




2023

North American Engineering and Construction Outlook


Fourth Quarter Edition



October 2023

A large construction crane is shown against a dark, overcast sky. The crane's lattice structure is prominent, and its long jib extends across the upper portion of the frame. The background is a solid dark grey, suggesting a night or very low-light setting.

Last year FMI altered the base case assumptions for our forecasts to include a multiyear recession. The timing of the recession has stalled in recent quarters, and FMI now finds economic contraction beginning as soon as late 2023 or early 2024. These timing expectations are based on a range of predictive economic indicators with the spotlight on the yield curve. Duration of economic contraction is expected to be dependent on policy response, but as with historical cycles, the impact on the construction industry will likely be longer lasting.



The background of the entire page is a photograph of a construction site. In the foreground, a red lattice tower crane stands tall. To its right, a power line tower with several wires is visible. The background is a dense, green forest covering a hillside. The sky is a pale, overcast grey.

Recent economic factors influencing this forecast include the resumption of student loan payments; a potential forthcoming government shutdown; and the rise in longer-term treasury bond yields, energy prices and the U.S. dollar. These factors are met with continued tightening of lending standards, shortages of labor and key materials, constraints on global logistics infrastructure and real estate volatility. Inflationary pressures significantly eased through the beginning of the year and appear to have stabilized at high levels due to housing and rising energy costs through the third quarter. Further, labor force participation and unemployment rates have slowly trended higher, while the Federal Reserve appears to be finished (or nearly complete) with interest rate increases through the end of the year. We also considered wartime and economic turmoil in various countries (e.g., Russia, Ukraine, China) adding to strain and uncertainty on each of the items listed above.

U.S. Key Takeaways

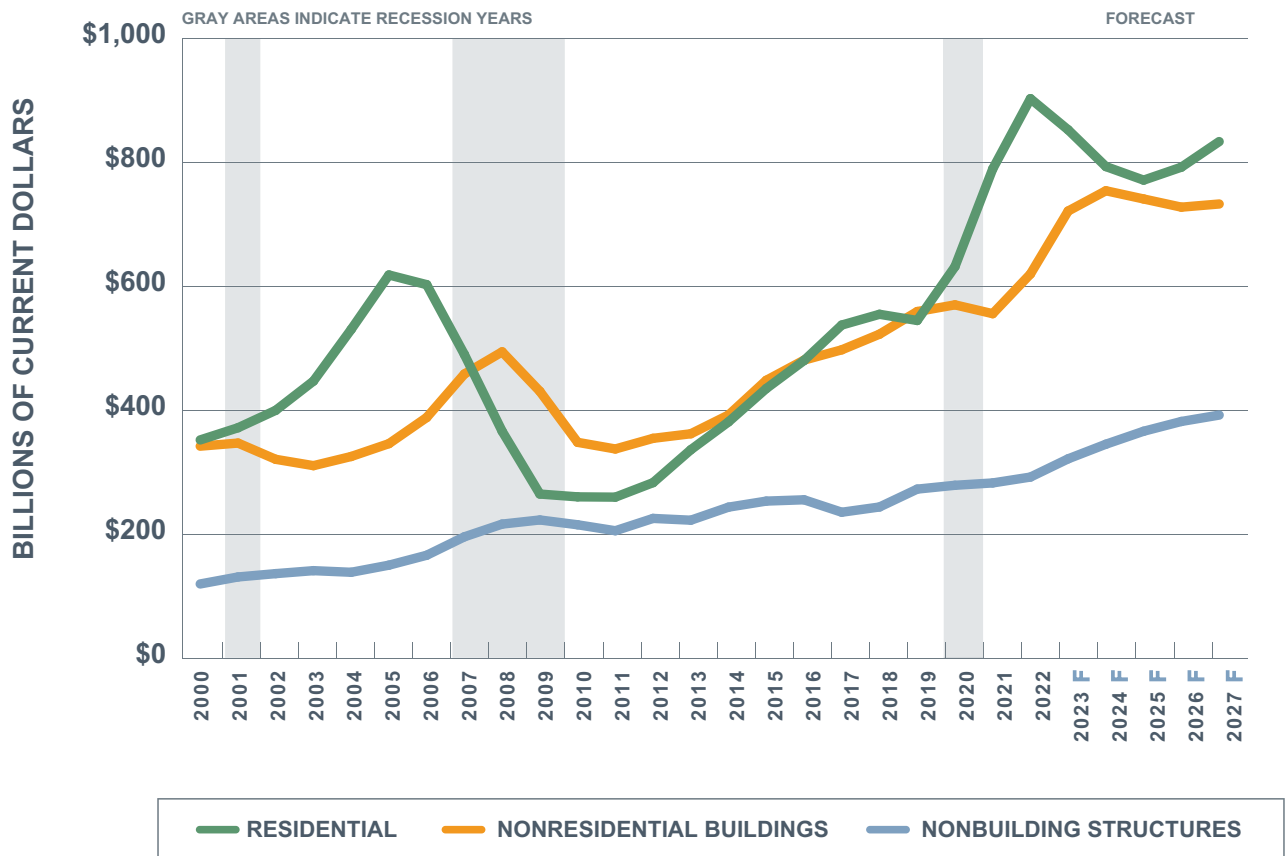
- Total engineering and construction spending for the U.S. is forecast to end 2023 up 5%, compared to up 12% in 2022.
- Record growth in manufacturing, combined with exceptional growth in various nonresidential and nonbuilding structures segments, will uphold industry spending in 2023. The several segments that are anticipated to reach strong, double-digit growth rates through the end of the year include multifamily residential, lodging, manufacturing, highway and street, sewage and waste disposal, water supply and conservation and development.
- Religious and communication are the only segments that will grow at roughly the same rate as historical inflation this year, between 0% and 4%.
- Single-family residential will experience a major decline this year from 2022 levels. Falling investment levels across all residential segments, including single-family, multifamily and improvements, are expected through 2026.
- The Nonresidential Construction Index (NRCI) fell to 45.9 in the fourth quarter from 49.8 in the third quarter. This marks the sixth consecutive quarter that the index is less than 50, suggesting ongoing challenges and difficult industry conditions. The reported declines bring stakeholder sentiment back to levels last seen in late 2022.
- NRCI sentiment declined due to weakened perceptions toward the overall U.S. and local economies, engineering and construction business outlooks, backlogs and ongoing challenges with labor, materials and productivity. Optimism improved in the lodging and office segments, but fell across all others with commercial having the weakest sentiment.

U.S. 2023 Segment Performance 2023/2022 Comparison

 <p>UP 5% or more</p>	<p>STABLE 0% to 4%</p>	 <p>DOWN Under 0%</p>
<ul style="list-style-type: none"> Multifamily Lodging Office Commercial Health Care Educational Public Safety Amusement and Recreation Transportation Manufacturing Power Highway and Street Sewage and Waste Disposal Water Supply Conservation and Development 	<ul style="list-style-type: none"> Religious Communication 	<ul style="list-style-type: none"> Single-family Residential Improvements



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

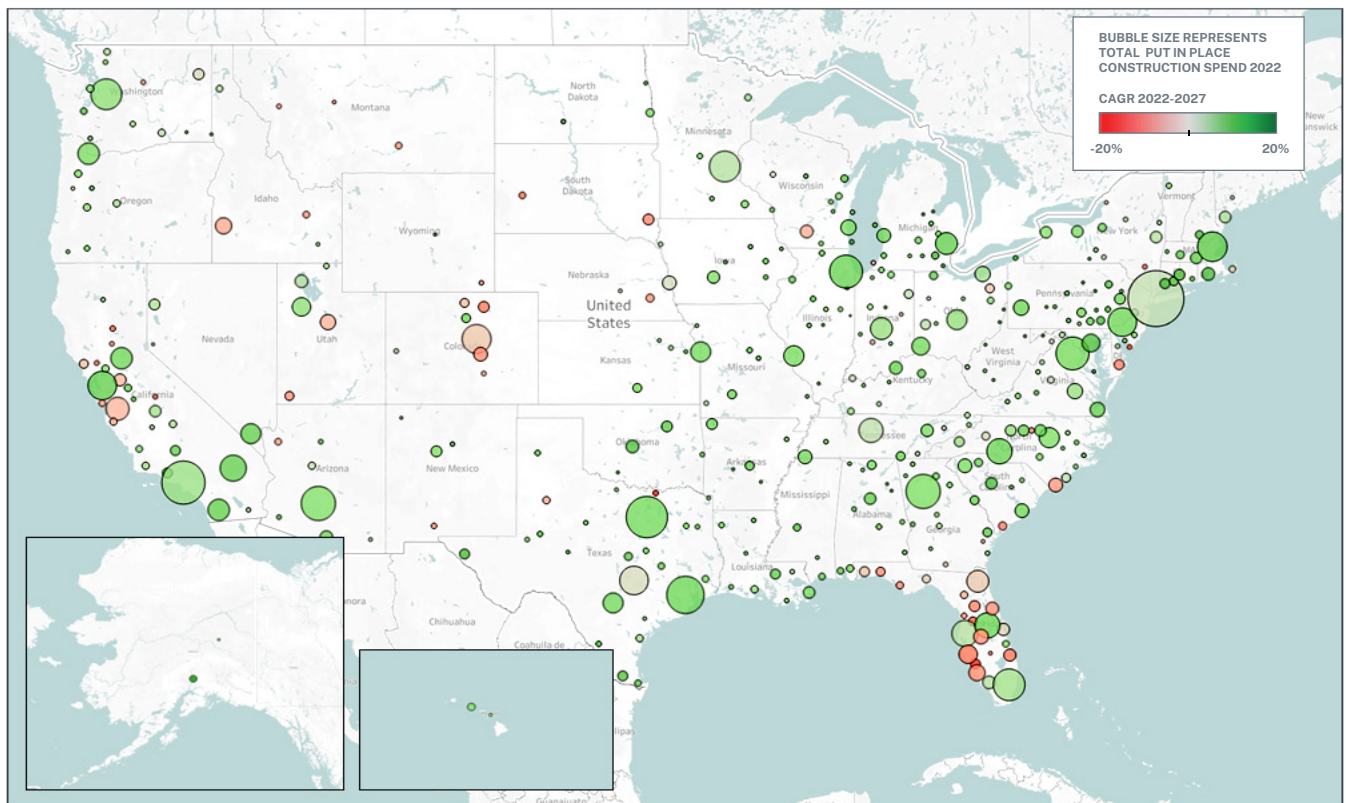


SOURCE: FMI FORECAST Q4 2023

Fourth quarter forecast is based on second quarter actuals and third quarter assumptions.

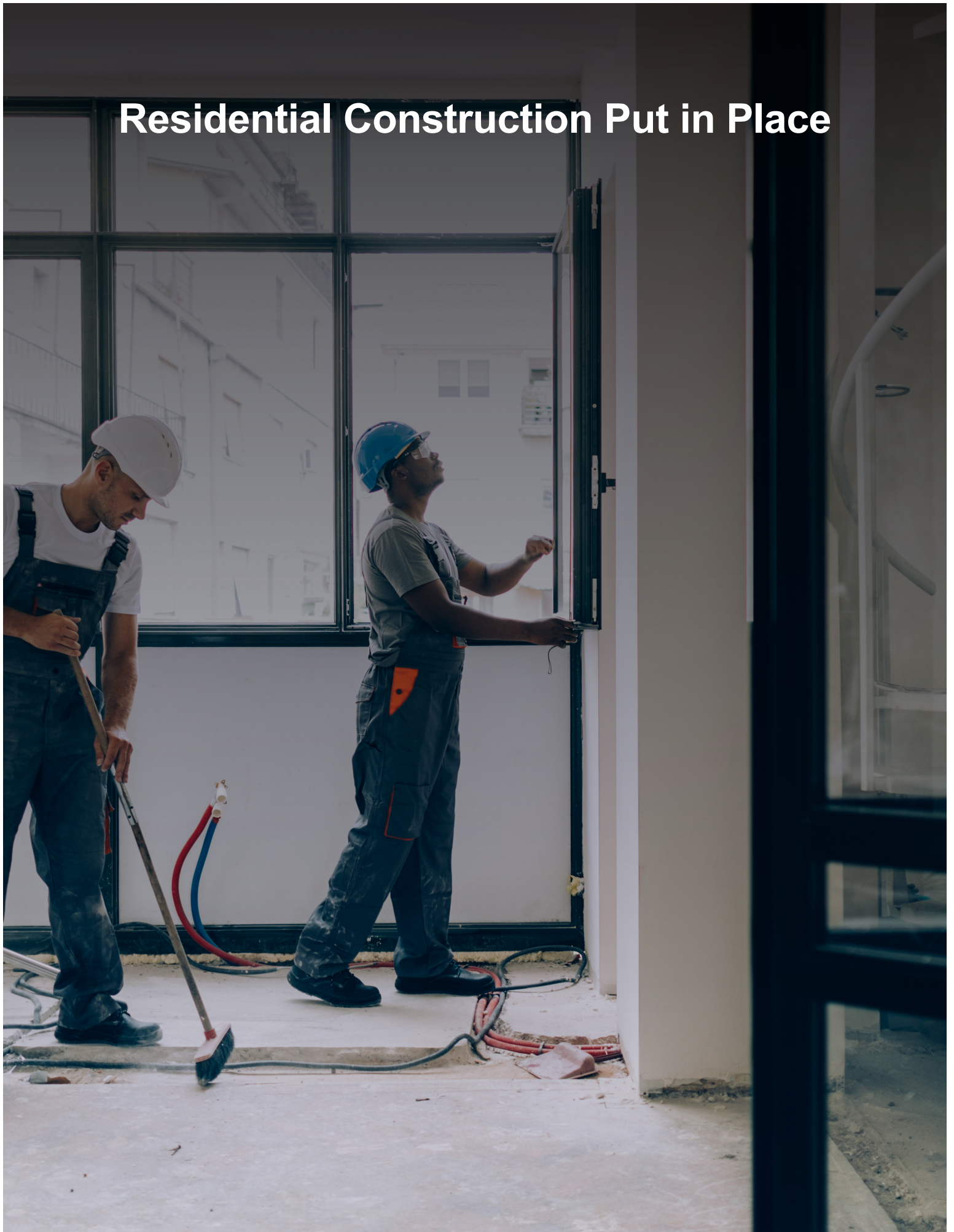


Total Construction Spending Put in Place 2022 and Forecast Growth (2022 through 2027) by Metropolitan Statistical Area



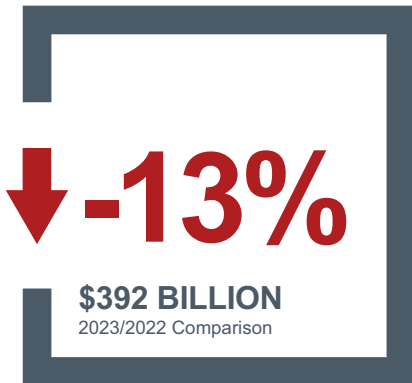
SOURCE: FMI FORECAST Q4 2023

Residential Construction Put in Place





SINGLE-FAMILY RESIDENTIAL



DRIVERS:

- Unemployment rate
- Core CPI
- Income
- Mortgage rates
- Home prices
- Housing starts
- Housing permits



2024	DWN	-10%	\$354 B
2025	DWN	-1%	\$350 B
2026	STA	4%	\$365 B
2027	UP	6%	\$386 B

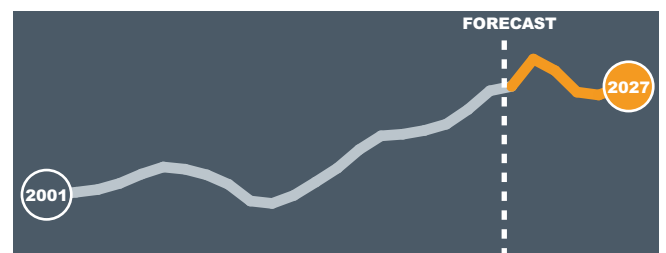
- Single-family homes under construction are down about 16% from a year ago, or nearly 11% from the beginning of the year. Similarly, the average sales price of new homes has fallen about 10% since December 2022, and the average size of a new home has fallen to 10-year lows.
- Average interest rates have climbed in recent weeks in tandem with the 10-year Treasury rate to highs not seen in 20 years, surpassing 7.5% on a 30-year mortgage. Concerns remain that forthcoming rising unemployment will further depress affordability and demand.
- Homebuilders are well positioned to deliver inventory. However, the NAHB/ Wells Fargo Housing Market Index (HMI), a gauge on homebuilder sentiment, again fell below 50 in September while new home sales fell 9% between July and August.
- Residential building construction employment appears to be in the early stages of decline. High and rising energy costs are expected to become a challenge through the end of the year and into 2024.

MULTIFAMILY RESIDENTIAL



DRIVERS:

- Unemployment rate
- Core CPI
- Income
- Mortgage rates
- Home prices
- Housing starts
- Housing permits

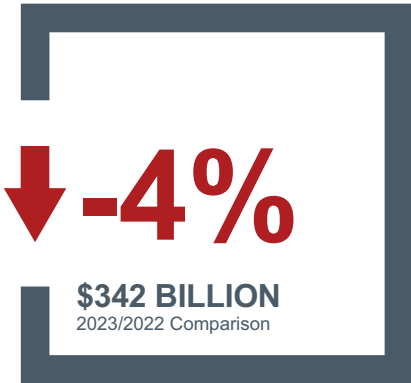


2024	DWN	-7%	\$131 B
2025	DWN	-13%	\$114 B
2026	DWN	-2%	\$112 B
2027	UP	6%	\$118 B

- National data shows median rents have declined in the past few months and are down about 1% from this time last year, a dramatic deceleration compared to recent years. Year-to-date change in Apartment List's National Rent Index is just below levels from 2019.
- The significant wave of nearly 1 million multifamily units in development has stopped expanding and just recorded the first month-over-month decline since February 2021.
- Vacancy rates have been increasing slowly for nearly two years as new supply is added and now exceeds 2019 levels.
- As we near closer to a presidential election, policies to support affordable housing will become a higher priority.



IMPROVEMENTS



DRIVERS:

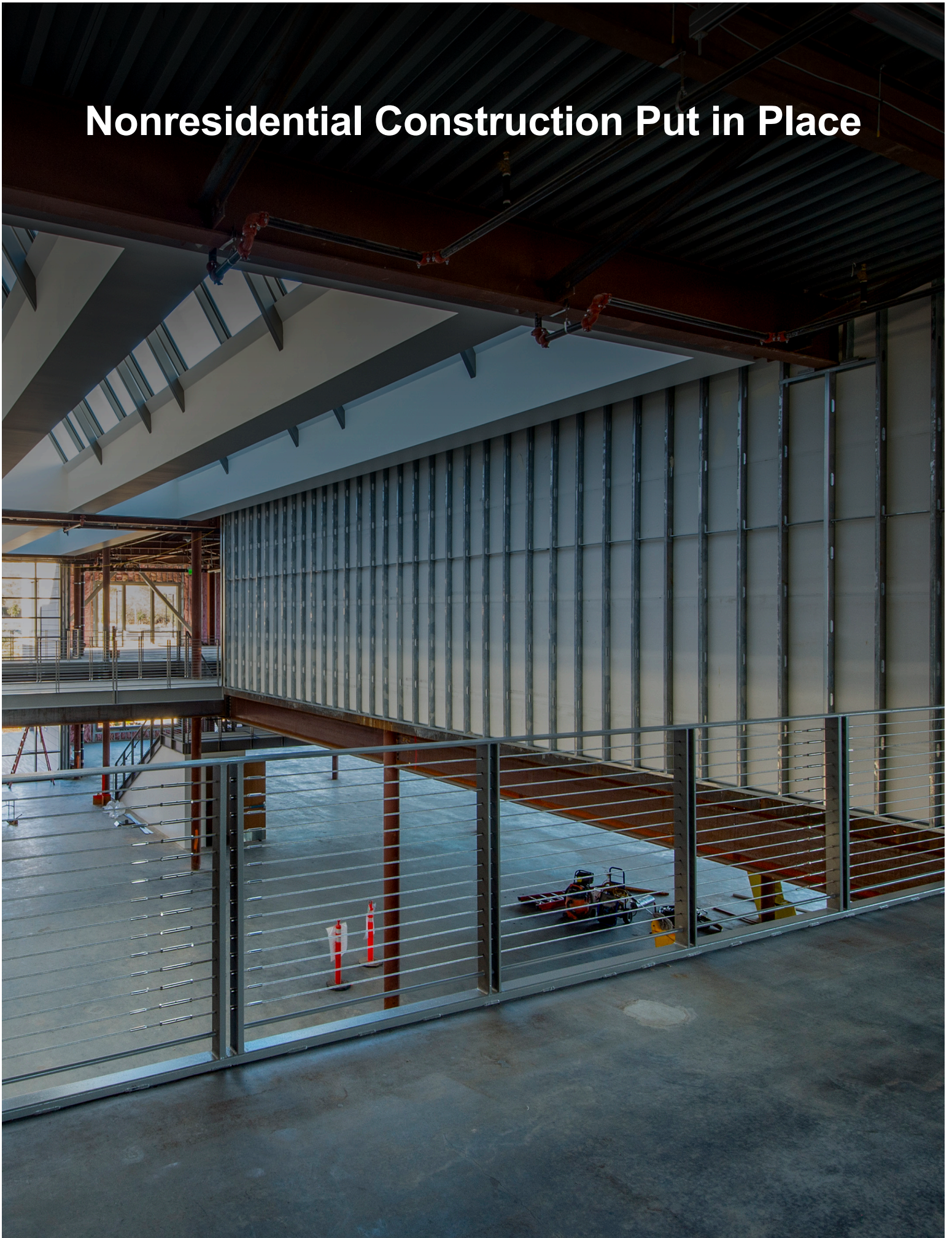
- Unemployment rate
- Core CPI
- Income
- Mortgage rates
- Home prices
- Housing starts
- Housing permits



2024	DWN	-4%	\$328 B
2025	DWN	-1%	\$326 B
2026	STA	3%	\$335 B
2027	UP	5%	\$351 B

- Dramatic reductions in refinancing and home equity lines of credit (HELOC) activity have stalled improvement spending in 2023. Similarly, multifamily redevelopment is challenged by the interest rate environment, rising vacancies and declining rental rates. However, the significant amount of inventory of multifamily units added over the past decade will require ongoing costly repairs and maintenance.
- Falling home prices, increased availability of labor and materials, reduced mobility and a weakening labor market will continue to challenge improvements spending into 2025. Conditions will lead to increased affordable renovation product options.
- Spending through the first half of 2023 has been upheld by a small surge in sales activity alongside many homeowners settling into their low-interest rate mortgages.
- Over the long term, demand for upgrades on newly built homes will continue as homebuilders reduce luxury and customization options in the building phase.

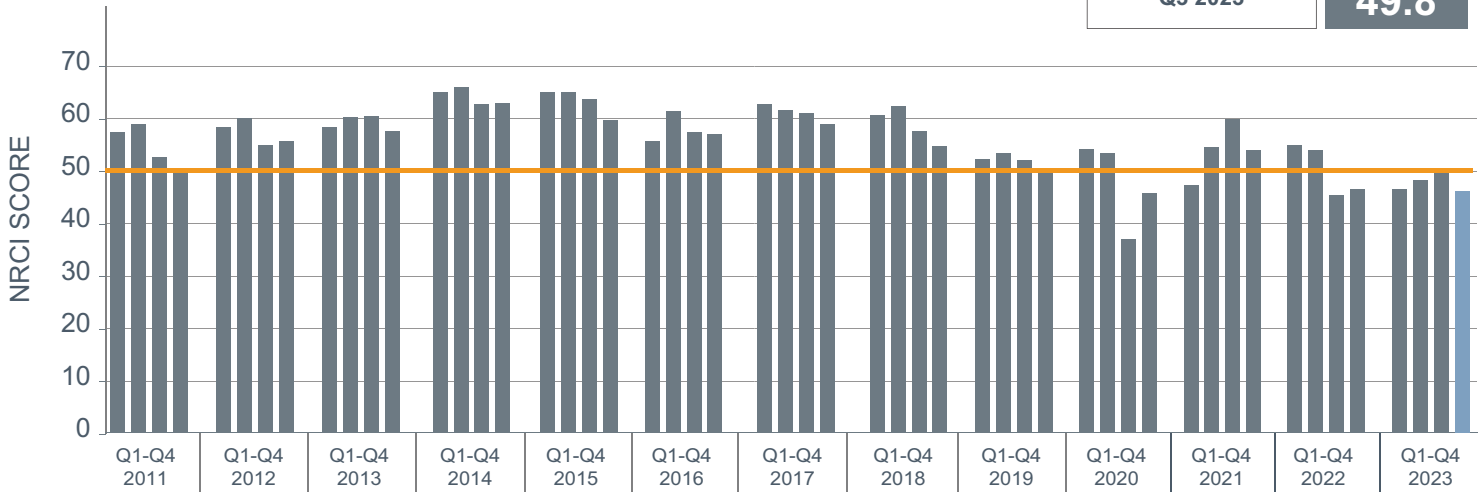
Nonresidential Construction Put in Place



Nonresidential Construction Index (NRCI) Q1 2011 to Q4 2023

Scores above 50 indicate expansion, scores below 50 indicate contraction.

Q4 2023 Survey Dates Sept. 6-20	45.9
Q3 2023	49.8

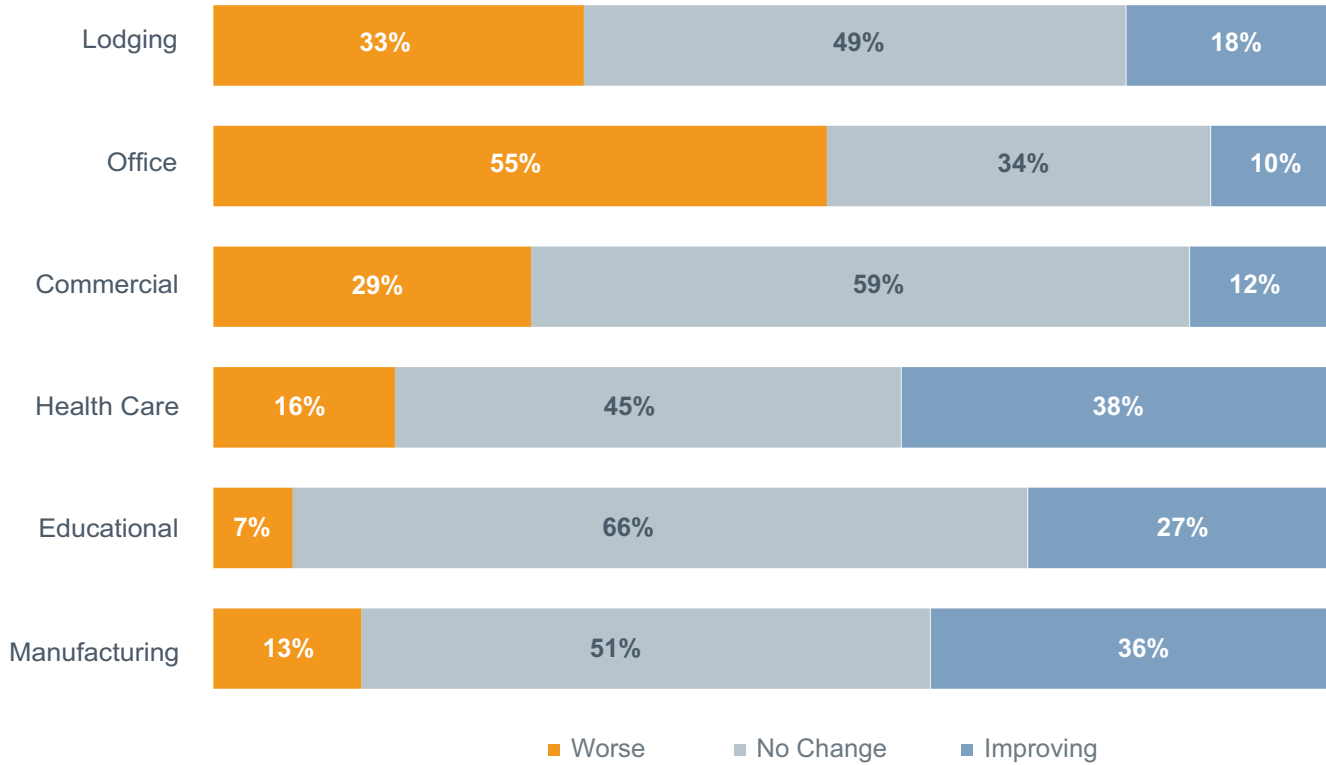


NRCI INDEX MOVEMENT		Q4 2023	Q3 2023
Overall U.S. Economy	↓	42.2	45.7
Economy Where We Do Business	↓	42.2	46.4
Our Engineering and Construction Business	↓	49.4	65.1
Engineering and Construction Where We Do Business	↓	44.7	54.3
Backlog	↓	49.4	57.2
Cost of Materials	↓	38.3	43.4
Cost of Labor	↓	20.8	21.1
Productivity	↓	46.1	47.6

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.

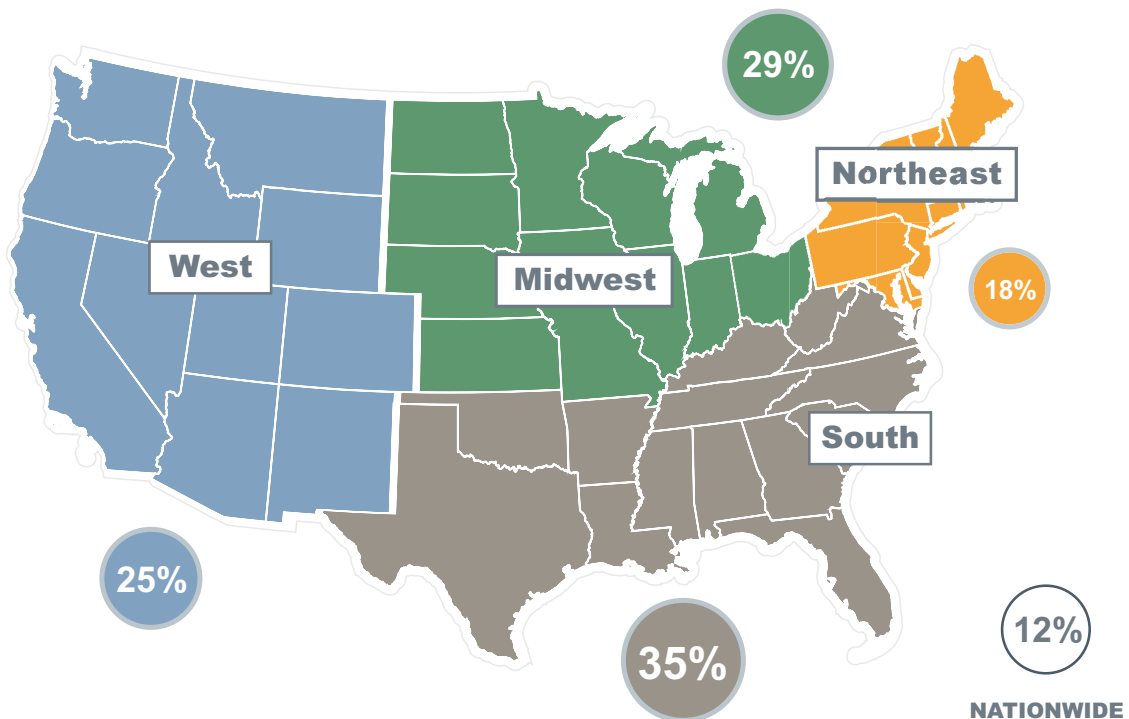
If you are interested in participating in this important industry index, please submit a request via our [NRCI Participation Request form](#).

Perception of Change by Segment for Next Quarter*



*Segments captured in NRCI survey.

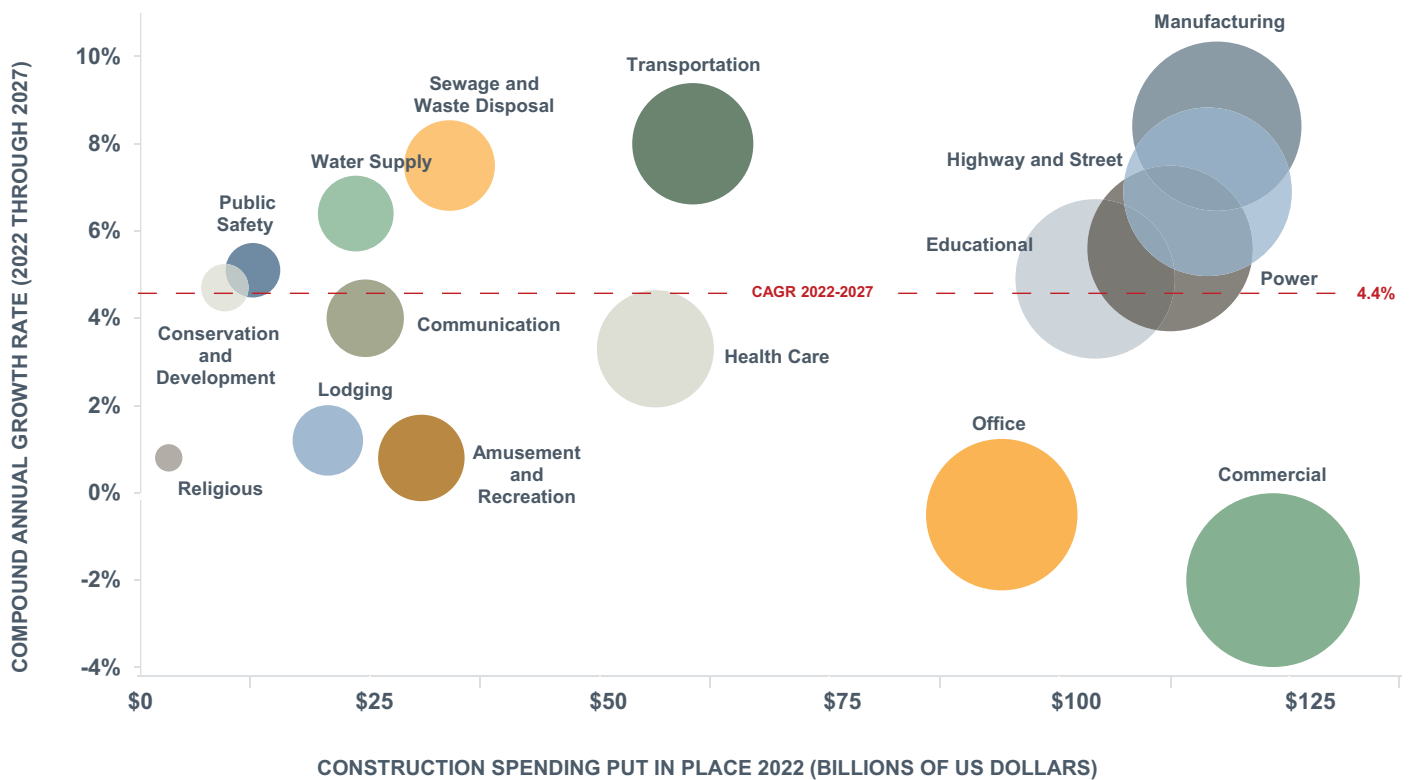
Where Survey Participants Work by Geography*



*Respondents are able to select more than one option.



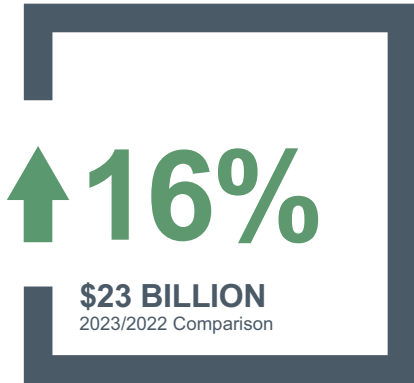
Total Nonresidential Construction Spending Put in Place 2022 and Forecast Growth (2022 through 2027) by Construction Segment



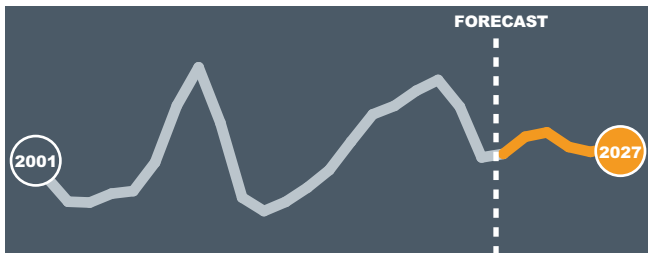
SOURCE: FMI FORECAST Q4 2023



LODGING



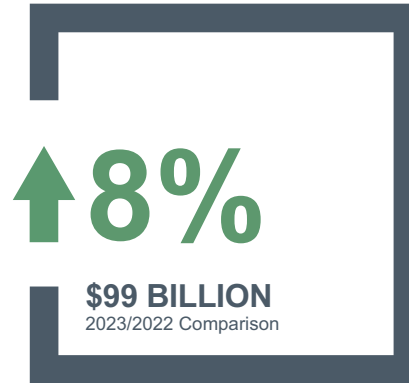
- DRIVERS:**
- Occupancy rate
 - RevPAR
 - Average daily rate
 - Room starts



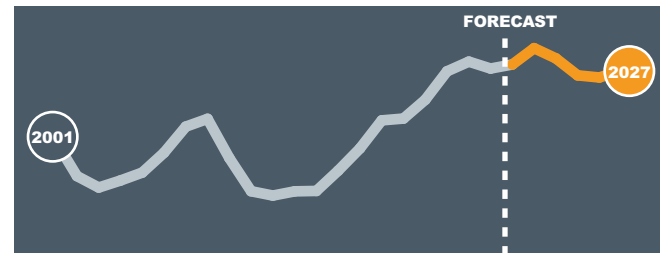
2024	STA	4%	\$24 B
2025	DWN	-11%	\$21 B
2026	DWN	-4%	\$20 B
2027	STA	4%	\$21 B

- Average daily rates (ADR), revenue per available room (REVpar), and occupancy are now all either in line with or set to exceed 2019 levels; industry employment remains just below 2019 levels. Through August both ADR and REVPar exceed levels set this time last year.
- CoStar finds that both industry sentiment and the number of hotels in the development pipeline are nearing 2019 levels. Many projects, however, remain delayed in the planning stages while the construction phase of the project pipeline is challenged due to high interest rates and other industry resource constraints.
- Planned development is following strategic public or public-private-led economic investments, including transportation infrastructure, downtown revitalization plans and entertainment venues.

OFFICE



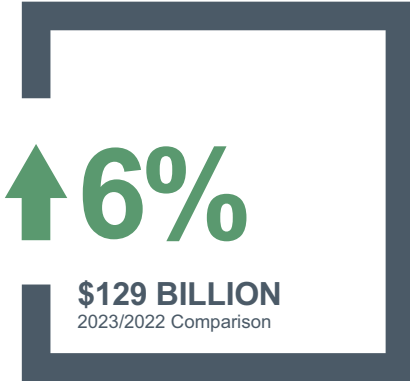
- DRIVERS:**
- Office vacancy rate
 - Unemployment rate



2024	DWN	-4%	\$94 B
2025	DWN	-8%	\$87 B
2026	DWN	-1%	\$86 B
2027	STA	4%	\$89 B

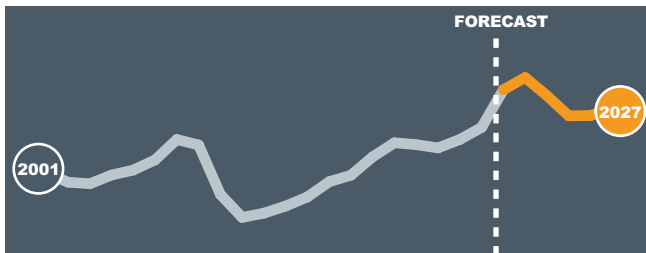
- High vacancies and sublease activity, rising unemployment and tighter lending standards all suggest ongoing difficulties for traditional office construction. Refinancing challenges are leading to foreclosures, and distressed sales will create investment opportunities for renovation or repurpose projects.
- The U.S. national vacancy rate for traditional office space reached 17.5% in August, the average office listing is down 2.2% year over year, and assets are trading less than \$200 per square foot on average.
- Data centers, a subset of office, will continue to outperform traditional office investment, growing from about 25% share of spending in the category to nearly 35% in 2027.
- Increasing energy costs and land constraints will pull data center investment away from traditional hubs. AI, storage and processing needs will continue to drive spending over the forecast period.

COMMERCIAL



DRIVERS:

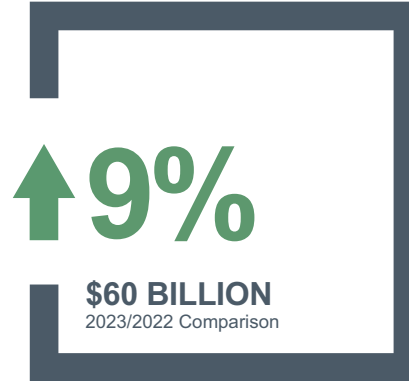
- Retail sales
- CPI
- Income
- Home prices
- Housing starts



2024	DWN	-9%	\$118 B
2025	DWN	-11%	\$105 B
2026	STA	0%	\$105 B
2027	STA	4%	\$110 B

- Big-box stores are consolidating space and investing in e-commerce. Various bankruptcies and store closures will create renovation opportunities and support new business concepts. Select states (e.g., California and New York) will lead industry electrification trends.
- The return of student loan payments in October will affect demand for retail goods and services over the next several quarters. The U.S. retail vacancy rate has plateaued slightly higher than 4%.
- Warehouse and distribution, a subset of commercial, has grown in recent years to represent more than 50% of the commercial segment. New warehouse development is expected to slow through 2025 due to economic headwinds.
- Speculative development on warehouses has pulled back substantially, but construction across supplier networks in key markets (e.g., Phoenix, Austin) remains active, supported by cold storage needs and government incentives in manufacturing.

HEALTH CARE



DRIVERS:

- Population change
- Population change in ages 75 and up
- Uninsured population
- Government spending
- Nonresidential structure investment

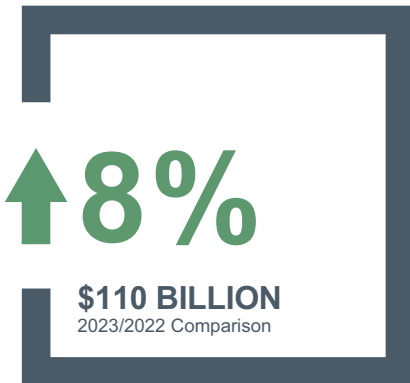


2024	UP	6%	\$63 B
2025	STA	4%	\$66 B
2026	DWN	-1%	\$65 B
2027	DWN	-2%	\$64 B

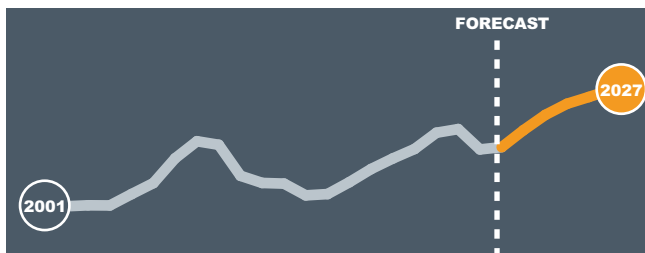
- Demand for health care construction spending will remain strong over the next several years, led by large hospital expansions and a resurgence in demand across outpatient, medical office and specialty care facilities. The focus will be on building community-based health facilities in growing and/or underserved markets.
- Adaptability, scalability and accessibility are leading designs, including the integration of technology, reconfigurable walls, modular and prefabrication construction, and connections with public transportation.
- Specialty care and nursing home facilities remain severely resource-constrained. Rapid adoption of new technologies and in-home solutions will help manage significant demand increases.



EDUCATIONAL



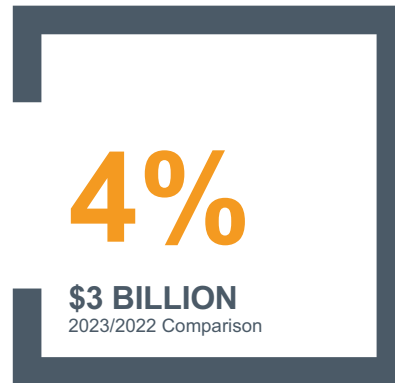
- DRIVERS:**
- Population change younger than age 18
 - Population change ages 18-24
 - Stock markets
 - Government spending
 - Nonresidential structure investment



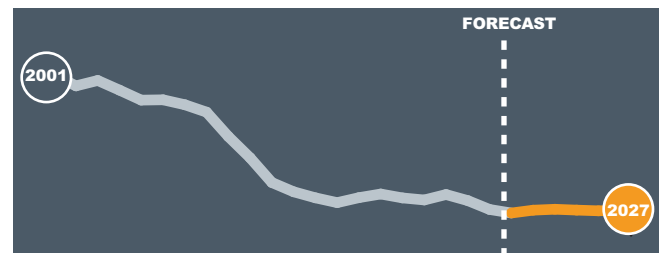
2024	UP	7%	\$117 B
2025	UP	5%	\$123 B
2026	STA	3%	\$126 B
2027	STA	3%	\$129 B

- Both public and private investment in educational construction will be strengthened by recent spending programs (e.g., Inflation Reduction Act) alongside increased tax collections, new bond measures and the Renew America's Schools grant programs.
- Increased adoption of energy efficiency programs, including LED retrofits, use of thermal technologies and battery management systems (BMS) is expected over the forecast period.
- Demand for higher education services will benefit from a weakened labor market into 2025. However, anticipate ongoing strained budgets, higher operational costs and staffing challenges.
- Maintenance needs and recent demographic shifts continue to drive K-12 construction spending growth.

RELIGIOUS



- DRIVERS:**
- GDP
 - Population
 - Income
 - Personal savings



2024	STA	1%	\$3 B
2025	DWN	-1%	\$3 B
2026	DWN	-1%	\$3 B
2027	STA	1%	\$3 B

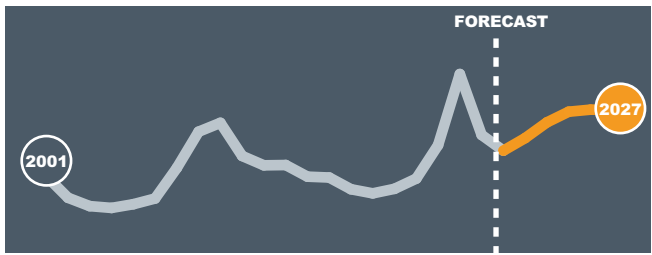
- A recent report from the Hartford Institute for Religion Research shows increased attendance, donations and volunteers among religious communities in 2023. Challenges continue with in-person attendance, which remains below 2019 levels.
- Owners have been pushed to simplify their programs, maximize their facilities with multiuse spaces, and use more off-campus resources, ultimately reducing square footage needs. Also, the permanence and preference for online/hybrid services reduce overall construction needs.



PUBLIC SAFETY



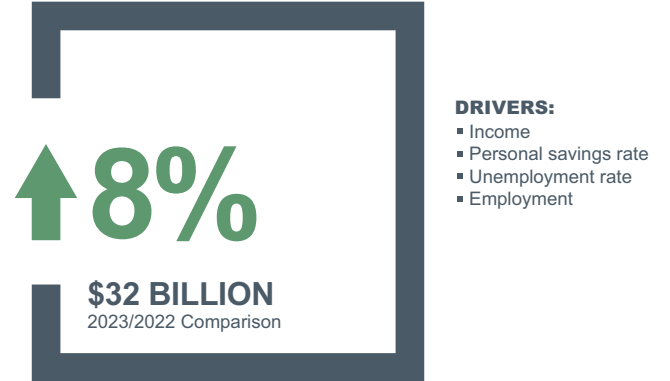
- DRIVERS:**
- Population
 - Government spending
 - Incarceration rate
 - Nonresidential structure investment



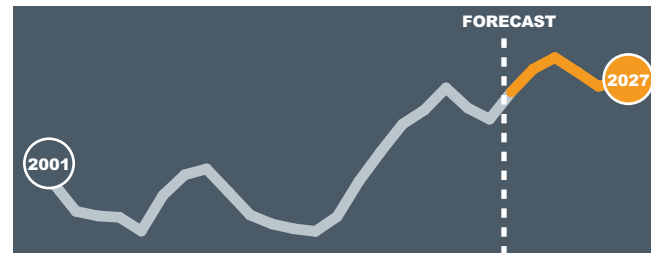
2024	UP	10%	\$14 B
2025	UP	6%	\$15 B
2026	STA	1%	\$15 B
2027	DWN	0%	\$15 B

- Policy support and heightened tax collections result in expanded state and municipal budgets, leading to anticipated strong spending growth through 2025.
- Through the first half of 2023, violent crime remains elevated compared to 2019 levels, but marginally lower than this time last year. Law enforcement departments face ongoing staffing challenges and difficulties attracting new recruits.
- Alabama's \$1.2 billion super prison under construction has seen costs nearly double since breaking ground in 2021.

AMUSEMENT AND RECREATION



- DRIVERS:**
- Income
 - Personal savings rate
 - Unemployment rate
 - Employment

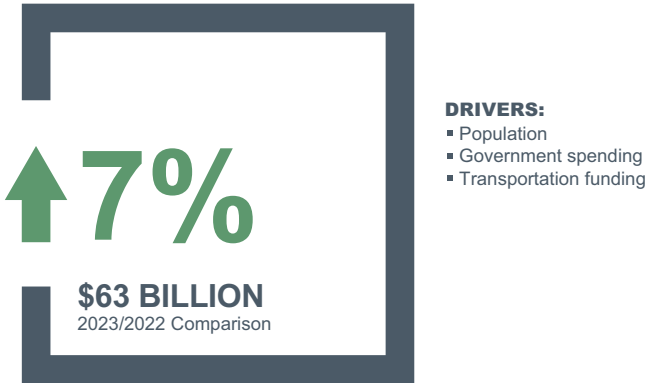


2024	STA	4%	\$34 B
2025	DWN	-4%	\$32 B
2026	DWN	-5%	\$31 B
2027	STA	2%	\$31 B

- High interest rates, tightened lending standards and recessionary pressures are expected to challenge a significant portion of the large projects in planning, many of which are important to growing local economies in secondary and tertiary markets.
- Infrastructure and transportation investments will support amusement and recreation construction spending in select competitive markets.
- The October return of student loan payments will limit demand for travel and leisure activities over the next several quarters.



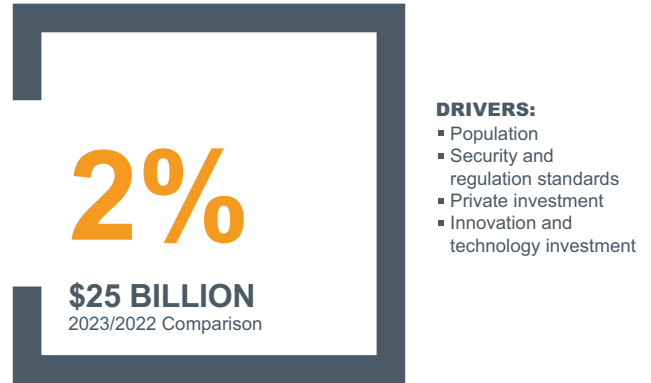
TRANSPORTATION



2024	UP	12%	\$71 B
2025	UP	12%	\$79 B
2026	UP	6%	\$84 B
2027	STA	3%	\$86 B

- With a goal to double ridership by 2040, Amtrak recently announced plans to triple its annual capital investments to \$6 billion from \$2 billion. It plans to commit more than \$15 billion to contracting over the next 15 months and \$32 billion over the next three years.
- The Airports Council International (ACI) estimates approximately \$150 billion in capital spending needs between 2023 and 2027, led by large hub owners and major terminal projects. The ACI expects passenger volumes to be fully recovered in 2024.
- Electrification investments and clean energy facility upgrades represent an increasing area of focus. Rail/transit is expected to lead transportation investment growth in 2023, tied to increasing manufacturing construction and port activity.

COMMUNICATION

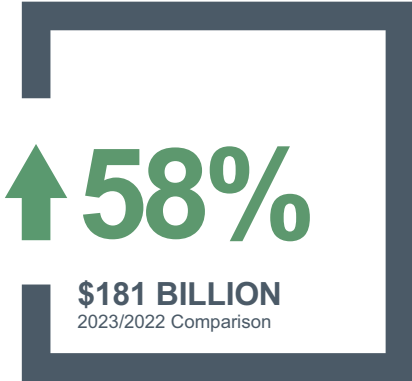


2024	STA	4%	\$26 B
2025	UP	5%	\$27 B
2026	UP	5%	\$28 B
2027	STA	4%	\$30 B

- Investment of \$65 billion from the Infrastructure Investment and Jobs Act (IIJA) overlaps with growth and demand across connected devices, data centers (i.e., office), manufacturing, and logistics and distributions investment.
- High-speed 5G is expected to drive more than two-thirds of the mobile market by the end of the decade.
- Faster and more reliable networks will be needed to accommodate growing use of artificial intelligence and other cloud service offerings; internet of things; and virtual office, learning and entertainment demands.



MANUFACTURING



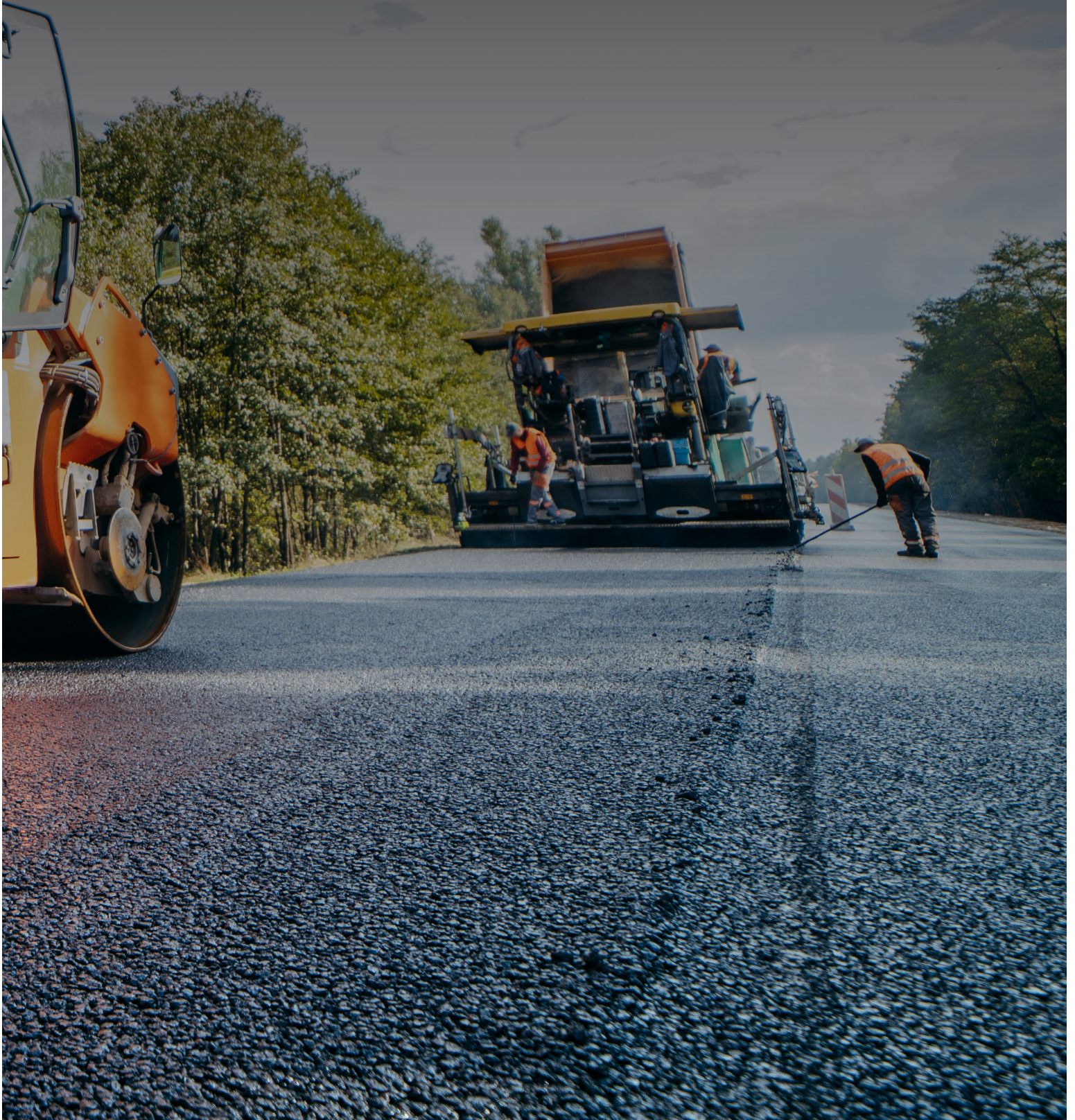
- DRIVERS:**
- PMI
 - Industrial production
 - Capacity utilization
 - Durable goods orders
 - Manufacturing inventories



2024	UP	15%	\$209 B
2025	DWN	-4%	\$201 B
2026	DWN	-10%	\$181 B
2027	DWN	-5%	\$171 B

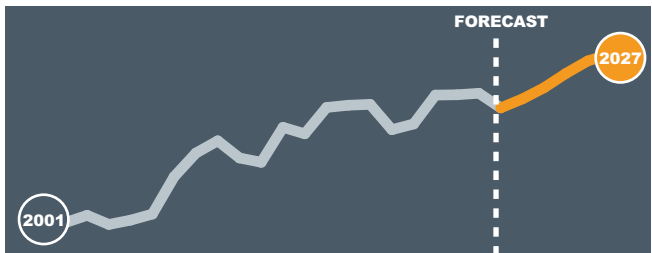
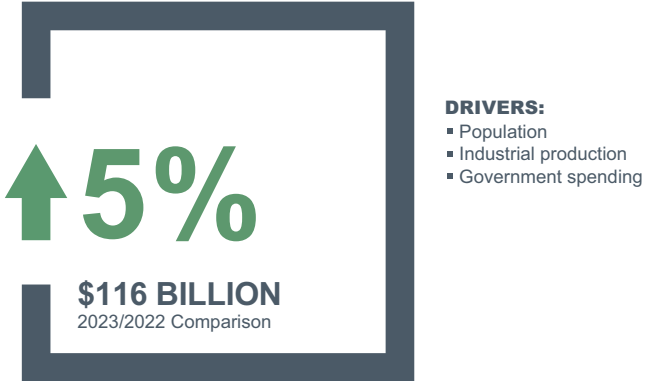
- Backed by policy support via the CHIPS and Science Act and Buy America requirements, manufacturers are racing to address market demands, which include electronic vehicles, energy technologies (LNG, batteries, wind, solar, etc.), semiconductors and biopharmaceuticals.
- Growth is led by the computer/electronics segment, and 18 new chipmaking facilities will have started construction between 2021 and 2023. Investment needs and experimental construction methods in these new facilities are likened to the data center market from 15 years ago.
- The Institute for Supply Management’s Manufacturing Purchasing Managers Index (PMI) was 49.0 in September, the 11th consecutive month indicating weak sentiment and industry contraction. September’s reading is a slight improvement from August (47.6), led by production and employment conditions.
- The United Auto Workers strike will challenge production and inventory levels from major automobile producers and aggravate supply chain challenges over the coming weeks.

Nonbuilding Structures Construction Put in Place





POWER



2024	UP	6%	\$123 B
2025	UP	7%	\$132 B
2026	UP	6%	\$140 B
2027	STA	3%	\$144 B

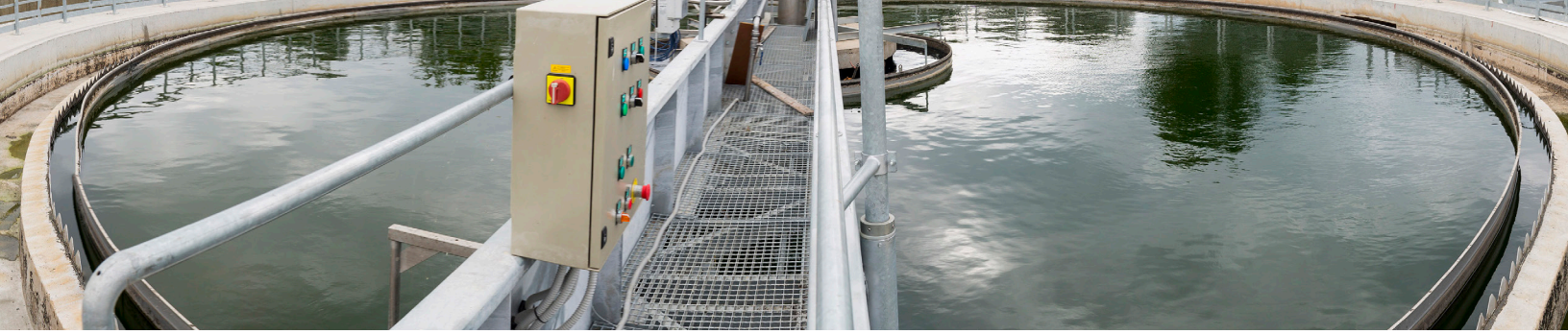
- Shale oil and natural gas output has been in decline in recent months, which will likely support higher energy prices, dampen economic growth and uphold inflation measures through the end of the year. U.S. crude production has rebounded through 2023, nearing historical highs set in 2019.
- Significant additions to planned renewable energy capacity will create needs and opportunities in energy storage and transmission spending.
- Electrification, decarbonization and energy efficiency are all limited by the reliability and performance of the power grid's ability to facilitate these trends. Microgrid and distributed energy are expected to play an increasingly important role in the evolution of the U.S. energy sector.

HIGHWAY AND STREET

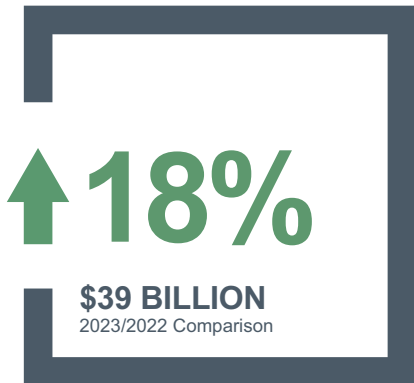


2024	UP	9%	\$139 B
2025	UP	6%	\$148 B
2026	UP	5%	\$155 B
2027	STA	3%	\$159 B

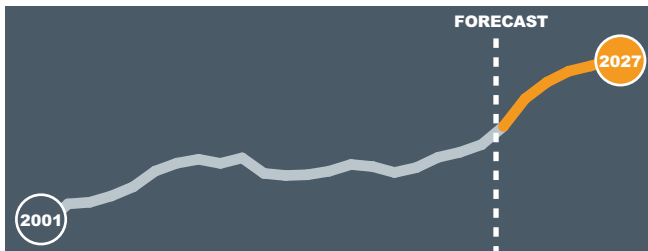
- Highway and street construction spending will continue to strengthen through the end of the year, aided by stabilizing input prices, new/recent grant awards and an increasing number of projects breaking ground.
- Expect ongoing growing pains into 2025 as states adjust to elevated budgets, new/competitive grant programs and increased federal oversight.
- Elevated energy prices, a lack of available labor and increased wage pressures will continue to challenge inflationary forces in heavy civil markets over the forecast period. A growing wave of infrastructure megaprojects is anticipated to break ground over the next several years.



SEWAGE AND WASTE DISPOSAL



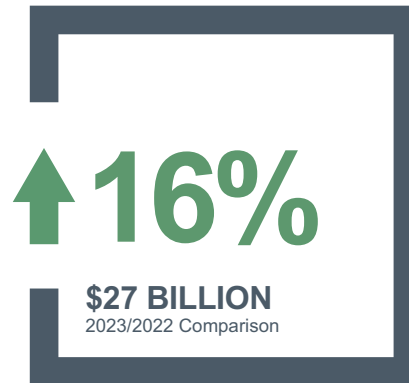
- DRIVERS:**
- Population
 - Industrial production
 - Government spending



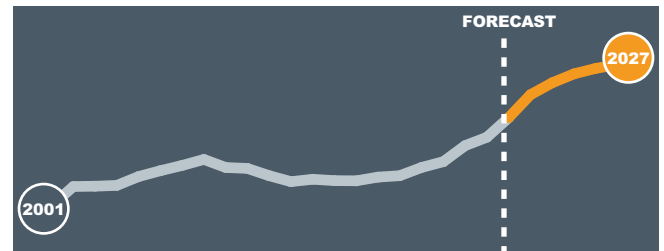
2024	UP	9%	\$42 B
2025	UP	6%	\$44 B
2026	STA	2%	\$45 B
2027	STA	3%	\$47 B

- Investment in sewage and waste disposal will continue to grow as residential, commercial, institutional and industrial building demands increase.
- Build America Buy America regulation will challenge owners' and utilities' plans for facility upgrades and deferred maintenance.
- Severe weather events along coastal markets continue to prompt resiliency programs to address increased flooding and cross contamination between stormwater and sewage infrastructure.

WATER SUPPLY



- DRIVERS:**
- Population
 - Industrial production
 - Government spending



2024	UP	7%	\$29 B
2025	UP	5%	\$30 B
2026	STA	3%	\$31 B
2027	STA	2%	\$32 B

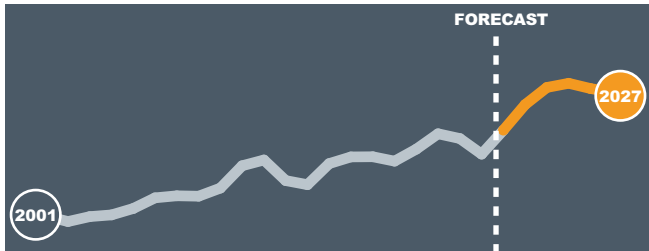
- Population growth and increased industrial investment support ongoing spending on clean water and water storage infrastructure.
- Industry research has become increasingly focused on understanding exposure and removal of perfluoroalkyl and polyfluoroalkyl substances (PFAS). According to a new study by the U.S. Geological Survey, at least 45% of the nation's tap water is estimated to have one or more types of these chemicals.
- Lead service line replacements funded by the IIJA will help balance losses due to stalled economic growth and decreased developer-led investment.



CONSERVATION AND DEVELOPMENT



- DRIVERS:**
- Population
 - Government spending



2024	UP	10%	\$12 B
2025	STA	2%	\$12 B
2026	DWN	-3%	\$12 B
2027	DWN	-2%	\$12 B

- The Environmental Protection Agency’s (EPA) budget and workforce have been increasing steadily since 2020 and are currently at levels not seen in more than five years. The EPA’s 2024 proposed budget calls for nearly a 20% increase from 2023 funding levels and more than a 10% increase in workforce.
- The focus of future projects will be on coastline resilience, major waterways and communities facing increased flooding.
- Significant investment is expected along the Gulf Coast and other coastal markets to protect communities from dangerous storm surges while also reinforcing important trade routes.

Construction Put in Place Estimated for the United States

Millions of Current Dollars

4th Quarter 2023 Forecast, Based on 2nd Quarter 2023 Actuals and 3rd Quarter 2023 Assumptions

	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
RESIDENTIAL BUILDINGS										
Single-family	289,855	280,385	310,060	424,488	453,731	392,481	354,199	350,313	365,162	386,318
Multifamily	83,411	88,401	100,089	114,926	118,455	140,179	130,904	113,921	111,620	118,228
Improvements*	190,611	184,656	234,108	269,554	355,253	342,192	327,848	325,864	335,199	350,524
Total Residential	563,877	553,442	644,257	808,968	927,439	874,852	812,951	790,098	811,981	855,070
NONRESIDENTIAL BUILDINGS										
Lodging	31,464	33,461	28,483	19,082	19,745	22,918	23,733	21,026	20,119	20,955
Office	76,662	88,724	92,831	89,902	91,623	98,538	94,211	87,004	86,105	89,179
Commercial	86,422	84,345	89,714	97,394	121,349	129,151	117,595	104,787	104,928	109,560
Health Care	43,450	46,263	48,599	50,327	54,757	59,893	63,251	65,854	65,429	64,341
Educational	101,210	108,952	110,692	100,988	102,086	110,164	117,449	122,775	126,004	129,391
Religious	3,499	3,730	3,472	3,096	2,946	3,066	3,105	3,069	3,039	3,064
Public Safety	9,353	12,012	17,667	12,826	11,574	12,575	13,825	14,673	14,836	14,836
Amusement and Recreation	28,068	30,416	28,288	27,102	30,001	32,412	33,636	32,147	30,591	31,200
Transportation	53,219	57,448	60,734	59,075	58,725	63,041	70,668	79,068	84,122	86,387
Communication	24,502	22,184	23,876	23,091	24,306	24,786	25,738	26,999	28,408	29,530
Manufacturing	72,508	80,978	75,425	82,030	114,706	181,487	208,966	200,929	180,940	171,416
Total Nonresidential Buildings	530,357	568,513	579,781	564,913	631,818	738,031	772,177	758,331	744,521	749,859
NONBUILDING STRUCTURES										
Power	99,569	117,960	118,168	119,108	109,816	115,549	122,703	131,779	139,701	143,991
Highway and Street	91,745	99,402	102,321	103,381	114,107	127,964	138,957	147,725	154,652	159,402
Sewage and Waste Disposal	23,931	26,119	27,189	28,811	32,660	38,560	42,058	44,382	45,489	46,817
Water Supply	15,477	16,397	18,952	20,284	23,402	27,046	28,946	30,369	31,237	31,854
Conservation and Development	8,229	9,207	8,903	7,911	9,434	11,065	12,155	12,419	12,086	11,845
Total Nonbuilding Structures	238,951	269,085	275,533	279,495	289,419	320,184	344,819	366,674	383,165	393,909
Total Put in Place	\$1,333,185	\$1,391,040	\$1,499,571	\$1,653,376	\$1,848,676	\$1,933,067	\$1,929,947	\$1,915,103	\$1,939,667	\$1,998,838

Construction Put in Place Estimated for the United States

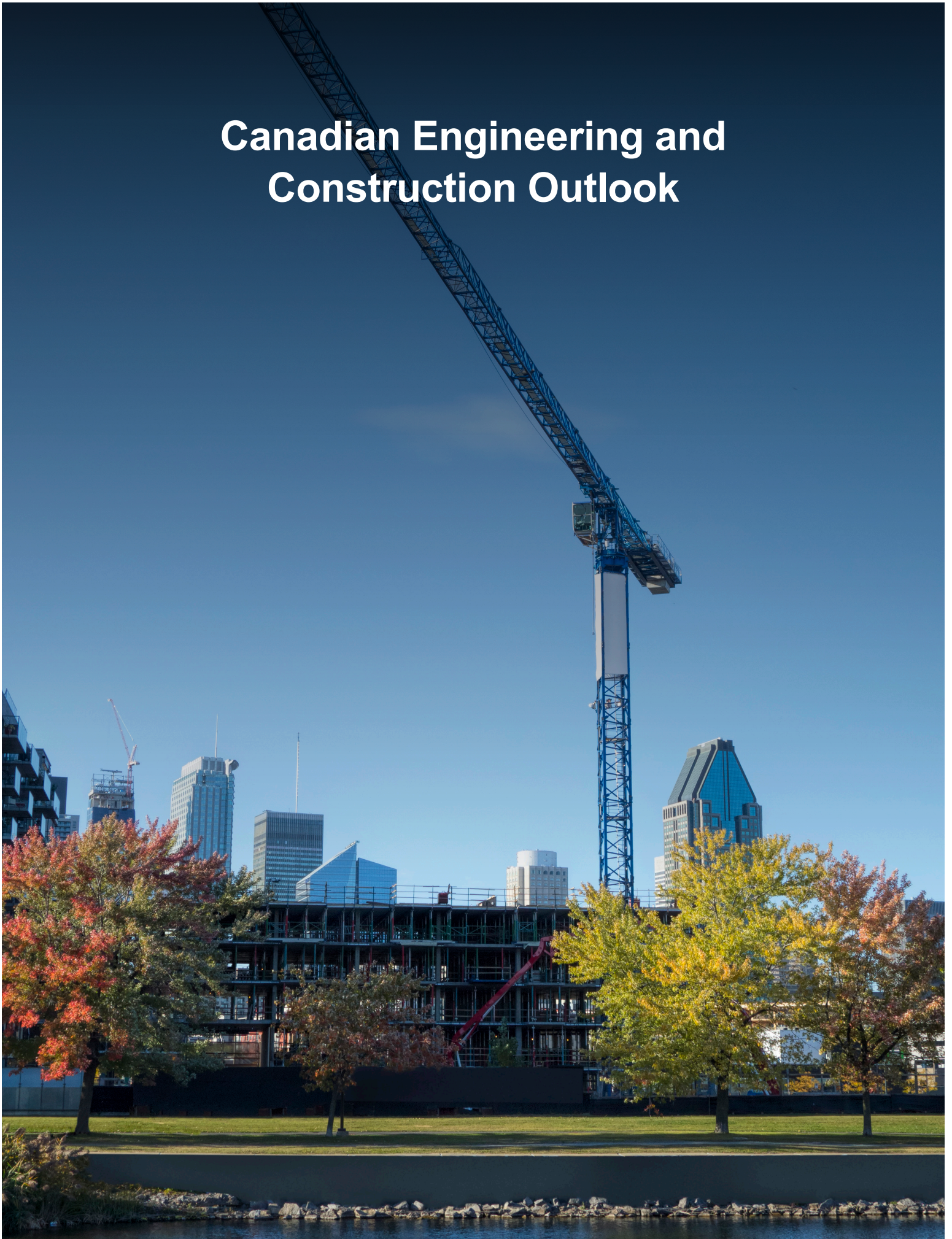
Change From Prior Year — Current Dollar Basis

4th Quarter 2023 Forecast, Based on 2nd Quarter 2023 Actuals and 3rd Quarter 2023 Assumptions

	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
RESIDENTIAL BUILDINGS										
Single-family	7%	-3%	11%	37%	7%	-13%	-10%	-1%	4%	6%
Multifamily	4%	6%	13%	15%	3%	18%	-7%	-13%	-2%	6%
Improvements*	-2%	-3%	27%	15%	32%	-4%	-4%	-1%	3%	5%
Total Residential	3%	-2%	16%	26%	15%	-6%	-7%	-3%	3%	5%
NONRESIDENTIAL BUILDINGS										
Lodging	10%	6%	-15%	-33%	3%	16%	4%	-11%	-4%	4%
Office	12%	16%	5%	-3%	2%	8%	-4%	-8%	-1%	4%
Commercial	-1%	-2%	6%	9%	25%	6%	-9%	-11%	0%	4%
Health Care	1%	6%	5%	4%	9%	9%	6%	4%	-1%	-2%
Educational	5%	8%	2%	-9%	1%	8%	7%	5%	3%	3%
Religious	-2%	7%	-7%	-11%	-5%	4%	1%	-1%	-1%	1%
Public Safety	10%	28%	47%	-27%	-10%	9%	10%	6%	1%	0%
Amusement and Recreation	6%	8%	-7%	-4%	11%	8%	4%	-4%	-5%	2%
Transportation	15%	8%	6%	-3%	-1%	7%	12%	12%	6%	3%
Communication	3%	-9%	8%	-3%	5%	2%	4%	5%	5%	4%
Manufacturing	3%	12%	-7%	9%	40%	58%	15%	-4%	-10%	-5%
Total Nonresidential Buildings	5%	7%	2%	-3%	12%	17%	5%	-2%	-2%	1%
NONBUILDING STRUCTURES										
Power	4%	18%	0%	1%	-8%	5%	6%	7%	6%	3%
Highway and Street	2%	8%	3%	1%	10%	12%	9%	6%	5%	3%
Sewage and Waste Disposal	4%	9%	4%	6%	13%	18%	9%	6%	2%	3%
Water Supply	9%	6%	16%	7%	15%	16%	7%	5%	3%	2%
Conservation and Development	10%	12%	-3%	-11%	19%	17%	10%	2%	-3%	-2%
Total Nonbuilding Structures	4%	13%	2%	1%	4%	11%	8%	6%	4%	3%
Total Put in Place	4%	4%	8%	10%	12%	5%	0%	-1%	1%	3%

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

Canadian Engineering and Construction Outlook





Canadian Key Takeaways

- Total engineering and construction spending for Canada is forecast to end 2023 down 3% after climbing 12% in 2022. The high growth last year was fueled by strength across nonresidential construction spending.
- Expansion in 2023 will be moderated by a weakened residential market. Segments expected to be stable or slightly down include single-family, multifamily, residential improvements, health care, lodging, office, commercial and power.
- Religious, public safety, amusement and recreation, transportation, communication, manufacturing, highway and street, sewage and waste disposal, conservation and development, and water supply are strong growth segments, with each anticipated to experience 2023 year-end growth rates of greater than 5%.

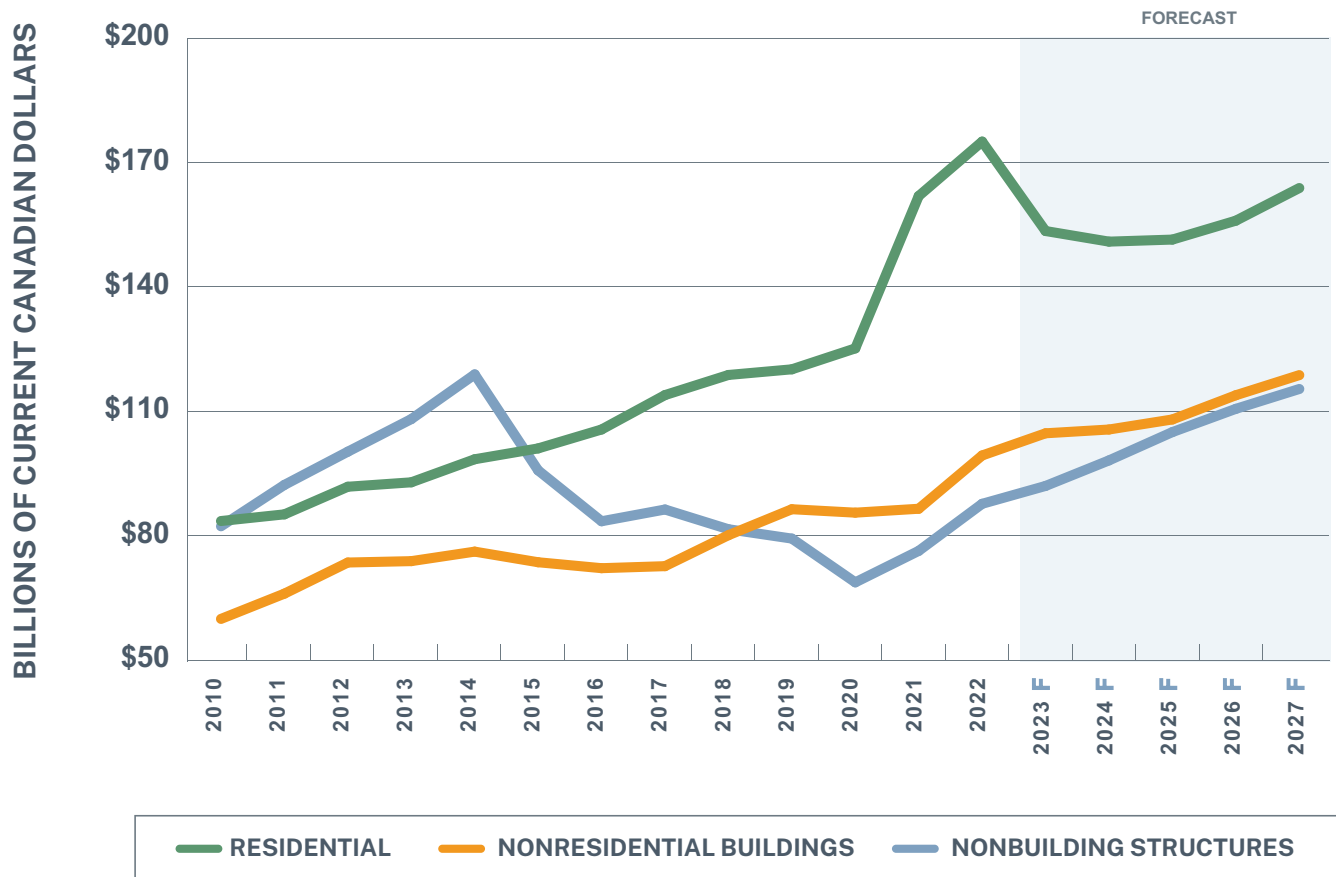
Canadian 2023 Segment Performance

2023/2022 Comparison

 <p>UP 5% or more</p>	<p>STABLE 0% to 4%</p>	 <p>DOWN Under 0%</p>
<ul style="list-style-type: none"> Religious Public Safety Amusement and Recreation Transportation Communication Manufacturing Highway and Street Sewage and Waste Disposal Conservation and Development Water Supply 	<ul style="list-style-type: none"> Lodging Office Commercial Educational Power 	<ul style="list-style-type: none"> Single-family Multifamily Residential Improvements Health Care



Total Construction Spending Put in Place Estimated for Canada

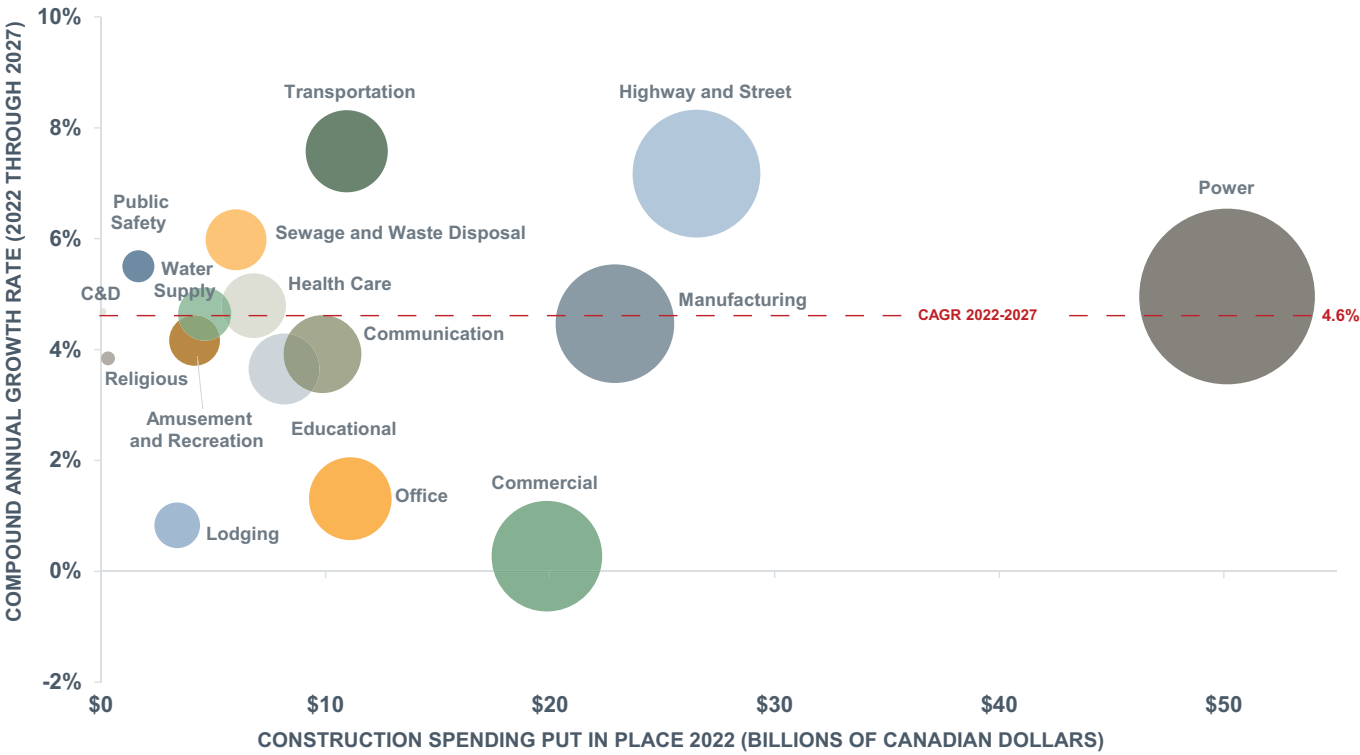


SOURCE: FMI FORECAST Q4 2023

Fourth quarter forecast is based on second quarter actuals and third quarter assumptions.



Total Nonresidential Canadian Construction Spending Put in Place 2022 and Forecast Growth (2022 through 2027) by Construction Segment



SOURCE: FMI FORECAST Q4 2023

Construction Put in Place Estimated for Canada

Millions of Current Dollars

4th Quarter 2023 Forecast, Based on 2nd Quarter 2023 Actuals and 3rd Quarter 2023 Assumptions

	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
RESIDENTIAL BUILDINGS										
Single-family	26,394	22,839	24,095	34,694	36,701	29,386	27,889	26,926	27,511	28,827
Multifamily	31,860	35,998	37,949	46,816	50,683	47,224	47,092	48,093	50,988	53,745
Improvements*	60,460	61,249	63,131	80,724	88,081	77,109	76,158	76,619	77,738	81,598
Total Residential	118,714	120,087	125,175	162,233	175,466	153,720	151,139	151,638	156,236	164,171
NONRESIDENTIAL BUILDINGS										
Lodging	2,766	2,750	2,567	2,626	3,397	3,468	3,249	3,227	3,337	3,541
Office	10,138	11,311	11,616	10,311	11,104	11,599	11,085	10,771	11,287	11,850
Commercial	14,002	16,072	15,003	15,346	19,851	20,057	19,307	18,839	19,421	20,123
Health Care	5,252	5,319	5,756	6,311	6,796	6,720	7,459	7,837	8,310	8,589
Educational	7,678	6,744	6,843	7,762	8,151	8,372	8,732	9,117	9,475	9,751
Religious	382	444	415	318	312	332	343	357	366	377
Public Safety	1,250	1,698	1,744	1,548	1,667	1,826	1,916	2,018	2,115	2,179
Amusement and Recreation	4,569	3,983	3,886	3,390	4,168	4,759	4,616	4,627	4,846	5,111
Transportation	7,761	8,718	9,386	9,756	10,941	12,131	13,127	14,042	15,013	15,764
Communication	5,835	5,833	6,900	8,306	9,860	10,781	10,847	11,198	11,678	11,949
Manufacturing	20,116	23,189	21,108	20,504	22,887	24,483	24,766	25,864	27,933	29,440
Total Nonresidential Buildings	79,749	86,063	85,226	86,177	99,135	104,529	105,448	107,896	113,782	118,673
NONBUILDING STRUCTURES										
Power	53,538	51,840	39,478	45,269	50,144	51,550	54,156	57,864	61,068	63,870
Highway and Street	20,029	18,557	19,782	21,685	26,513	28,421	31,357	33,589	35,449	37,486
Sewage and Waste Disposal	3,638	4,637	5,047	4,988	6,016	6,669	7,149	7,681	8,102	8,043
Water Supply	3,657	3,456	3,772	3,771	4,617	4,990	5,175	5,589	5,744	5,792
Conservation and Development	335	430	196	220	87	94	101	104	109	109
Total Nonbuilding Structures	81,197	78,920	68,275	75,933	87,377	91,724	97,937	104,827	110,473	115,301
Total Put in Place	\$279,660	\$285,070	\$278,676	\$324,344	\$361,978	\$349,972	\$354,524	\$364,361	\$380,491	\$398,145

Construction Put in Place Estimated for Canada

Change From Prior Year — Current Dollar Basis

4th Quarter 2023 Forecast, Based on 2nd Quarter 2023 Actuals and 3rd Quarter 2023 Assumptions

	2018	2019	2020	2021	2022	2023F	2024F	2025F	2026F	2027F
RESIDENTIAL BUILDINGS										
Single-family	-6%	-13%	6%	44%	6%	-20%	-5%	-3%	2%	5%
Multifamily	12%	13%	5%	23%	8%	-7%	0%	2%	6%	5%
Improvements*	6%	1%	3%	28%	9%	-12%	-1%	1%	1%	5%
Total Residential	4%	1%	4%	30%	8%	-12%	-2%	0%	3%	5%
NONRESIDENTIAL BUILDINGS										
Lodging	8%	-1%	-7%	2%	29%	2%	-6%	-1%	3%	6%
Office	13%	12%	3%	-11%	8%	4%	-4%	-3%	5%	5%
Commercial	4%	15%	-7%	2%	29%	1%	-4%	-2%	3%	4%
Health Care	2%	1%	8%	10%	8%	-1%	11%	5%	6%	3%
Educational	-1%	-12%	1%	13%	5%	3%	4%	4%	4%	3%
Religious	-1%	16%	-7%	-24%	-2%	6%	3%	4%	3%	3%
Public Safety	-3%	36%	3%	-11%	8%	10%	5%	5%	5%	3%
Amusement and Recreation	1%	-13%	-2%	-13%	23%	14%	-3%	0%	5%	5%
Transportation	28%	12%	8%	4%	12%	11%	8%	7%	7%	5%
Communication	1%	0%	18%	20%	19%	9%	1%	3%	4%	2%
Manufacturing	24%	15%	-9%	-3%	12%	7%	1%	4%	8%	5%
Total Nonresidential Buildings	10%	8%	-1%	1%	15%	5%	1%	2%	5%	4%
NONBUILDING STRUCTURES										
Power	-8%	-3%	-24%	15%	11%	3%	5%	7%	6%	5%
Highway and Street	2%	-7%	7%	10%	22%	7%	10%	7%	6%	6%
Sewage and Waste Disposal	-14%	27%	9%	-1%	21%	11%	7%	7%	5%	-1%
Water Supply	17%	-5%	9%	0%	22%	8%	4%	8%	3%	1%
Conservation and Development	-30%	28%	-54%	12%	-60%	8%	7%	3%	5%	0%
Total Nonbuilding Structures	-6%	-3%	-13%	11%	15%	5%	7%	7%	5%	4%
Total Put in Place	3%	2%	-2%	16%	12%	-3%	1%	3%	4%	5%

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

ABOUT THE AUTHORS



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