



FMI's North American Engineering and Construction Outlook

First Quarter 2020 Report



Recent economic disruptions considered in the following forecast include the domestic and foreign impact of COVID-19, high volatility across financial and equity markets, emergency policies set in place by the Federal Reserve, significantly lower oil prices, potential impact of federal stimulus, and mounting political uncertainty headed into the 2020 presidential election. Based on the speed and breadth of these various disruptions, FMI is anticipating, at minimum, a momentary recession between the second and third quarter of 2020. Depth and reach of these disruptions will remain under watch through the coming months.

FMI U.S. Engineering and Construction Outlook

First Quarter 2020 Report

Key Takeaways

- Total engineering and construction spending for the U.S. is forecast to end down 1 percent in 2020, compared to 0 percent growth in 2019.

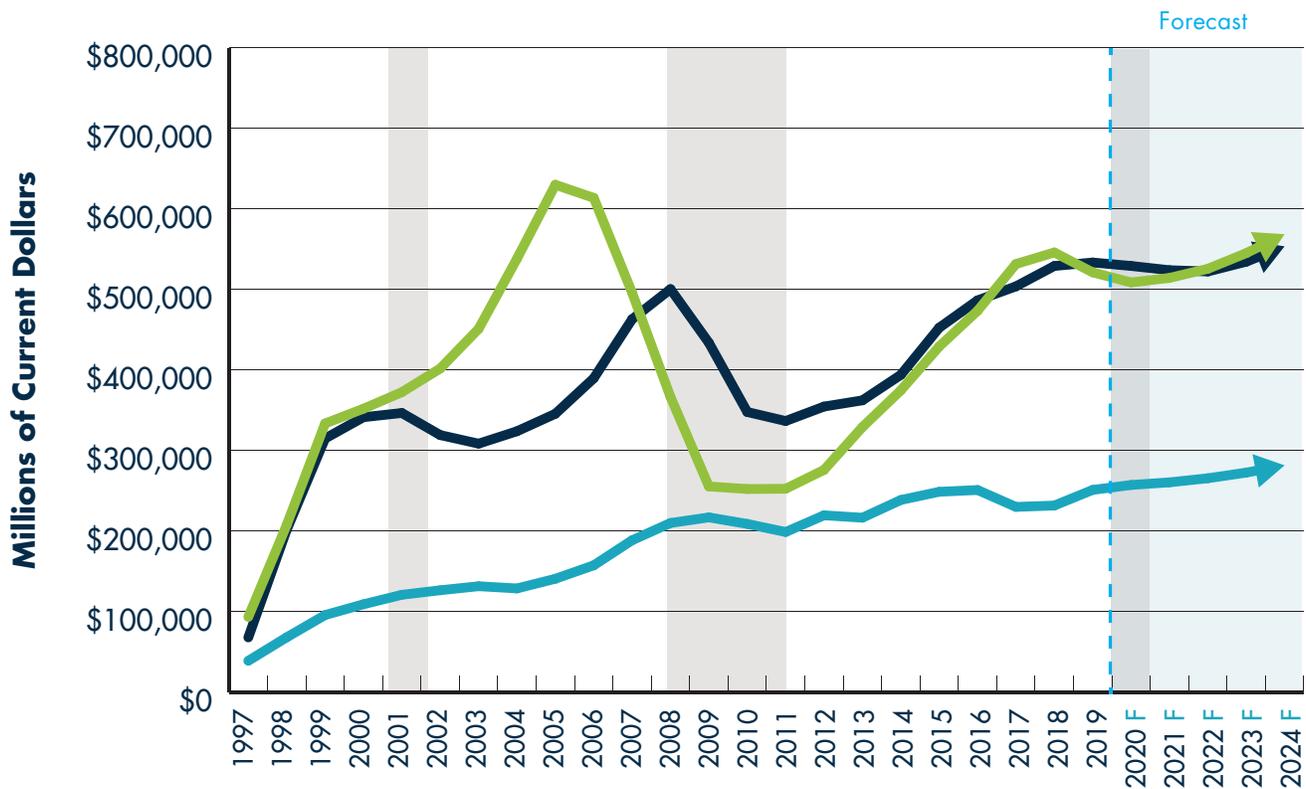


- Spending growth in 2020 is expected to be led by public institutional and infrastructure investments across both nonresidential buildings and nonresidential structures. Current anticipated top-performing segments forecast in 2020 include public safety (+6 percent), transportation (+4 percent), water supply (+4 percent) and conservation and development (+4 percent). Forecast bottom-performing segments in 2020 include religious (-8 percent), commercial (-7 percent), amusement and recreation (-7 percent) and lodging (-3 percent).
- Many segments were downgraded, comparing growth in 2019 and forecast growth 2020 as a result of shifting cycles within the E&C industry on top of significant recent economic disruptions. Office, transportation, power, highway and street, sewage and waste disposal, water supply, and conservation and development were all revised from “up” to “stable.” Additionally, amusement and recreation as well as manufacturing were downgraded from “stable” to “down.” Lodging was downgraded appreciably from “up” (+7%) in 2019 to “down” (-3%) in 2020.
- FMI’s second quarter 2020 Nonresidential Construction Index (NRCI) at 53.2 remains optimistic and is reflective of the strong and stable industry sentiment seen through most of the first quarter. This reading is also likely an early indication of changing sentiment due to the various economic disruptions initially realized towards the end of the first quarter.



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

■ Residential ■ Nonresidential Buildings ■ Nonbuilding Structures

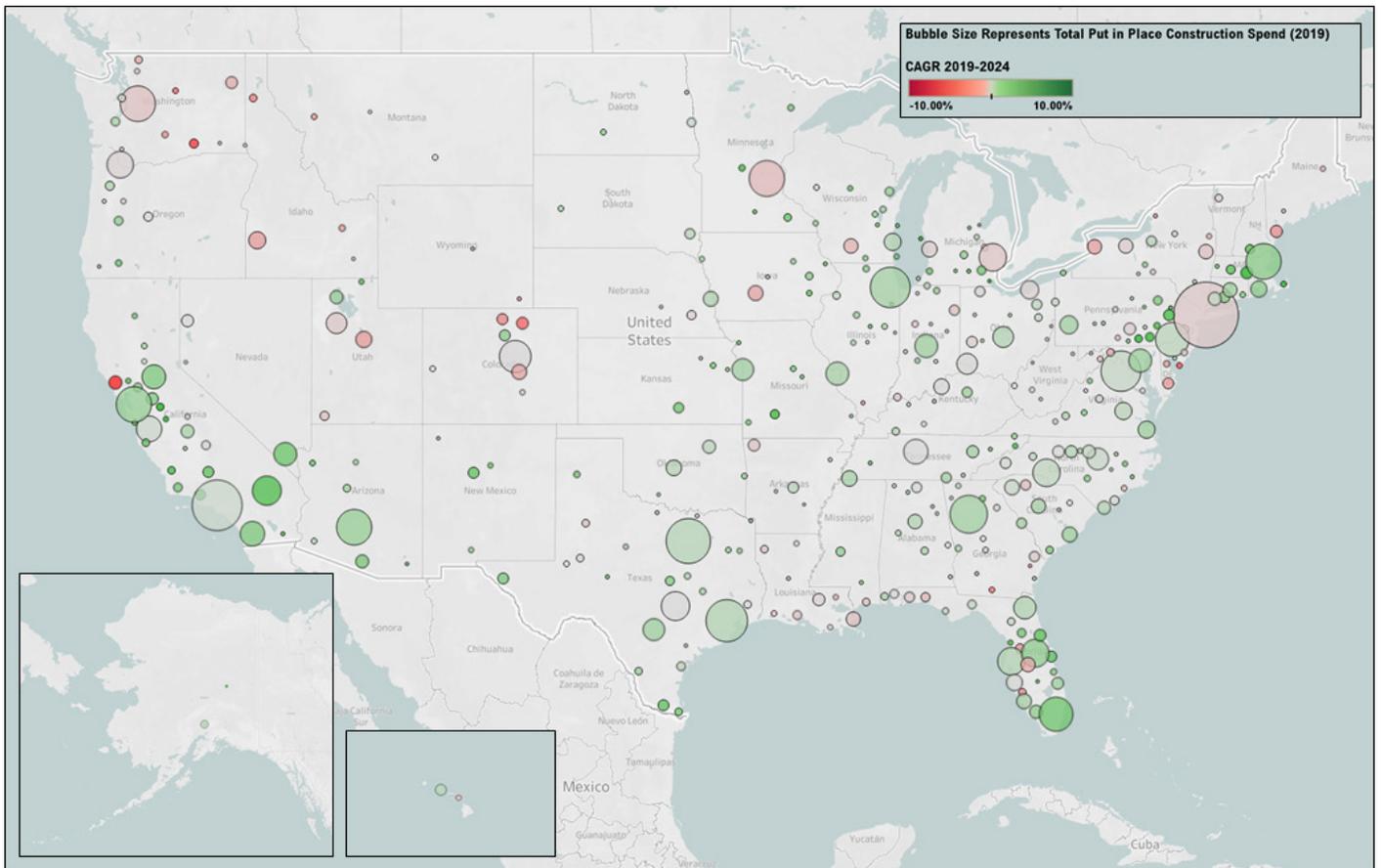


Throughout the value of construction put in place includes the cost of architectural and engineering work.

Source: U.S. Census and FMI Forecast



Total Construction Put in Place 2019 and Forecast Growth (2019-2024 CAGR) by Metropolitan Statistical Area



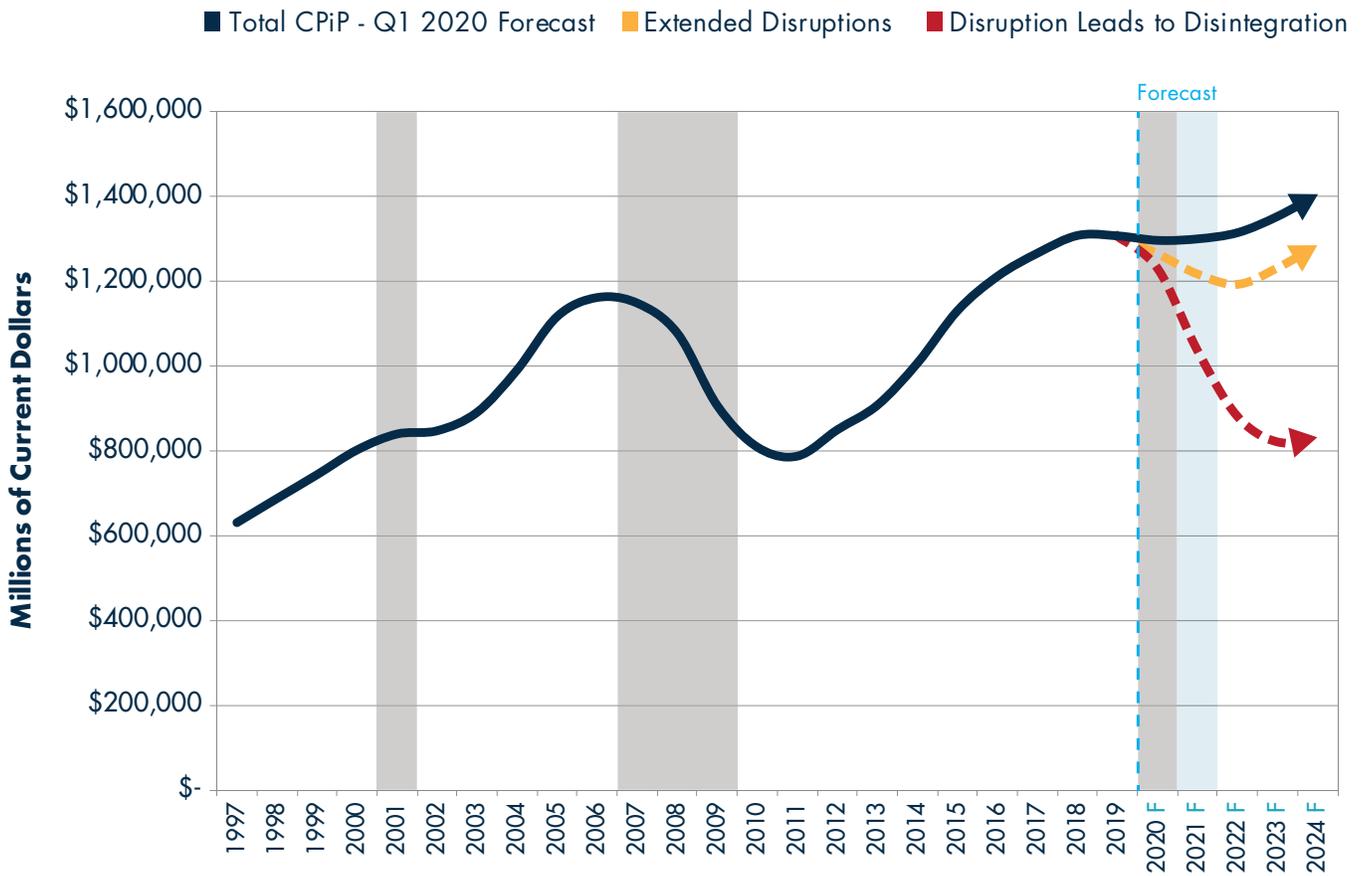
Source: U.S. Census and FMI Forecast

Future Uncertainty

Over the coming weeks and months, FMI anticipates much more information forthcoming to help drive our expectations around current economic developments. Only time will provide clarity and understanding in how converging current events unfold related to COVID-19, oil price collapse, political uncertainty and the significant volatility seen across domestic and international financial markets.

The estimates and assumptions presented within this first quarter Outlook include two quarters of negative GDP growth in the second and third quarters of 2020, defining a minimum period for an economic recession. However, we understand that the duration and reach of the factors noted in our introduction could send severe shockwaves far beyond what is apparent today.

In the chart below, we illustrate a range of possibilities that will be under watch and explored in future publications. Within the chart, given what we know today, our extended disruptions line assumes three quarters of negative GDP growth and is primarily a result of an extended management period for COVID-19 disruptions on top of stalled economic stimulus. Alternatively, the worst-case “disintegration” outcomes suggest at least six quarters of negative GDP growth (similar to the duration of the Great Recession) as declines lead to irreparable financial damage and implications across multiple industries and seemingly healthy organizations and corporations.



Source: U.S. Census and 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 -2%

\$266 Billion

2020/2019 Comparison



- Limited short-term demand for home sales and increasing inventories are expected
- Supply chain disruptions become an added challenge in delivering lower-cost starter homes
- Affordability and availability issues persist despite falling interest rates
- Economic climate is expected to remain fragile into 2021

| | | |
|------|----------------|---------------|
| 2020 | DWN -2% | \$266 Billion |
| 2021 | STA 2% | \$271 Billion |
| 2022 | STA 4% | \$281 Billion |
| 2023 | STA 4% | \$293 Billion |
| 2024 | UP 5% | \$307 Billion |

Multifamily Residential

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

DWN -2%

\$66 Billion

2020/2019 Comparison



- Demographic shifts are seen favoring secondary and tertiary urban submarkets
- Foreign direct investment is expected to remain stalled
- Buyers and renters are increasingly transient in both living and employment obligations
- Long-term demand expected to remain healthy

| | | |
|------|----------------|--------------|
| 2020 | DWN -2% | \$66 Billion |
| 2021 | STA 2% | \$65 Billion |
| 2022 | STA 4% | \$63 Billion |
| 2023 | STA 4% | \$64 Billion |
| 2024 | UP 5% | \$68 Billion |

Improvements

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

DWN -3%

\$177 Billion

2020/2019 Comparison



- Valuations are seen peaking in many major markets, complicating investment-led renovation decisions
- Increased refinance activity will only partially offset improvements tied to home sales
- Aging inventories and increased rental activity will become counterbalanced by declining rental turnover

| | | |
|------|----------------|---------------|
| 2020 | DWN -3% | \$177 Billion |
| 2021 | STA 1% | \$178 Billion |
| 2022 | STA 2% | \$182 Billion |
| 2023 | STA 3% | \$187 Billion |
| 2024 | STA 4% | \$194 Billion |

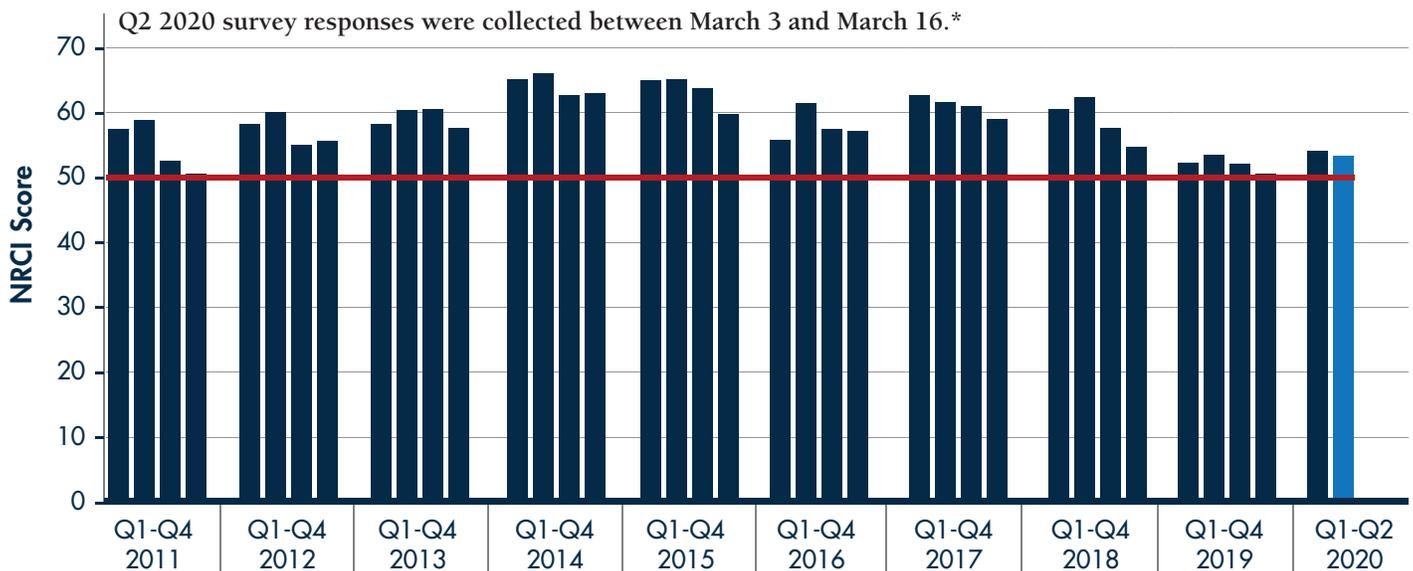


Nonresidential Construction Index (NRCI) Q1 2011 to Q2 2020

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

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 Q2 2020 | 53.2 |
| Previous Reading | 53.9 |



*It is important to note timing of this survey and that the current Q2 reading is likely an early indication of changing sentiment due to the various economic disruptions first seen towards the end of Q1.

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.

NONRESIDENTIAL CONSTRUCTION PUT IN PLACE

Lodging

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

DWN -3%

\$33 Billion

2020/2019 Comparison



- Travel (both business and leisure), RevPar and occupancy rates all plummet through 2020 as a result of COVID-19
- Significant added supply through late 2019 and projects underway
- Transportation and infrastructure projects support long-term elevated spending in select markets

| | | |
|------|----------------|--------------|
| 2020 | DWN -3% | \$33 Billion |
| 2021 | DWN -6% | \$30 Billion |
| 2022 | DWN -5% | \$29 Billion |
| 2023 | STA 3% | \$30 Billion |
| 2024 | UP 6% | \$32 Billion |

Office

Drivers: Office vacancy rate, unemployment rate

STA 1%

\$80 Billion

2020/2019 Comparison



- Downtown markets experience rent stabilization while vacancy rates trend higher
- Slowed employment growth expected to weigh on future spending
- Shared office space and coworking businesses will be challenged
- Demand for data center investment continues to expand rapidly alongside 5G deployment

| | | |
|------|----------------|--------------|
| 2020 | STA 1% | \$80 Billion |
| 2021 | DWN -4% | \$77 Billion |
| 2022 | DWN -5% | \$73 Billion |
| 2023 | STA 2% | \$75 Billion |
| 2024 | UP 5% | \$79 Billion |

Commercial

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

DWN -7%

\$79 Billion

2020/2019 Comparison



- Continued and accelerating rise in e-commerce across nontraditional platforms (e.g., grocery, pharmacy, automotive, etc.)
- Demand for warehouse and distribution stalls for the first time in years, favoring smaller facilities alongside fewer imports tied to trade negotiations and supply chain disruptions
- Brick-and-mortar retail challenges continue with recent investment shifts into travel, leisure and entertainment

| | | |
|------|----------------|--------------|
| 2020 | DWN -7% | \$79 Billion |
| 2021 | DWN -5% | \$76 Billion |
| 2022 | DWN -3% | \$73 Billion |
| 2023 | STA 3% | \$75 Billion |
| 2024 | UP 5% | \$79 Billion |

Health Care

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

STA **3%**

\$46 Billion

2020/2019 Comparison



- Demand and adoption for health care services and technologies (e.g., telehealth and wearables) are expected to jump substantially in the wake of COVID-19 and 5G deployment
- Affordable Care Act is anticipated to become an important political platform through the 2020 presidential election
- Project pipeline suggests some resurgence in larger health care campuses

| | | |
|------|-----------------------|--------------|
| 2020 | STA 3% | \$46 Billion |
| 2021 | STA 1% | \$46 Billion |
| 2022 | DWN -1% | \$46 Billion |
| 2023 | STA 1% | \$46 Billion |
| 2024 | STA 3% | \$48 Billion |

Educational

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

STA **1%**

\$99 Billion

2020/2019 Comparison



- Maintenance backlogs receive much needed support through federal stimulus
- K-12 spending continues to outperform higher education due to low endowment returns
- Industry prioritization in establishing and/or refining online presence
- Safety and health become core elements of facility design

| | | |
|------|----------------------|---------------|
| 2020 | STA 1% | \$99 Billion |
| 2021 | STA 2% | \$101 Billion |
| 2022 | STA 3% | \$105 Billion |
| 2023 | STA 3% | \$107 Billion |
| 2024 | STA 2% | \$110 Billion |

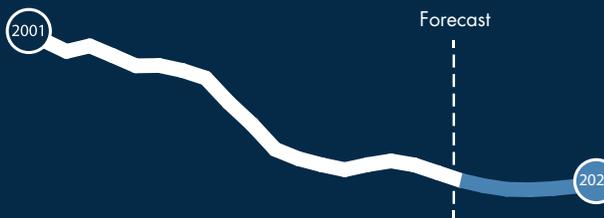
Religious

Drivers: GDP, population, income, personal savings

DWN **-8%**

\$3 Billion

2020/2019 Comparison



- Ongoing shift away from traditional worship facilities alongside declining attendance and religious affiliation
- Construction investment is being directed into community-focused service and gathering places
- Declining share of Americans donating to religious organizations

| | | |
|------|-----------------------|-------------|
| 2020 | DWN -8% | \$3 Billion |
| 2021 | DWN -5% | \$3 Billion |
| 2022 | DWN -1% | \$3 Billion |
| 2023 | STA 2% | \$3 Billion |
| 2024 | STA 4% | \$3 Billion |

Public Safety

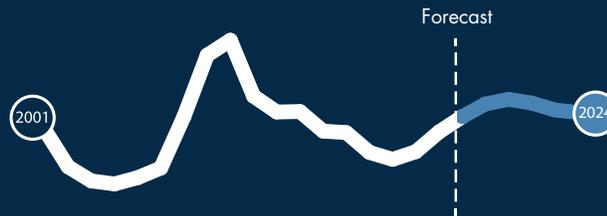
Drivers: Population, government spending, incarceration rate, nonresidential structure investment

UP 6%

\$11 Billion

2020/2019 Comparison

- Large and high-growth metropolitans are in need of updated facilities and infrastructure
- Historically high local tax revenues backed with anticipated federal stimulus spending
- Low national crime rates may become challenged alongside rising unemployment



| | | |
|------|----------------|--------------|
| 2020 | UP 6% | \$11 Billion |
| 2021 | STA 2% | \$11 Billion |
| 2022 | DWN -2% | \$11 Billion |
| 2023 | DWN -3% | \$11 Billion |
| 2024 | DWN -1% | \$10 Billion |

Amusement and Recreation

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

DWN -7%

\$26 Billion

2020/2019 Comparison

- Parks, theaters, festivals, conventions and concerts have all been either temporarily shut down or canceled due to COVID-19
- Loss of revenue, declining economic growth and travel (both business and leisure) are anticipated to postpone or cancel future large-scale planned projects



| | | |
|------|----------------|--------------|
| 2020 | DWN -7% | \$26 Billion |
| 2021 | DWN -6% | \$24 Billion |
| 2022 | DWN -3% | \$24 Billion |
| 2023 | STA 2% | \$24 Billion |
| 2024 | UP 5% | \$25 Billion |

Transportation

Drivers: Population, government spending, transportation funding

STA 4%

\$57 Billion

2020/2019 Comparison

- Multimodal travel, including airlines, transit systems and ports (e.g., cruise ships and freight), will remain challenged through 2020 as a result of COVID-19
- Various anticipated megaprojects may be canceled or postponed
- Economic stimulus is expected to uphold spending levels over the coming years where demographics and commerce support ongoing investment



| | | |
|------|---------------|--------------|
| 2020 | STA 4% | \$57 Billion |
| 2021 | UP 9% | \$62 Billion |
| 2022 | UP 6% | \$65 Billion |
| 2023 | STA 3% | \$67 Billion |
| 2024 | STA 1% | \$67 Billion |

Communication

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

STA **1%**

\$24 Billion

2020/2019 Comparison



- COVID-19 shutdown period widely strengthens demand for network bandwidth and resiliency
- Fifth-generation (5G) infrastructure deployment continues across major metropolitans and into secondary markets
- Internet traffic, connected devices and demand for data storage and processing are positioned to increase dramatically over the forecast period

| | | |
|------|----------------------|--------------|
| 2020 | STA 1% | \$24 Billion |
| 2021 | STA 2% | \$24 Billion |
| 2022 | STA 3% | \$25 Billion |
| 2023 | STA 3% | \$26 Billion |
| 2024 | STA 4% | \$27 Billion |

Manufacturing

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

DWN **-2%**

\$73 Billion

2020/2019 Comparison



- COVID-19-related (international and domestic) supply chain disruptions, political uncertainty, ongoing trade tensions and oil price collapse support continued decline in industrial production into 2021
- Large-scale planned petrochemical investments along the Gulf Coast postponed or shelved until oil prices rebound and volatility in the energy sector stabilizes
- Transportation equipment subsectors remain weakened through 2021

| | | |
|------|-----------------------|--------------|
| 2020 | DWN -2% | \$73 Billion |
| 2021 | DWN -4% | \$70 Billion |
| 2022 | STA 0% | \$69 Billion |
| 2023 | STA 2% | \$71 Billion |
| 2024 | STA 4% | \$74 Billion |

NONBUILDING STRUCTURES CONSTRUCTION PUT IN PLACE

Power

Drivers: Population, industrial production, government spending

STA **2%**

\$102 Billion

2020/2019 Comparison



- Resiliency improvements, regulatory requirements and electrification trends are expected to uphold investment
- Oil price collapse alongside a wavering trade climate will challenge pipeline and related infrastructure expansion
- Lower energy prices will contest demand for large-scale renewable projects planned for 2020 and 2021

| | | |
|------|-----------------------|---------------|
| 2020 | STA 2% | \$102 Billion |
| 2021 | DWN -4% | \$106 Billion |
| 2022 | DWN -1% | \$111 Billion |
| 2023 | STA 3% | \$113 Billion |
| 2024 | UP 5% | \$114 Billion |

Highway and Street

Drivers: Population, government spending, nonresidential structure investment

STA **3%**

\$102 Billion

2020/2019 Comparison



- The FAST Act is set to expire in 2020, and its successor is anticipated to become a political platform in the upcoming presidential election
- Expanding state and local economies have led to recent increased funding sources
- Federal economic stimulus may spur a wave of resurfacing and shovel ready projects in coming months

| | | |
|------|----------------------|---------------|
| 2020 | STA 3% | \$102 Billion |
| 2021 | UP 5% | \$106 Billion |
| 2022 | STA 4% | \$111 Billion |
| 2023 | STA 2% | \$113 Billion |
| 2024 | STA 1% | \$114 Billion |

Sewage and Waste Disposal

Drivers: Population, industrial production, government spending

STA **3%**

\$27 Billion

2020/2019 Comparison



- Passage of America's Water Infrastructure Act in late 2018 and reauthorization of the Water Infrastructure Finance and Innovation Act (WIFIA) provide a solid footing for ongoing investment
- Overall demand for infrastructure expansion will waver alongside declining residential and nonresidential development
- Economic stimulus funding and low borrowing costs are expected to uphold investment levels

| | | |
|------|----------------------|--------------|
| 2020 | STA 3% | \$27 Billion |
| 2021 | STA 4% | \$28 Billion |
| 2022 | STA 4% | \$29 Billion |
| 2023 | STA 4% | \$30 Billion |
| 2024 | UP 5% | \$32 Billion |

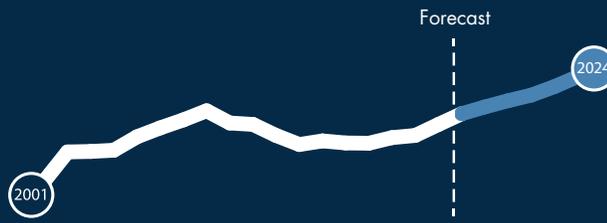
Water Supply

Drivers: Population, industrial production, government spending

STA **4%**

\$17 Billion

2020/2019 Comparison



- The Water Quality Protection and Jobs Creation Act of 2019 injects billions into the Clean Water State Revolving Fund through the forecast period
- Overall demand for infrastructure expansion will waver alongside declining residential and nonresidential development
- Economic stimulus funding and low borrowing costs are expected to uphold investment levels

| | | |
|------|----------------------|--------------|
| 2020 | STA 4% | \$17 Billion |
| 2021 | STA 4% | \$18 Billion |
| 2022 | STA 3% | \$18 Billion |
| 2023 | UP 5% | \$19 Billion |
| 2024 | UP 5% | \$20 Billion |

Conservation and Development

Drivers: Population, government spending

STA **4%**

\$10 Billion

2020/2019 Comparison



- Cuts to the EPA budgets may be reversed as a result of stimulus spending
- Ongoing and possibly expanded USACE spending tied to recent 2019 Disaster Relief bill efforts
- Low oil prices will likely curtail some need for ongoing remediation and conservation efforts

| | | |
|------|----------------------|--------------|
| 2020 | STA 4% | \$10 Billion |
| 2021 | UP 6% | \$10 Billion |
| 2022 | STA 4% | \$11 Billion |
| 2023 | STA 4% | \$11 Billion |
| 2024 | UP 6% | \$12 Billion |

Construction Put in Place Estimated for the United States

Millions of Current Dollars

1st Quarter 2020 Forecast (based on Q4 2019 Actuals)

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020F | 2021F | 2022F | 2023F | 2024F |
|---------------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| RESIDENTIAL BUILDINGS | | | | | | | | | | |
| Single-family | 221,683 | 242,939 | 270,365 | 289,855 | 272,634 | 266,326 | 271,489 | 281,331 | 293,429 | 306,805 |
| Multifamily | 58,686 | 66,835 | 66,404 | 65,670 | 67,142 | 66,018 | 64,502 | 62,555 | 64,374 | 67,759 |
| Improvements* | 148,857 | 163,913 | 194,986 | 190,611 | 181,591 | 176,551 | 178,496 | 181,921 | 187,450 | 194,226 |
| Total Residential Buildings | 429,226 | 473,687 | 531,755 | 546,136 | 521,368 | 508,895 | 514,488 | 525,806 | 545,252 | 568,790 |
| NONRESIDENTIAL BUILDINGS | | | | | | | | | | |
| Lodging | 22,012 | 27,077 | 28,660 | 31,496 | 33,544 | 32,606 | 30,496 | 28,986 | 29,874 | 31,650 |
| Office | 56,013 | 67,907 | 68,685 | 74,450 | 79,228 | 80,131 | 77,191 | 73,481 | 74,746 | 78,506 |
| Commercial | 66,977 | 78,696 | 87,626 | 95,420 | 85,246 | 79,394 | 75,549 | 73,092 | 75,426 | 79,453 |
| Health Care | 39,665 | 40,574 | 43,120 | 42,642 | 44,245 | 45,541 | 46,076 | 45,741 | 46,170 | 47,578 |
| Educational | 85,346 | 91,629 | 96,685 | 97,777 | 97,991 | 99,225 | 101,383 | 104,532 | 107,408 | 109,847 |
| Religious | 3,598 | 3,752 | 3,586 | 3,262 | 2,937 | 2,713 | 2,564 | 2,544 | 2,597 | 2,692 |
| Public Safety | 8,505 | 8,177 | 8,539 | 9,468 | 10,186 | 10,786 | 11,003 | 10,828 | 10,501 | 10,385 |
| Amusement and Recreation | 20,527 | 23,652 | 26,569 | 27,924 | 27,826 | 25,923 | 24,399 | 23,578 | 24,014 | 25,267 |
| Transportation | 45,106 | 43,339 | 46,137 | 51,446 | 54,712 | 56,667 | 61,511 | 65,232 | 66,931 | 67,396 |
| Communication | 21,691 | 22,179 | 23,696 | 24,645 | 23,499 | 23,776 | 24,304 | 24,987 | 25,820 | 26,855 |
| Manufacturing | 83,143 | 79,633 | 70,682 | 70,782 | 74,222 | 72,592 | 69,606 | 69,485 | 71,110 | 74,131 |
| Total Nonresidential Buildings | 452,583 | 486,615 | 503,985 | 529,312 | 533,636 | 529,354 | 524,082 | 522,488 | 534,599 | 553,760 |
| NONBUILDING STRUCTURES | | | | | | | | | | |
| Power | 111,495 | 112,067 | 95,951 | 93,176 | 100,430 | 102,046 | 98,292 | 96,942 | 99,675 | 104,521 |
| Highway and Street | 91,701 | 93,187 | 89,620 | 91,124 | 98,918 | 101,637 | 106,416 | 110,701 | 112,591 | 113,669 |
| Sewage and Waste Disposal | 24,599 | 24,151 | 22,901 | 23,931 | 26,171 | 26,859 | 27,873 | 28,999 | 30,102 | 31,501 |
| Water Supply | 13,353 | 13,940 | 14,168 | 15,317 | 16,440 | 17,150 | 17,802 | 18,384 | 19,274 | 20,321 |
| Conservation and Development | 7,735 | 7,745 | 7,464 | 8,253 | 9,260 | 9,653 | 10,229 | 10,637 | 11,047 | 11,700 |
| Total Nonbuilding Structures | 248,883 | 251,090 | 230,104 | 231,801 | 251,219 | 257,345 | 260,613 | 265,663 | 272,689 | 281,712 |
| Total Put in Place | \$1,130,692 | \$1,211,392 | \$1,265,844 | \$1,307,249 | \$1,306,223 | \$1,295,594 | \$1,299,182 | \$1,313,958 | \$1,352,540 | \$1,404,263 |

Construction Put in Place Estimated for the United States

Change From Prior Year - Current Dollar Basis

1st Quarter 2020 Forecast (based on Q4 2019 Actuals)

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020F | 2021F | 2022F | 2023F | 2024F |
|---------------------------------------|------------|------------|------------|-----------|------------|------------|------------|-----------|-----------|-----------|
| RESIDENTIAL BUILDINGS | | | | | | | | | | |
| Single-family | 14% | 10% | 11% | 7% | -6% | -2% | 2% | 4% | 4% | 5% |
| Multifamily | 27% | 14% | -1% | -1% | 2% | -2% | -2% | -3% | 3% | 5% |
| Improvements* | 11% | 10% | 19% | -2% | -5% | -3% | 1% | 2% | 3% | 4% |
| Total Residential Buildings | 15% | 10% | 12% | 3% | -5% | -2% | 1% | 2% | 4% | 4% |
| NONRESIDENTIAL BUILDINGS | | | | | | | | | | |
| Lodging | 32% | 23% | 6% | 10% | 7% | -3% | -6% | -5% | 3% | 6% |
| Office | 20% | 21% | 1% | 8% | 6% | 1% | -4% | -5% | 2% | 5% |
| Commercial | 7% | 17% | 11% | 9% | -11% | -7% | -5% | -3% | 3% | 5% |
| Health Care | 3% | 2% | 6% | -1% | 4% | 3% | 1% | -1% | 1% | 3% |
| Educational | 7% | 7% | 6% | 1% | 0% | 1% | 2% | 3% | 3% | 2% |
| Religious | 6% | 4% | -4% | -9% | -10% | -8% | -5% | -1% | 2% | 4% |
| Public Safety | -10% | -4% | 4% | 11% | 8% | 6% | 2% | -2% | -3% | -1% |
| Amusement and Recreation | 22% | 15% | 12% | 5% | 0% | -7% | -6% | -3% | 2% | 5% |
| Transportation | 7% | -4% | 6% | 12% | 6% | 4% | 9% | 6% | 3% | 1% |
| Communication | 25% | 2% | 7% | 4% | -5% | 1% | 2% | 3% | 3% | 4% |
| Manufacturing | 37% | -4% | -11% | 0% | 5% | -2% | -4% | 0% | 2% | 4% |
| Total Nonresidential Buildings | 15% | 8% | 4% | 5% | 1% | -1% | -1% | 0% | 2% | 4% |
| NONBUILDING STRUCTURES | | | | | | | | | | |
| Power | 1% | 1% | -14% | -3% | 8% | 2% | -4% | -1% | 3% | 5% |
| Highway and Street | 8% | 2% | -4% | 2% | 9% | 3% | 5% | 4% | 2% | 1% |
| Sewage and Waste Disposal | 6% | -2% | -5% | 4% | 9% | 3% | 4% | 4% | 4% | 5% |
| Water Supply | 0% | 4% | 2% | 8% | 7% | 4% | 4% | 3% | 5% | 5% |
| Conservation and Development | 6% | 0% | -4% | 11% | 12% | 4% | 6% | 4% | 4% | 6% |
| Total Nonbuilding Structures | 4% | 1% | -8% | 1% | 8% | 2% | 1% | 2% | 3% | 3% |
| Total Put in Place | 12% | 7% | 4% | 3% | 0% | -1% | 0% | 1% | 3% | 4% |

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



FMI Canadian Engineering and Construction Outlook

First Quarter 2020 Report

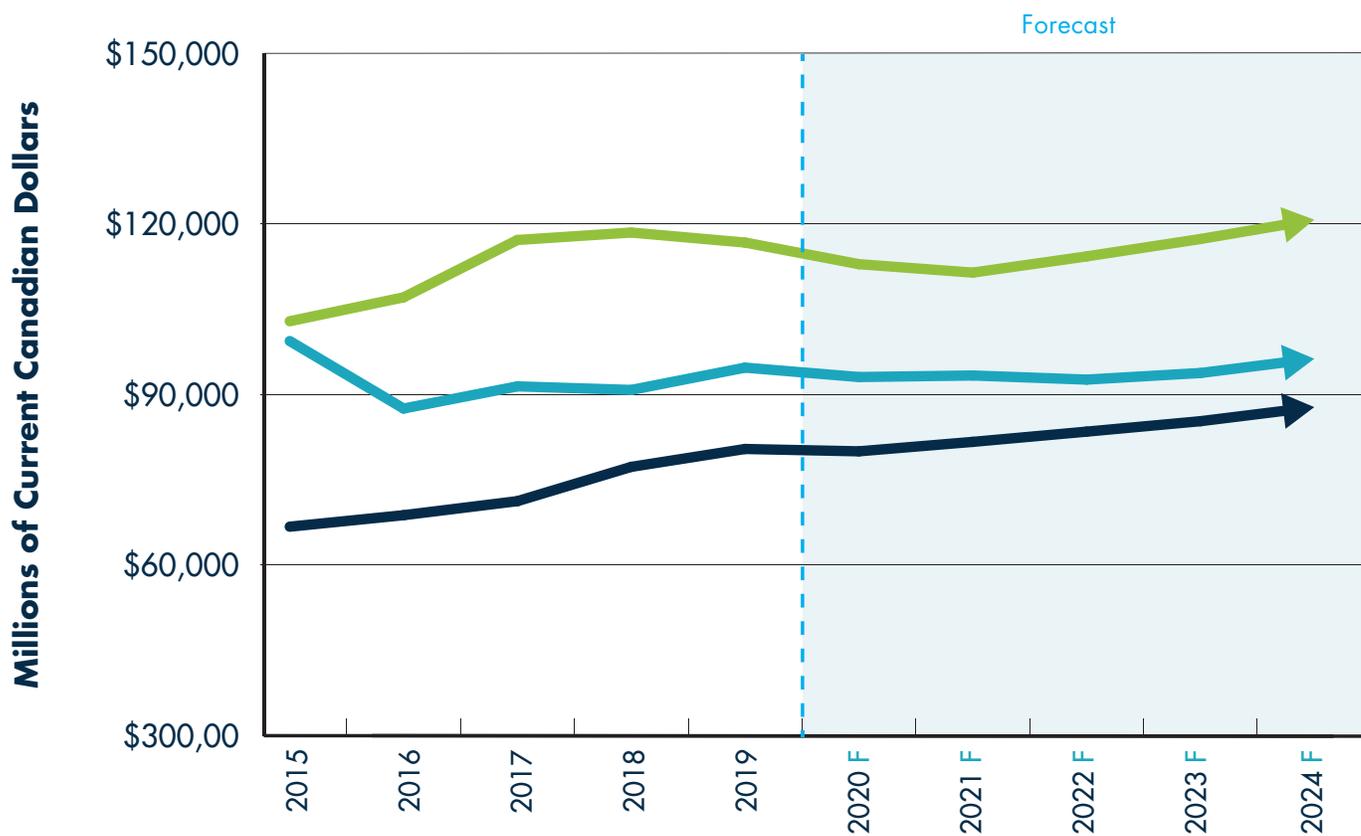
2020 Segment Performance 2020/2019 Comparison

| UP | STABLE | DOWN |
|---|---|---|
|    |    |    |
| Up | Stable | Down |
| <ul style="list-style-type: none"> ■ Sewage and waste disposal ■ Water Supply ■ Highway and Street ■ Transportation | <ul style="list-style-type: none"> ■ Conservation and Development ■ Manufacturing ■ Communication ■ Healthcare ■ Education ■ Public Safety | <ul style="list-style-type: none"> ■ Improvements ■ Multifamily ■ Single-Family ■ Amusement and Recreation ■ Lodging ■ Office ■ Commercial ■ Power ■ Religious |



Total Construction Put in Place Estimated for Canada

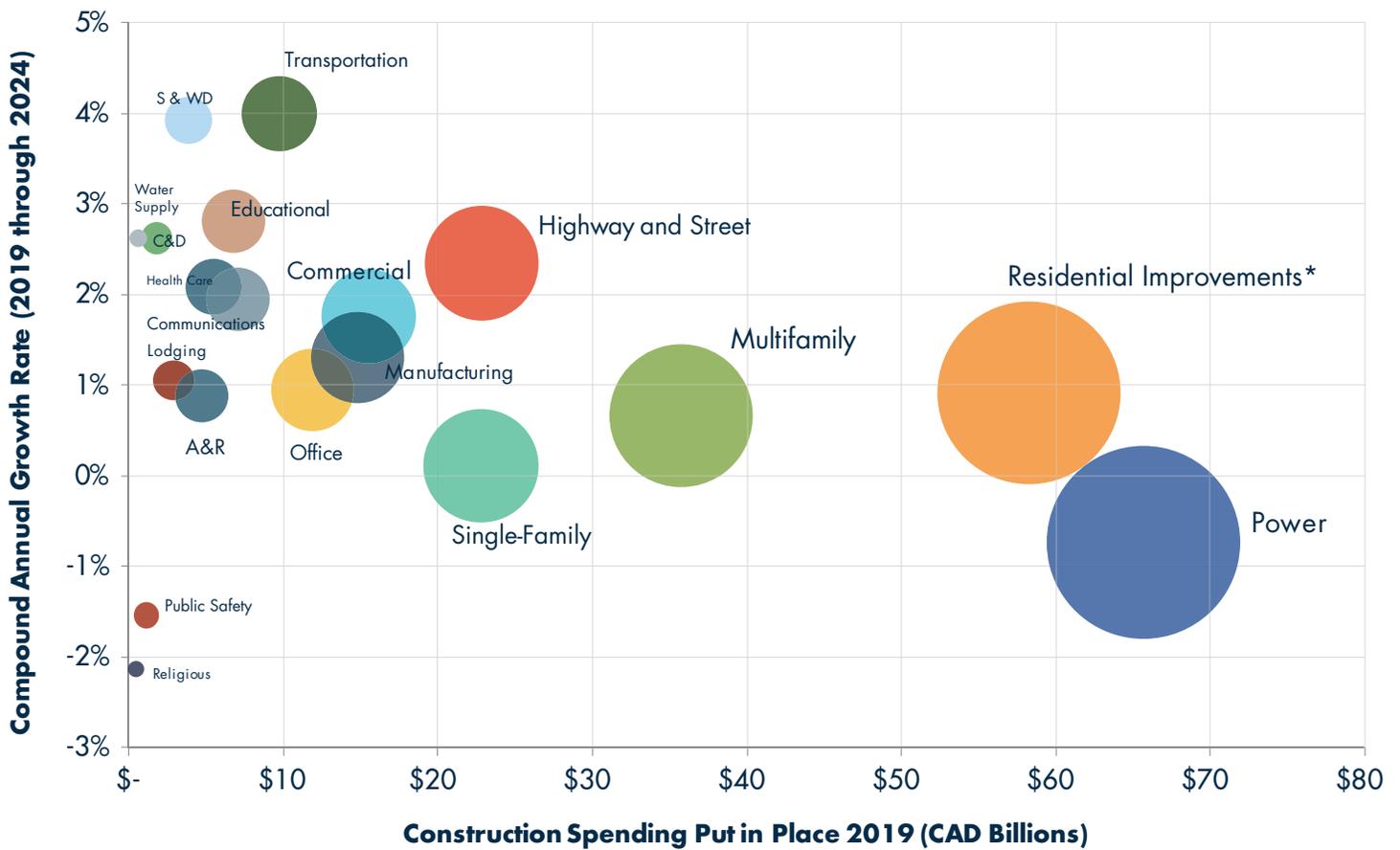
■ Residential ■ Nonresidential Buildings ■ Nonbuilding Structures



Source: Statistics Canada and FMI Forecast



Total Construction Put in Place Estimated for Canada



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

Source: Statistics Canada and FMI Forecast

Construction Put in Place Estimated for Canada

Millions of Current Canadian Dollars

1st Quarter 2020 Forecast (based on Q4 2019 Actuals)

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020F | 2021F | 2022F | 2023F | 2024F |
|---------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| RESIDENTIAL BUILDINGS | | | | | | | | | | |
| Single-family | 25,628 | 26,964 | 28,106 | 26,395 | 22,790 | 22,065 | 21,760 | 22,059 | 22,406 | 22,908 |
| Multifamily | 23,529 | 24,483 | 28,307 | 32,635 | 35,696 | 33,748 | 33,550 | 34,510 | 35,824 | 36,881 |
| Improvements* | 53,731 | 55,646 | 60,764 | 59,456 | 58,240 | 57,112 | 56,131 | 57,720 | 59,118 | 60,962 |
| Total Residential Buildings | 102,888 | 107,092 | 117,177 | 118,486 | 116,727 | 112,925 | 111,440 | 114,289 | 117,348 | 120,752 |
| NONRESIDENTIAL BUILDINGS | | | | | | | | | | |
| Lodging | 2,728 | 2,766 | 2,633 | 2,646 | 2,877 | 2,748 | 2,736 | 2,844 | 2,944 | 3,032 |
| Office | 9,608 | 9,111 | 9,628 | 10,415 | 11,886 | 11,326 | 11,401 | 11,646 | 12,068 | 12,455 |
| Commercial | 13,926 | 13,381 | 13,568 | 14,117 | 15,552 | 15,044 | 15,382 | 15,972 | 16,433 | 16,966 |
| Health Care | 5,278 | 4,975 | 5,018 | 5,118 | 5,459 | 5,695 | 5,963 | 5,994 | 5,936 | 6,050 |
| Educational | 5,999 | 6,767 | 7,775 | 7,757 | 6,768 | 7,059 | 7,274 | 7,386 | 7,576 | 7,779 |
| Religious | 442 | 413 | 386 | 382 | 444 | 424 | 394 | 393 | 389 | 399 |
| Public Safety | 953 | 948 | 863 | 898 | 1,120 | 1,125 | 975 | 1,089 | 1,032 | 1,036 |
| Amusement and Recreation | 3,560 | 4,432 | 4,480 | 4,741 | 4,710 | 4,510 | 4,639 | 4,741 | 4,770 | 4,921 |
| Transportation | 6,057 | 7,056 | 7,855 | 9,745 | 9,755 | 10,220 | 10,709 | 11,107 | 11,470 | 11,862 |
| Communication | 5,227 | 5,781 | 6,578 | 6,915 | 7,055 | 7,125 | 7,223 | 7,463 | 7,570 | 7,769 |
| Manufacturing | 12,978 | 13,149 | 12,466 | 14,545 | 14,797 | 14,733 | 14,977 | 14,876 | 15,325 | 15,784 |
| Total Nonresidential Buildings | 66,757 | 68,779 | 71,250 | 77,279 | 80,424 | 80,010 | 81,674 | 83,511 | 85,515 | 88,052 |
| NONBUILDING STRUCTURES | | | | | | | | | | |
| Power | 70,830 | 61,084 | 65,579 | 62,437 | 65,674 | 62,636 | 61,907 | 60,683 | 61,392 | 63,295 |
| Highway and Street | 19,044 | 17,725 | 20,039 | 22,266 | 22,827 | 23,861 | 24,627 | 25,077 | 25,219 | 25,625 |
| Sewage and Waste Disposal | 5,476 | 5,114 | 3,655 | 3,769 | 3,872 | 4,065 | 4,168 | 4,266 | 4,567 | 4,692 |
| Water Supply | 3,707 | 3,000 | 1,657 | 1,742 | 1,785 | 1,921 | 2,022 | 1,950 | 1,970 | 2,031 |
| Conservation and Development | 344 | 611 | 505 | 591 | 571 | 592 | 622 | 646 | 635 | 650 |
| Total Nonbuilding Structures | 99,401 | 87,534 | 91,435 | 90,805 | 94,729 | 93,075 | 93,346 | 92,622 | 93,784 | 96,293 |
| Total Put in Place | \$269,046 | \$263,405 | \$279,862 | \$286,570 | \$291,880 | \$286,009 | \$286,460 | \$290,422 | \$296,647 | \$305,096 |

Construction Put in Place Estimated for Canada

Millions of Current Canadian Dollars

1st Quarter 2020 Forecast (based on Q4 2019 Actuals)

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020F | 2021F | 2022F | 2023F | 2024F |
|---------------------------------------|-------------|-------------|-----------|------------|------------|------------|------------|------------|-----------|-----------|
| RESIDENTIAL BUILDINGS | | | | | | | | | | |
| Single-family | 1% | 5% | 4% | -6% | -14% | -3% | -1% | 1% | 2% | 2% |
| Multifamily | 2% | 4% | 16% | 15% | 9% | -5% | -1% | 3% | 4% | 3% |
| Improvements* | 4% | 4% | 9% | -2% | -2% | -2% | -2% | 3% | 2% | 3% |
| Total Residential Buildings | 3% | 4% | 9% | 1% | -1% | -3% | -1% | 3% | 3% | 3% |
| NONRESIDENTIAL BUILDINGS | | | | | | | | | | |
| Lodging | 17% | 1% | -5% | 1% | 9% | -4% | 0% | 4% | 3% | 3% |
| Office | -12% | -5% | 6% | 8% | 14% | -5% | 1% | 2% | 4% | 3% |
| Commercial | -4% | -4% | 1% | 4% | 10% | -3% | 2% | 4% | 3% | 3% |
| Health Care | 12% | -6% | 1% | 2% | 7% | 4% | 5% | 1% | -1% | 2% |
| Educational | 5% | 13% | 15% | 0% | -13% | 4% | 3% | 2% | 3% | 3% |
| Religious | 11% | -7% | -7% | -1% | 16% | -5% | -7% | 0% | -1% | 2% |
| Public Safety | 44% | -1% | -9% | 4% | 25% | 0% | -13% | 12% | -5% | 0% |
| Amusement and Recreation | -16% | 24% | 1% | 6% | -1% | -4% | 3% | 2% | 1% | 3% |
| Transportation | -6% | 16% | 11% | 24% | 0% | 5% | 5% | 4% | 3% | 3% |
| Communication | 4% | 11% | 14% | 5% | 2% | 1% | 1% | 3% | 1% | 3% |
| Manufacturing | -9% | 1% | -5% | 17% | 2% | 0% | 2% | -1% | 3% | 3% |
| Total Nonresidential Buildings | -4% | 3% | 4% | 8% | 4% | -1% | 2% | 2% | 2% | 3% |
| NONBUILDING STRUCTURES | | | | | | | | | | |
| Power | -24% | -14% | 7% | -5% | 5% | -5% | -1% | -2% | 1% | 3% |
| Highway and Street | 18% | -7% | 13% | 11% | 3% | 5% | 3% | 2% | 1% | 2% |
| Sewage and Waste Disposal | 71% | -7% | -29% | 3% | 3% | 5% | 3% | 2% | 7% | 3% |
| Water Supply | -32% | -19% | -45% | 5% | 2% | 8% | 5% | -4% | 1% | 3% |
| Conservation and Development | 157% | 78% | -17% | 17% | -3% | 4% | 5% | 4% | -2% | 2% |
| Total Nonbuilding Structures | -16% | -12% | 4% | -1% | 4% | -2% | 0% | -1% | 1% | 3% |
| Total Put in Place | -6% | -2% | 6% | 2% | 2% | -2% | 0% | 1% | 2% | 3% |

*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.



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