



FMI's North American Engineering and Construction Outlook

Third 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, lower oil prices, and mounting political uncertainty in addition to nationwide social unrest headed into the 2020 presidential election.

Based on unprecedented government support, FMI is anticipating the 2020 recession to continue to dissipate. However, anticipated corrections across residential markets are at risk of contributing toward ongoing economic losses and an elongated downtrend in nonresidential construction spending over the next several years.

FMI U.S. Engineering and Construction Outlook

Third Quarter 2020 Report

Key Takeaways

- Total engineering and construction spending for the U.S. is forecast to end flat, or less than -1 percent in 2020, compared to 2 percent growth in 2019.

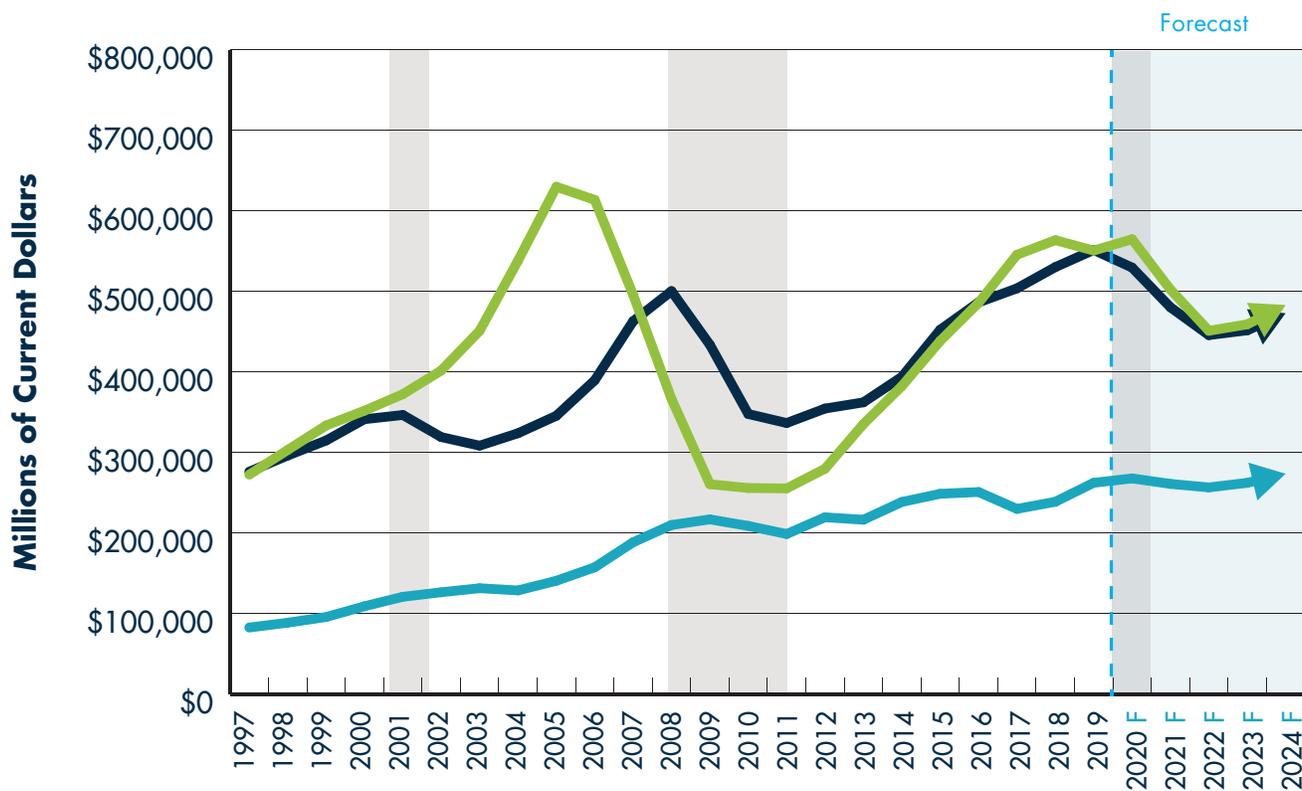


- Declines will be led by an abrupt contraction in nonresidential building markets. Current anticipated low-performing segments forecast in 2020 include religious (-21 percent), lodging (-14 percent), amusement and recreation (-9 percent), educational (-7 percent) and office (-5 percent).
- Multiple segments that were previously in down categories have been upgraded this quarter to reflect upheld market conditions and investment levels. Based on strong second quarter actuals, year-end forecasts for public safety (9 percent), water supply (9 percent), residential improvements (6 percent), communication (4 percent) and sewage and waste disposal (4 percent) have all been revised and improved substantially.
- FMI's third quarter 2020 Nonresidential Construction Index (NRCI) at 45.6 reflects a large improvement from the second quarter reading of 36.9, up nearly 24 percent. However, the index remains well below the growth threshold of 50, suggesting fewer future engineering and construction opportunities.



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

■ Residential ■ Nonresidential Buildings ■ Nonbuilding Structures

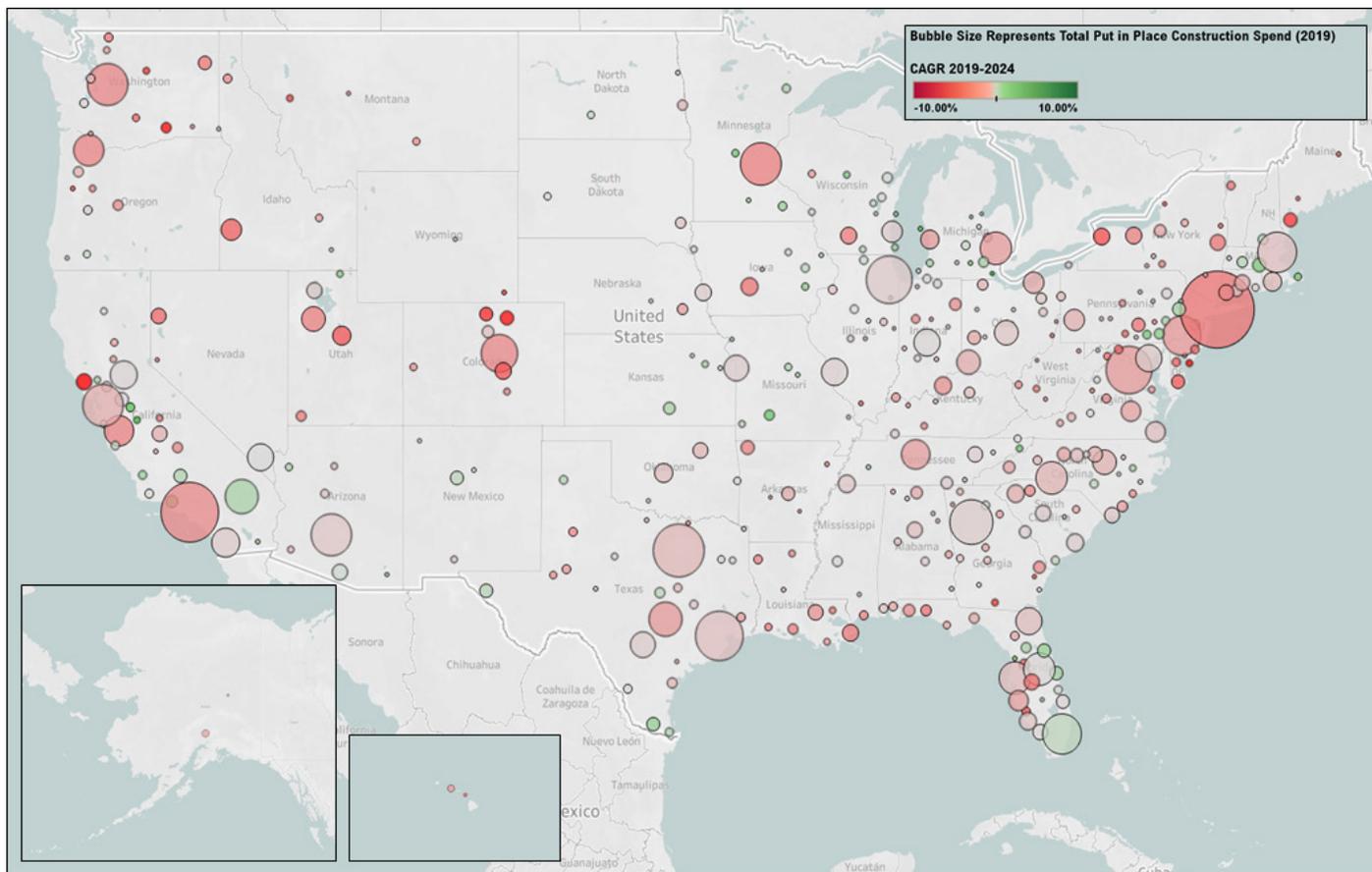


Throughout the value of construction put in place includes the cost of architectural and engineering work.

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

RESIDENTIAL CONSTRUCTION PUT IN PLACE

Single-Family Residential

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

STA **1%**

\$284 Billion

2020/2019 Comparison

- NAHB/Wells Fargo Housing market index reports builder confidence at all-time highs despite historic rise in input costs
- Slow migration out of crowded metropolitans into low cost of living cities and states
- Expect heightened unemployment rates to weigh on inventories, prices and consumer confidence as government programs reach expiration
- Geographic diversity results in new economic hubs alongside demand for supporting infrastructure and services



2020	STA 1%	\$284 Billion
2021	DWN -11%	\$252 Billion
2022	DWN -8%	\$232 Billion
2023	STA 1%	\$235 Billion
2024	UP 5%	\$248 Billion

Multifamily Residential

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

STA **0%**

\$86 Billion

2020/2019 Comparison

- Anticipate disruptions to planned large-scale, mixed-use developments, mostly due to uncertain demand for nonresidential components
- Buyers and renters are increasingly transient in both living and employment obligations
- Heightened unemployment and volatility favor rentals
- Transition away from high-rise to mid- and low-rise starts



2020	STA 0%	\$86 Billion
2021	DWN -17%	\$72 Billion
2022	DWN -11%	\$64 Billion
2023	STA 2%	\$65 Billion
2024	UP 7%	\$70 Billion

Improvements

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

UP **6%**

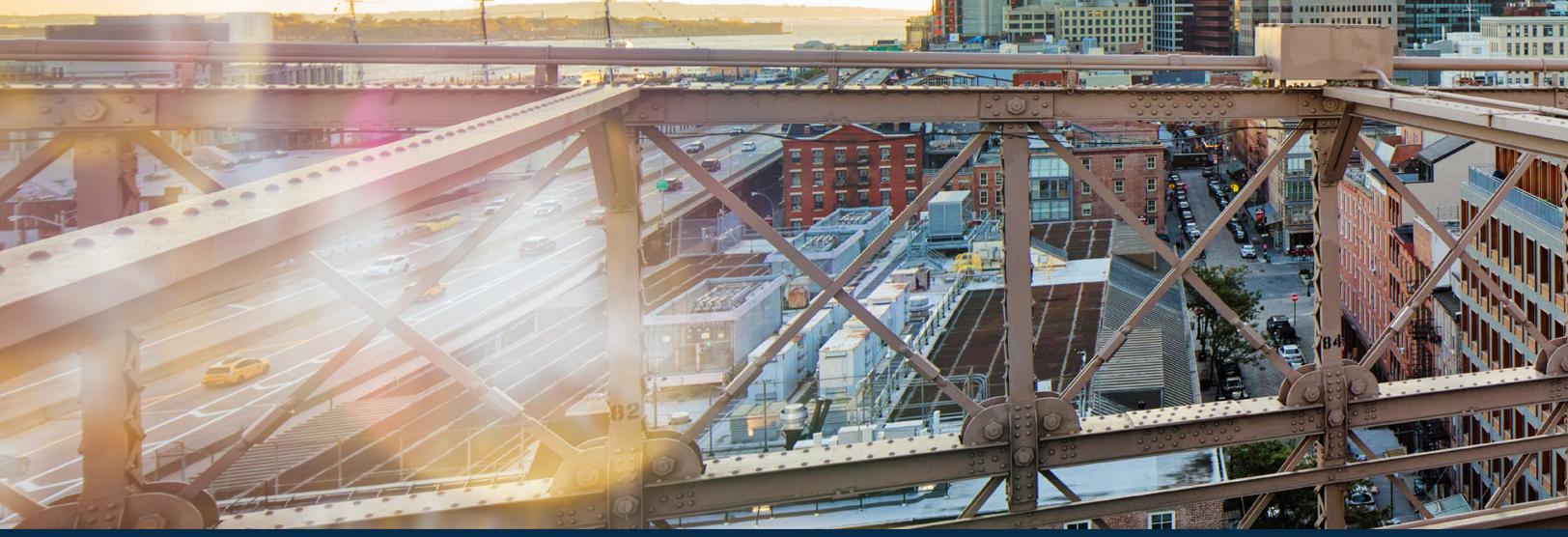
\$195 Billion

2020/2019 Comparison

- Extended work-from-home circumstances, shifting migration, aging inventories and increased refinance activity support heightened demand for improvements spending through 2020
- Expect corrections in residential prices, inventories and confidence levels to lower demand upon expiration of government programs



2020	UP 6%	\$195 Billion
2021	DWN -9%	\$178 Billion
2022	DWN -13%	\$155 Billion
2023	STA 2%	\$159 Billion
2024	STA 4%	\$166 Billion

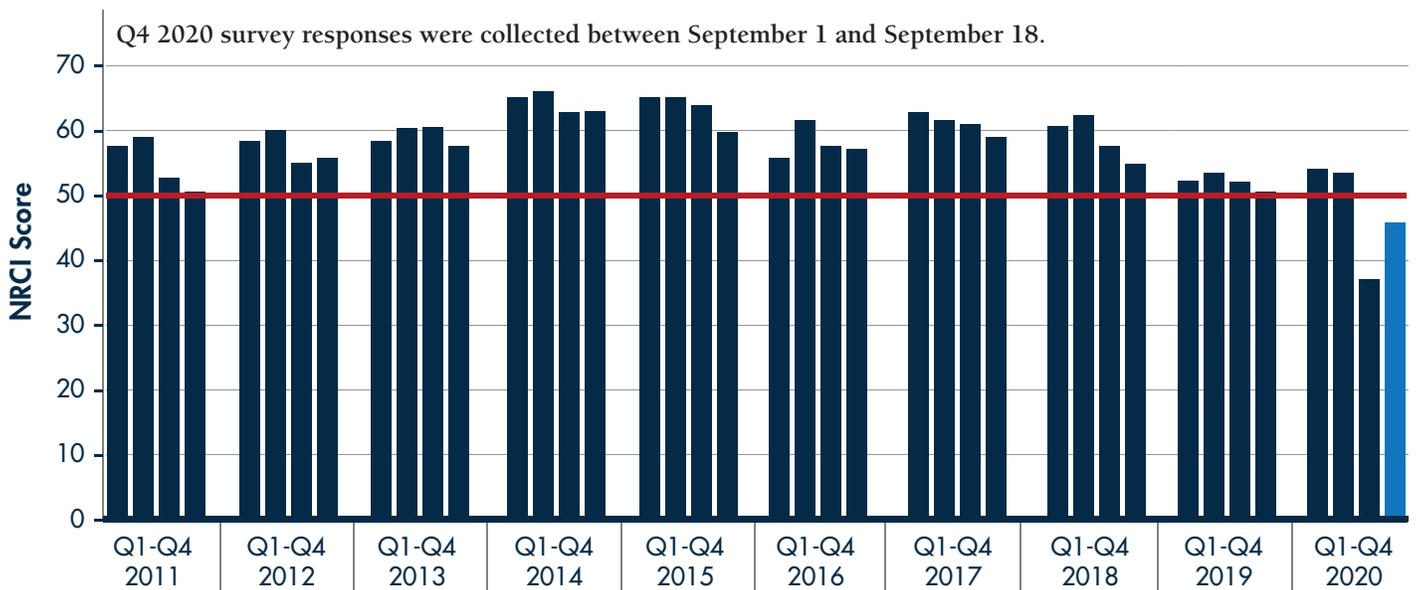


Nonresidential Construction Index (NRCI) Q1 2011 to Q4 2020

(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 Q4 2020	45.6
Previous Reading	36.9



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 -14%

\$29 Billion

2020/2019 Comparison



- COVID-19 cases, layoffs, and bankruptcies have caused major disruptions to travel (both business and leisure) nationwide
- Occupancy rates and RevPar begin upward slowly, but are expected to remain depressed well into (and possibly beyond) 2021
- New demand expected to follow suburban migration, future losses tied to reduced large scale mixed-use and transportation investments

2020 **DWN -14%**
\$29 Billion

2021 **DWN -21%**
\$22 Billion

2022 **DWN -16%**
\$19 Billion

2023 **DWN -3%**
\$18 Billion

2024 **UP 7%**
\$20 Billion

Office

Drivers: Office vacancy rate, unemployment rate

DWN -5%

\$81 Billion

2020/2019 Comparison



- Ongoing bankruptcies, closures and remote working preferences will weigh on demand for future traditional office space requirements
- Rapid expansion of data center investment continues alongside 5G deployment, IoT expansion and increased e-commerce and remote working adoption
- Office dedensification renovations and increased adoption of shared working spaces are expected to drive activity in both large metropolitan and suburban markets

2020 **DWN -5%**
\$81 Billion

2021 **DWN -13%**
\$70 Billion

2022 **DWN -14%**
\$60 Billion

2023 **DWN -2%**
\$59 Billion

2024 **UP 6%**
\$62 Billion

Commercial

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

DWN -3%

\$78 Billion

2020/2019 Comparison



- Ongoing/increasing bankruptcies and store closures into 2022
- Demand for warehouse and distribution picks up across all facility types; repurposing existing stores and shopping malls becomes more common place
- Future losses tied to reduced/revised mixed-use investments and increasing vacancies

2020 **DWN -3%**
\$78 Billion

2021 **DWN -14%**
\$67 Billion

2022 **DWN -16%**
\$56 Billion

2023 **DWN -1%**
\$56 Billion

2024 **UP 7%**
\$60 Billion

Health Care

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

STA **1%**

\$46 Billion

2020/2019 Comparison



- Newly realized needs suggest a potential resurgence in larger health care campuses and hospital expansions
- Rapid adoption of telehealth significantly challenges existing capital plans
- 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

2020	STA 1%	\$46 Billion
2021	DWN -5%	\$44 Billion
2022	DWN -3%	\$42 Billion
2023	STA 4%	\$44 Billion
2024	STA 3%	\$45 Billion

Educational

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

DWN **-7%**

\$98 Billion

2020/2019 Comparison



- Fall start in 2020 has been challenging, anticipate significant revenue losses across both K-12 and higher education
- Industrywide prioritization in renovations/retrofits and refining an online presence
- Increased focus on facility design in safety and well-being
- Maintenance backlogs receive much needed support through future infrastructure stimulus

2020	DWN -7%	\$98 Billion
2021	DWN -7%	\$91 Billion
2022	STA 0%	\$91 Billion
2023	STA 3%	\$94 Billion
2024	STA 4%	\$98 Billion

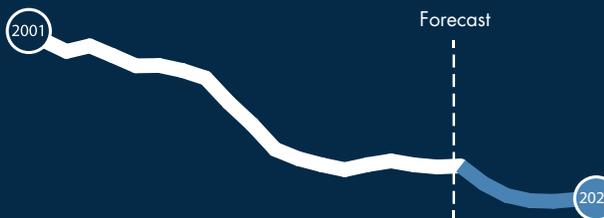
Religious

Drivers: GDP, population, income, personal savings

DWN **-21%**

\$3 Billion

2020/2019 Comparison



- Religious charitable giving was up in 2019 and is expected to end higher in 2020
- Declining attendance and religious affiliation
- Shelter-in-place mandates, rising unemployment and weakening consumer confidence challenge traditional revenue streams
- Ongoing shift away from traditional worship facilities into community-focused services and gathering places

2020	DWN -21%	\$3 Billion
2021	DWN -18%	\$2 Billion
2022	DWN -9%	\$2 Billion
2023	DWN -1%	\$2 Billion
2024	STA 4%	\$2 Billion

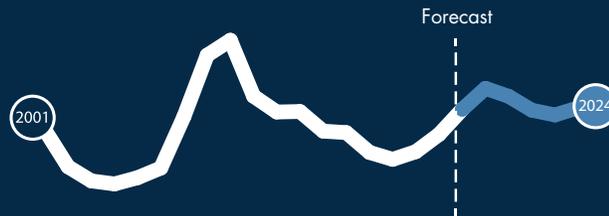
Public Safety

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

UP 9%

\$12 Billion

2020/2019 Comparison



- Rising crime rates and social unrest continue into 2021, imparting heightened demand for correctional facility investments in large metropolitans
- Local and state department budgets at risk of falling short in coming years

2020	UP 9%	\$12 Billion
2021	DWN -3%	\$11 Billion
2022	DWN -6%	\$10 Billion
2023	DWN -2%	\$10 Billion
2024	STA 3%	\$11 Billion

Amusement and Recreation

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

DWN -9%

\$26 Billion

2020/2019 Comparison



- Pandemic-related reduced travel, event closures and crowd/capacity restrictions continue well into 2021
- Public support for convention centers, stadiums, parks and casinos is shelved alongside ongoing economic uncertainty and budgetary pressures
- Future bankruptcy and/or restructuring announcements are anticipated

2020	DWN -9%	\$26 Billion
2021	DWN -20%	\$21 Billion
2022	DWN -16%	\$18 Billion
2023	DWN -4%	\$17 Billion
2024	UP 8%	\$18 Billion

Transportation

Drivers: Population, government spending, transportation funding

STA 1%

\$58 Billion

2020/2019 Comparison



- Transit/rail and airline ridership remains depressed into 2021; canceled and/or postponed megaprojects result in a multiyear adjustment in spending
- Freight rail expansion is upheld alongside increased investment in warehouse/logistics and e-commerce
- New federal infrastructure bill will support increased spending as a means to drive economic recovery; timing is expected late 2021 or 2022

2020	STA 1%	\$58 Billion
2021	DWN -7%	\$54 Billion
2022	DWN -8%	\$50 Billion
2023	STA 2%	\$50 Billion
2024	UP 6%	\$53 Billion

Communication

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

STA **4%**

\$23 Billion

2020/2019 Comparison

- Demographic shifts support broad communication infrastructure investment into secondary and tertiary submarkets; fifth-generation (5G) iPhone sees 2020 release
- Increased human and device/machine internet traffic drives demand for data storage and edge processing
- Communications investment will be prioritized and highlighted in upcoming federal infrastructure and stimulus packages



2020	STA 4%	\$23 Billion
2021	STA 4%	\$24 Billion
2022	STA 4%	\$25 Billion
2023	STA 4%	\$26 Billion
2024	STA 4%	\$27 Billion

Manufacturing

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

DWN **-4%**

\$77 Billion

2020/2019 Comparison

- Supply chain disruptions overlaid with upheld consumer spending on durable and nondurable goods has signaled a need for expansion in select sectors
- Political/tax uncertainty, ongoing trade tensions and oil prices remain critical factors
- Large-scale planned petrochemical and transportation equipment investments will remain challenged
- Increased investment directed into automation and robotics



2020	DWN -4%	\$77 Billion
2021	DWN -4%	\$74 Billion
2022	DWN -1%	\$73 Billion
2023	STA 4%	\$75 Billion
2024	STA 2%	\$77 Billion

NONBUILDING STRUCTURES CONSTRUCTION PUT IN PLACE

Power

Drivers: Population, industrial production, government spending

STA **1%**

\$115 Billion

2020/2019 Comparison



- Oil and gas prices will remain fragile into 2021 (and possibly beyond) alongside global trade tensions
- Resiliency improvements, regulatory requirements and electrification trends are expected to help offset short and midterm losses in oil and gas spending
- Demand expected to increase for large-scale renewable projects

2020	STA 1%	\$115 Billion
2021	DWN -3%	\$111 Billion
2022	DWN -3%	\$108 Billion
2023	STA 2%	\$110 Billion
2024	UP 6%	\$116 Billion

Highway and Street

Drivers: Population, government spending, nonresidential structure investment

STA **1%**

\$99 Billion

2020/2019 Comparison



- Passage of the successor to the FAST Act (expiring 2020) is not expected until late 2021 or 2022, but is likely to provide a substantial increase in annual funding levels
- State and local budgets (and capital plans) will continue to become strained with lower tax collections
- Any future economic stimulus into highway and street infrastructure will be directed into shovel-ready and resurfacing projects

2020	STA 1%	\$99 Billion
2021	DWN -2%	\$97 Billion
2022	STA 3%	\$100 Billion
2023	STA 4%	\$105 Billion
2024	STA 3%	\$108 Billion

Sewage and Waste Disposal

Drivers: Population, industrial production, government spending

STA **4%**

\$27 Billion

2020/2019 Comparison



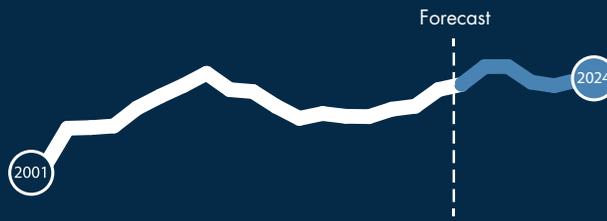
- Demand tapers with reduced overall development (residential and nonresidential), counterbalanced against greater conservation measures tied to higher usage rates
- Investment in new infrastructure follows demographic patterns into growing secondary and tertiary markets
- Passage of America's Water Infrastructure Act in late 2018 and reauthorization of the Water Infrastructure Finance and Innovation Act (WIFIA) provide some stability in capital plans

2020	STA 4%	\$27 Billion
2021	DWN -1%	\$27 Billion
2022	DWN -7%	\$25 Billion
2023	DWN -4%	\$24 Billion
2024	STA 4%	\$25 Billion

Water Supply

Drivers: Population, industrial production, government spending

UP **9%**
\$17 Billion
 2020/2019 Comparison



- Future infrastructure stimulus and low borrowing costs are expected to help uphold spending levels
- Demand will slowly follow demographic shifts and overall reduced nonresidential and residential development
- The Water Quality Protection and Jobs Creation Act of 2019 injects billions into the Clean Water State Revolving Fund through the forecast period

2020	UP 9%	\$17 Billion
2021	STA 0%	\$17 Billion
2022	DWN -7%	\$16 Billion
2023	DWN -2%	\$16 Billion
2024	STA 3%	\$16 Billion

Conservation and Development

Drivers: Population, government spending

STA **2%**
\$9 Billion
 2020/2019 Comparison



- Ongoing USACE spending tied to 2019 Disaster Relief bill efforts
- Low oil prices and declining nonresidential and industrial development limit short-term demand
- EPA budgets will remain in contention through the 2020 presidential election, shift in power could significantly boost annual investment

2020	STA 2%	\$9 Billion
2021	DWN -13%	\$8 Billion
2022	DWN -9%	\$7 Billion
2023	UP 8%	\$8 Billion
2024	UP 8%	\$9 Billion

Construction Put in Place Estimated for the United States

Millions of Current Dollars

3rd Quarter 2020 Forecast (based on Q2 2020 Actuals)

	2015	2016	2017	2018	2019	2020F	2021F	2022F	2023F	2024F
RESIDENTIAL BUILDINGS										
Single-family	221,683	242,939	270,365	289,855	280,398	283,544	252,475	232,277	235,455	247,621
Multifamily	68,156	79,112	80,403	83,411	85,880	86,298	71,906	63,768	64,923	69,738
Improvements*	148,857	163,913	194,986	190,611	184,664	195,155	178,126	155,271	158,924	165,979
Total Residential Buildings	438,696	485,964	545,754	563,877	550,942	564,998	502,508	451,316	459,301	483,339
NONRESIDENTIAL BUILDINGS										
Lodging	22,012	27,077	28,660	31,464	33,071	28,606	22,489	18,889	18,380	19,714
Office	56,013	67,907	68,685	76,662	84,862	80,620	69,992	60,038	58,923	62,435
Commercial	66,977	78,696	87,626	86,422	80,435	77,963	66,919	56,386	55,789	59,936
Health Care	39,665	40,574	43,120	43,450	45,560	46,076	43,689	42,494	44,086	45,298
Educational	85,346	91,629	96,685	101,210	105,374	97,899	91,167	90,790	93,931	97,785
Religious	3,598	3,752	3,586	3,499	3,544	2,800	2,299	2,088	2,060	2,141
Public Safety	8,505	8,177	8,539	9,353	10,530	11,523	11,147	10,493	10,268	10,604
Amusement and Recreation	20,527	23,652	26,569	28,068	28,803	26,267	21,130	17,692	16,920	18,228
Transportation	45,106	43,339	46,137	53,219	57,154	57,905	53,978	49,537	50,327	53,220
Communication	21,691	22,179	23,696	24,502	22,242	23,085	24,025	24,946	25,870	26,953
Manufacturing	83,143	79,633	70,682	72,508	80,079	77,060	73,633	72,587	75,337	76,792
Total Nonresidential Buildings	452,583	486,615	503,985	530,357	551,654	529,804	480,467	445,941	451,890	473,107
NONBUILDING STRUCTURES										
Power	111,495	112,067	95,951	99,569	113,885	115,201	111,404	107,961	110,112	116,240
Highway and Street	91,701	93,187	89,620	91,745	97,559	98,954	97,462	100,414	104,558	107,739
Sewage and Waste Disposal	24,599	24,151	22,901	23,931	26,089	27,213	26,884	24,937	24,028	24,919
Water Supply	13,353	13,940	14,168	15,477	15,882	17,282	17,285	16,060	15,783	16,223
Conservation and Development	7,735	7,745	7,464	8,229	9,126	9,318	8,120	7,405	7,992	8,665
Total Nonbuilding Structures	248,883	251,090	230,104	238,951	262,541	267,967	261,154	256,778	262,473	273,785
Total Put in Place	\$1,140,162	\$1,223,669	\$1,279,843	\$1,333,185	\$1,365,137	\$1,362,769	\$1,244,129	\$1,154,035	\$1,173,665	\$1,230,231

Construction Put in Place Estimated for the United States

Change From Prior Year - Current Dollar Basis

3rd Quarter 2020 Forecast (based on Q2 2020 Actuals)

	2015	2016	2017	2018	2019	2020F	2021F	2022F	2023F	2024F
RESIDENTIAL BUILDINGS										
Single-family	14%	10%	11%	7%	-3%	1%	-11%	-8%	1%	5%
Multifamily	28%	16%	2%	4%	3%	0%	-17%	-11%	2%	7%
Improvements*	10%	10%	19%	-2%	-3%	6%	-9%	-13%	2%	4%
Total Residential Buildings	15%	11%	12%	3%	-2%	3%	-11%	-10%	2%	5%
NONRESIDENTIAL BUILDINGS										
Lodging	32%	23%	6%	10%	5%	-14%	-21%	-16%	-3%	7%
Office	20%	21%	1%	12%	11%	-5%	-13%	-14%	-2%	6%
Commercial	7%	17%	11%	-1%	-7%	-3%	-14%	-16%	-1%	7%
Health Care	3%	2%	6%	1%	5%	1%	-5%	-3%	4%	3%
Educational	7%	7%	6%	5%	4%	-7%	-7%	0%	3%	4%
Religious	6%	4%	-4%	-2%	1%	-21%	-18%	-9%	-1%	4%
Public Safety	-10%	-4%	4%	10%	13%	9%	-3%	-6%	-2%	3%
Amusement and Recreation	22%	15%	12%	6%	3%	-9%	-20%	-16%	-4%	8%
Transportation	7%	-4%	6%	15%	7%	1%	-7%	-8%	2%	6%
Communication	25%	2%	7%	3%	-9%	4%	4%	4%	4%	4%
Manufacturing	37%	-4%	-11%	3%	10%	-4%	-4%	-1%	4%	2%
Total Nonresidential Buildings	15%	8%	4%	5%	4%	-4%	-9%	-7%	1%	5%
NONBUILDING STRUCTURES										
Power	1%	1%	-14%	4%	14%	1%	-3%	-3%	2%	6%
Highway and Street	8%	2%	-4%	2%	6%	1%	-2%	3%	4%	3%
Sewage and Waste Disposal	6%	-2%	-5%	4%	9%	4%	-1%	-7%	-4%	4%
Water Supply	0%	4%	2%	9%	3%	9%	0%	-7%	-2%	3%
Conservation and Development	6%	0%	-4%	10%	11%	2%	-13%	-9%	8%	8%
Total Nonbuilding Structures	4%	1%	-8%	4%	10%	2%	-3%	-2%	2%	4%
Total Put in Place	12%	7%	5%	4%	2%	0%	-9%	-7%	2%	5%

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



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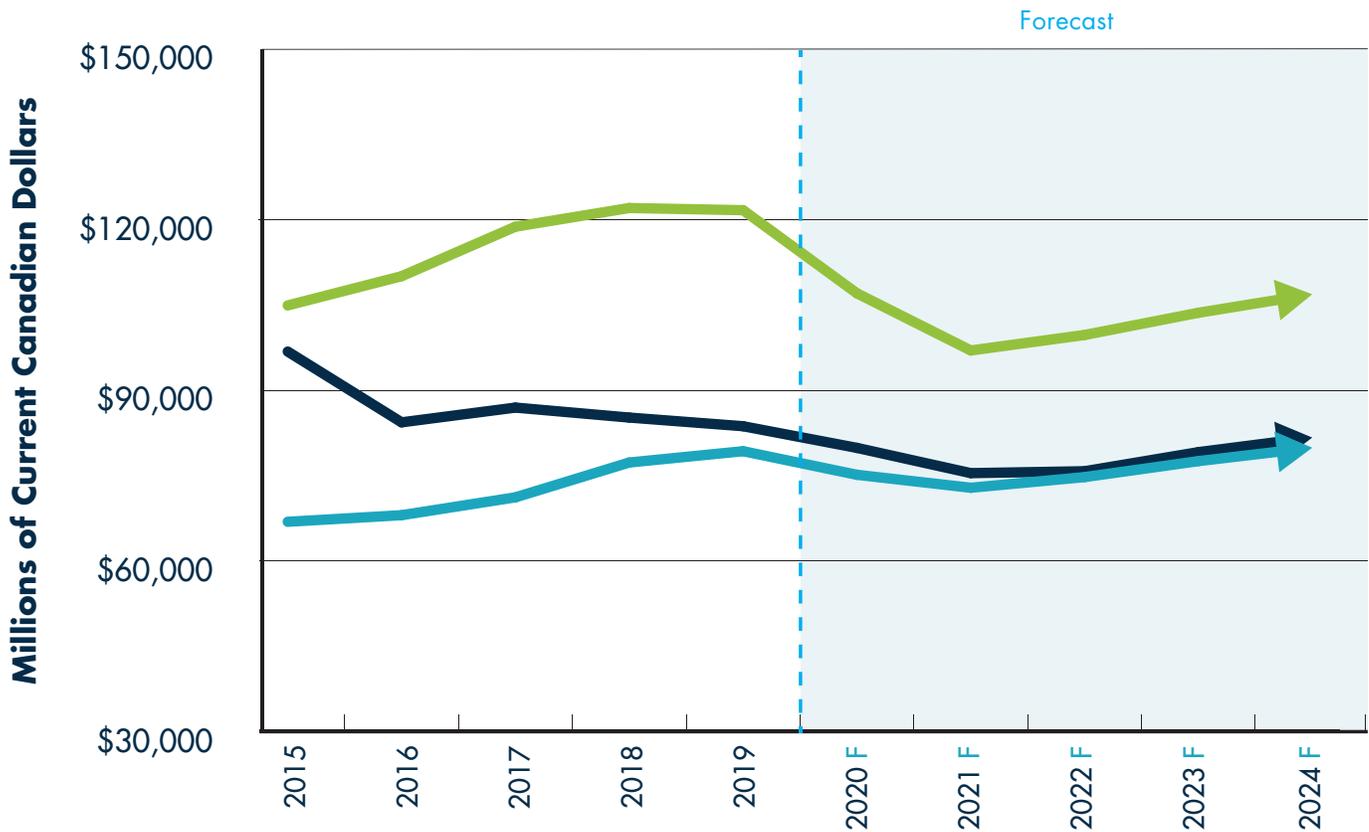
2020 Segment Performance 2020/2019 Comparison





Total Construction Put in Place Estimated for Canada

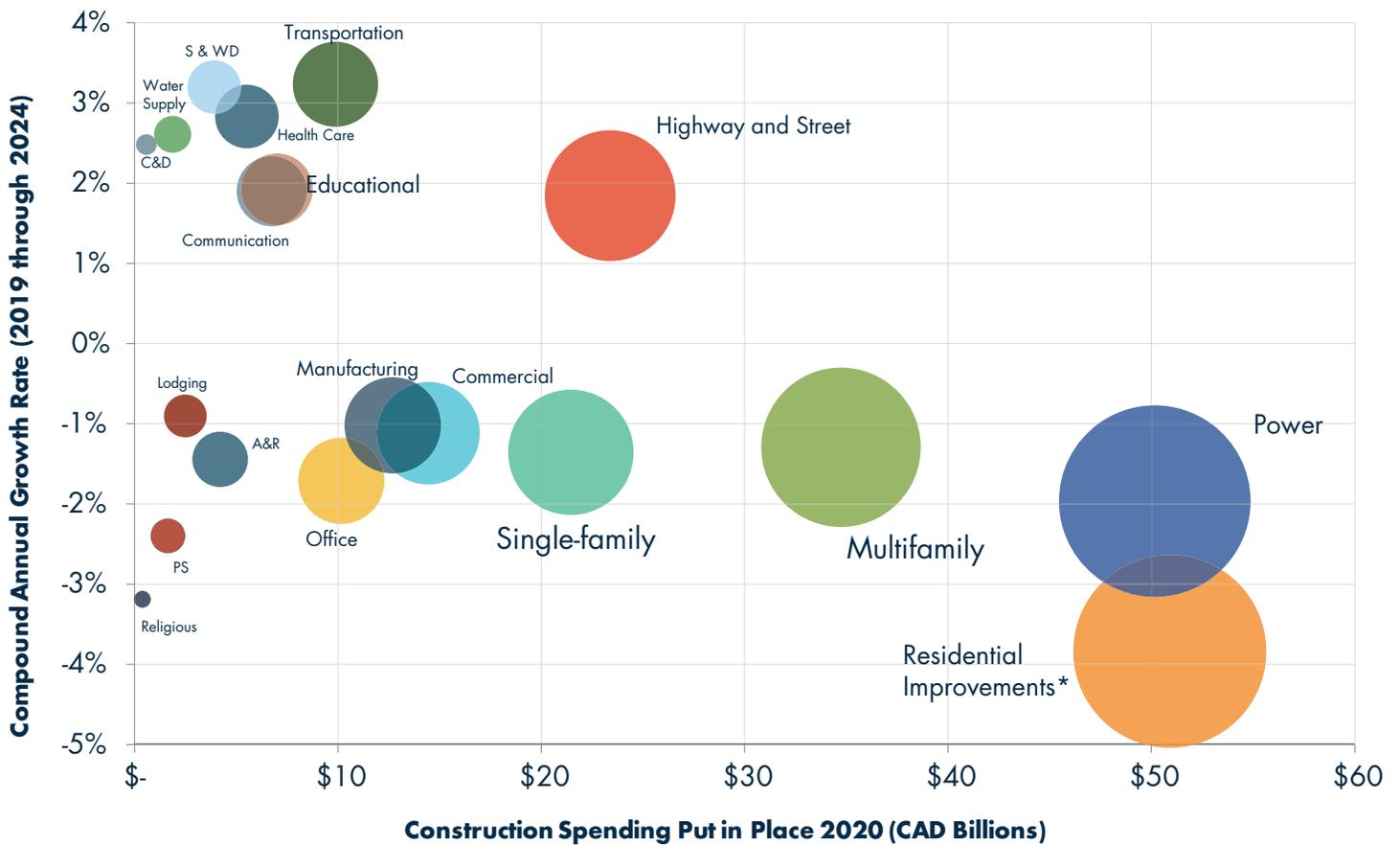
■ Residential
 ■ Nonresidential Buildings
 ■ Nonbuilding Structures



Source: Statistics Canada and FMI Forecast



Total Construction Put in Place Estimated for Canada



*Improvements includes 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 Dollars

3rd Quarter 2020 Forecast (based on Q2 2020 Actuals)

	2015	2016	2017	2018	2019	2020F	2021F	2022F	2023F	2024F
RESIDENTIAL BUILDINGS										
Single-family	25,628	26,964	28,106	26,394	22,839	21,454	19,530	19,896	20,766	21,332
Multifamily	27,852	29,919	33,418	35,243	37,751	34,738	31,713	32,781	34,283	35,375
Improvements*	51,489	53,223	57,287	60,460	61,121	50,906	45,802	47,091	48,627	50,221
Total Residential Buildings	104,969	110,106	118,811	122,097	121,711	107,099	97,044	99,769	103,676	106,928
NONRESIDENTIAL BUILDINGS										
Lodging	2,470	2,569	2,557	2,766	2,695	2,496	2,317	2,396	2,490	2,575
Office	9,201	8,977	9,011	10,138	11,302	10,168	9,401	9,592	10,026	10,367
Commercial	14,270	13,357	13,472	14,002	15,748	14,445	13,369	13,792	14,390	14,887
Health Care	5,111	4,823	5,168	5,252	5,319	5,525	5,760	5,803	5,948	6,117
Educational	5,945	6,645	7,729	7,678	6,744	6,744	6,981	7,099	7,208	7,409
Religious	442	413	386	382	444	385	356	362	369	378
Public Safety	1,511	970	1,289	1,250	1,697	1,640	1,490	1,517	1,506	1,503
Amusement and Recreation	3,518	4,429	4,585	4,671	4,682	4,207	3,829	3,943	4,156	4,354
Transportation	6,230	7,074	7,784	9,757	9,576	9,877	10,257	10,683	11,047	11,228
Communication	5,227	5,781	6,578	6,915	7,046	6,999	7,232	7,445	7,553	7,751
Manufacturing	12,989	13,038	12,655	14,530	14,075	12,695	11,907	12,145	12,891	13,372
Total Nonresidential Buildings	66,915	68,077	71,214	77,341	79,328	75,181	72,899	74,775	77,585	79,941
NONBUILDING STRUCTURES										
Power	68,279	57,954	61,142	56,875	54,669	50,163	44,632	45,441	47,783	49,509
Highway and Street	19,044	17,725	20,039	22,266	22,826	23,387	24,062	23,417	24,273	25,011
Sewage and Waste Disposal	5,476	5,114	3,655	3,769	3,872	3,915	4,226	4,357	4,494	4,532
Water Supply	3,707	3,000	1,657	1,742	1,784	1,868	1,944	1,952	1,987	2,029
Conservation and Development	344	611	505	591	570	579	609	640	630	644
Total Nonbuilding Structures	96,850	84,404	86,998	85,243	83,721	79,912	75,472	75,806	79,167	81,726
Total Put in Place	\$268,734	\$262,586	\$277,024	\$284,681	\$284,761	\$262,192	\$245,416	\$250,350	\$260,428	\$268,595

Construction Put in Place Estimated for Canada

Change From Prior Year - Current Dollar Basis

3rd Quarter 2020 Forecast (based on Q2 2020 Actuals)

	2015	2016	2017	2018	2019	2020F	2021F	2022F	2023F	2024F
RESIDENTIAL BUILDINGS										
Single-family	1%	5%	4%	-6%	-13%	-6%	-9%	2%	4%	3%
Multifamily	3%	7%	12%	5%	7%	-8%	-9%	3%	5%	3%
Improvements*	4%	3%	8%	6%	1%	-17%	-10%	3%	3%	3%
Total Residential Buildings	3%	5%	8%	3%	0%	-12%	-9%	3%	4%	3%
NONRESIDENTIAL BUILDINGS										
Lodging	16%	4%	0%	8%	-3%	-7%	-7%	3%	4%	3%
Office	-20%	-2%	0%	13%	11%	-10%	-8%	2%	5%	3%
Commercial	-4%	-6%	1%	4%	12%	-8%	-7%	3%	4%	3%
Health Care	15%	-6%	7%	2%	1%	4%	4%	1%	2%	3%
Educational	-1%	12%	16%	-1%	-12%	0%	4%	2%	2%	3%
Religious	11%	-7%	-7%	-1%	16%	-13%	-7%	2%	2%	2%
Public Safety	480%	-36%	33%	-3%	36%	-3%	-9%	2%	-1%	0%
Amusement and Recreation	-12%	26%	4%	2%	0%	-10%	-9%	3%	5%	5%
Transportation	-4%	14%	10%	25%	-2%	3%	4%	4%	3%	2%
Communication	4%	11%	14%	5%	2%	-1%	3%	3%	1%	3%
Manufacturing	-10%	0%	-3%	15%	-3%	-10%	-6%	2%	6%	4%
Total Nonresidential Buildings	-4%	2%	5%	9%	3%	-5%	-3%	3%	4%	3%
NONBUILDING STRUCTURES										
Power	-25%	-15%	6%	-7%	-4%	-8%	-11%	2%	5%	4%
Highway and Street	18%	-7%	13%	11%	3%	2%	3%	-3%	4%	3%
Sewage and Waste Disposal	71%	-7%	-29%	3%	3%	1%	8%	3%	3%	1%
Water Supply	-32%	-19%	-45%	5%	2%	5%	4%	0%	2%	2%
Conservation and Development	157%	78%	-17%	17%	-4%	2%	5%	5%	-2%	2%
Total Nonbuilding Structures	-17%	-13%	3%	-2%	-2%	-5%	-6%	0%	4%	3%
Total Put in Place	-7%	-2%	5%	3%	0%	-8%	-6%	2%	4%	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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