Market Conditions Q3 2023

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About this report

As we approach the holiday season with a welcome recession-free outlook, we're pleased to present our latest Horizons: Market Conditions Report. Within these pages, we delve into a comprehensive analysis of the construction industry, shedding light on the economic factors that influence our clients' capital projects. Our insights are rooted in extensive data collection and survey findings, providing valuable knowledge for all stakeholders in the industry.

This quarter, the procurement landscape in the construction sector has presented persistent challenges, particularly in the realm of electrical equipment acquisition. The enduring issue of extended lead times has disrupted project schedules globally, necessitating meticulous logistical planning for the foreseeable future. This stands in stark contrast to the stability observed in many other construction materials during this quarter.

While 2023 has generally seen price stability, as indicated by construction material indices, certain products continue to exhibit noteworthy price fluctuations. Approximately 56% of trade partners and suppliers reported steady or slightly decreased pricing, while 44% noted modest increases. Although we've seen a leveling off of the wild cost increases seen in recent times, the importance of robust cost management strategies cannot be overstated.

As we navigate the stabilization of lead times and costs, the construction industry's workforce remains a challenging puzzle. Skilled craftworkers are often tied up in megaprojects, with noticeable impacts in regions like Ohio, Texas, and Arizona. According to an AGC survey, a staggering 85% of companies have vacancies for craft workers. In light of these dynamics, the industry's adaptability and resilience remain essential as it strives for enhanced project timelines and operational efficiency.

Mike Barrett

Vice President, Project Delivery Services, CRB

CRB's procurement team works with our trusted strategic trade partners and suppliers to keep a database of lead times for equipment and materials. Many of the products in this database are specific to the life sciences and food + beverage (F+B) industries, while others are key building components. We frequently add new equipment and materials to our database to better support our clients with information and options.

FIGURE 1

Database of lead times for equipment and materials

CRB Lead Time Database

● Improving ● Stable ● Increasing

CURRENT LEAD TIMES FOR EQUIPMENT AND MATERIAL: Q3 2023		
Equipment/Material	Lead Time (wks)	Trend
F+B Equipment – CIP Skid	20	●
F+B Equipment – Ribbon Blender	30	●
Media Prep & Hold Skids-316SS	56	●
Media Prep & Hold Skids-AL6XN	66	●
Buffer Prep & Hold Skids-316SS	56	●
Buffer Prep & Hold Skids-AL6XN	66	●
Purified Water Skids	30	●
WFI Distribution Skids	30	●
USP Water Distribution Skid	30	●
Pure Steam Generators	32	●
Stainless Steel Vessels - ID > 98"	46	●
Stainless Steel Vessels - ID < 98"	24	●
Single Use Bioreactors	28	●
Single Use Bioreactor Bags	18	●
Stainless Steel Bioreactors - ID > 98"	46	●
Stainless Steel Bioreactors - ID < 98"	26	●
Chromatography Skids	44	●
Stainless Steel Tubing 316L	0	●
Stainless Steel Tubing AL6XN SF4	7	●
Modular Cleanroom Panels	14	●

(continued)

Source: CRB

FIGURE 1 (CONT.)

Database of lead times for equipment and materials

● Improving ● Stable ● Increasing

CURRENT LEAD TIMES FOR EQUIPMENT AND MATERIAL: Q3 2023		
Equipment/Material	Lead Time (wks)	Trend
Roof Joists	12	●
Metal Decking	12	●
Medium Voltage GIS Switchgear (35kV class, 1200A)	52	●
Medium Voltage Fused Switchgear (15kV class, 1200A)	66	●
Medium Voltage Fused Switchgear (4160V class, 1200A)	66	●
Medium Voltage Transformer - 3Ph - 45-500kva	130	●
Medium Voltage Transformer - 3Ph - 501-1500kva	160	●
Medium Voltage Transformer - 3Ph - 1501-3000kva	160	●
Medium Voltage Transformer - 3Ph - 3001-5000kva	65	●
MediumVoltage Transformer - 3Ph -5001+ kva	65	●
ANSI Switchgear (3000-4000A)	50	●
Switchboard (3000A-4000A)	65	●
Switchboard (2000A-2500A)	65	●
Panelboards (480V, Any ampacity)	10	●
Panelboards (208V, Any ampacity)	10	●
Dry Type Transformers (112.5kVA and below)	5	●
Busway (Any Ampacity)	16	●
Standard MCC	30	●
Smart MCC	47	●
Copper Tubing and Fittings	0	●
Standard Packaged RTUs	32	●
Cooling Towers	16	●
Water-Cooled Centrifugal Chillers	25	●
Air-Cooled Chillers, < 250 Tons	38	●
Air-Cooled Chillers, > 250 Tons	45	●
Boilers, 500 HP Water Tube	26	●
Boilers, 800 HP Fire Tube	26	●
Large-diameter Control Valves-Modulating	10	●
Stainless Steel Zero-Static/Block Body Valves	14	●

(continued)

Source: CRB

FIGURE 1 (CONT.)

Database of lead times for equipment and materials

● Improving ● Stable ● Increasing

CURRENT LEAD TIMES FOR EQUIPMENT AND MATERIAL: Q3 2023		
Equipment/Material	Lead Time (wks)	Trend
HEPA Filters & Housings: 1 Rd Housings	20	●
HEPA Filters & Housings: Multi Rd Housings	22	●
HEPA Filters & Housings: Orticlean	22	●
Sterile Pass-Thrus	10	●
Sanitary Heat Exchangers	20	●
Custom AHUs (Small Indoor Units)	50	●
Custom AHUs (Large Outdoor Units)	50	●
DOAS AHUs (Dedicated Outdoor Air System)	16	●
Semi-Custom AHUs (Small Indoor Units)	36	●
Semi-Custom AHUs (Large Outdoor Units)	36	●
HDPE Piping <4"	4	●
HDPE Piping >4"	4	●
Insulated Metal Panels (IMP)	14	●
RO Skids	40	●
BloWaste Kill Skids	40	●
Waste Neutralization Skids, 100 GPM	28	●
Waste Neutralization Skids, < 25 GPM	20	●

Source: CRB

In review of current lead times within the commercial construction industry, there is a persistent trend of extended durations, specifically in the procurement of electrical equipment. These prolonged lead times for electrical components have remained a challenge for some time now, disrupting project schedules and necessitating careful logistical planning. On the flip side, for many other construction materials and components, lead times have stabilized, offering a new semblance of predictability.

Key takeaway:

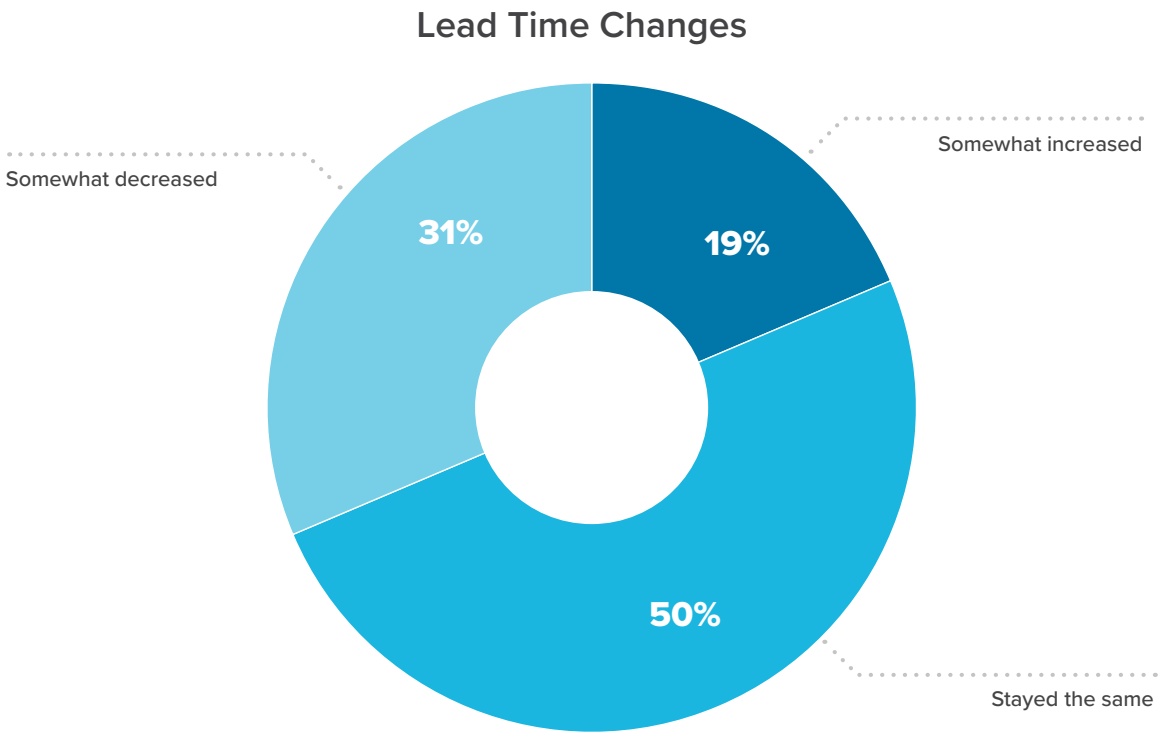
The industry continues to experience consistently long lead times for electrical components, causing disruptions in project schedules and requiring meticulous logistical planning.

According to our survey findings, 19% of companies reported that their lead times somewhat increased during this period, siting increased demand and customized equipment as challenges. Conversely, 31% of respondents saw a somewhat decrease in lead times, some noting that efficiencies have improved and suppliers have increased production capabilities. Encouragingly, a majority of 50% reported that their lead times remained consistent, suggesting the stability in production and delivery schedules that we've been hoping for.

No respondents indicated significant increases or decreases from the previous quarter, highlighting a level of overall balance in product lead times within the construction sector. These findings underscore the industry's adaptability and resilience in managing supply chain dynamics while striving for improved project timelines and efficiency.

FIGURE 2

How would you describe the lead times for your products in the third quarter (Q3) as compared to the second quarter (Q2)?



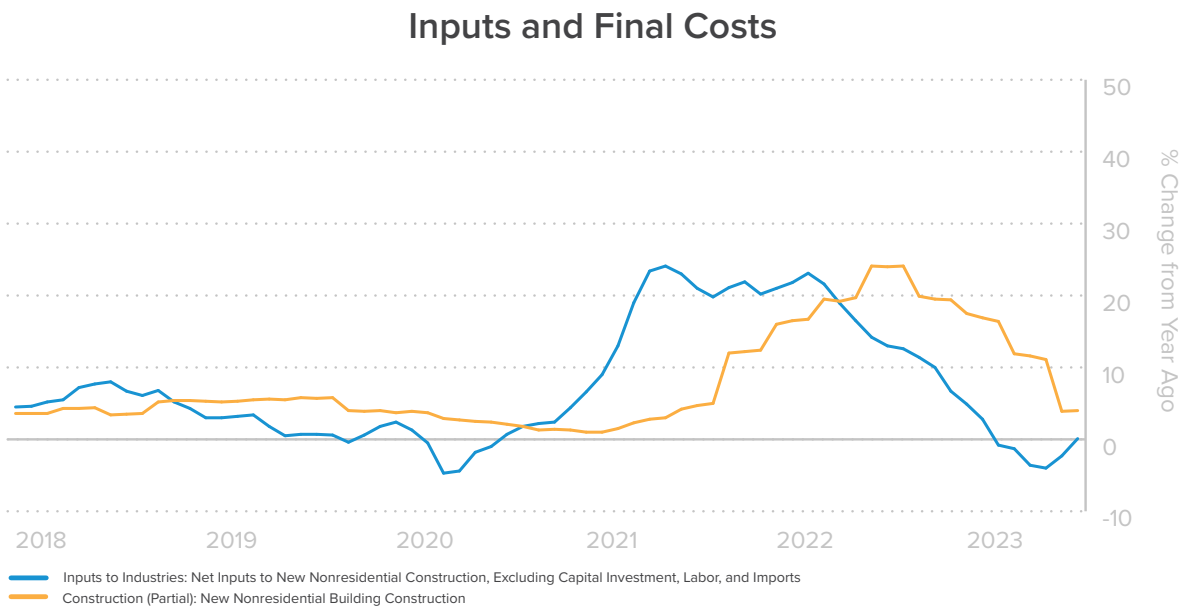
Source: CRB

Producer price indexes (PPI) are a family of indexes that measure the average change over time in selling prices received by domestic producers of goods and services. The price information is provided to the U.S. Bureau of Labor Statistics by over 16,000 establishments, providing approximately 64,000 price quotations per month. CRB uses data from PPIs to measure price movement specific to the construction industry and the products we purchase for our projects.

Figure 3 shows two different types of indexes. The blue line is an input index that represents the most common composition of materials used in non-residential building construction projects. The yellow line is considered a selling-price index, or, in other words, an index that measures the change to final construction costs for consumers, inclusive of labor, material, overhead and profit costs. For this figure, each data point shows the percentage of change in the index value over the preceding twelve months.

FIGURE 3

Construction inputs and bid price producer price indexes



Graphic Source: CRB
Data Source: U.S. Bureau of Labor Statistics

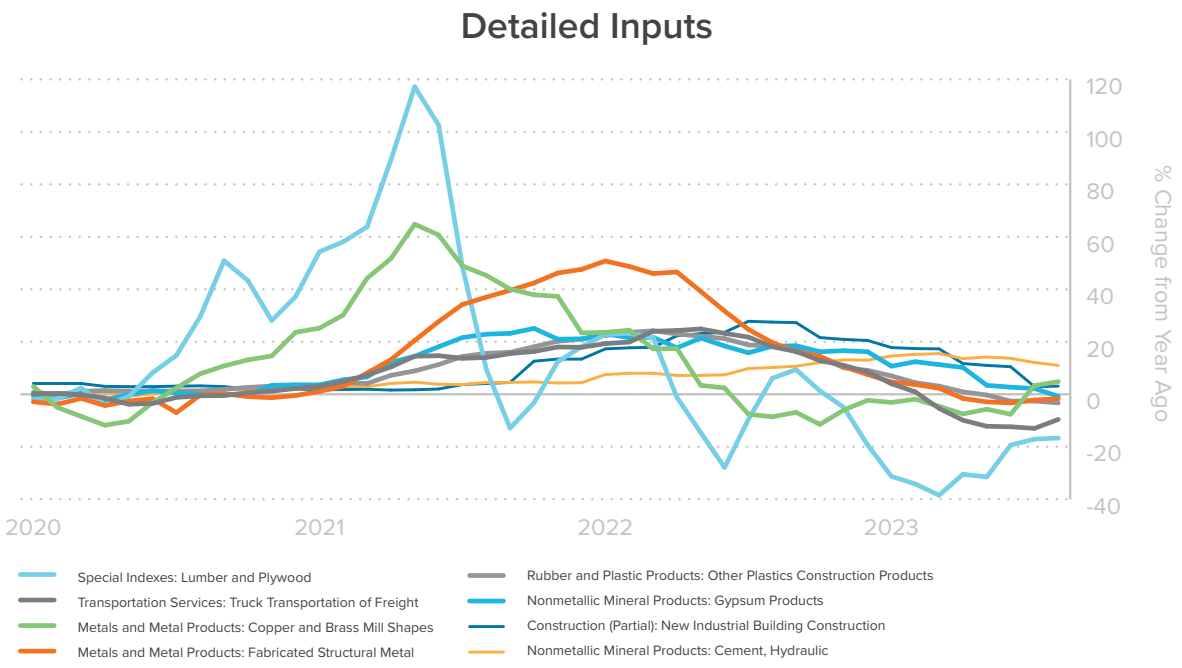
Inflation of final cost to construction consumers in the non-residential buildings market continues to drop well below the peak 12-month change of 27% documented for September of 2022, down to 3% year-over-year for August 2023. Keep an eye out for the Bureau of Labor Statistics' October 2023 updates to the final cost indices for confirmation of this trend. The decline to year-over-year change of net inputs to construction preceded the inflection point of final cost data by roughly one quarter last year. Earlier this year, net inputs to construction bottomed out at -4% year-over-year after starting 2023 at +5%. This trend has started to reverse, with current

published net input costs to non-residential construction hovering right at 0% change year-over-year. If this trend continues, final cost inflation is expected to start moving upwards again.

Figure 4 allows for a deeper dive into the commodities which comprise the net inputs to construction data discussed for Figure 3. While the net inputs to non-residential building construction currently show as roughly even with August of 2022, certain outliers are worth considering based on the type of building. For example, cement and concrete remain on the rise, bucking the trends exhibited by most other commodities, currently at an 11% increase year-over-year. Steel pipe and tube help to offset that when considering the net impact of all inputs, with this category at 22% below that of 12 months ago. Life sciences and food + beverage companies should keep an eye on stainless steel, as the trend for stainless steel scrap pricing has reversed and now is at 11% above August 2022.

FIGURE 4

Construction inputs and bid price producer price indexes



Graphic Source: CRB
Data Source: U.S. Bureau of Labor Statistics

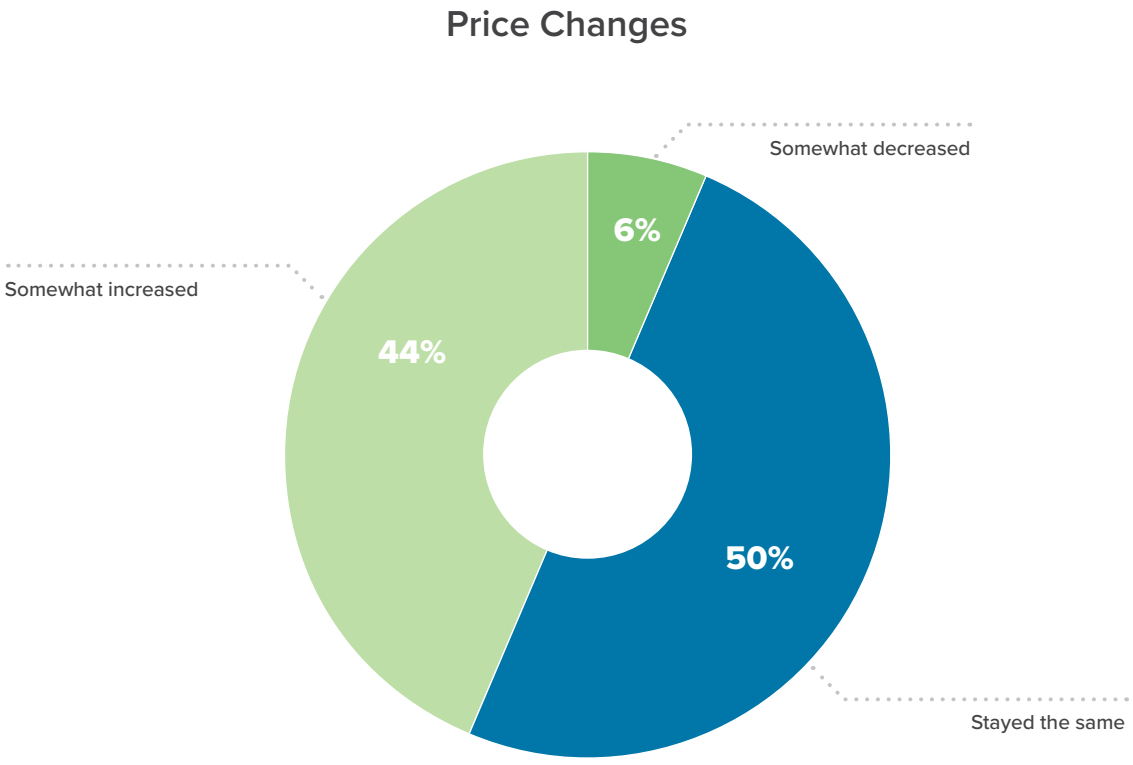
Key takeaway:

With inputs on average demonstrating stability over the last two quarters, labor availability and local bid activity stand to influence future cost inflation more so than material costs over the coming months.

Despite general price stability in 2023 according to construction material indices, certain products are still exhibiting notable price fluctuations. Our survey revealed that 56% of trade partners and suppliers who responded saw steady pricing or even a slight decrease in cost, and 44% saw a modest increase. This contrasts with the Q2 results, where a substantial 71% of prices remained unchanged and 25% saw moderate increases, and 4% saw significant price hikes.

FIGURE 5

How would you describe the prices of your products in the third quarter (Q3), as compared to the second quarter (Q2)?



Source: CRB

There are signs that the wild cost increases we have seen in the recent past have leveled off, even if the new established norm is escalated as compared to historical pricing. Multiple partners noted that the price increases were due to raw materials and components costing their business more.

Careful budgeting and cost management strategies are still required to manage these new norms. Encouragingly, there is a silver lining where certain commodities, like steel, are experiencing a downward trend, hitting a potential respite and indicating a possible shift towards more reasonable costs in 2024, particularly in the realm of manufactured goods.

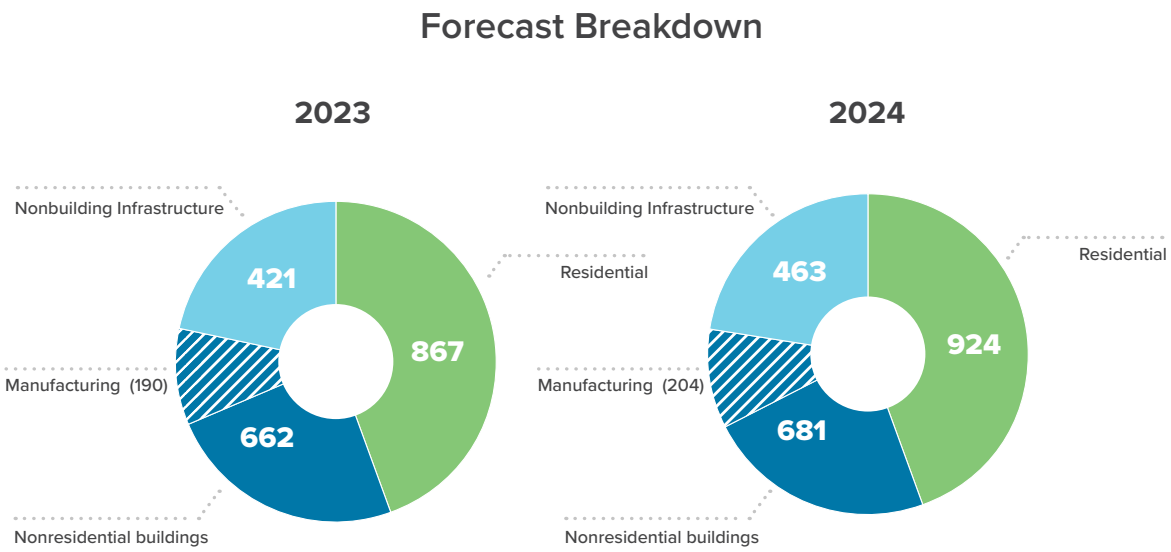
Over the summer, most economists predicted spending to slow down in 2024. In our Q2 Horizons: Market Conditions Report, we highlighted the AIA Consensus Construction Forecast for 2023 and 2024, which shows 5.8% and 0.8% growth, respectively.

This quarter, however, we'll highlight the forecast projected in Construction Analytics, which includes data from the U.S. Census that was not available at the time of the AIA Midyear Forecast.

Construction Analytics shows construction expenditure for 2023 to be $1.95 trillion, reflecting a 5.5% growth compared to 2022. Anticipated spending on nonresidential buildings is estimated at $662 billion, indicating a substantial 20.6% rise from 2022. As of August 2023, Construction Analytics shows a 6.1% increase in 2024 with a breakdown of categories shown in Figure 6.

FIGURE 6

Total construction spending forecast ($ in billions)



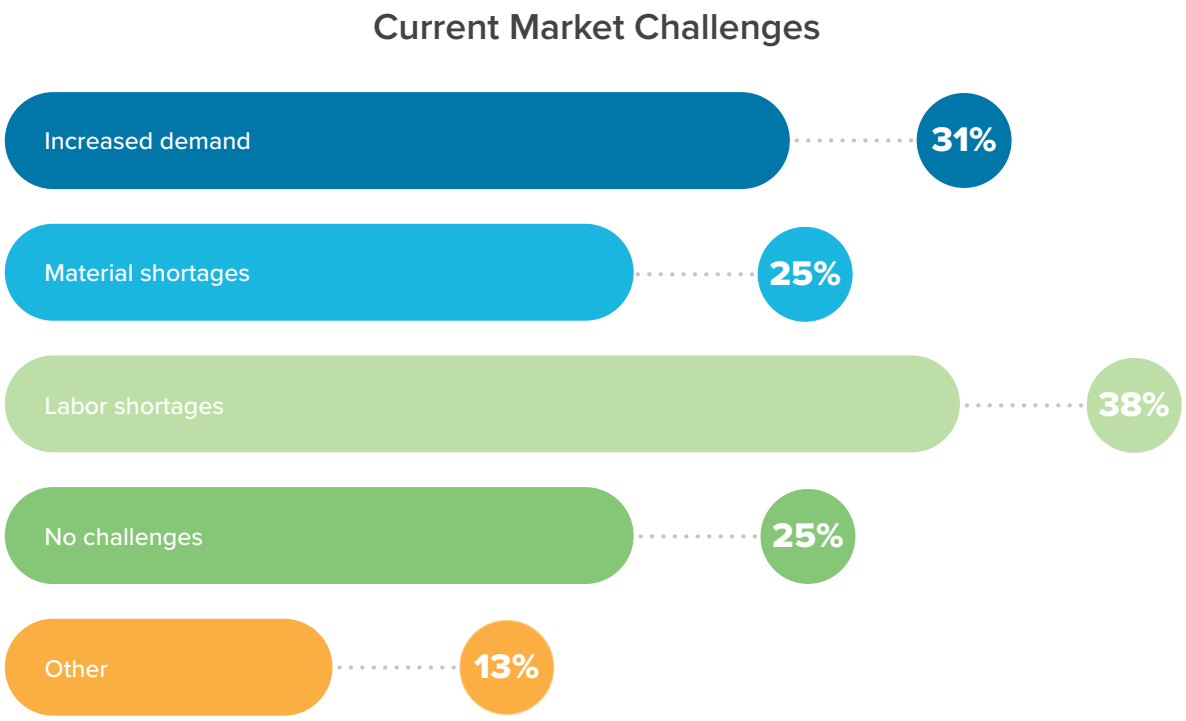
Graphic Source: CRB
Data Source: Construction Analytics

2022 saw the largest one-year increase in non-residential building starts ever. We expect many of those projects to reach peak spending levels over the next year and a half. Notably, many of those projects are in the manufacturing sector, which saw a 150% increase in construction starts in 2022.

Labor shortages are at the top of the list of concerns (Figure 7) this quarter. Of the trade partners we surveyed, 38% of the trade partners we surveyed are experiencing labor challenges, a tough problem to solve when demand is also increasing and the manufacturing megaproject boom is claiming the majority of the labor in states such as Arizona, Texas and Ohio.

FIGURE 7

What factors have contributed to any challenges or constraints in the third quarter (Q3)?



Source: CRB

Projects to know:

Megaprojects in the manufacturing sector make up a significant portion of the forecast $1.95 trillion spend for 2023. They need to be considered as factors that could cause labor and material shortages in the coming months and years.

The Samsung chip plant, Intel semiconductor plant, Texas Instruments semiconductor water fab, LG Energy Solutions battery complex and Hyundai EV plant are each over $5 billion projects.

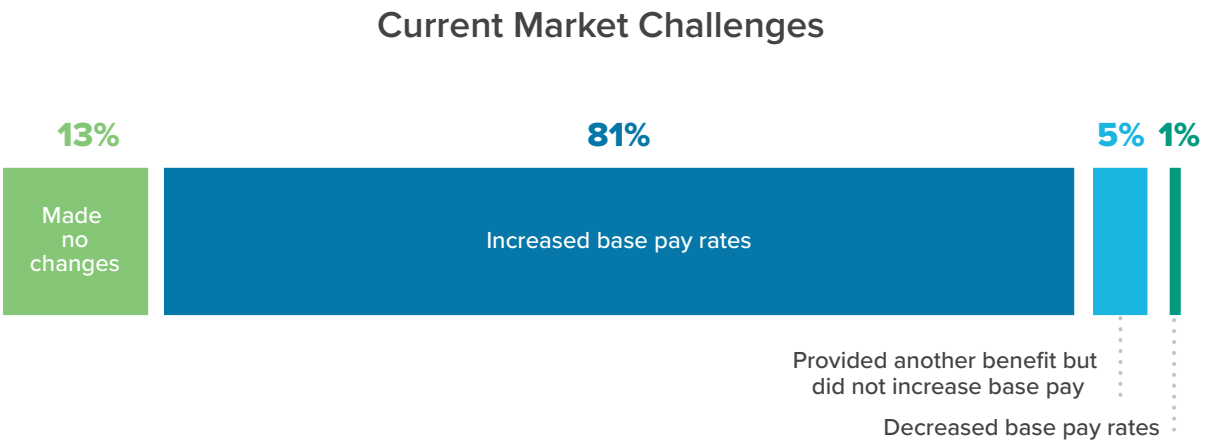
An AGC survey of it's members, published in September 2023, highlights ongoing challenges filling open positions in the construction industry. Of more than 1,000 individuals surveyed, 85% of respondents reported vacancies for craft workers and 69% for salaried positions.

For craft positions, all 21 specific trades surveyed experienced difficulty in recruitment, with installers, concrete workers and pipelayers, carpenters, and cement masons, mechanics, and truck drivers being the most challenging to find. Salaried roles like superintendents, project managers/supervisors, and engineers also posed recruitment challenges.

When asked how AGC member companies were changing compensation for their employees, 81% reported the firms increased base pay rates in the past 12 months (Figure 8).

FIGURE 8

Has your firm adjusted pay and/or benefits for hourly craft or salaried personnel in the past 12 months?



Graphic Source: CRB
Data Source: Associated General Contractors of America

According to the survey, other strategies firms are using to address labor shortages include online recruitment, engagement with career-building programs and collaboration with executive search firms. Training and professional development also saw a significant boost, especially among larger firms.

CONTRIBUTORS

Greg Casper is the Director of Estimating, leading a team of estimating professionals across CRB's global offices. Greg has over 15 years of experience providing preconstruction, procurement, estimating and scheduling services for life sciences and food + beverage projects.

Valerie Silva is the Director of Procurement and has more than 15 years of experience with global cost optimization, project management and supply chain issues. She leads a team of procurement experts to offer our clients end-to-end sourcing and managing of equipment and construction services for capital projects.

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Reference Data

Much of the economic information in this report is compiled from third-party resources that are available to the public and not owned by CRB. All references are included in the body of the report.

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