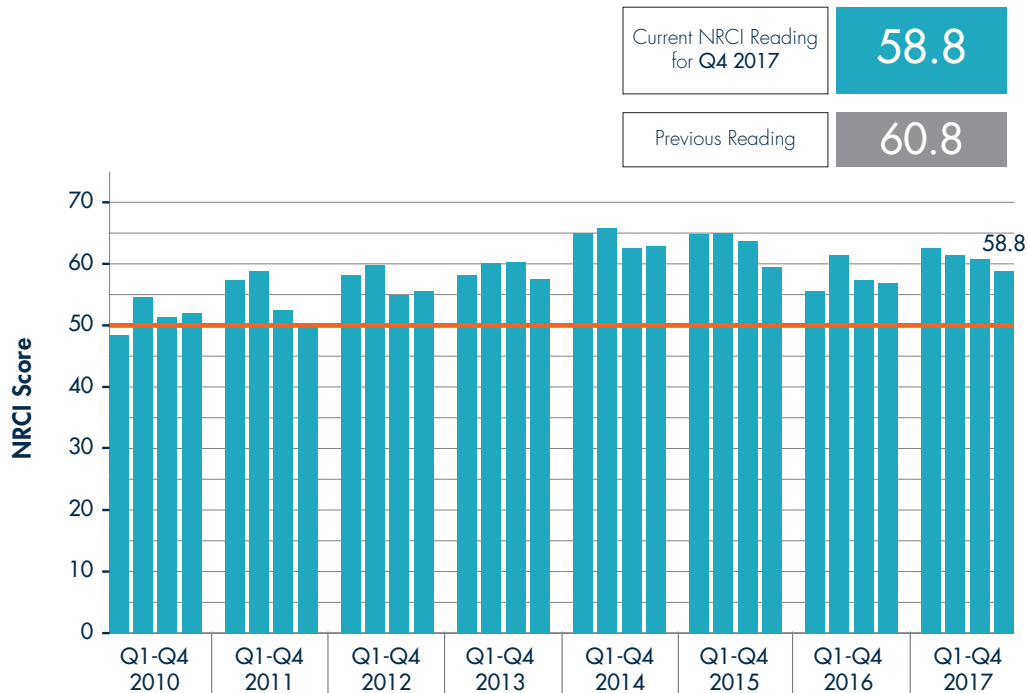


NONRESIDENTIAL BUILDING

Nonresidential Construction Index (NRCI)

Score Since Inception Q1 2010 to Q4 2017

(Scores above 50 indicate expansion; scores below 50 indicate contraction.)



Lodging

- Coming off several years of strong double-digit, year-over-year growth since 2012
- Supply outpacing demand, causing increasing vacancy rates

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

UP 5%
\$28.3 Billion

2017/2016 Comparison



Office

- Still seeing positive growth, but moderating after double-digit gains during the past three years
- Slowdown in high-tech development of office space is the primary drawback on forecast growth

Drivers: office vacancy rate, unemployment rate

UP 9%
\$73.4 Billion

2017/2016 Comparison



Commercial

- Several traditional brick-and-mortar retailers closing stores in large numbers
- Continued rise in e-commerce as a percent of retail sales driving demand for warehouse and distribution center construction

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

UP 10%
\$84.3 Billion

2017/2016 Comparison



Health Care

- Uncertainty around federal health care policy continues to delay capital investments
- Movement away from large-scale new hospital construction with greater emphasis expected on expansions and renovations

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

UP 1%
\$39.2 Billion

2017/2016 Comparison



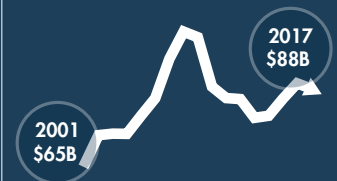
Education

- Increasing K-12 enrollment in more than half of the states
- Greater use of flexible space to accommodate year-round school and reduce need for new facilities

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

DWN -2%
\$87.8 Billion

2017/2016 Comparison



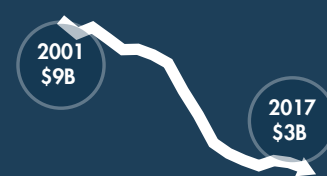
Religious

- Ongoing improved (and in many cases creative) space utilization
- Demographic trends and patterns are shaping demand for facilities across various markets

Drivers: GDP, population, income, personal savings

DWN -6%
\$3.3 Billion

2017/2016 Comparison



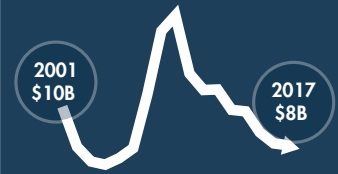
Public Safety

- Local governments facing fiscal constraints
- Trump administration favors privately run prisons

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

DWN -1%
\$7.9 Billion

2017/2016 Comparison



Amusement and Recreation

- Several big-budget sports stadiums are underway with others in planning
- Increased casino investment seen nationwide

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

UP 4%
\$23.4 Billion

2017/2016 Comparison



Transportation

- Airports planning accommodation of new wide-body aircraft
- Needed repairs at hurricane-damaged ports
- Trump administration proposing to cut the Department of Transportation budget

Drivers: population, government spending, transportation funding

UP 1%
\$42.6 Billion

2017/2016 Comparison



Communication

- Innovation and technology demands are increasing more rapidly than ever
- Connectivity is increasingly becoming a requirement for local and regional economic activity and growth

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

UP 2%
\$22.4 Billion

2017/2016 Comparison



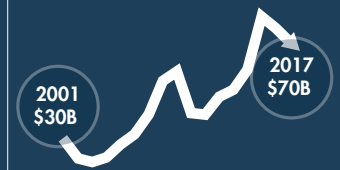
Manufacturing

- Manufacturing capacity utilization rates remain below historical averages
- Many planned manufacturing facility upgrades (Toyota) and additions

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

DWN -7%
\$69.7 Billion

2017/2016 Comparison



NONBUILDING STRUCTURES

Power

- New power-generating facilities coming online
- Approval of Keystone XL pipeline could increase spending by year-end

Drivers: population, industrial production, government spending

DWN -3%
\$102.1 Billion

2017/2016 Comparison



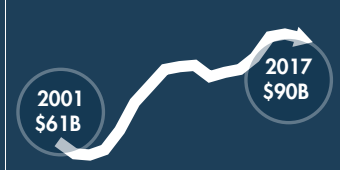
Highway and Street

- Federal funding to remain flat
- Greater dependency on state and local governments for infrastructure additions and improvements

Drivers: population, government spending, nonresidential structure investment

DWN -1%
\$90.4 Billion

2017/2016 Comparison



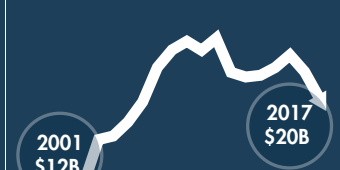
Sewage and Waste Disposal

- Similar situation to water supply
- Uncertainty regarding current Trump administration decisions about the EPA

Drivers: population, industrial production, government spending

DWN -11%
\$20.2 Billion

2017/2016 Comparison



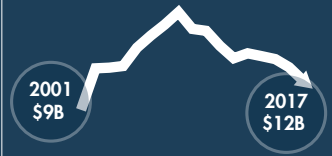
Water Supply

- Local governments caught in an unsustainable financial situation, resulting from eliminated or reduced federal assistance but maintained mandates and regulations

Drivers: population, industrial production, government spending

DWN -8%
\$11.5 Billion

2017/2016 Comparison



Conservation and Development

- Federal budget cuts and the current administration's reprioritization of programs continue to be a drag on conservation and development spending

Drivers: population, government spending

DWN -6%
\$1.2 Billion

2017/2016 Comparison



Construction Put in Place Estimated for the United States

Millions of Current Dollars
Quarter 3 of 2017 Forecast (Based on Quarter 2 2017 Actuals)

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------------------------------|------------------|------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| RESIDENTIAL BUILDINGS | | | | | | | | | | |
| Single-family | 133,668 | 171,837 | 194,091 | 224,595 | 245,890 | 267,232 | 287,151 | 302,876 | 313,338 | 326,323 |
| Multifamily | 25,758 | 35,169 | 46,250 | 53,355 | 61,369 | 65,670 | 68,641 | 71,493 | 73,467 | 75,536 |
| Improvements* | 116,631 | 122,210 | 134,519 | 150,812 | 165,902 | 189,552 | 201,034 | 206,647 | 208,710 | 212,638 |
| Total Residential Buildings | 276,057 | 329,217 | 374,860 | 428,762 | 473,161 | 522,454 | 556,827 | 581,016 | 595,515 | 614,497 |
| NONRESIDENTIAL BUILDINGS | | | | | | | | | | |
| Lodging | 10,836 | 13,484 | 16,738 | 21,908 | 26,923 | 28,282 | 29,730 | 30,491 | 31,140 | 32,783 |
| Office | 37,800 | 37,979 | 46,582 | 55,521 | 67,262 | 73,397 | 80,272 | 84,872 | 88,080 | 90,041 |
| Commercial | 47,335 | 53,159 | 62,841 | 65,899 | 76,578 | 84,323 | 90,475 | 94,010 | 96,219 | 99,425 |
| Health Care | 42,544 | 40,689 | 38,647 | 39,147 | 38,703 | 39,240 | 40,584 | 42,275 | 43,434 | 45,321 |
| Education | 84,672 | 79,060 | 79,681 | 84,771 | 89,391 | 87,802 | 90,418 | 93,523 | 97,250 | 101,655 |
| Religious | 3,846 | 3,590 | 3,386 | 3,577 | 3,501 | 3,296 | 3,332 | 3,353 | 3,411 | 3,472 |
| Public Safety | 10,431 | 9,506 | 9,437 | 8,484 | 7,982 | 7,897 | 7,998 | 8,204 | 8,421 | 8,780 |
| Amusement and Recreation | 15,480 | 15,207 | 16,773 | 20,258 | 22,455 | 23,418 | 24,283 | 24,684 | 24,968 | 25,670 |
| Transportation | 37,862 | 39,459 | 42,043 | 44,843 | 42,205 | 42,606 | 43,352 | 44,988 | 47,191 | 49,801 |
| Communication | 16,165 | 17,783 | 17,298 | 21,696 | 22,038 | 22,484 | 23,058 | 23,973 | 24,697 | 25,467 |
| Manufacturing | 47,741 | 50,548 | 58,648 | 79,930 | 75,328 | 69,736 | 74,078 | 79,803 | 83,456 | 87,060 |
| Total Nonresidential Buildings | 354,712 | 360,464 | 392,074 | 446,034 | 472,366 | 482,480 | 507,582 | 530,175 | 548,266 | 569,477 |
| NONBUILDING STRUCTURES | | | | | | | | | | |
| Power | 97,434 | 93,317 | 110,089 | 102,972 | 105,755 | 102,141 | 106,529 | 111,898 | 118,421 | 124,868 |
| Highway and Street | 80,546 | 81,364 | 84,743 | 90,626 | 91,390 | 90,406 | 92,060 | 93,651 | 95,433 | 97,575 |
| Sewage and Waste Disposal | 22,261 | 22,425 | 23,173 | 24,380 | 22,771 | 20,234 | 19,451 | 19,653 | 20,335 | 20,890 |
| Water Supply | 13,218 | 13,597 | 13,380 | 13,150 | 12,522 | 11,505 | 11,212 | 11,362 | 11,562 | 11,877 |
| Conservation and Development | 6,228 | 5,967 | 7,310 | 7,726 | 7,719 | 7,228 | 7,434 | 7,745 | 8,131 | 8,547 |
| Total Nonbuilding Structures | 219,687 | 216,670 | 238,695 | 238,854 | 240,157 | 231,514 | 236,686 | 244,309 | 253,882 | 263,756 |
| Total Put in Place | \$850,456 | \$906,351 | \$1,005,629 | \$1,113,650 | \$1,185,684 | \$1,236,447 | \$1,301,095 | \$1,355,500 | \$1,397,664 | \$1,447,731 |

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

Construction Put in Place Estimated for the United States

Change From Prior Year - Current Dollar Basis
Quarter 3 of 2017 Forecast (Based on Quarter 2 2017 Actuals)

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

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

About the Authors



Jay Bowman is a principal with FMI. Jay assists a broad range of stakeholders in the construction industry, from program managers and general contractors to specialty trades and materials producers, with the identification and assessment of the risks influencing the strategic and tactical decisions they face. In this role, Jay's primary responsibilities include research design and interpretation, based on developing an understanding of the context within which these organizations operate. Jay can be reached at jbowman@fminet.com.



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



About FMI

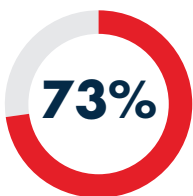
For over 60 years, FMI has been the leading **management consulting and investment banking** firm dedicated exclusively to **engineering and construction, infrastructure and the built environment**.

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

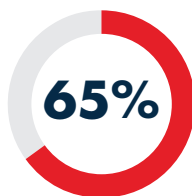
Sector Expertise

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

FMI Client Highlights



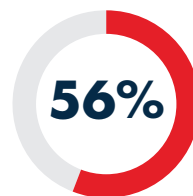
of the ENR
Top-400
LARGEST
CONTRACTORS



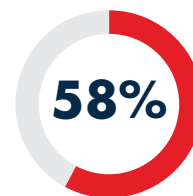
of the ENR
Top-200
SPECIALTY
CONTRACTORS



of the ENR
Top-100
DESIGN
FIRMS



of the ENR
Top-200
ENVIRONMENTAL
FIRMS



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