



2022
HEAVY CIVIL
CONSTRUCTION INDEX
Fourth Quarter Report



November 2022

EXECUTIVE SUMMARY



The Heavy Civil Construction Index improved in the fourth quarter, rising to 50.8 from 48.4 and returning to expansionary territory.

Expectations for the overall U.S. economy and local economies where respondents conduct business improved, but remain mostly pessimistic. Additionally, optimism softened considering the outlook for respondent’s engineering and construction businesses and the markets where they participate.

Contractors report somewhat improved conditions related to material and labor costs, though both remain a drag on the overall sentiment index. Written survey feedback suggests improved availability and price stability for materials over the past quarter has helped many to catch up with or adjust to cost increases incurred earlier in the year.

Like last quarter, survey participants anticipate improving opportunities in most segments, apart from commercial and residential site development. Optimism improved for transit and rail and regressed somewhat across highway and bridge, aviation, public utilities and other civil infrastructure.

The backlog book-to-burn rate indicates that fewer respondents this quarter were able to add backlog relative to the rate at which it is being burned off (39% this quarter versus 46% last quarter). Similarly, fewer respondents reported that backlogs are higher than one year ago (53% versus 64%), and an increased share of respondents indicated that backlogs are below targets (29% versus 25%). Backlogs remain an increasing concern for the end of 2022, with a large portion of respondents suggesting slowed growth in project wins or missed goals.

HCCI INDEX MOVEMENT

	Current Reading for Q4 2022	Previous Reading for Q3 2022
	50.8	48.4
		Q4 2022
		Q3 2022
Overall U.S. Economy	↑	36.8
Economy Where We Do Business	↑	43.2
Our Engineering and Construction Business	↓	53.2
Engineering and Construction Where We Do Business	↓	54.2
Backlog	↓	57.2
Book/Burn Rate	↓	60.0
Cost of Materials	↑	24.4
Cost of Labor	↑	16.7
Productivity	↓	45.6

Compared to last quarter, respondents reported improved margins on both a year-over-year (42% versus 36%) and quarter-over-quarter (36% versus 28%) basis. Likewise, competition is seen increasing (33% versus 20%), and bid prices have pulled back (18% versus 10%). Furthermore, nontraditional firms continue to dip into the heavy civil arena, with about 1 in 5 companies continuing to find these new entrants in their markets.

EXECUTIVE SUMMARY

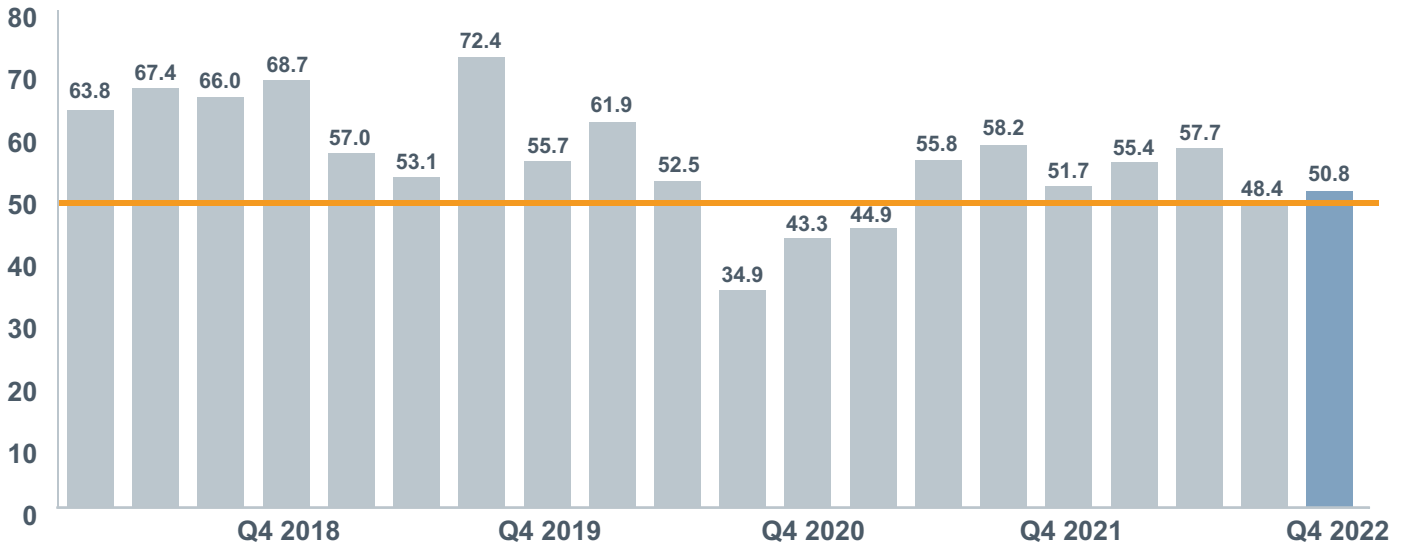


Heavy Civil Construction Index (HCCI)

Q1 2018 to Q4 2022

Scores above 50 indicate expansion; below 50, contraction

Index Score



Current HCCI Reading
for Q4 2022

50.8

Survey dates:
September 6-20

Previous Reading
June 9-25

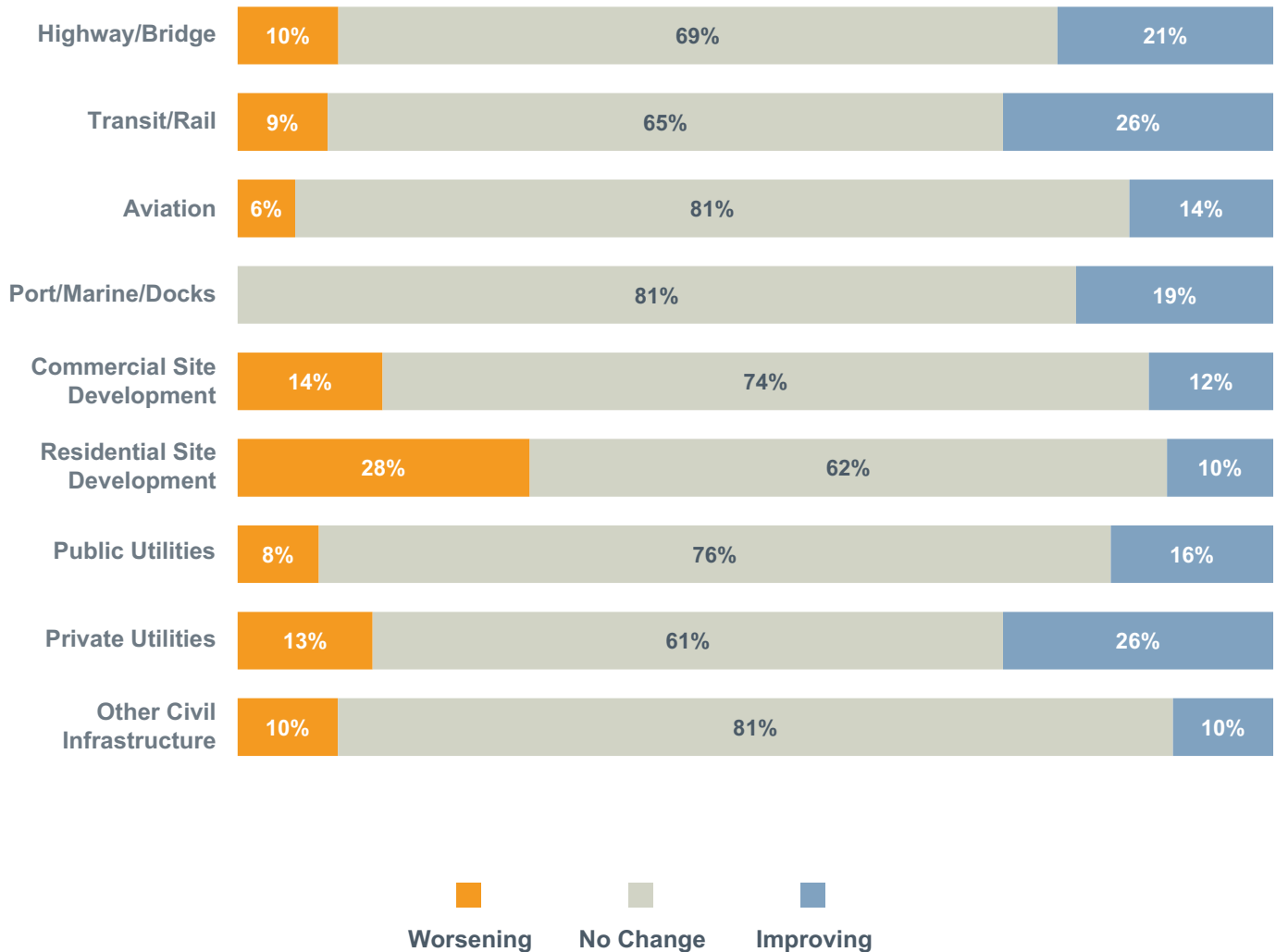
48.4

Source: FMI Heavy Civil Construction Survey Q4 2022

EXECUTIVE SUMMARY



Perception of Change by Segment for Next Quarter

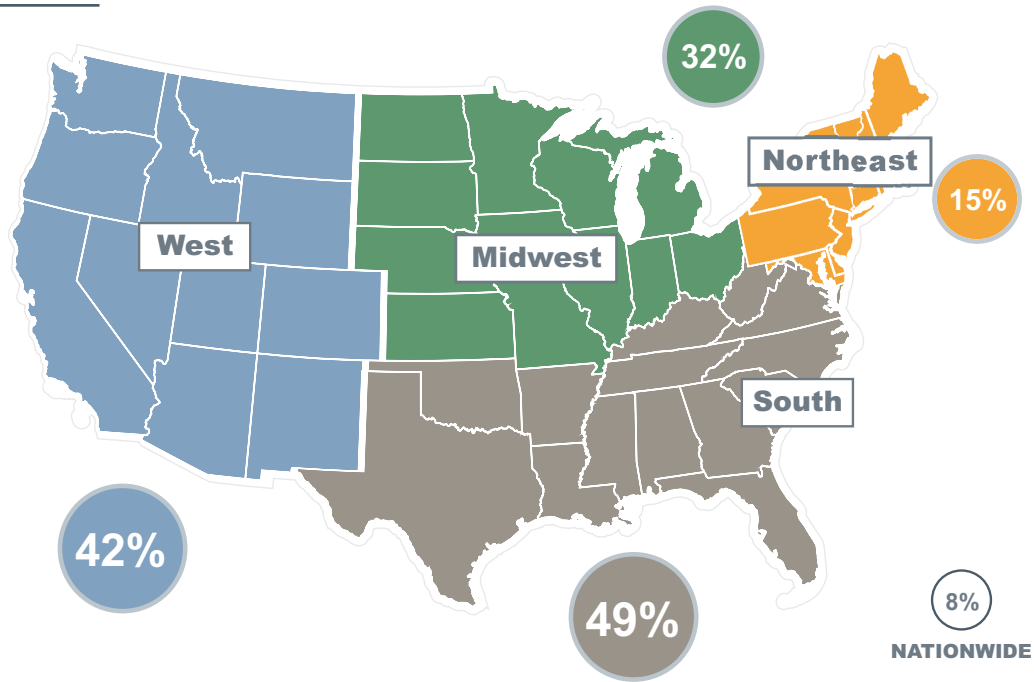


DEMOGRAPHIC INFORMATION

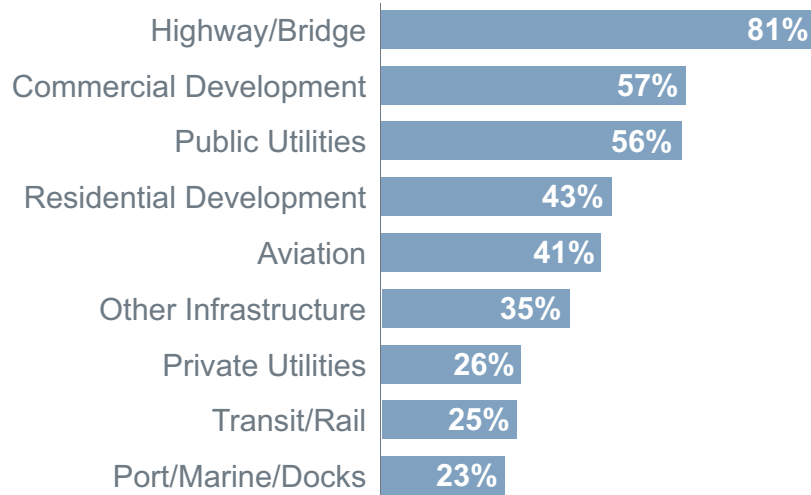


Where Survey Participants Work

By Geography



By Discipline



Respondents are able to select more than one option.



MARKET CONDITIONS

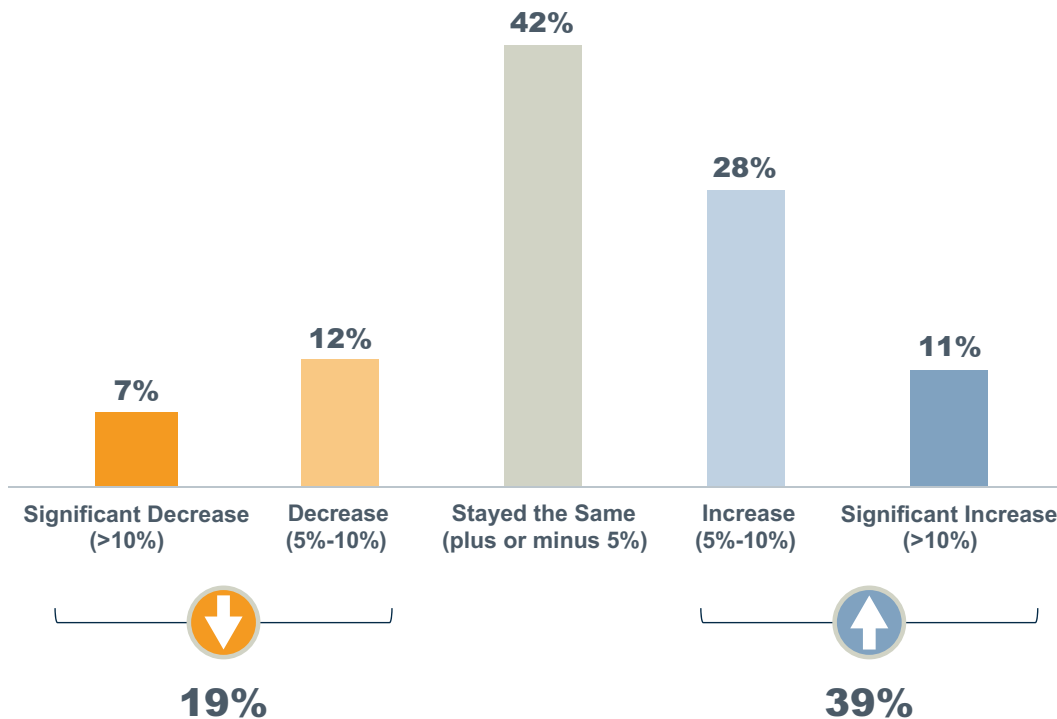


Key Findings

- The fourth quarter backlog book-to-burn rate indicates that fewer respondents this quarter added backlog relative to the rate at which it is being burned off (39% this quarter versus 46% last quarter).
- Fewer respondents reported that backlogs are higher than one year ago (53% versus 64%), and an increased share of respondents indicated that backlogs are below targets (29% versus 25%).
- Compared to last quarter, respondents reported improved margins on both a year-over-year (42% versus 36%) and quarter-over-quarter (36% versus 28%) basis.
- Competition from last quarter is also increasing (33% versus 20%), and bid prices have pulled back (18% versus 10%).
- Nontraditional firms continue to dip into the heavy civil arena, with about 1 in 5 companies continuing to witness these new entrants into their markets.

Backlog Book/Burn Rate (Year Over Year)

Book/burn rate is the pace backlog is added compared to how quickly it is used.

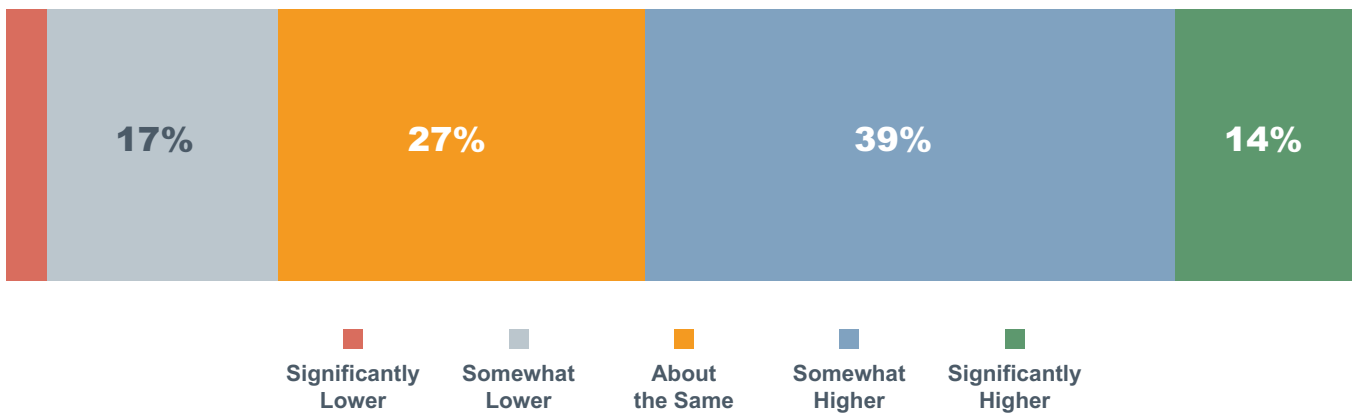


Source: FMI Heavy Civil Construction Survey Q4 2022

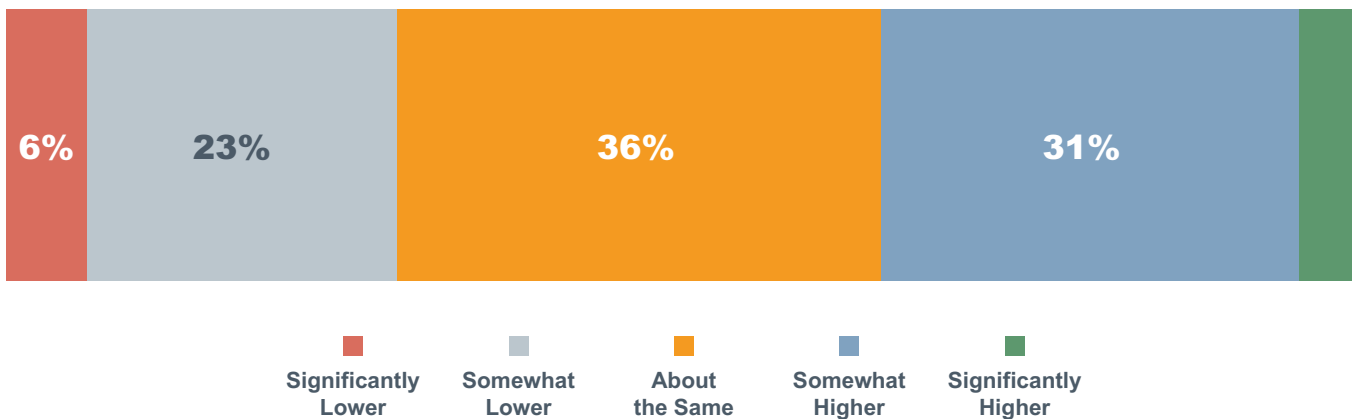
MARKET CONDITIONS

Backlogs

How does your backlog in the most recent quarter compare to the same quarter last year?



What is your current backlog compared to your anticipated/needed backlog at this point in the year?

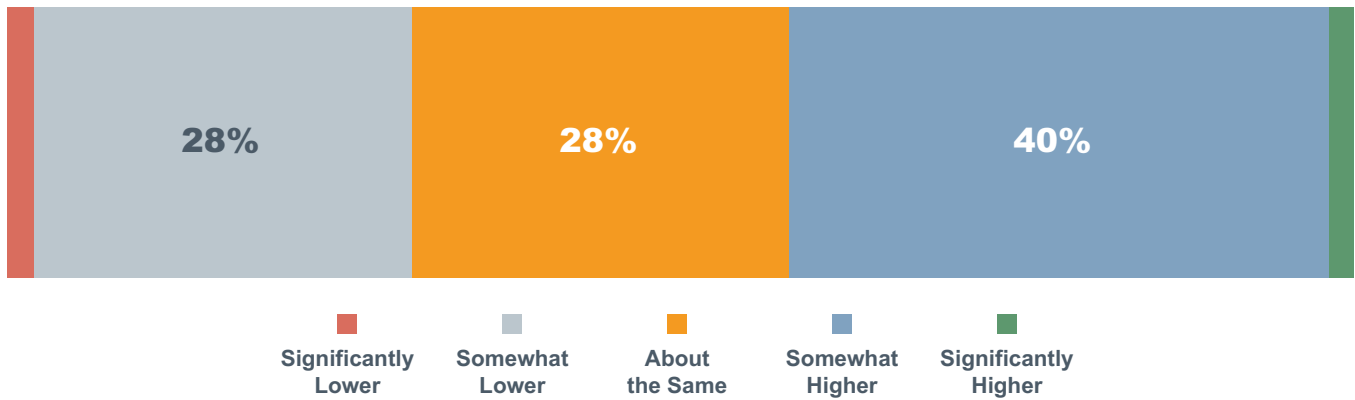


MARKET CONDITIONS

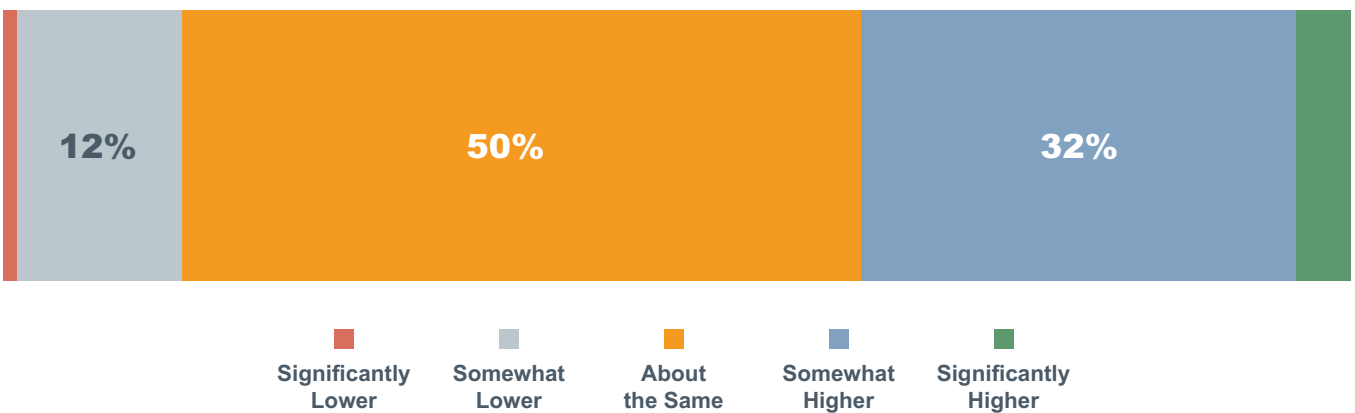


Margins

How would you compare margins on the work you have acquired in this quarter compared to the same quarter last year? (i.e., year-over-year change)



How would you compare margins on the work you have acquired in this quarter compared to the previous quarter?

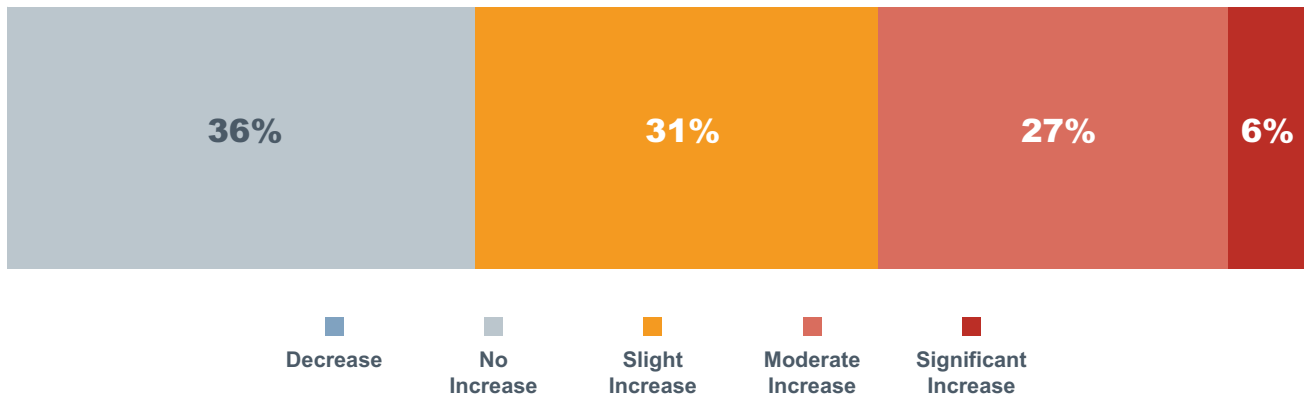


MARKET CONDITIONS

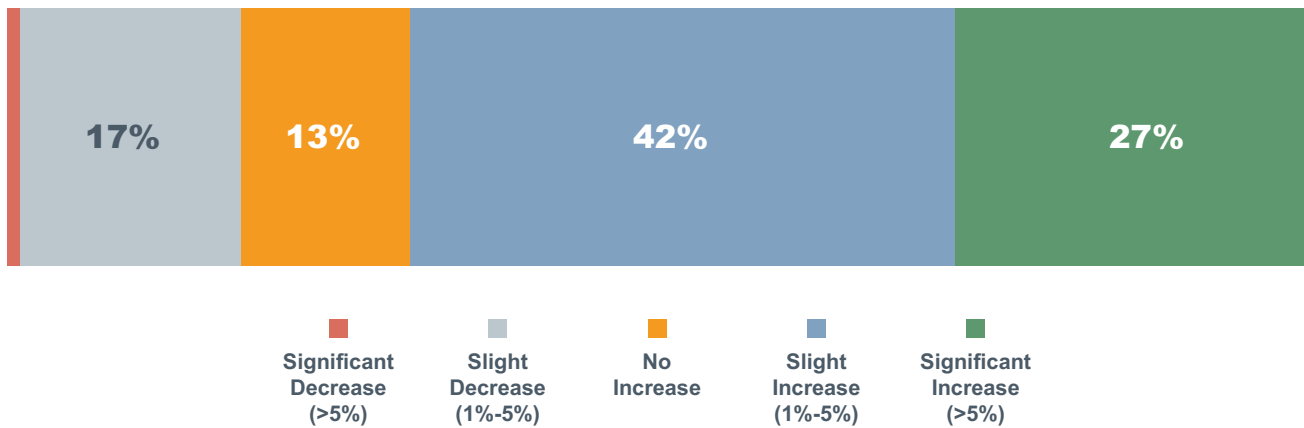


Competitive Landscape

How has the competitive landscape changed in the last quarter in terms of the number of competitors?



How have bid prices been impacted in the last quarter?



In the past six months, have you experienced an increase in nontraditional civil firms (new entrants) in the market?





CURRENT ISSUES

This quarter current issues questions focused on backlog sensitivity, reasons and outcomes of recent project start delays, and some follow-up from last quarter on strategic shifts into pursuing alternative procurement opportunities and increased selective bidding.

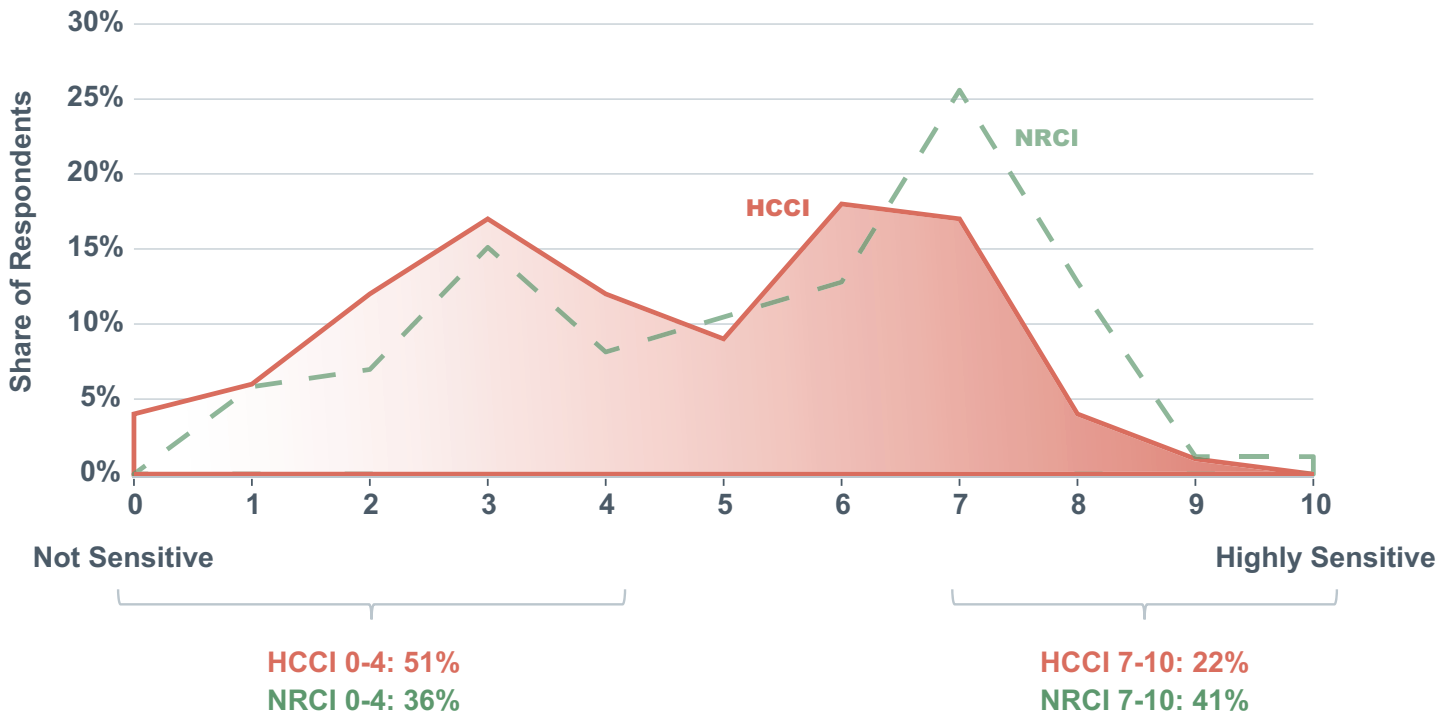
CURRENT ISSUES

Interest Rate Sensitivity

Survey participants reported modest concerns for rising interest rates over the next 12 to 24 months resulting in backlog disruptions. Only 22% indicated a high degree of concern with scores of 7 or higher compared to 41% of contractors who participated in FMI's fourth quarter 2022 Nonresidential Construction Index (NRCI) survey. This helps illustrate that publicly funded heavy civil construction projects are less likely to be impacted by higher interest rates than privately funded projects.

How sensitive do you perceive your current backlog to be in light of rising interest rates over the next 12 to 24 months?

(Zero is not sensitive at all, with no expected delays and/or cancellations; and a 10 is highly sensitive, indicating a high risk or likelihood of delays and/or cancellations.)



CURRENT ISSUES

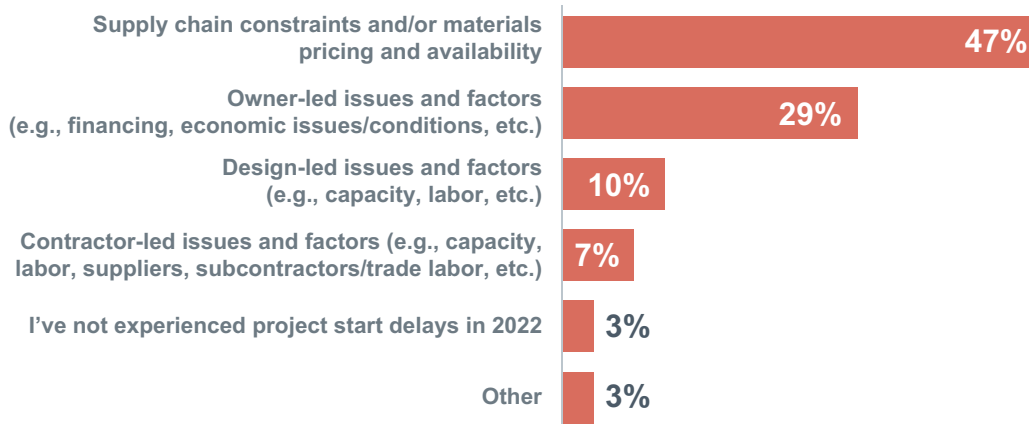


Project Start Delays

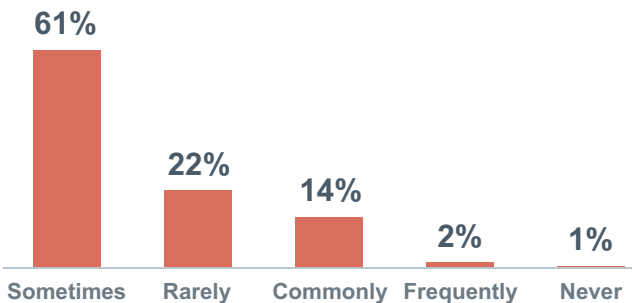
Most, or 97%, of respondents indicated that they had encountered delayed project starts this year, with more than three-quarters reporting the most common reasons were either supply chain constraints (47%) or delays stemming from owner-led challenges (29%).

Through 2022, what was the most common reason for project start delays?

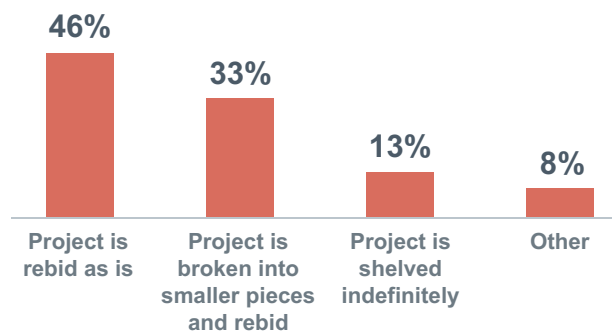
(delays occurring prior to construction)



Through 2022, how often have you seen projects not awarded because the low bid was above engineer's estimate?



For those that are not awarded, what is the most common outcome?



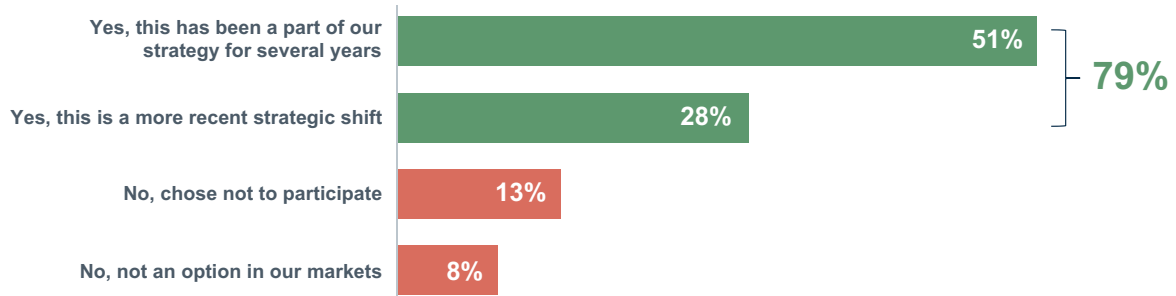


Building on Last Quarter's Strategic Adjustments: Alternative Procurement

As follow-up from last quarter's survey, where more than half of respondents indicated plans to increase pursuit of alternative procurement opportunities, nearly 80% of contractors this quarter identified that pursuit as part of their ongoing strategies. However, 28% reported that these pursuits are a recent strategic shift.

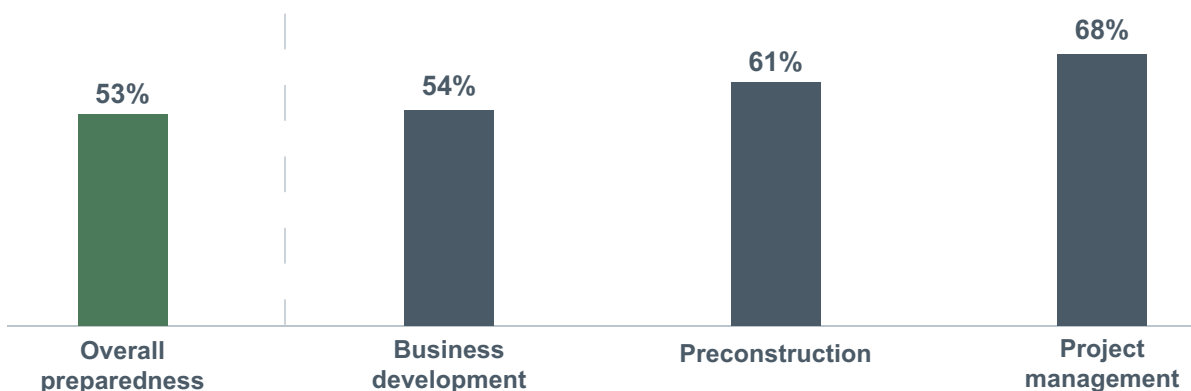
Nearly 70% believe their project managers are prepared for those pursuits, while only 54% believe their [business development resources](#) are ready.

Is pursuit of alternative procurement part of your organization's strategy?



Organizational preparedness to pursue alternative procurement opportunities.

Preparedness was measured on a scale of 0-10, with 0 being not at all prepared and 10 being well prepared. The chart below depicts the share of respondents who ranked their preparedness for each factor between a 7 and a 10.

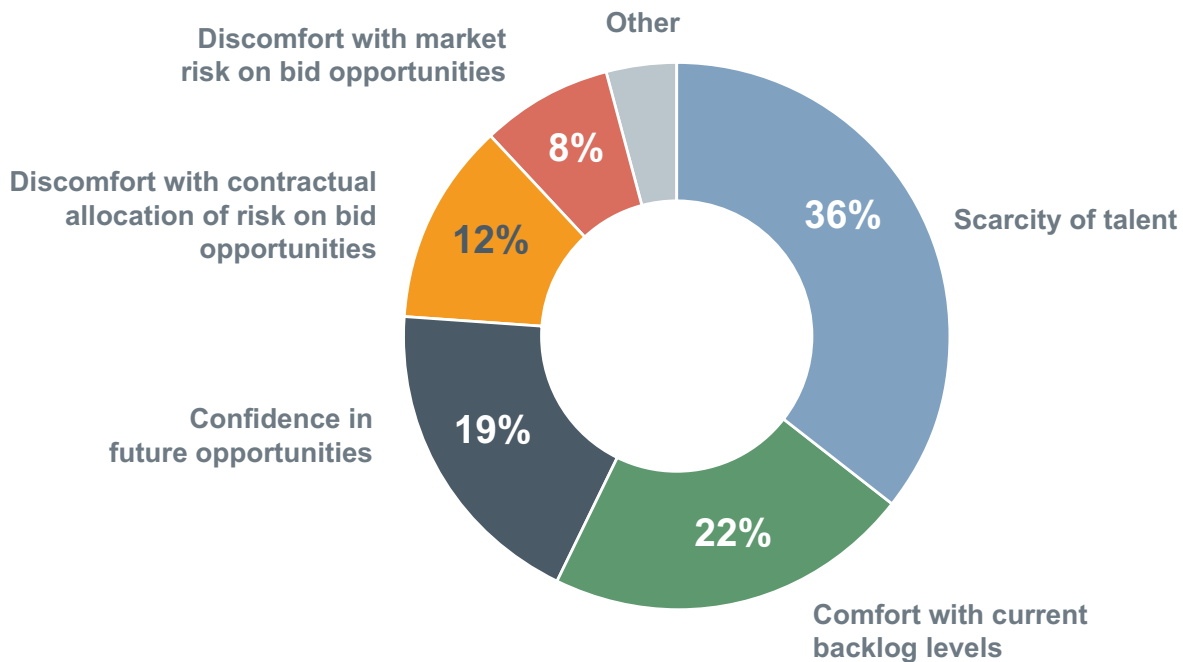




Building on Last Quarter's Strategic Adjustments: Selective Bidding

In our third quarter HCCI full takeaway, almost half of the respondents stated they were bidding more selectively. As follow-up from last quarter's survey, where nearly half of all respondents indicated becoming increasingly strategically selective on which projects to pursue, this quarter we discovered that selectivity is largely due to either scarcity of talent (36%) or comfort levels with their current backlogs (22%). Further, nearly 1 in 5 maintain confidence in a strong future stream of opportunities, while another 20% reported discomfort in either contractual allocation of risk (12%) or market risk (8%).

Through 2022, if you have become more selective on which bids to pursue, what is your primary reason?





HEAVY CIVIL CONSTRUCTION OUTLOOK

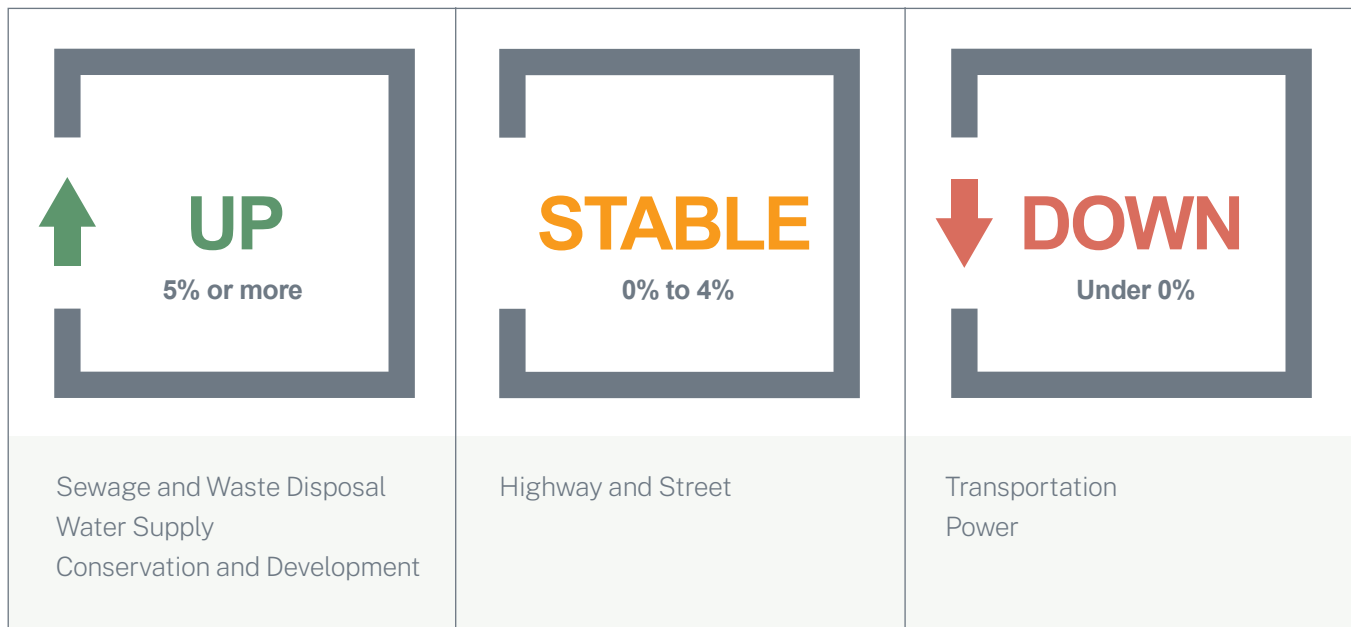
HEAVY CIVIL CONSTRUCTION OUTLOOK



Key Findings

- Total heavy civil construction put in place will remain stable through 2022, representing less than 1% growth. Contraction in spending this year is anticipated across transportation (e.g., air and rail) and power.
- Weakened investment demand in power infrastructure, due largely to the current geopolitical climate, is expected to constrain overall heavy civil construction spending growth through 2024.
- This quarter's growth expectations declined due to increasing economic headwinds. However, conditions are still supportive for heavy civil contractors compared to other industry sectors, backed by the stability in funding of the Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA). Expanding opportunities tied to these funding measures are expected to drive infrastructure spending through the forecast period.

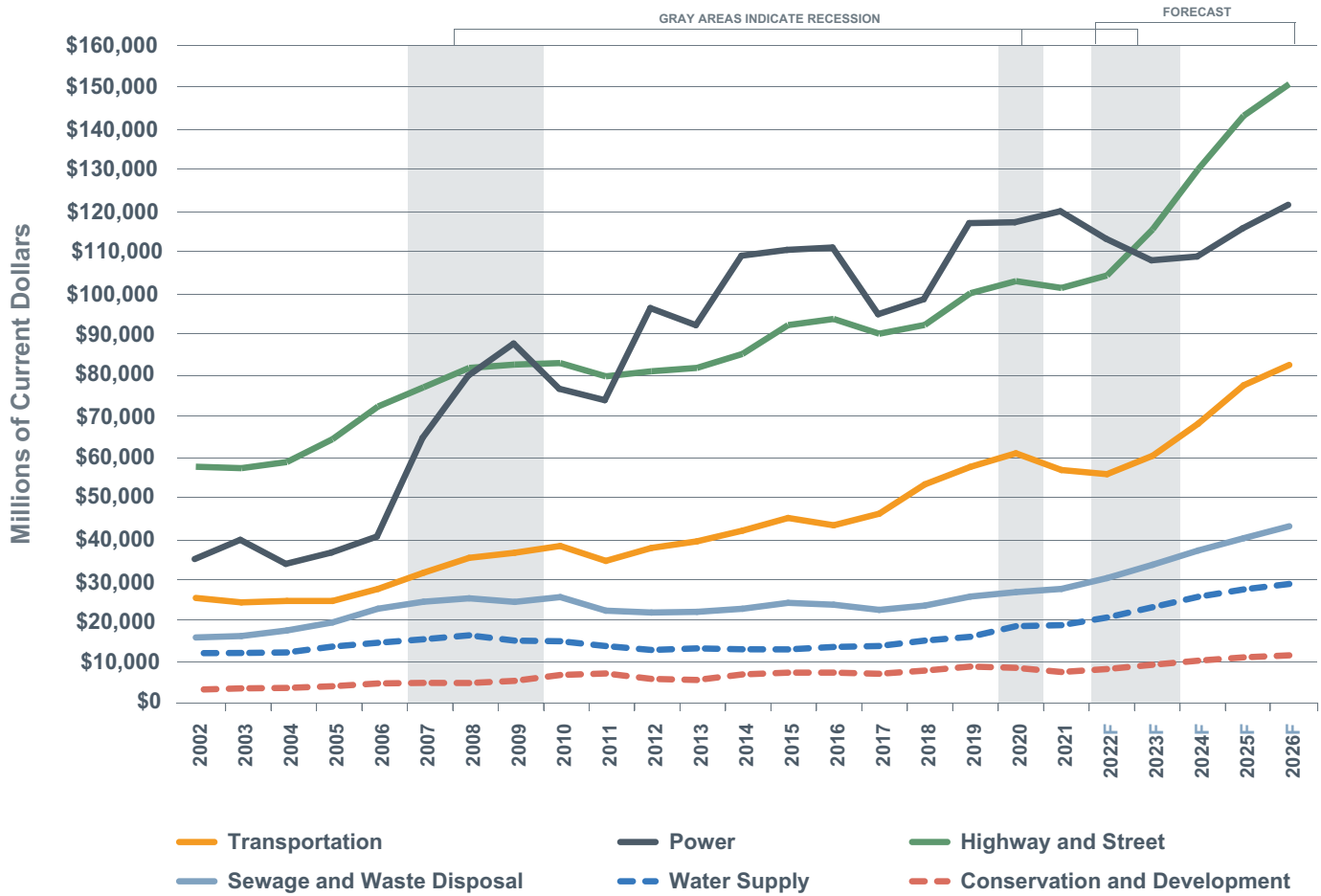
U.S. 2022 Segment Performance 2022/2021 Comparison



HEAVY CIVIL CONSTRUCTION OUTLOOK



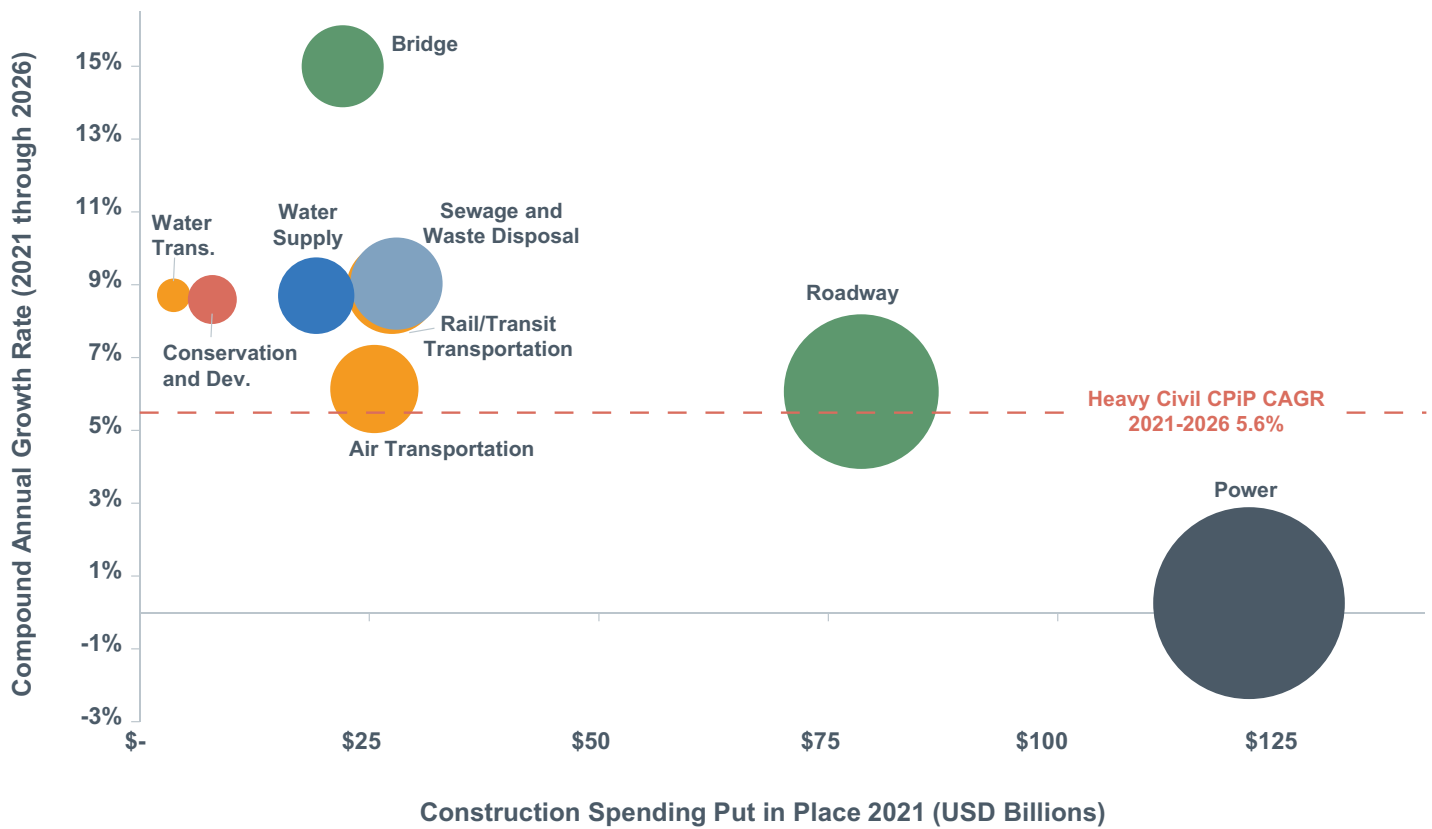
Heavy Civil Construction Put in Place



HEAVY CIVIL CONSTRUCTION OUTLOOK



Heavy Civil Construction Spending Put in Place 2021 and Forecast Growth (2021 through 2026) by Segment



HEAVY CIVIL CONSTRUCTION OUTLOOK



Heavy Civil Construction Put in Place Estimated for the United States

Millions of Current Dollars

4th Quarter 2022 Forecast (Based on 2nd Quarter 2022 Actuals and 3rd Quarter 2022 Assumptions)

	2017	2018	2019	2020	2021	2022F	2023F	2024F	2025F	2026F
TRANSPORTATION	46,138	53,218	57,449	60,733	56,689	55,689	60,126	67,885	77,168	82,075
Air	17,194	22,008	24,428	27,736	25,551	24,714	26,835	28,791	31,974	34,417
Rail/Transit	26,588	28,200	28,898	28,874	27,455	27,198	29,112	34,398	39,821	42,066
Port/Water	2,356	3,010	4,123	4,123	3,683	3,777	4,180	4,696	5,373	5,592
POWER	95,951	99,569	117,960	118,168	120,834	114,200	108,974	109,892	116,689	122,383
HIGHWAY AND STREET	89,620	91,745	99,402	102,321	100,679	103,694	114,811	129,345	142,281	149,935
Roadway	59,188	63,344	72,675	80,332	78,594	80,867	89,279	95,983	101,946	105,508
Bridge	30,432	28,401	26,727	21,989	22,085	22,827	25,532	33,362	40,335	44,427
SEWAGE AND WASTE DISPOSAL	22,901	23,931	26,119	27,189	27,968	30,578	33,801	37,242	40,216	43,098
WATER SUPPLY	14,168	15,477	16,397	18,952	19,214	21,057	23,551	26,058	27,849	29,162
CONSERVATION AND DEVELOPMENT	7,464	8,229	9,207	8,903	7,893	8,604	9,639	10,627	11,429	11,920
TOTAL HEAVY CIVIL PUT IN PLACE	\$276,242	\$292,169	\$326,534	\$336,266	\$333,277	\$333,821	\$350,902	\$381,050	\$415,632	\$438,574

Heavy Civil Construction Put in Place Estimated for the United States

Change From Prior Year Current Dollar Basis

4th Quarter 2022 Forecast (Based on 2nd Quarter 2022 Actuals and 3rd Quarter 2022 Assumptions)

	2017	2018	2019	2020	2021	2022F	2023F	2024F	2025F	2026F
TRANSPORTATION	6.5%	15.3%	8.0%	5.7%	-6.7%	-1.8%	8.0%	12.9%	13.7%	6.4%
Air	20.8%	28.0%	11.0%	13.5%	-7.9%	-3.3%	8.6%	7.3%	11.1%	7.6%
Rail/Transit	-0.8%	6.1%	2.5%	-0.1%	-4.9%	-0.9%	7.0%	18.2%	15.8%	5.6%
Port/Water	1.8%	27.8%	37.0%	0.0%	-10.7%	2.5%	10.7%	12.4%	14.4%	4.1%
POWER	-14.4%	3.8%	18.5%	0.2%	2.3%	-5.5%	-4.6%	0.8%	6.2%	4.9%
HIGHWAY AND STREET	-3.8%	2.4%	8.3%	2.9%	-1.6%	3.0%	10.7%	12.7%	10.0%	5.4%
Roadway	-2.5%	7.0%	14.7%	10.5%	-2.2%	2.9%	10.4%	7.5%	6.2%	3.5%
Bridge	-6.4%	-6.7%	-5.9%	-17.7%	0.4%	3.4%	11.9%	30.7%	20.9%	10.1%
SEWAGE AND WASTE DISPOSAL	-5.2%	4.5%	9.1%	4.1%	2.9%	9.3%	10.5%	10.2%	8.0%	7.2%
WATER SUPPLY	1.6%	9.2%	5.9%	15.6%	1.4%	9.6%	11.8%	10.6%	6.9%	4.7%
CONSERVATION AND DEVELOPMENT	-3.6%	10.2%	11.9%	-3.3%	-11.3%	9.0%	12.0%	10.2%	7.6%	4.3%
TOTAL HEAVY CIVIL PUT IN PLACE	-6.2%	5.8%	11.8%	3.0%	-0.9%	0.2%	5.1%	8.6%	9.1%	5.5%

ABOUT THE AUTHORS



Brian Moore is a partner at FMI, focusing on consulting with contractors on various strategic, organizational and operational issues. Brian works in identifying future construction trends, market conditions and competitive issues that impact strategic decisions. Brian's clients count on him as a thought leader and trusted advisor as they plan the future of their business. Often this involves combining in-depth market and company analysis with judgment and experience to chart the organization's future. He works with clients to help them develop the organizational capabilities that match their chosen strategy so they can achieve desired results. Brian can be reached at brian.moore@fmicorp.com.



Brian Strawberry is chief economist at FMI. Brian leads FMI's efforts in market sizing, forecasting, building products and construction material pricing, and consumption trends. He focuses on primary research methods, including the implementation and analysis of surveys and interviews. Brian also leads and manages various external market research engagements and constructs tools and models for efficiently performing high-quality analyses. He can be reached at brian.strawberry@fmicorp.com.



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