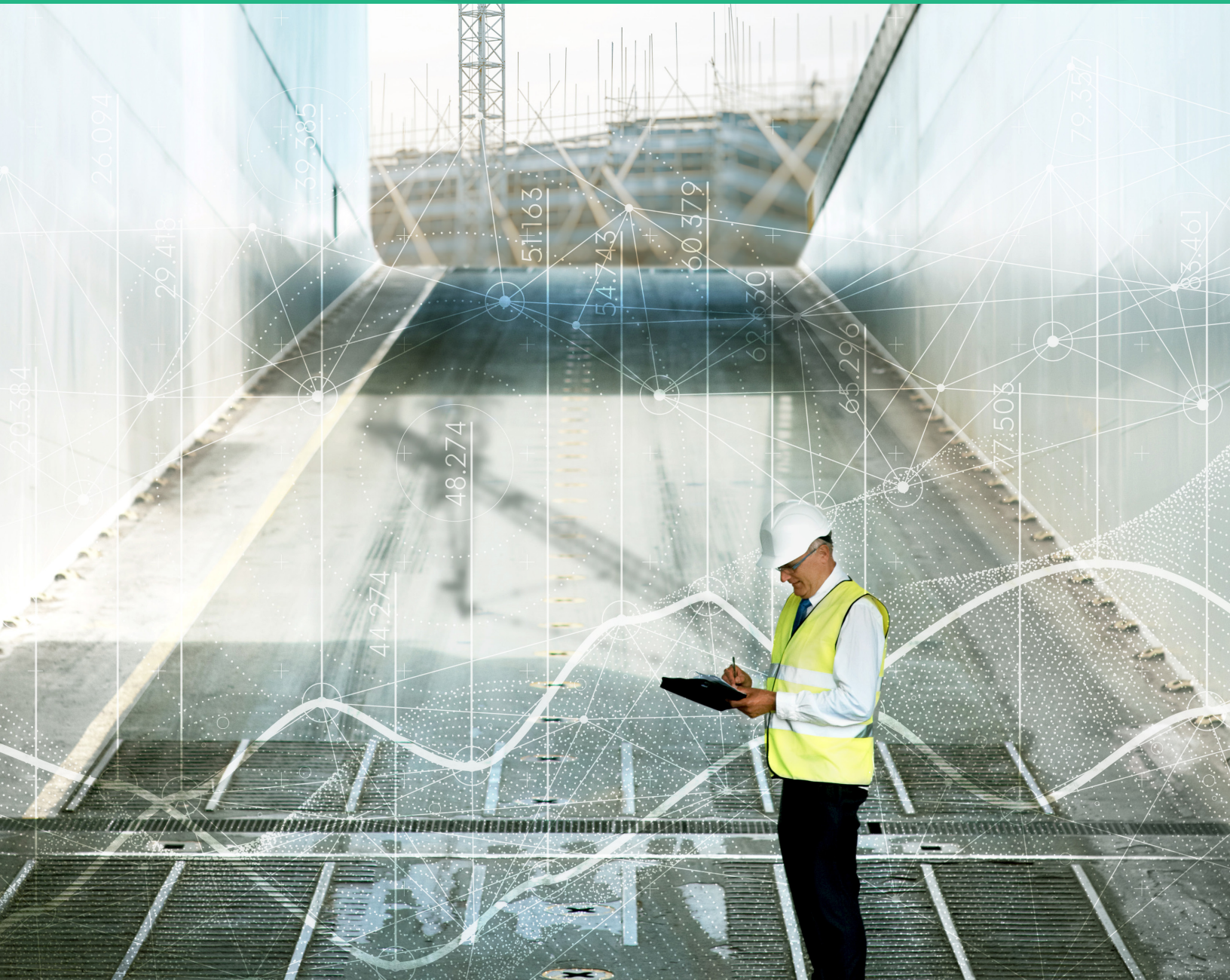




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FMI's Construction Outlook

First Quarter Report





FMI Construction Outlook 2018

First Quarter Report

Key Takeaways

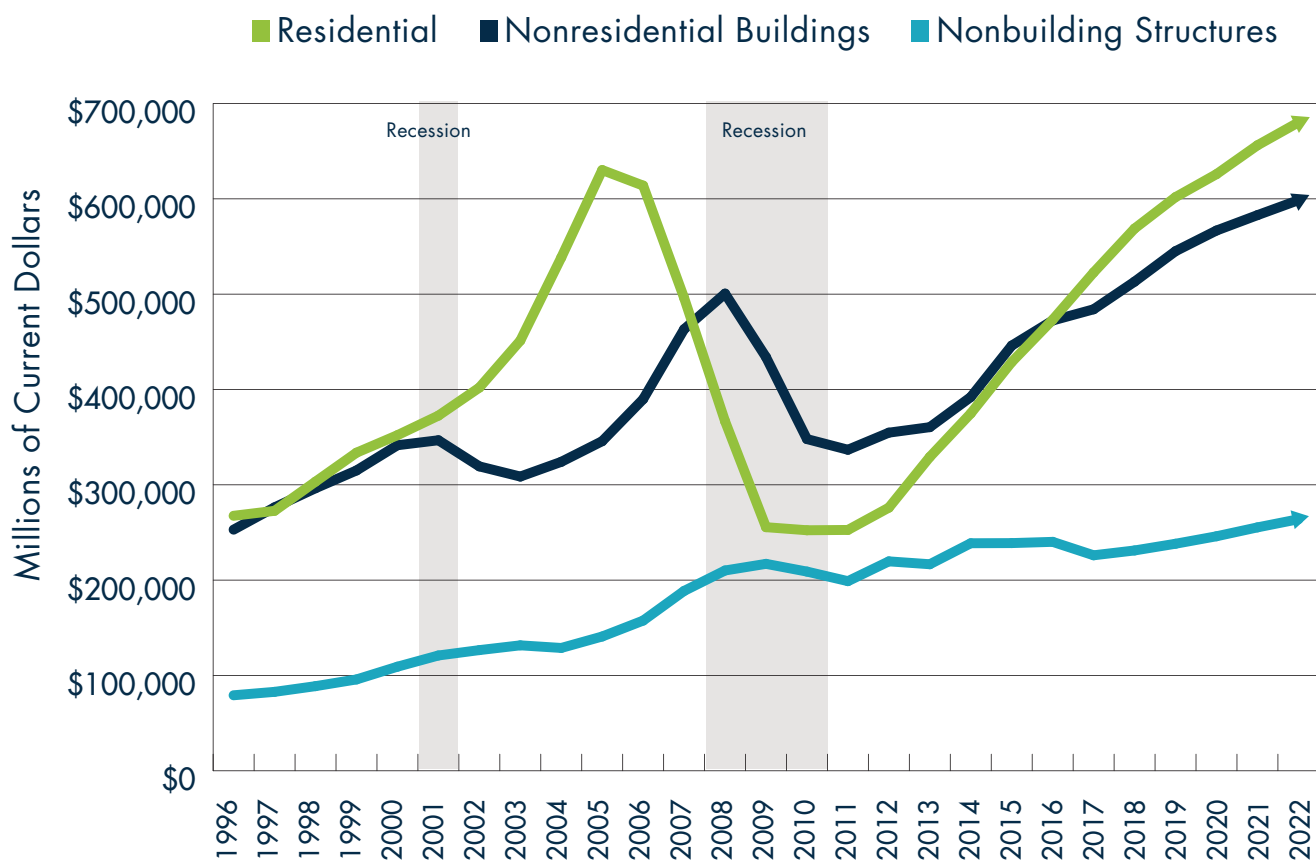
- Total engineering and construction spending for the U.S. is forecast to end up 7 percent in 2018, compared to up 4 percent in 2017.



- Spending growth in 2018 is forecast to be led by residential and select nonresidential segments. Current top-three-performing segments forecast in 2018 include residential improvements (+12 percent), single-family residential (+7 percent) and office (+9 percent). The bottom-three-performing segments include religious (-4 percent), sewage and waste disposal (-1 percent) and water supply (-3 percent).
- Growth in several segments appears to be flattening out or stabilizing in 2018, including two prior high-growth segments from 2017, multifamily residential and lodging. Other stabilizing segments include manufacturing, power and highway and street, all three of which were down through 2017.



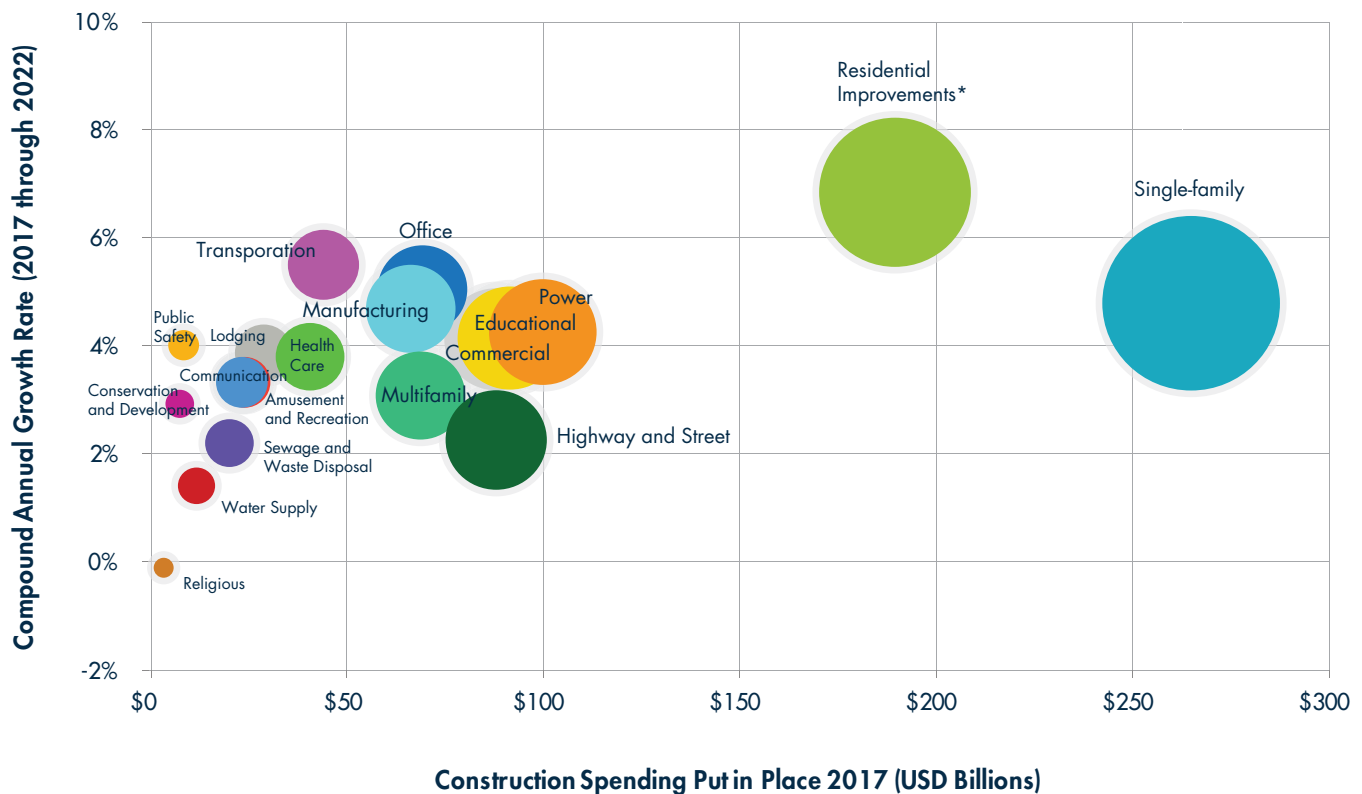
Total Construction Put in Place Estimated for the U.S.



Source: U.S. Census and FMI Forecast



Total Construction Spending Put in Place 2017 and Forecast Growth (2017-2022 CAGR) by Construction Segment

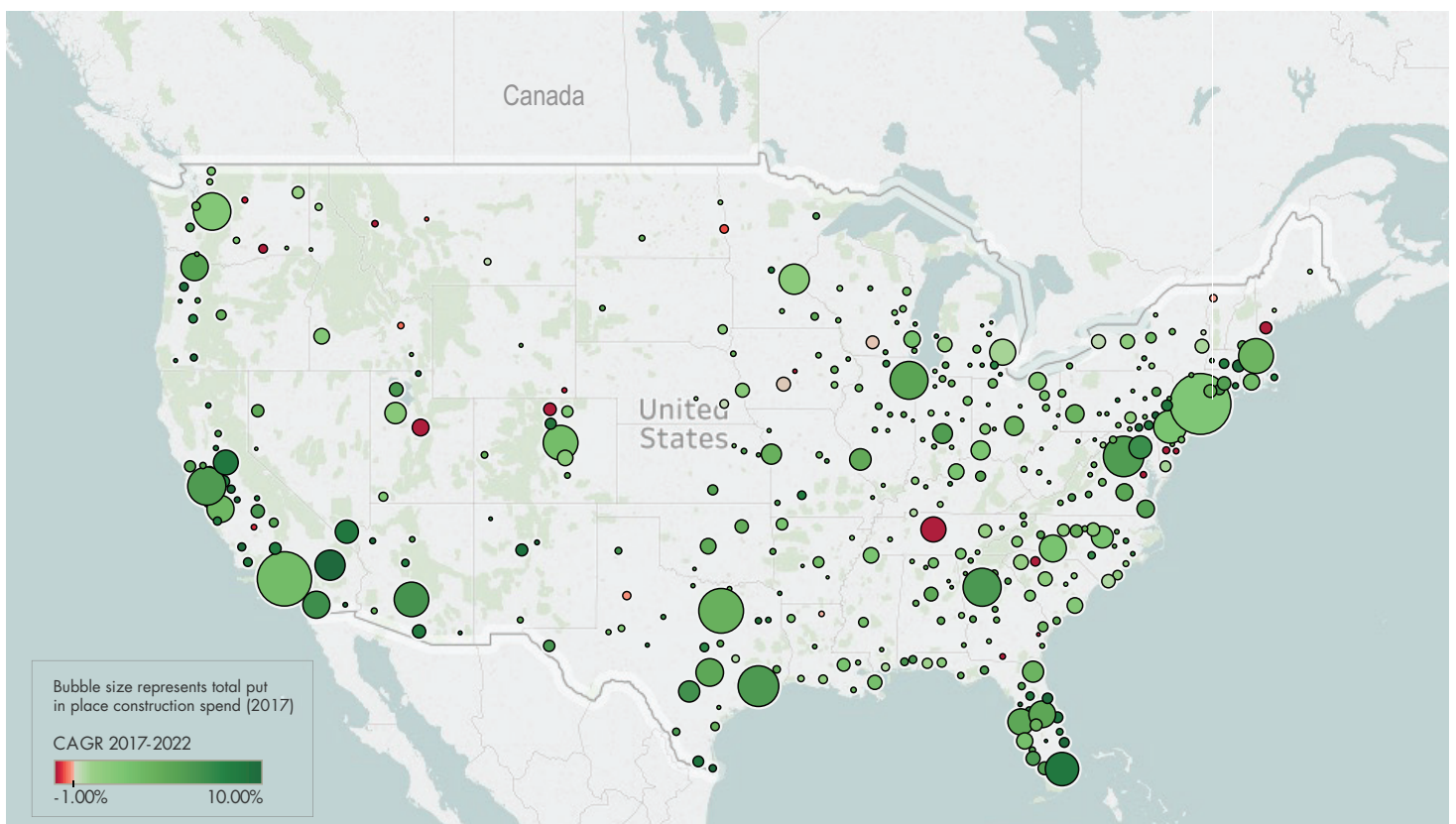


* Residential improvements include additions, alterations and major replacements. It does not include maintenance and repairs.

Source: FMI Forecast



Total Construction Spending Put in Place 2017 and Forecast Growth (2017-2022 CAGR) by Metropolitan Statistical Area



Source: FMI Forecast

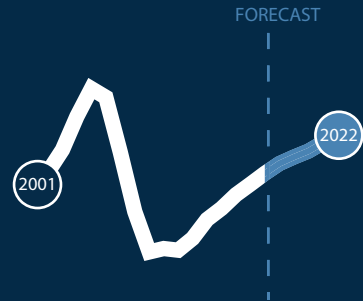
RESIDENTIAL CONSTRUCTION PUT IN PLACE

Single-Family Residential

- Low unemployment rates, wage improvements, inventories, tax restructure and increasing interest rates are all driving demand
- Buyers expected to depart multifamily living for the benefits of single-family homes

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

UP **7%**
\$284 Billion
 2018/2017 Comparison

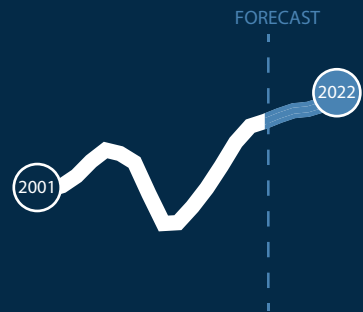


Multifamily Residential

- Single-family home supply, location and pricing encourage buyers to consider multifamily options
- Vacancy rates remain low, even with the considerable supply increases seen in 2016 and 2017

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

UP **4%**
\$72 Billion
 2018/2017 Comparison

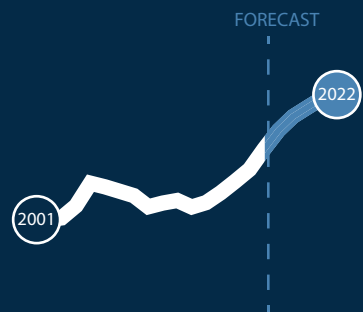


Improvements

- Constrained (and rising) home sales are driving above-average improvements
- Low unemployment, increasing wages and higher home prices further strengthen demand

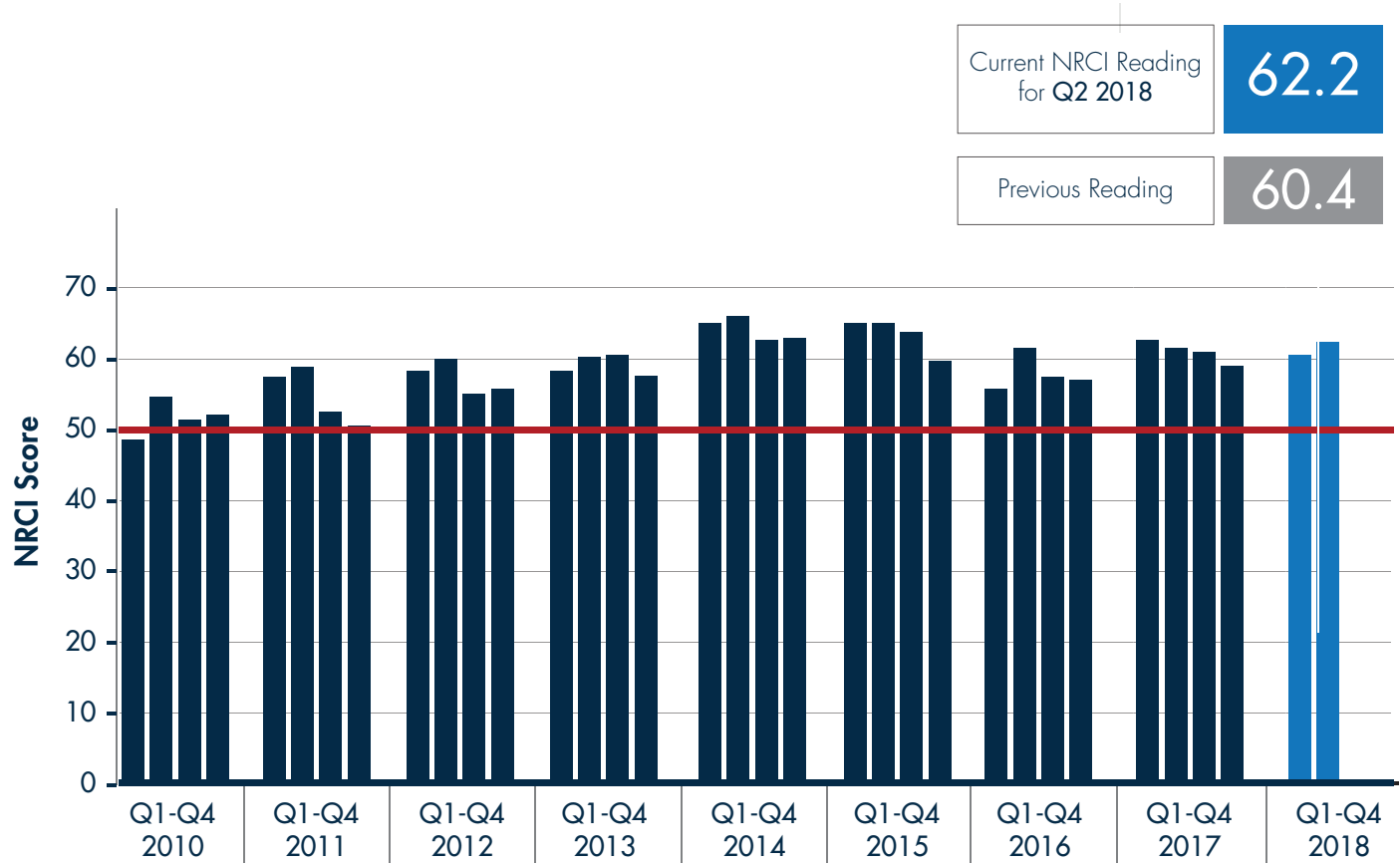
Drivers: unemployment rate, core CPI, income, mortgage rate, home prices, housing starts, housing permits

UP **12%**
\$213 Billion
 2018/2017 Comparison





Nonresidential Construction Index (NRCI) Score Since Inception Q1 2010 to Q2 2018 (Scores above 50 indicate expansion; scores below 50 indicate contraction)



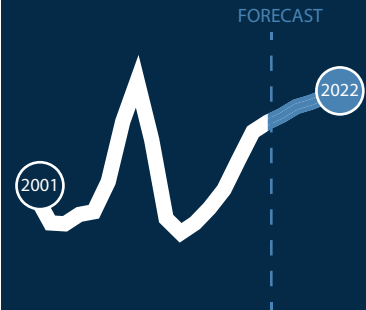
NONRESIDENTIAL CONSTRUCTION PUT IN PLACE

Lodging

- Supply outpacing demand, causing increasing vacancy rates
- Investment growth continues to moderate into 2018 and 2019

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

UP **4%**
\$30 Billion
 2018/2017 Comparison

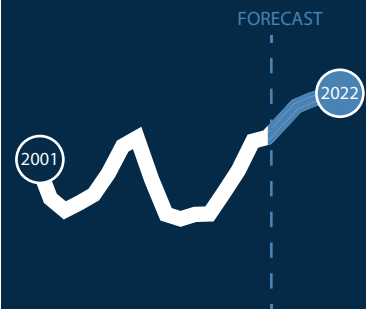


Office

- Reduced corporate tax rates increase investment through 2018
- Increased remote workers and a slowdown in high-tech offices remain drawbacks

Drivers: office vacancy rate, unemployment rate

UP **9%**
\$75 Billion
 2018/2017 Comparison

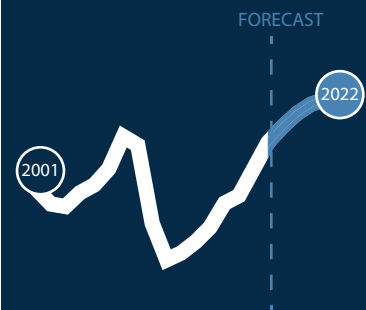


Commercial

- The ongoing rise in e-commerce
- Increased warehouse and distribution center spending
- Increased profits due to tax reform

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

UP **7%**
\$94 Billion
 2018/2017 Comparison

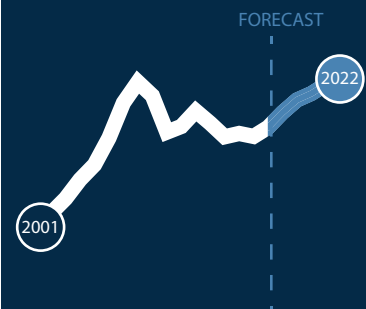


Health Care

- Repeal of the Affordable Care Act increases number of uninsured, cutting into industry profitability
- Shift away from new, large-scale hospitals with emphasis on expansion and outpatient projects

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

UP **6%**
\$42 Billion
 2018/2017 Comparison

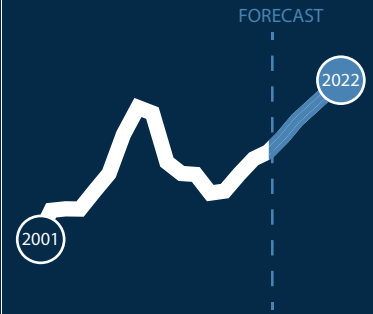


Educational

- Short-term growth driven by public K-12 spending
- K-12 enrollments increasing in more than half of the states
- Increased use of flexible space to accommodate year-round schools

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

UP **5%**
\$96 Billion
 2018/2017 Comparison

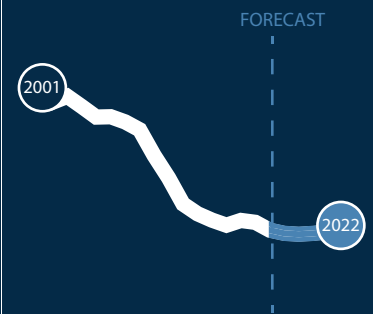


Religious

- Donations expected to decline due to new cap on state and local deductions
- Ongoing improved/creative space utilization at nontraditional facilities

Drivers: GDP, population, income, personal savings

DWN **-4%**
\$3 Billion
 2018/2017 Comparison

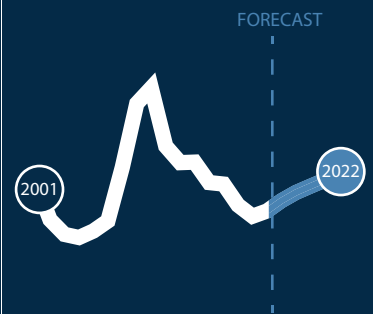


Public Safety

- State and local governments face significant fiscal constraints
- High-growth metropolises need updated and/or new facilities
- Overcrowding in correctional facilities

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

UP **6%**
\$9 Billion
 2018/2017 Comparison

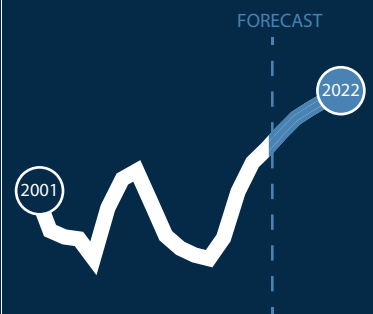


Amusement and Recreation

- Several big-budget and high-profile projects are underway (e.g., sports stadiums)
- Casino construction is increasing alongside efforts to boost state and local tax revenues

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

UP **5%**
\$25 Billion
 2018/2017 Comparison

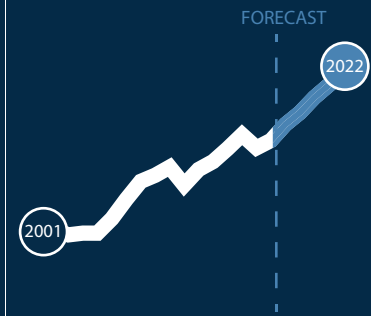


Transportation

- Significant airport investment is underway and in planning
- Repair work underway at hurricane-damaged ports

Drivers: population, government spending, transportation funding

UP **7%**
\$47 Billion
 2018/2017 Comparison

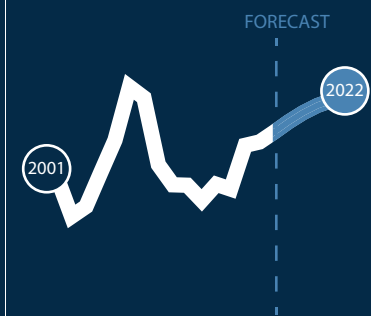


Communication

- Demand for bandwidth (alongside technology innovation) is increasing
- Connectivity is becoming a requirement for economic activity and growth (e.g., HQ relocations, data and distribution centers, etc.)

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

UP **5%**
\$24 Billion
 2018/2017 Comparison

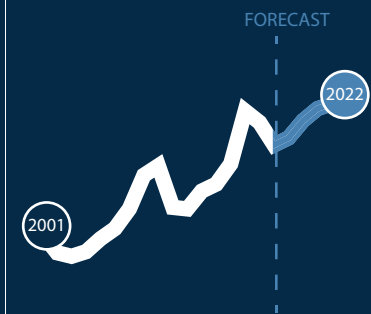


Manufacturing

- Tax overhaul and new tariffs create several considerations for manufacturers; pros and cons vary by industry
- Manufacturing capacity utilization rates remain low

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

UP **4%**
\$69 Billion
 2018/2017 Comparison





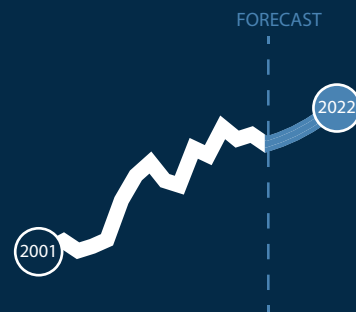
NONBUILDING STRUCTURES CONSTRUCTION PUT IN PLACE

Power

- Spending continues in electric and gas transmission and distribution infrastructure
- Natural gas-fired power plants are the primary source of new utility-scale capacity
- New tariffs potentially handicap solar investments

Drivers: population, industrial production, government spending

UP **3%**
\$103 Billion
 2018/2017 Comparison

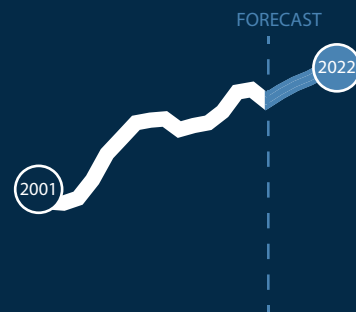


Highway and Street

- Federal funding is expected to remain flat
- States are successfully passing increased gas taxes and user fees
- Rising interest rates could stall public-private-partnership opportunities

Drivers: population, government spending, nonresidential structure investment

UP **3%**
\$91 Billion
 2018/2017 Comparison

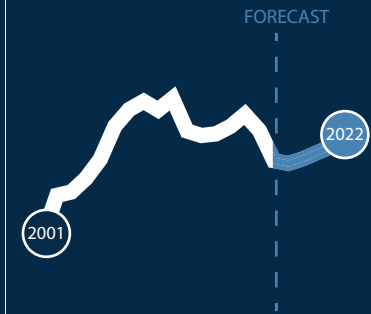


Sewage and Waste Disposal

- Limited resources to plan, build, maintain or improve infrastructure
- Investments will be directed towards compliance-related needs
- Residential construction will drive and support demand/needs

Drivers: population, industrial production, government spending

DWN -1%
\$19 Billion
 2018/2017 Comparison

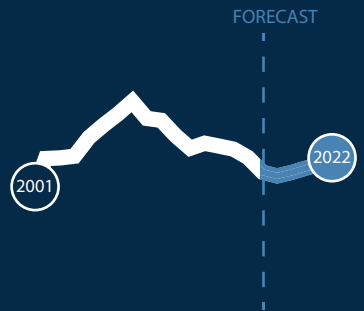


Water Supply

- Similar to sewage and waste disposal, funding and resources are severely limited
- Technology advancements help meet high-capacity industrial and residential needs

Drivers: population, industrial production, government spending

DWN -3%
\$11 Billion
 2018/2017 Comparison

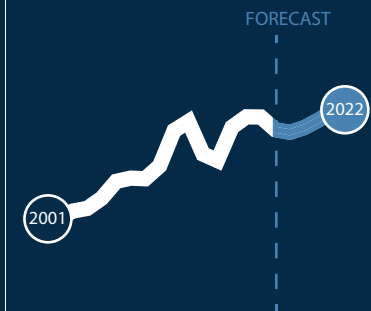


Conservation and Development

- Federal budgets continue to drag on conservation and development spending
- Hurricane cleanup in Texas and Florida is expected to boost investment levels through 2019

Drivers: population, government spending

DWN -1%
\$7 Billion
 2018/2017 Comparison



Construction Put in Place Estimated for the United States

Millions of Current Dollars

1st Quarter 2018 Forecast (based on 4th Quarter 2017 Actuals)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
RESIDENTIAL BUILDINGS										
Single-family	171,837	194,091	221,680	242,905	264,643	284,229	297,298	309,173	326,012	334,626
Multifamily	35,169	46,250	58,228	66,368	68,715	71,638	74,092	74,822	77,027	80,027
Improvements*	122,210	134,519	148,854	163,889	189,393	212,958	230,413	241,896	253,126	265,538
Total Residential Buildings	329,217	374,860	428,762	473,162	522,751	568,825	601,803	625,891	656,164	680,191
NONRESIDENTIAL BUILDINGS										
Lodging	13,484	16,738	21,908	26,923	28,571	29,799	31,330	32,088	33,094	34,574
Office	37,979	46,582	55,521	67,262	68,801	74,985	81,317	83,807	85,701	88,059
Commercial	53,159	62,841	65,899	76,578	87,271	93,592	98,919	102,752	104,627	106,897
Health Care	40,689	38,647	39,147	38,703	40,062	42,312	44,206	45,181	46,560	48,291
Education	79,060	79,681	84,771	89,391	91,496	95,879	101,093	105,055	109,059	112,178
Religious	3,590	3,386	3,577	3,501	3,185	3,059	3,023	3,057	3,115	3,167
Public Safety	9,506	9,437	8,484	7,982	8,219	8,685	9,056	9,341	9,617	10,013
Amusement and Recreation	15,207	16,773	20,258	22,455	23,519	24,720	25,818	26,519	27,156	27,710
Transportation	39,459	42,043	44,843	42,205	43,702	46,926	49,291	52,348	54,847	57,177
Communication	17,783	17,298	21,696	22,038	23,023	24,061	24,974	25,709	26,219	27,117
Manufacturing	50,548	58,648	79,930	75,328	66,272	69,107	76,064	80,892	82,901	83,414
Total Nonresidential Buildings	360,464	392,074	446,034	472,366	484,121	513,126	545,091	566,750	582,898	598,598
NONBUILDING STRUCTURES										
Power	93,317	110,089	102,972	105,755	99,783	102,744	106,505	111,266	116,966	122,963
Highway and Street	81,364	84,743	90,626	91,390	87,917	90,708	93,068	94,863	97,206	98,324
Sewage and Waste Disposal	22,425	23,173	24,380	22,771	19,732	19,442	19,911	20,548	21,169	21,995
Water Supply	13,597	13,380	13,150	12,522	11,417	11,130	11,391	11,721	12,029	12,246
Conservation and Development	5,967	7,310	7,726	7,719	7,207	7,103	7,292	7,602	7,960	8,334
Total Nonbuilding Structures	216,670	238,695	238,854	240,157	226,056	231,126	238,167	246,000	255,331	263,862
Total Put in Place	\$906,351	\$1,005,629	\$1,113,650	\$1,185,685	\$1,232,928	\$1,313,077	\$1,385,062	\$1,438,641	\$1,494,393	\$1,542,651

*Improvements include 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

1st Quarter 2018 Forecast (based on 4th Quarter 2017 Actuals)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
RESIDENTIAL BUILDINGS										
Single-family	29%	13%	14%	10%	9%	7%	5%	4%	5%	3%
Multifamily	37%	32%	26%	14%	4%	4%	3%	1%	3%	4%
Improvements*	5%	10%	11%	10%	16%	12%	8%	5%	5%	5%
Total Residential Buildings	19%	14%	14%	10%	10%	9%	6%	4%	5%	4%
NONRESIDENTIAL BUILDINGS										
Lodging	24%	24%	31%	23%	6%	4%	5%	2%	3%	4%
Office	0%	23%	19%	21%	2%	9%	8%	3%	2%	3%
Commercial	12%	18%	5%	16%	14%	7%	6%	4%	2%	2%
Health Care	-4%	-5%	1%	-1%	4%	6%	4%	2%	3%	4%
Education	-7%	1%	6%	5%	2%	5%	5%	4%	4%	3%
Religious	-7%	-6%	6%	-2%	-9%	-4%	-1%	1%	2%	2%
Public Safety	-9%	-1%	-10%	-6%	3%	6%	4%	3%	3%	4%
Amusement and Recreation	-2%	10%	21%	11%	5%	5%	4%	3%	2%	2%
Transportation	4%	7%	7%	-6%	4%	7%	5%	6%	5%	4%
Communication	10%	-3%	25%	2%	4%	5%	4%	3%	2%	3%
Manufacturing	6%	16%	36%	-6%	-12%	4%	10%	6%	2%	1%
Total Nonresidential Buildings	2%	9%	14%	6%	2%	6%	6%	4%	3%	3%
NONBUILDING STRUCTURES										
Power	-4%	18%	-6%	3%	-6%	3%	4%	4%	5%	5%
Highway and Street	1%	4%	7%	1%	-4%	3%	3%	2%	2%	1%
Sewage and Waste Disposal	1%	3%	5%	-7%	-13%	-1%	2%	3%	3%	4%
Water Supply	3%	-2%	-2%	-5%	-9%	-3%	2%	3%	3%	2%
Conservation and Development	-4%	23%	6%	0%	-7%	-1%	3%	4%	5%	5%
Total Nonbuilding Structures	-1%	10%	0%	1%	-6%	2%	3%	3%	4%	3%
Total Put in Place	7%	11%	11%	6%	4%	7%	5%	4%	4%	3%

*Improvements include 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

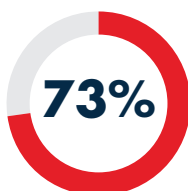
For over 65 years, FMI has been the leading **management consulting and investment banking** firm dedicated exclusively to **engineering and construction, infrastructure and the built environment**.

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

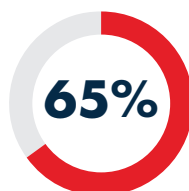
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- Construction Materials
- Building Products
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- Private Equity
- Owners

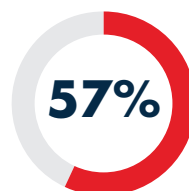
FMI Client Highlights



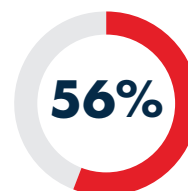
of the ENR
Top-400
LARGEST
CONTRACTORS



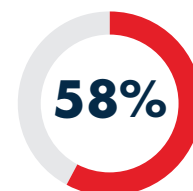
of the ENR
Top-200
SPECIALTY
CONTRACTORS



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FIRMS



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Denver

210 University Boulevard
Suite 800
Denver, CO 80206
303.377.4740

Edmonton

Edmonton, AB
780.850.2693

Houston

1301 McKinney Street
Suite 2000
Houston TX 77010
713.936.5400

Phoenix

7639 East Pinnacle Peak Road
Suite 100
Scottsdale, AZ 85255
602.381.8108

Raleigh (headquarters)

5171 Glenwood Avenue
Suite 200
Raleigh, NC 27612
919.787.8400

Tampa

308 South Boulevard
Tampa, FL 33606
813.636.1364



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