



**2022**  
**HEAVY CIVIL  
CONSTRUCTION INDEX**  
**Third Quarter Report**



August 2022

# EXECUTIVE SUMMARY



The 2022 third quarter Heavy Civil Construction Index reports expectations for future industry contraction, falling to 48.4 from 57.7. This is the second time since the index started (Q1 2018) that it has dipped below 50, suggesting contraction.

Though expectations for the U.S. economy and the respondents' local economies were strongly negative, outlooks on the overall health of their engineering and construction businesses remain positive. Cost of materials and labor continue to be significant drags on the index.

The highway and bridge, aviation, and port, marine and docks segments exhibit the greatest optimism. However, in a departure from prior quarters, we now see perceptions for the residential and commercial site development segments worsening. Further, an interesting divergence in expectations has formed in transit and rail.

Nearly two-thirds of contractors (65%) indicate backlogs greater than the same quarter one year ago. About three quarters (76%) expect backlogs to grow or stay the same this quarter compared to the previous quarter, supported by the growing book/burn ratio (46% increase versus 19% decrease). A similar number (74%) say that backlogs are at or above what was anticipated or required at this point in the year. However, this also shows roughly 1 in 4 are below their targeted backlogs.

Margin on work acquired seems to be holding steady with three-quarters of respondents indicating that margins are at or above the levels a year ago. Compared to last quarter, 86% report equal or better bid margins. Based on comments, this is likely because contractors have been working to align estimates with quickly rising costs and in some instances are raising bids to account for unknown cost increases.

Fewer contractors are seeing an increase in competitors than before (57% saw at least some increase this quarter compared to 68% in the second quarter survey). Only 1 in 5 (19%) experienced an increase in nontraditional civil firms (new entrants) entering the market. Like last quarter, 80% reported increases in bid prices, which we attribute primarily to continued inflationary pressures.

There seems to be broad agreement that the U.S. is headed toward recession, with a majority expecting economic contraction lasting between 12 and 18 months. Additionally, nearly all participants expressed some level of concern regarding higher interest rates and economic weakness impacting their backlogs.

Even with challenging economic conditions ahead, fewer than a quarter of survey participants expect a reprieve from industry labor shortages and just under half believe that materials shortages will persist. In response, through the end of the year, leaders plan to be more selective or less aggressive in their bidding, increase pursuit of alternative procurement opportunities, continue hiring and reduce capital investments in facilities.

## HCCI INDEX MOVEMENT

	Current Reading for Q3 2022	Previous Reading for Q2 2022
	<b>48.4</b>	<b>57.7</b>
		<b>Q3 2022</b> <b>Q2 2022</b>
Overall U.S. Economy	↓	26.4   49.4
Economy Where We Do Business	↓	35.7   53.3
Our Engineering and Construction Business	↓	57.8   58.4
Engineering and Construction Where We Do Business	↓	54.4   63.9
Backlog	↓	61.8   64.6
Book/Burn Rate	↑	63.2   59.7
Cost of Materials	↓	2.3   3.4
Cost of Labor	↓	7.0   8.5
Productivity	↑	48.42   42.6

# EXECUTIVE SUMMARY

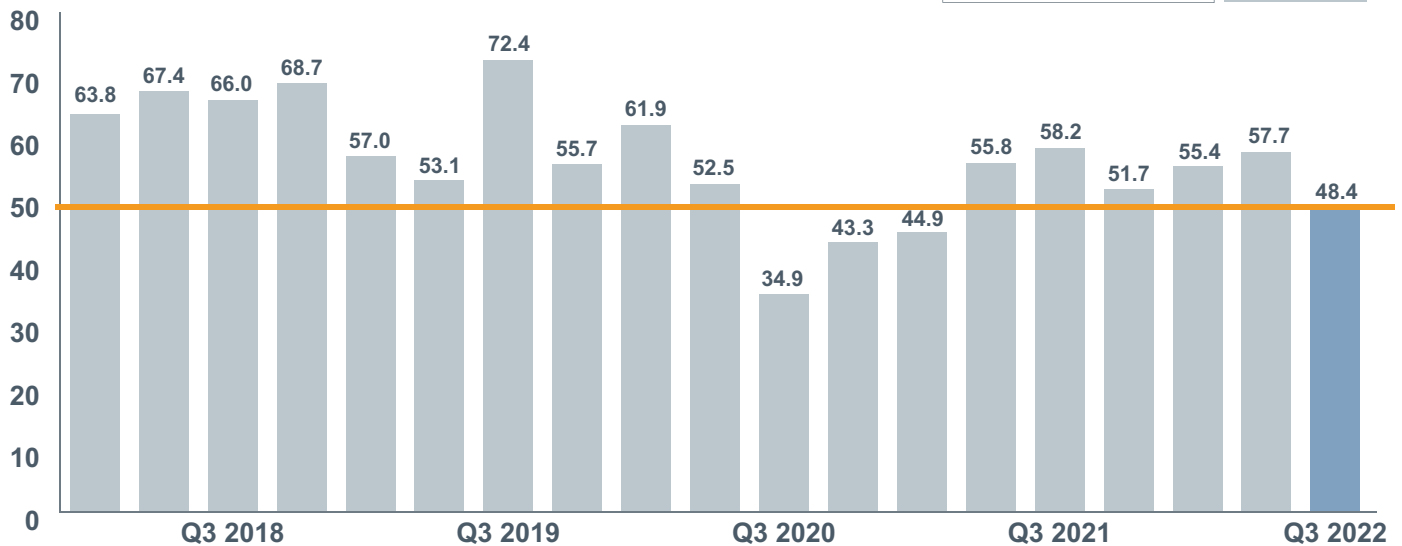


## Heavy Civil Construction Index (HCCI)

### Q1 2018 to Q3 2022

Scores above 50 indicate expansion; below 50, contraction

Index Score



Current HCCI Reading for Q3 2022

48.4

Survey dates: June 9-25

Previous Reading March 2-15

57.7

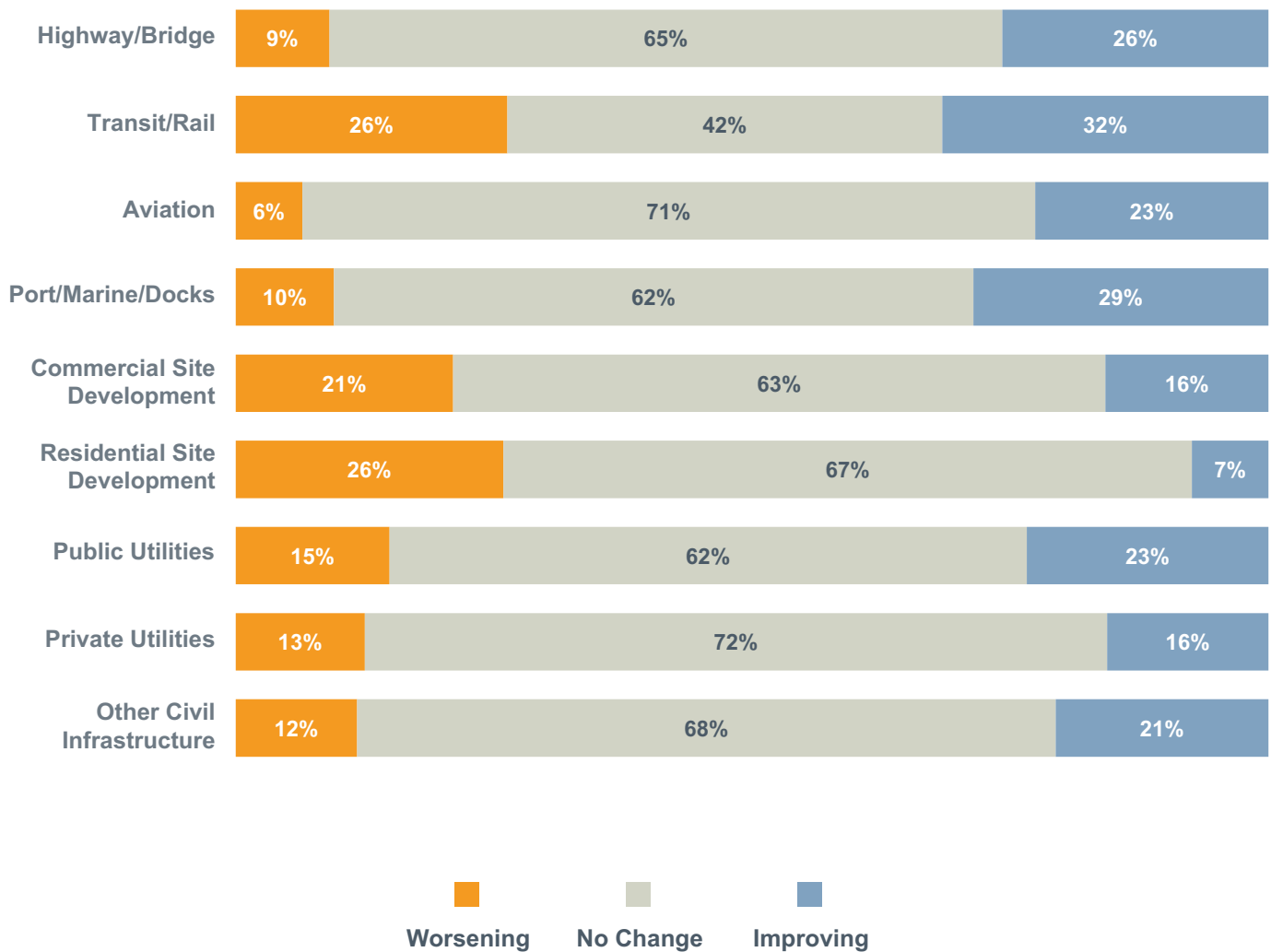
Source: FMI Heavy Civil Construction Survey Q3 2022



# EXECUTIVE SUMMARY

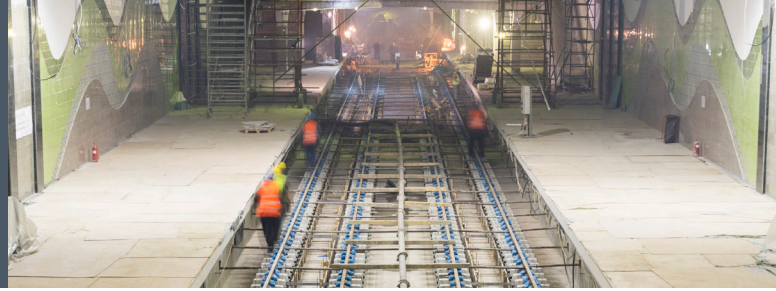


## Perception of Change by Segment for Next Quarter



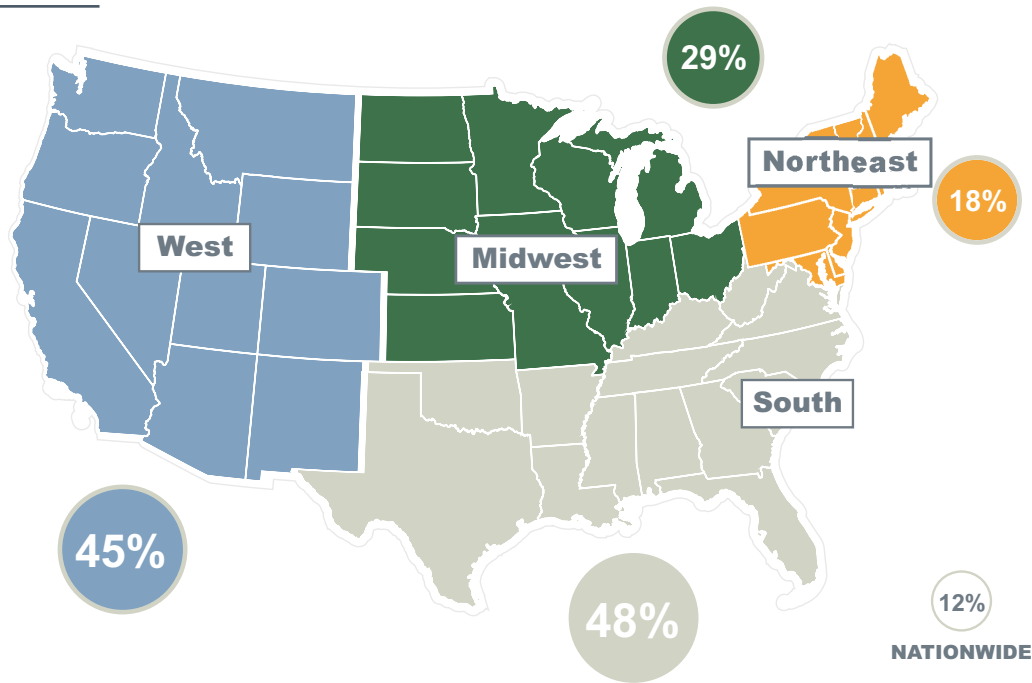


# DEMOGRAPHIC INFORMATION

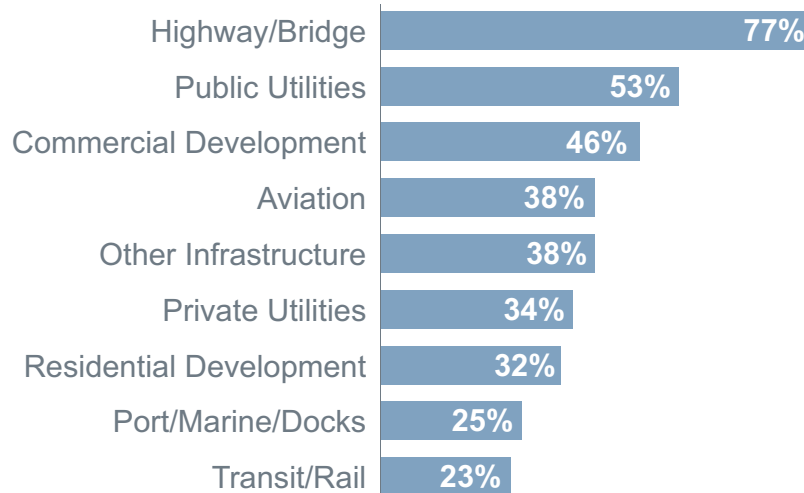


## Where Survey Participants Work

### By Geography



### By Discipline



Respondents are able to select more than one option.



# MARKET CONDITIONS



## Key Findings

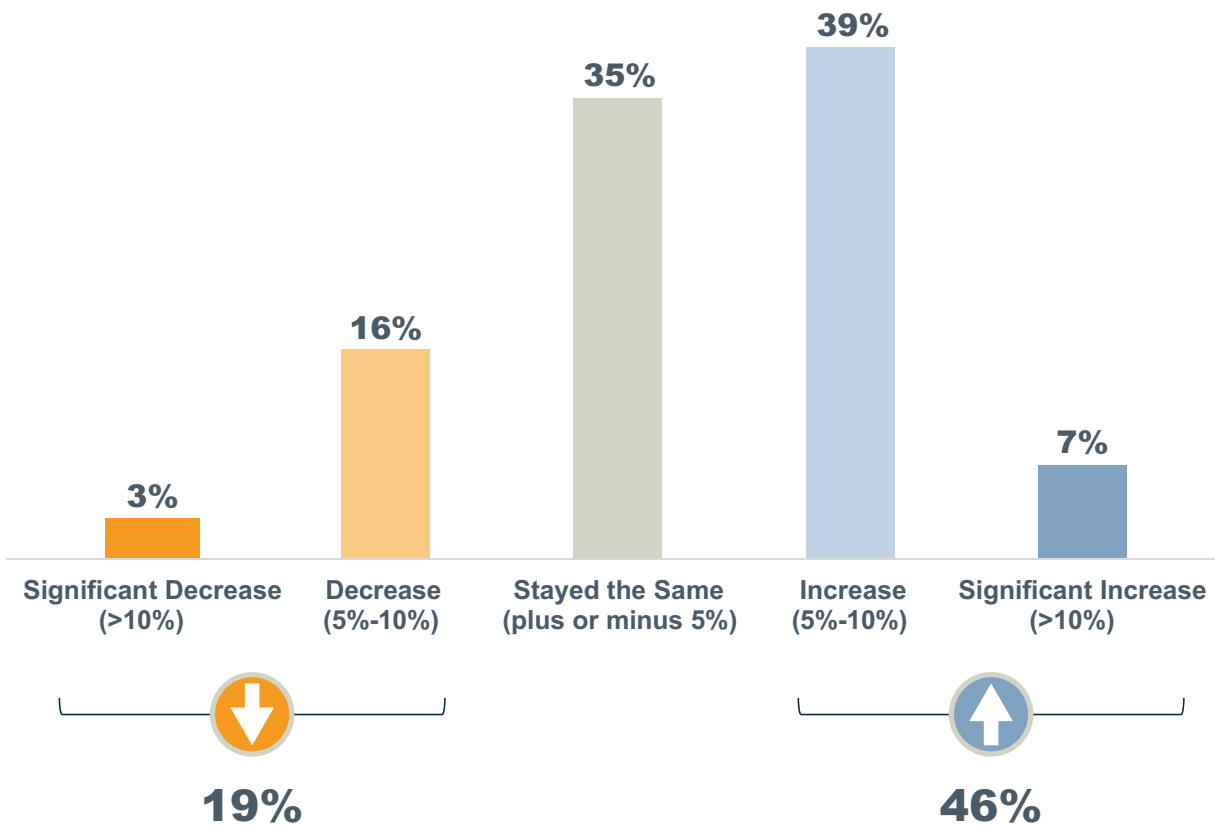
- In this quarter's survey, contractors reported growing book/burn rates for backlogs, with 46% adding backlogs faster than they burned them, compared with 19% who saw a decrease in this ratio. In last quarter's survey, 37% saw an increase in backlogs compared to 19% reporting a decrease. Anecdotal evidence indicates companies are having trouble putting work in place (or burning backlogs), and that is contributing to the growth in this ratio. The fact that 64% of contractors report higher backlogs than last year and 42% of respondents are above anticipated/needed backlogs seems to support that hypothesis. Companies are having trouble staffing projects and experiencing issues with public owners not working to keep projects moving quickly.
- Slightly more contractors reported lower margins on work acquired this quarter compared to the same quarter last year (25% versus 23%). A similar number (28%) indicated margins have improved since last quarter, while only 14% saw declining margins.
- Markets remain competitive. Just over half (57%) of respondents continue to report increasing competition, and about 1 in 5 (19%) have seen a new competitor enter their market.
- In this quarter's survey, we asked respondents to react to FMI's view that the U.S. economy will face a recession in 2022 and 2023 that will last approximately 12 to 18 months. Most respondents believe that the economy is headed toward recession and 70% agree with [FMI's hypothesis](#). Of those who disagree, we are encouraged that roughly 65% felt a recession would be milder and shorter in duration than historic economic cycles. A smaller percentage (19%) felt the recession would be more severe and longer than FMI's expectations.
- While most anticipate challenging economic conditions ahead, fewer than a quarter of survey participants expect a reprieve from industry labor shortages. Conversely, just over half (56%) believe that materials shortages will ease, with a majority (45%) expecting prices to stabilize at higher levels. Nearly one third of respondents (32%) foresee an amplification of shortages and price escalations.
- When asked about concerns that higher interest rates and economic weakness may weigh against their organizations' backlog levels, nearly all (93%) of respondents are at least somewhat concerned, while roughly one-third are concerned (23%) or very concerned (11%).
- In response to strategic changes made midyear, leaders plan to be more selective or less aggressive in their bidding, increase pursuit of alternative procurement opportunities, continue hiring and reduce capital investments in facilities.





## Backlog Book/Burn Rate (Year Over Year)

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

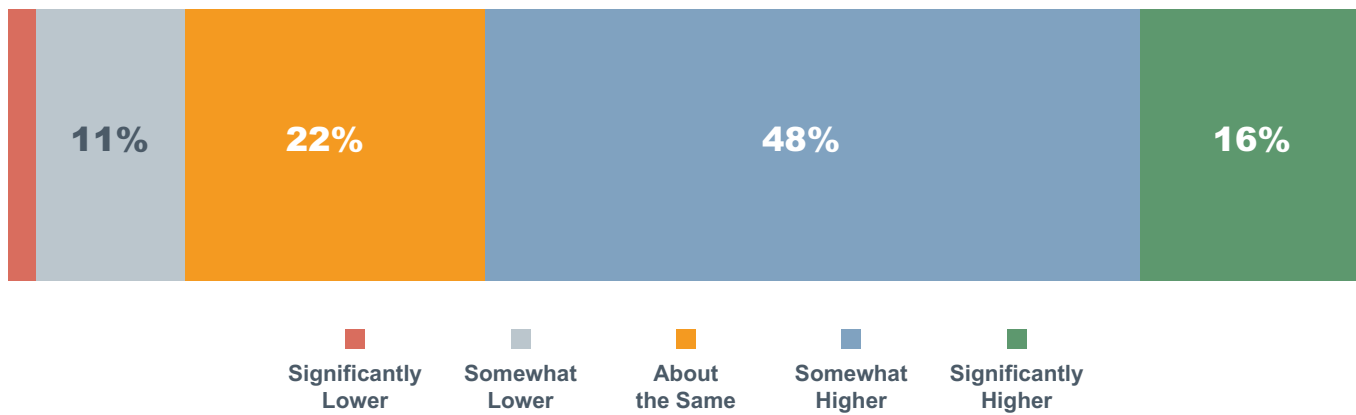


Source: FMI Heavy Civil Construction Survey Q3 2022

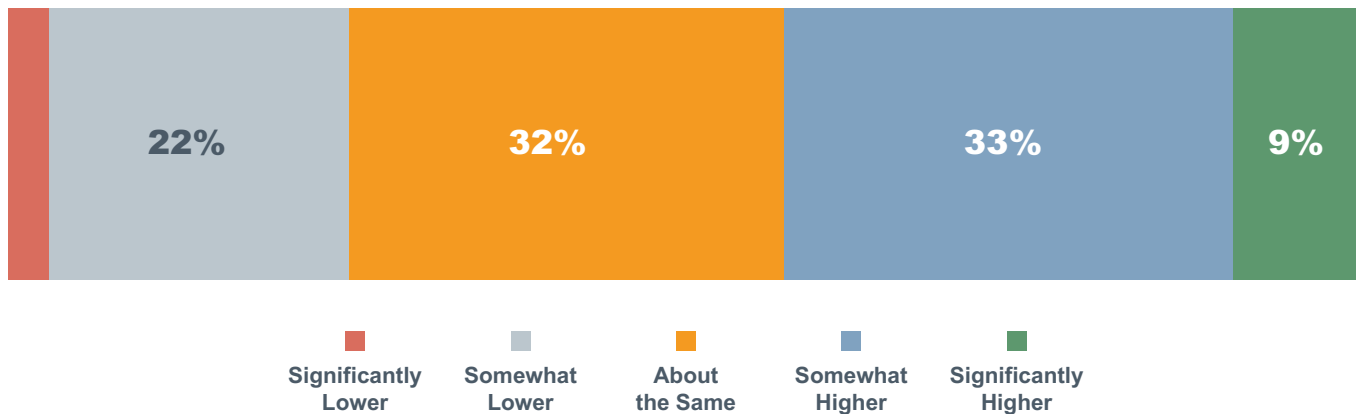


## Backlogs

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?

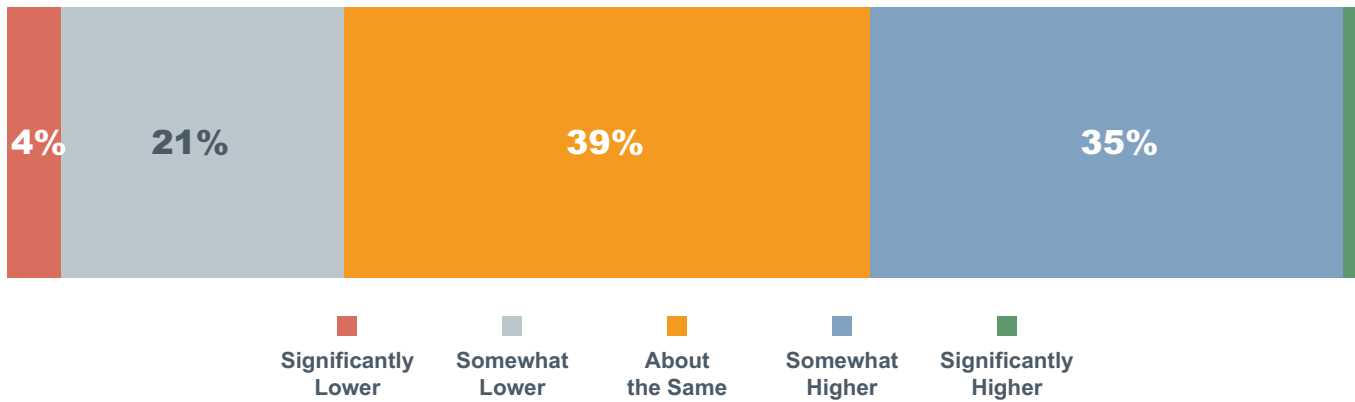


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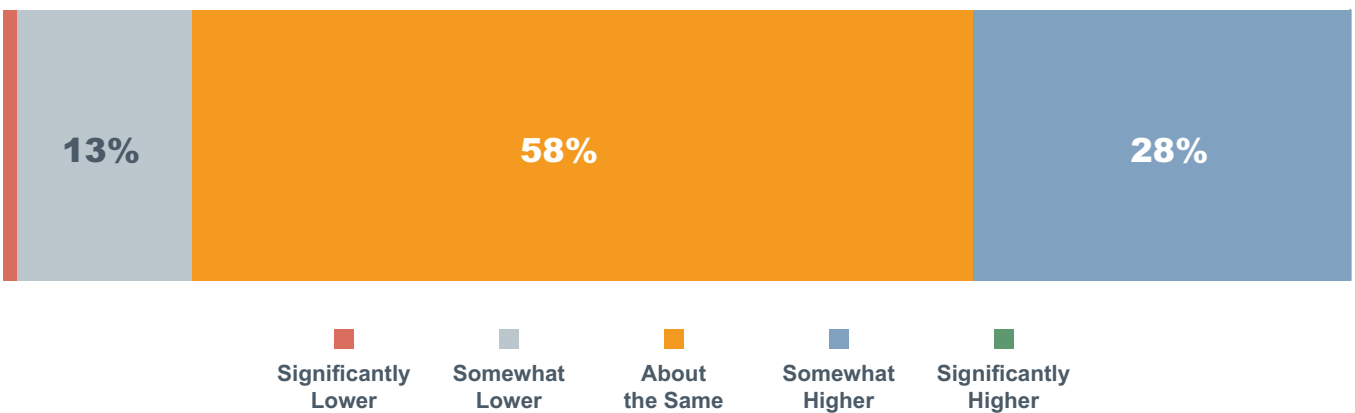


## Margins

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?



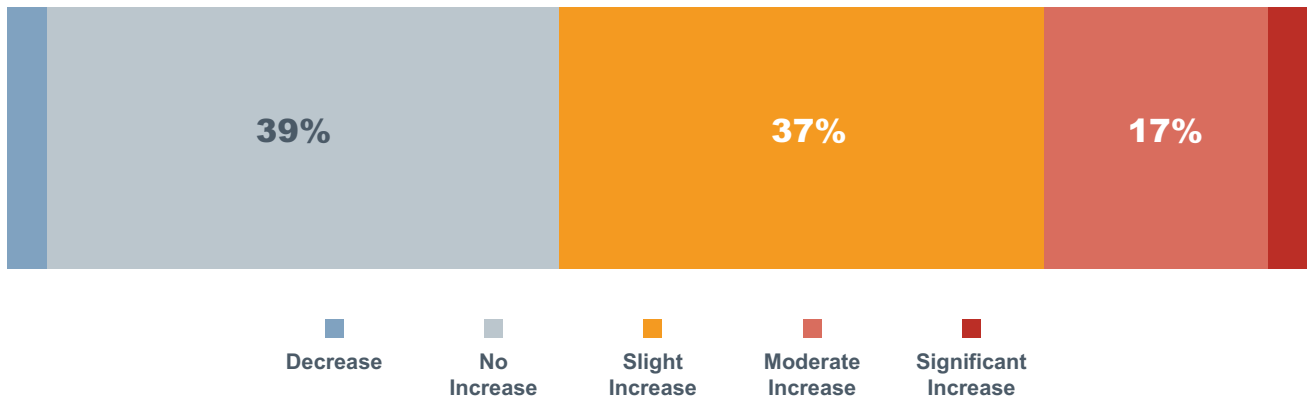


# MARKET CONDITIONS

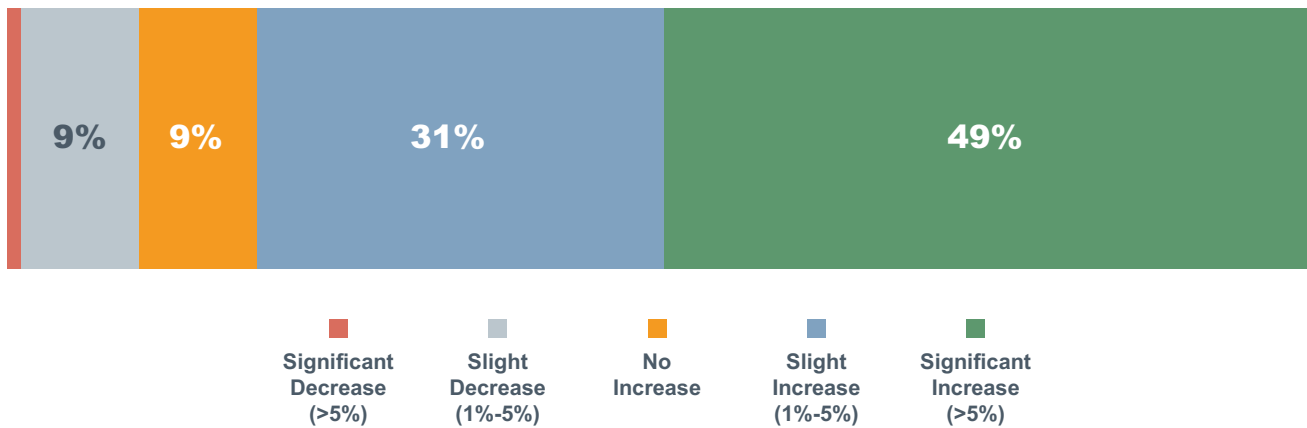


## Competitive Landscape

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**



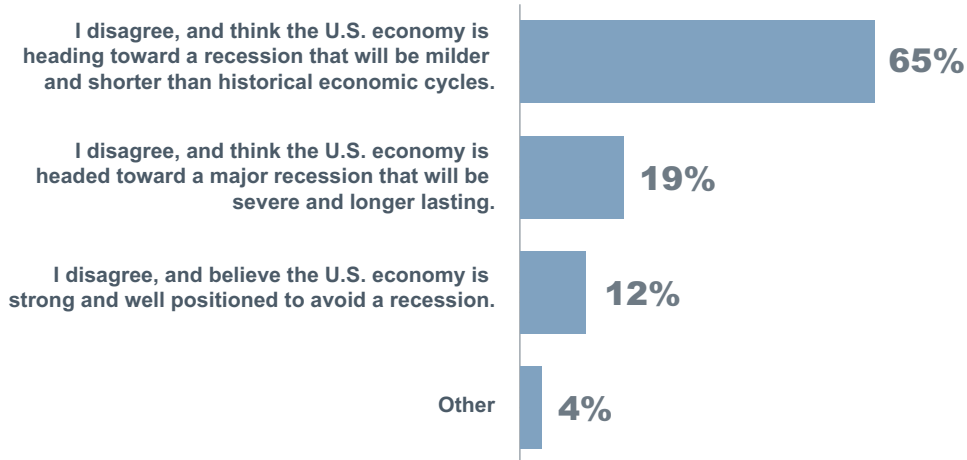
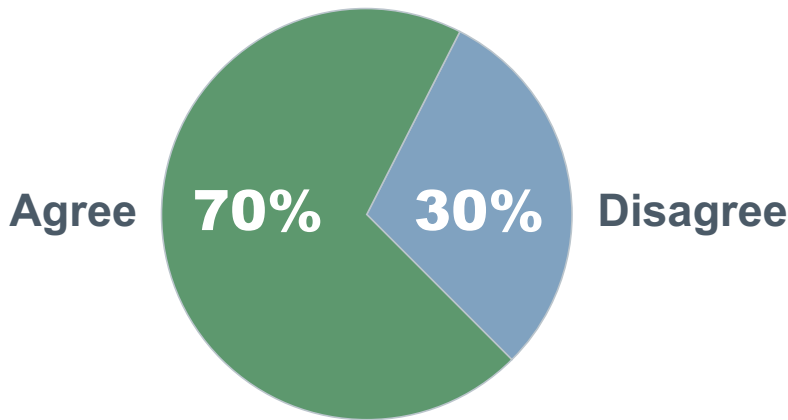
## Recession Expectations

FMI expects the U.S. economy to be in recession in 2022 and 2023 due to the Federal Reserve's actions, falling demand and ongoing supply chain issues. The recession is predicted to last 12 to 18 months, which is slightly longer than the historical 10-month average recession between 1945 and 2001. Ultimately, the current predicted recession will help control inflation.

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Which of the below best aligns with your reaction to the above statement?

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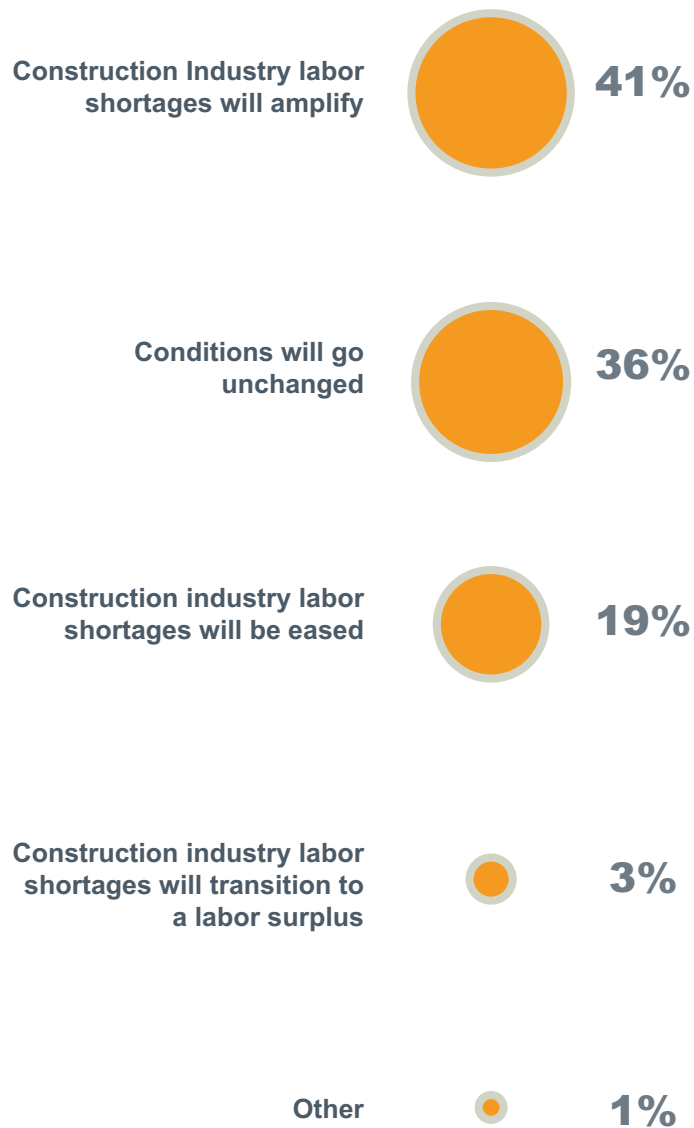






## Labor Expectations

What are your expectations on current construction **industry labor** shortage conditions through the end of 2023?



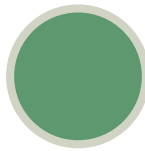
# CURRENT ISSUES



## Material Expectations

What are your expectations on construction industry **material prices** and shortage conditions through the end of 2023?

Material shortages will amplify, and prices will continue to escalate



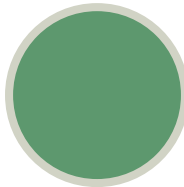
32%

Conditions will go unchanged



9%

Material shortages will be eased but prices stabilize at high levels



45%

Material shortages will be eased, and prices ultimately fall



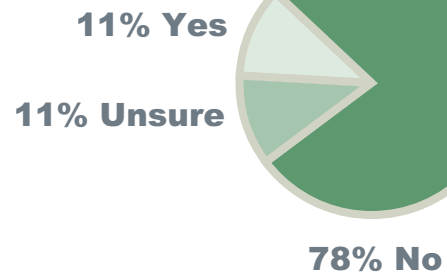
11%

Other



2%

Do you believe material prices will fall to levels close to those seen in 2018/2019?

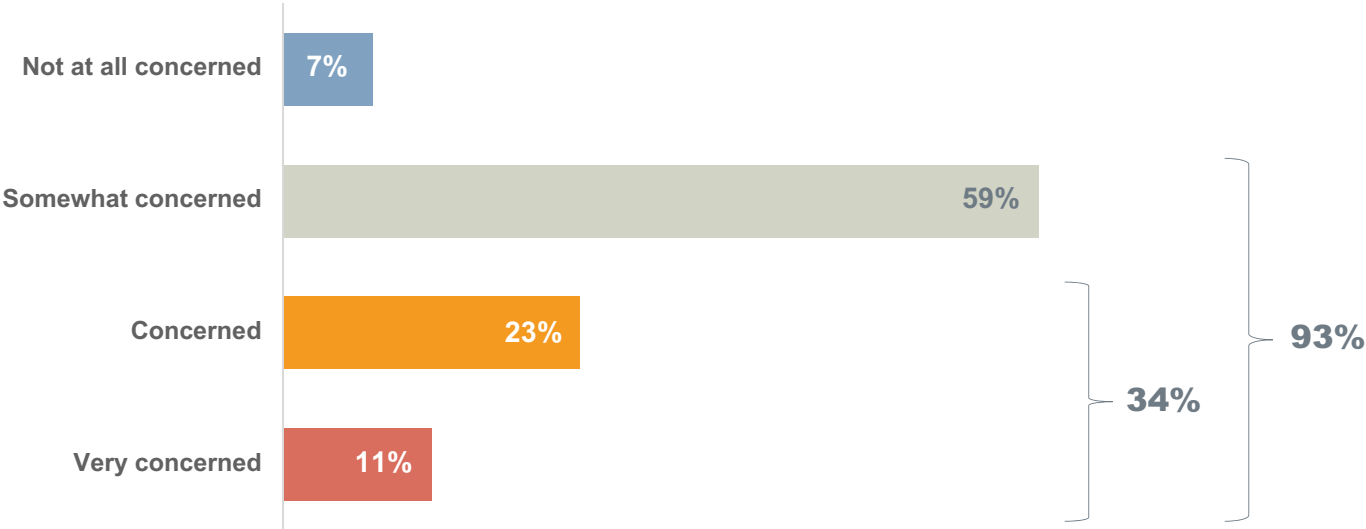


# CURRENT ISSUES



## Backlog Concerns

Are you concerned that higher interest rates and economic weakness may weigh against your organization's current backlog levels?



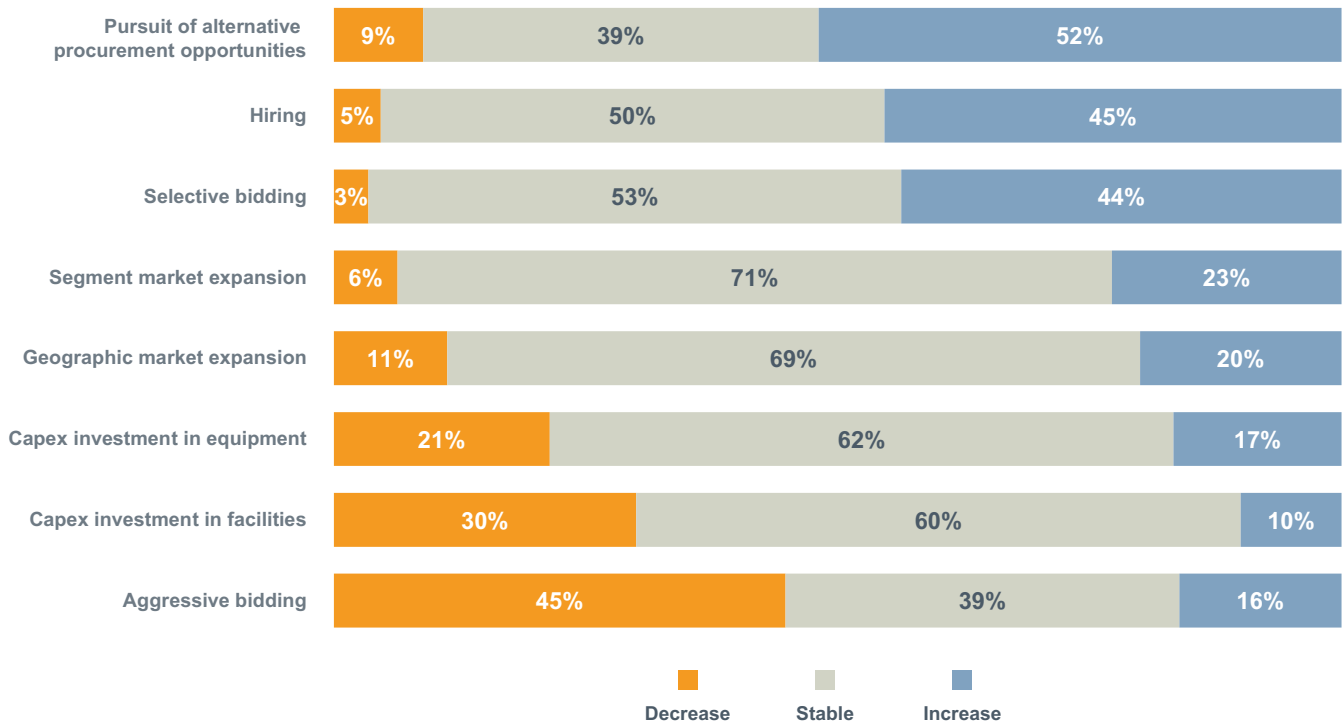


# CURRENT ISSUES



## Strategic Decisions Mid-2022

How is your organization planning to adjust strategic decisions through the second half of 2022, considering the below listed factors?





# HEAVY CIVIL CONSTRUCTION OUTLOOK

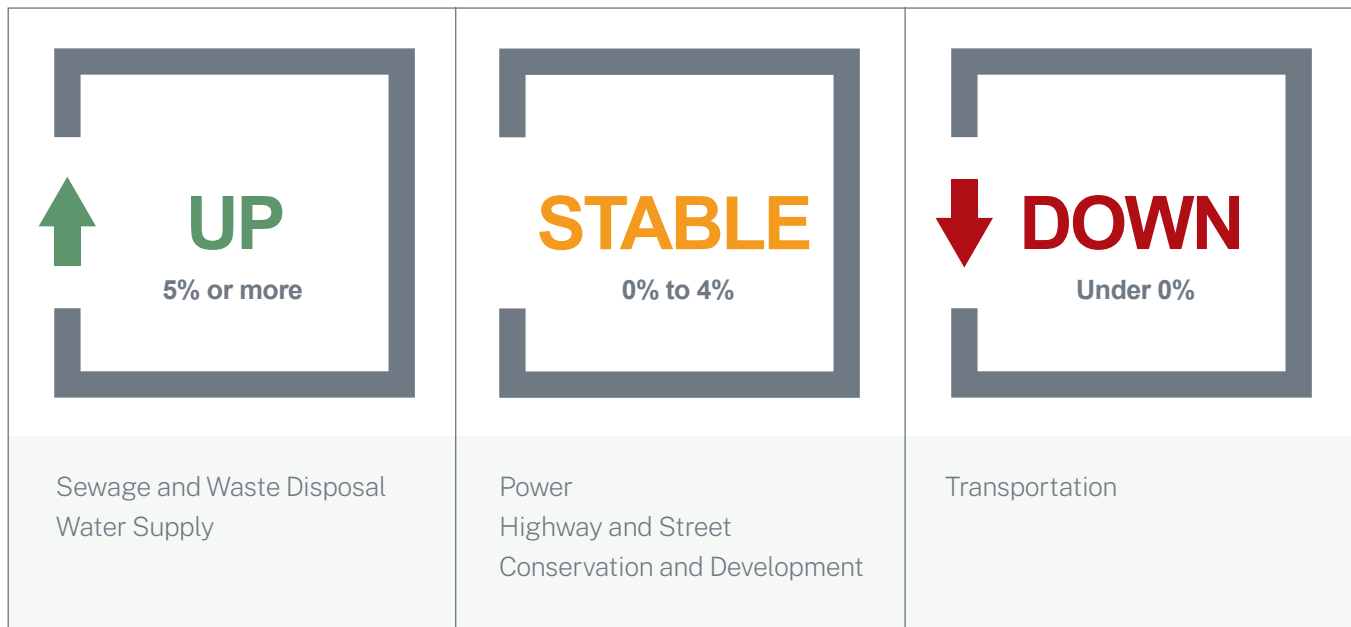
# HEAVY CIVIL CONSTRUCTION OUTLOOK



## Key Findings

- Total heavy civil construction put in place is anticipated to grow by 2.3% in 2022, with growth in all segments except the air and rail/transit subcategories of transportation. This year's results in those categories are the only declines we expect during the forecast period.
- Growth expectations through 2026 have been moderated somewhat due to increasing economic headwinds alongside rising costs and interest rates.
- For heavy civil contractors, the infrastructure package is anticipated to provide reprieve from slowdowns in the broader construction economy (i.e., residential and commercial site development). Growth expectations across most heavy civil segments compared to recent history support an overall bullish outlook for this market.

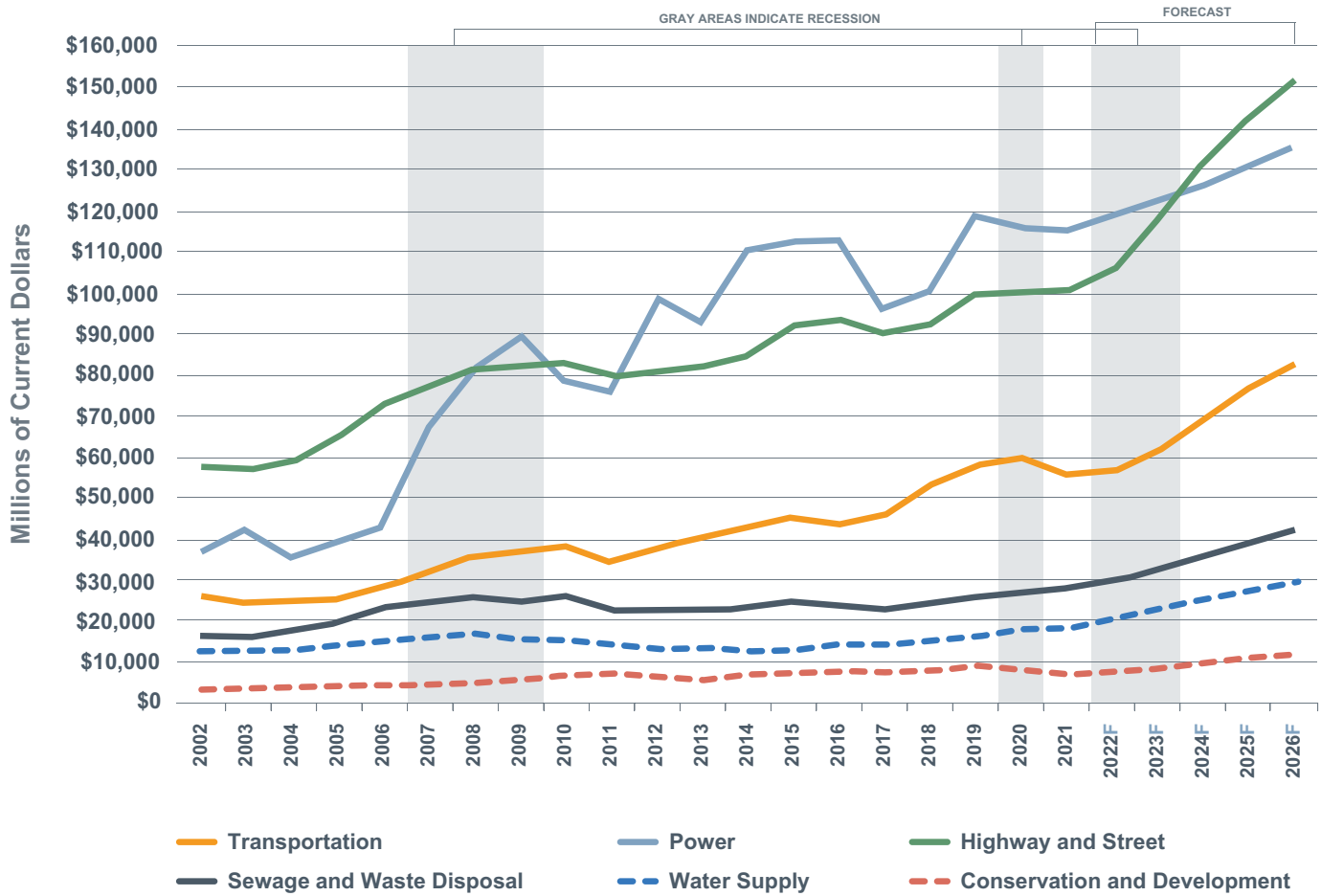
## U.S. 2022 Segment Performance 2022/2021 Comparison



# HEAVY CIVIL CONSTRUCTION OUTLOOK



## Heavy Civil Construction Put in Place

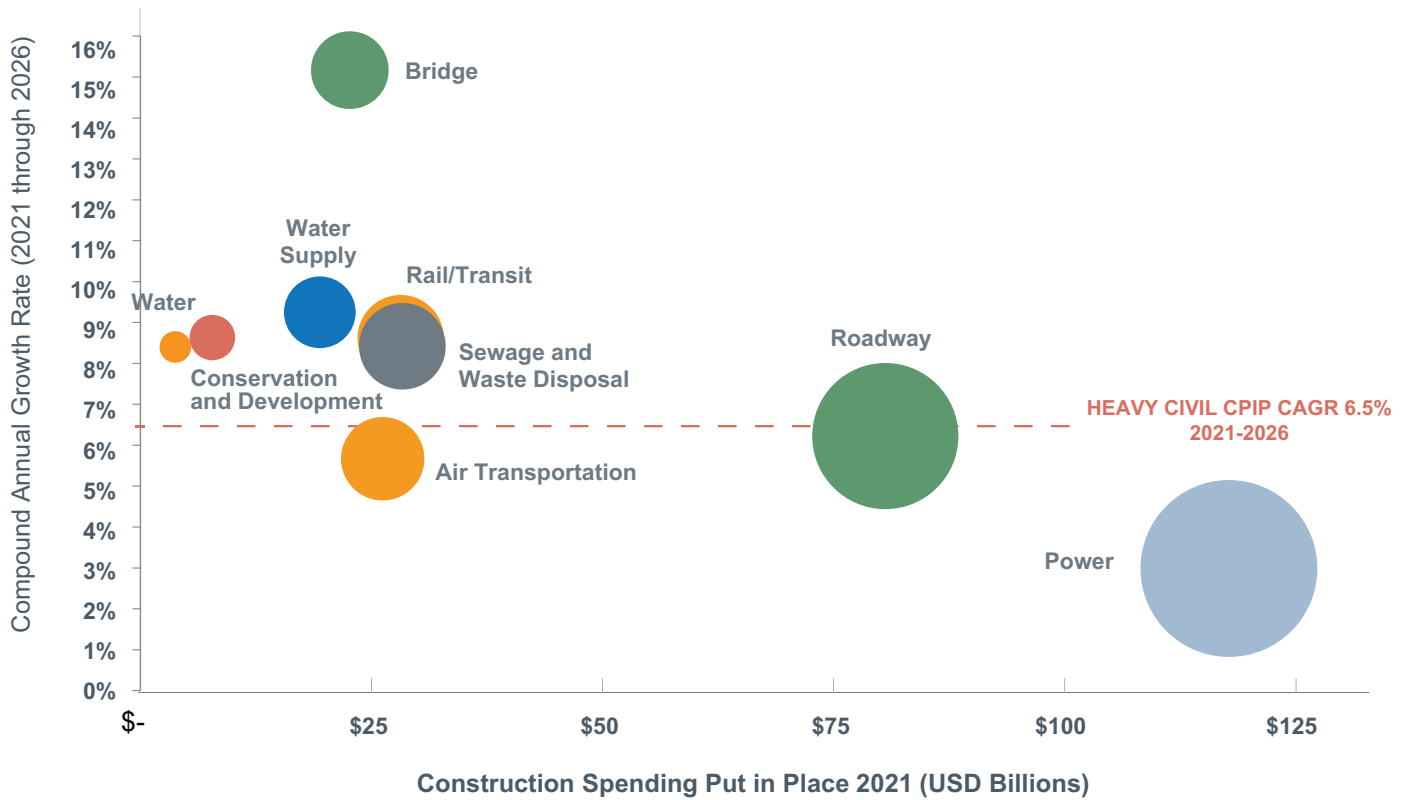




# HEAVY CIVIL CONSTRUCTION OUTLOOK



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



# HEAVY CIVIL CONSTRUCTION OUTLOOK



## Construction Put in Place Estimated for the United States

Millions of Current Dollars

3rd Quarter 2022 Forecast (Based on 1st Quarter 2022 Actuals and 2nd Quarter 2022 Assumptions)

	2017	2018	2019	2020	2021	2022F	2023F	2024F	2025F	2026F
<b>TRANSPORTATION</b>	<b>46,138</b>	<b>53,218</b>	<b>57,449</b>	<b>60,733</b>	<b>56,689</b>	<b>55,307</b>	<b>59,152</b>	<b>67,186</b>	<b>75,386</b>	<b>80,677</b>
Air	17,194	22,008	24,428	27,736	25,551	24,544	26,400	28,460	31,237	33,661
Rail/Transit	26,588	28,200	28,898	28,874	27,455	27,011	28,640	34,002	38,902	41,503
Port/Water	2,356	3,010	4,123	4,123	3,683	3,751	4,112	4,724	5,247	5,513
<b>POWER</b>	<b>95,951</b>	<b>99,569</b>	<b>117,960</b>	<b>115,048</b>	<b>114,859</b>	<b>117,084</b>	<b>118,486</b>	<b>121,917</b>	<b>128,883</b>	<b>133,073</b>
<b>HIGHWAY AND STREET</b>	<b>89,620</b>	<b>91,745</b>	<b>99,402</b>	<b>99,897</b>	<b>100,679</b>	<b>104,141</b>	<b>114,662</b>	<b>129,121</b>	<b>142,467</b>	<b>151,041</b>
Roadway	59,188	63,344	72,675	78,430	78,594	81,216	89,163	95,817	102,079	106,286
Bridge	30,432	28,401	26,727	21,466	22,085	22,925	25,499	33,305	40,387	44,754
<b>SEWAGE AND WASTE DISPOSAL</b>	<b>22,901</b>	<b>23,931</b>	<b>26,119</b>	<b>26,379</b>	<b>27,633</b>	<b>29,499</b>	<b>32,352</b>	<b>35,702</b>	<b>38,881</b>	<b>41,780</b>
<b>WATER SUPPLY</b>	<b>14,168</b>	<b>15,477</b>	<b>16,397</b>	<b>18,727</b>	<b>18,916</b>	<b>19,902</b>	<b>22,068</b>	<b>24,777</b>	<b>27,350</b>	<b>29,443</b>
<b>CONSERVATION AND DEVELOPMENT</b>	<b>7,464</b>	<b>8,229</b>	<b>9,207</b>	<b>8,955</b>	<b>7,584</b>	<b>7,786</b>	<b>8,576</b>	<b>9,529</b>	<b>10,558</b>	<b>11,474</b>
<b>TOTAL HEAVY CIVIL PUT IN PLACE</b>	<b>\$276,242</b>	<b>\$292,169</b>	<b>\$326,534</b>	<b>\$329,739</b>	<b>\$326,360</b>	<b>\$333,718</b>	<b>\$355,296</b>	<b>\$388,232</b>	<b>\$423,525</b>	<b>\$447,488</b>

## Construction Put in Place Estimated for the United States

Change From Prior Year Current Dollar Basis

3rd Quarter 2022 Forecast (Based on 1st Quarter 2022 Actuals and 2nd Quarter 2022 Assumptions)

	2017	2018	2019	2020	2021	2022F	2023F	2024F	2025F	2026F
<b>TRANSPORTATION</b>	<b>6.5%</b>	<b>15.3%</b>	<b>8.0%</b>	<b>5.7%</b>	<b>-6.7%</b>	<b>-2.4%</b>	<b>7.0%</b>	<b>13.6%</b>	<b>12.2%</b>	<b>7.0%</b>
Air	20.8%	28.0%	11.0%	13.5%	-7.9%	-3.9%	7.6%	7.8%	9.8%	7.8%
Rail/Transit	-0.8%	6.1%	2.5%	-0.1%	-4.9%	-1.6%	6.0%	18.7%	14.4%	6.7%
Port/Water	1.8%	27.8%	37.0%	0.0%	-10.7%	1.8%	9.6%	14.9%	11.1%	5.1%
<b>POWER</b>	<b>-14.4%</b>	<b>3.8%</b>	<b>18.5%</b>	<b>-2.5%</b>	<b>-0.2%</b>	<b>1.9%</b>	<b>1.2%</b>	<b>2.9%</b>	<b>5.7%</b>	<b>3.3%</b>
<b>HIGHWAY AND STREET</b>	<b>-3.8%</b>	<b>2.4%</b>	<b>8.3%</b>	<b>0.5%</b>	<b>0.8%</b>	<b>3.4%</b>	<b>10.1%</b>	<b>12.6%</b>	<b>10.3%</b>	<b>6.0%</b>
Roadway	-2.5%	7.0%	14.7%	7.9%	0.2%	3.3%	9.8%	7.5%	6.5%	4.1%
Bridge	-6.4%	-6.7%	-5.9%	-19.7%	2.9%	3.8%	11.2%	30.6%	21.3%	10.8%
<b>SEWAGE AND WASTE DISPOSAL</b>	<b>-5.2%</b>	<b>4.5%</b>	<b>9.1%</b>	<b>1.0%</b>	<b>4.8%</b>	<b>6.8%</b>	<b>9.7%</b>	<b>10.4%</b>	<b>8.9%</b>	<b>7.5%</b>
<b>WATER SUPPLY</b>	<b>1.6%</b>	<b>9.2%</b>	<b>5.9%</b>	<b>14.2%</b>	<b>1.0%</b>	<b>5.2%</b>	<b>10.9%</b>	<b>12.3%</b>	<b>10.4%</b>	<b>7.7%</b>
<b>CONSERVATION AND DEVELOPMENT</b>	<b>-3.6%</b>	<b>10.2%</b>	<b>11.9%</b>	<b>-2.7%</b>	<b>-15.3%</b>	<b>2.7%</b>	<b>10.1%</b>	<b>11.1%</b>	<b>10.8%</b>	<b>8.7%</b>
<b>TOTAL HEAVY CIVIL PUT IN PLACE</b>	<b>-6.2%</b>	<b>5.8%</b>	<b>11.8%</b>	<b>1.0%</b>	<b>-1.0%</b>	<b>2.3%</b>	<b>6.5%</b>	<b>9.3%</b>	<b>9.1%</b>	<b>5.7%</b>

## 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\*](mailto: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\*](mailto:brian.strawberry@fmicorp.com).



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