

PERFORMANCES



Market Conditions Q1 2023

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About this Report



The Federal Reserve increased interest rates for the ninth time since March 2022 and Silicon Valley Bank's collapse marked the second-largest bank failure in United States history. While many economists believe a recession is right around the corner, Ken Simonson, chief economist for Associated General Contractors of America, disagrees.

The first quarter of 2023 has brought its share of market uncertainty, but most construction industry leaders remain optimistic about a soft landing. In any scenario, CRB continues to monitor and analyze the market conditions that affect our industry's performance.

The newest offering in our line of Horizons reports gathers the most important economic data for evaluation during capital project planning. The Horizons: Market Conditions report, issued quarterly, includes a combination of macroeconomic data from public sources and microeconomic data from our project teams and strategic partners.

From lead times for critical equipment and trends we see in the supply chain to escalation, megaprojects and skilled labor, we pair industry data about today's construction economy with analysis that helps you make informed decisions about your business investments.

A handwritten signature in blue ink that reads "Mike Barrett". The signature is fluid and cursive, with a long horizontal stroke at the end.

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're frequently adding 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

● Improving ● Stable ● Increasing

CURRENT LEAD TIMES FOR EQUIPMENT AND MATERIAL: Q1 2023		
Equipment/Material	Lead Time (wks)	Trend
F+B Equipment – CIP Skid	40	●
F+B Equipment – Palletizer	52	●
F+B Equipment – Ribbon Blender	28	●
F+B Equipment – High Pressure Extruder	52	●
Media Prep & Hold Skids-316SS	66	●
Media Prep & Hold Skids-AL6XN	68	●
Buffer Prep & Hold Skids-316SS	66	●
Buffer Prep & Hold Skids-AL6XN	68	●
Purification Skids	30	●
WFI Distribution Skids	30	●
USP Water Distribution Skid	28	●
Pure Steam Generators	28	●
Stainless Steel Vessels - ID > 98"	62	●
Stainless Steel Vessels - ID < 98"	40	●
Single Use Bioreactors	32	●
Single Use Bioreactor Bags	16	●
Stainless Steel Bioreactors - ID > 98"	62	●
Stainless Steel Bioreactors - ID < 98"	42	●
Chromatography Skids/Columns	54	●
Stainless Steel Tubing	Stock	●
Modular Cleanroom Panels	16	●
Roof Joists	7	●
Metal Decking	5	●
Medium Voltage GIS Switchgear (35kV class, 1200A)	75	●

(continued)

Source: CRB



FIGURE 1 (CONT.)

Database of lead times for equipment and materials

● Improving ● Stable ● Increasing

CURRENT LEAD TIMES FOR EQUIPMENT AND MATERIAL: Q1 2023		
Equipment/Material	Lead Time (wks)	Trend
Medium Voltage Fused Switchgear (15kV class, 1200A)	35	●
Medium Voltage Fused Switchgear (4160V class, 1200A)	35	●
Medium Voltage Transformer - 3Ph - 45-500kva	75	●
Medium Voltage Transformer - 3Ph - 501-1500kva	103	●
Medium Voltage Transformer - 3Ph - 1501-3000kva	103	●
Medium Voltage Transformer - 3Ph - 3001-5000kva	53	●
ANSI Switchgear (3000-4000A)	68	●
Switchboard (3000A-4000A)	53	●
Switchboard (2000A-2500A)	53	●
Panelboards (480V, Any ampacity)	24	●
Panelboards (208V, Any ampacity)	24	●
Dry Type Transformers (112.5kVA and below)	16	●
Busway (Any Ampacity)	51	●
Standard MCC	36	●
Smart MCC	39	●
Copper Tubing and Fittings	Stock	●
Standard Packaged RTUs	42	●
Cooling Towers	16	●
Water-Cooled Chillers	70	●
Air-Cooled Chillers, < 250 Tons	52	●
Air-Cooled Chillers, > 250 Tons	70	●
Boilers, 500 HP Water Tube	42	●
Boilers, 800 HP Fire Tube	30	●
Large-diameter Control Valves-Modulating	8	●
Stainless Steel Zero-Static / Block Body Valves	12	●
Sterile Pass-Thrus	20	●
Sanitary Heat Exchangers	20	●
Custom AHUs (Small Indoor Units)	40	●
Custom AHUs (Large Outdoor Units)	40	●
DOAS AHUs (Dedicated Outdoor Air System)	20	●

(continued)

Source: CRB



FIGURE 1 (CONT.)

Database of lead times for equipment and materials

● Improving ● Stable ● Increasing

CURRENT LEAD TIMES FOR EQUIPMENT AND MATERIAL: Q1 2023		
Equipment/Material	Lead Time (wks)	Trend
Semi-Custom AHUs (Small Indoor Units)	32	●
Semi-Custom AHUs (Large Outdoor Units)	52	●
RO Skids	40	●
BioWaste Kill Skids	40	●
Waste Neutralization Skids, 100 GPM	22	●
Waste Neutralization Skids, < 25 GPM	20	●

Source: CRB

Lead times for facility electrical equipment continue to extend, requiring early focus on the design and procurement of this equipment to achieve most project schedules. Motor control centers (MCC) have current lead times of at least 36 weeks, while transformers can take up to 100 weeks to arrive. Busway lead times are nearly a year long, up 20 weeks since last quarter, potentially extending lead times of electrical equipment as well as skidded utility generation equipment.

36

weeks is currently the minimum lead time for motor control centers

Key takeaway:

Despite the challenges we've experienced over the past two years and the extended lead times we're seeing now on things like switchgear, transformers, AHUs, chillers, MCCs and busways, CRB's Director of Procurement, Valerie Silva is encouraged that there are pockets of recovery where commodities and components have been trending in the right direction.

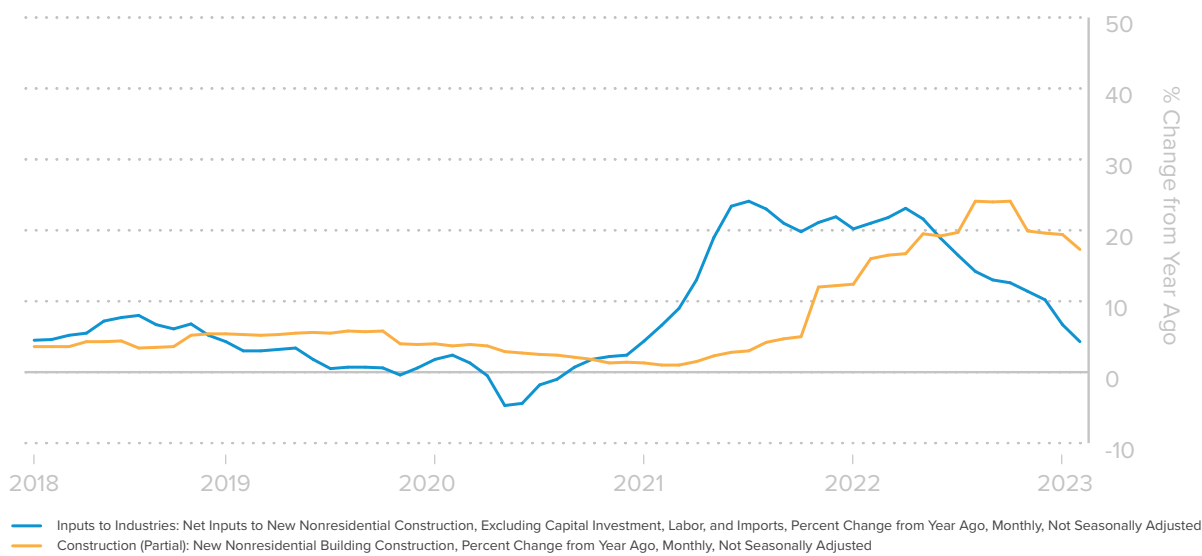


Producer price indexes (PPI) are a family of indexes that measure the average change over time in selling prices received by domestic producers of goods and services. The price information is provided to the U.S. Bureau of Labor Statistics (BLS) by over 16,000 establishments, providing approximately 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 2 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 2

Construction inputs and bid price producer price indexes



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

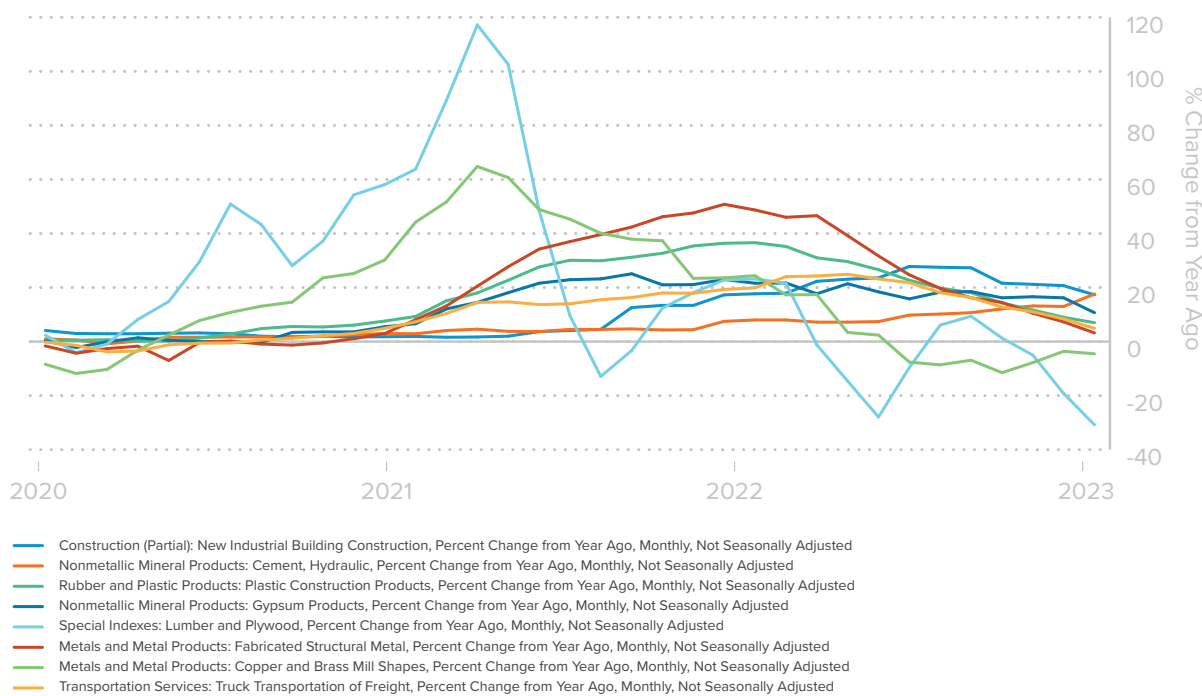
Growth in the final cost index for new industrial buildings has slowed over the last quarter, down to 17% year-over-year for February from 22% in December.



Figure 3 overlays individual input indexes for common materials with the selling price index for new industrial building construction, presented as a percentage of change over the last year.

FIGURE 3

Construction inputs and bid price producer price indexes



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

While most of these indexes are showing decreasing growth and reductions in cost, acceleration of cost for certain materials, such as cement, is still occurring.

Overall, these indexes are down to 2.74% year-over-year for February from 6.78% in December.

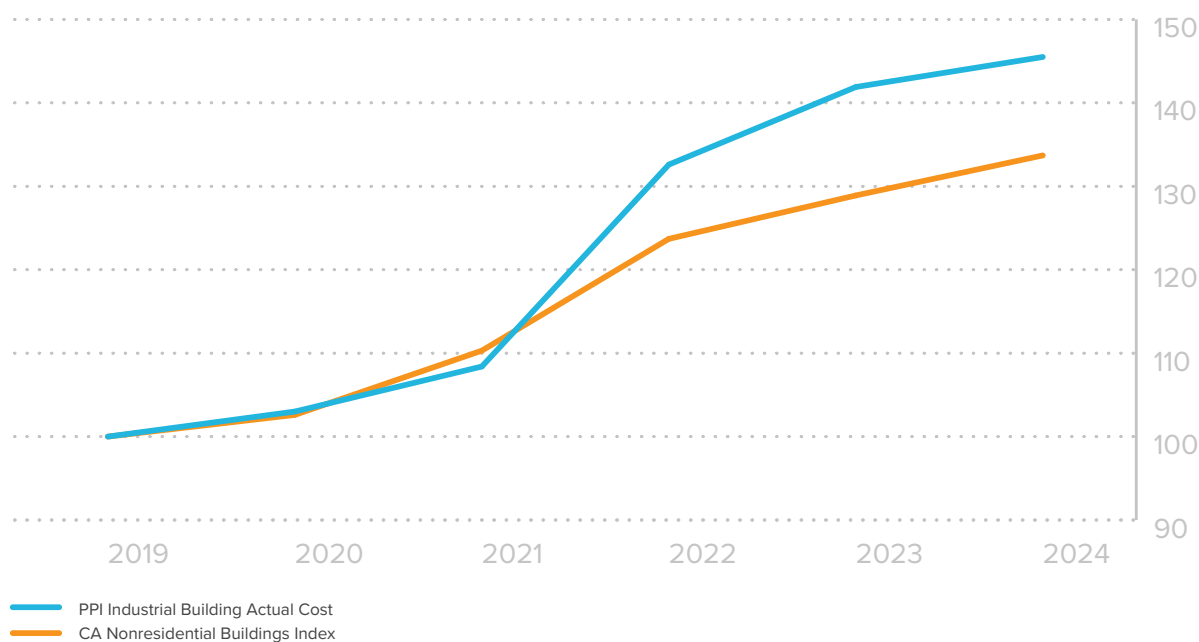
These indexes and additional economic data time series from scores of national, international, public, and private sources can be found on the [Federal Reserve Economic Data \(FRED\)](#) online database.



Figure 4 shows a final cost index published by Construction Analytics paired with PPI Industrial Building Actual Cost reported by the BLS. They have been normalized for comparison. The Construction Analytics index projects continued increases to final construction costs to consumers over the next year, albeit at a slower pace than what the industry experienced in the first two years of the pandemic.

FIGURE 4

Combined forecast indexes



Graphic Source: CRB
 Data Sources: Construction Analytics,
 U.S. Bureau of Labor Statistics

Key takeaway:

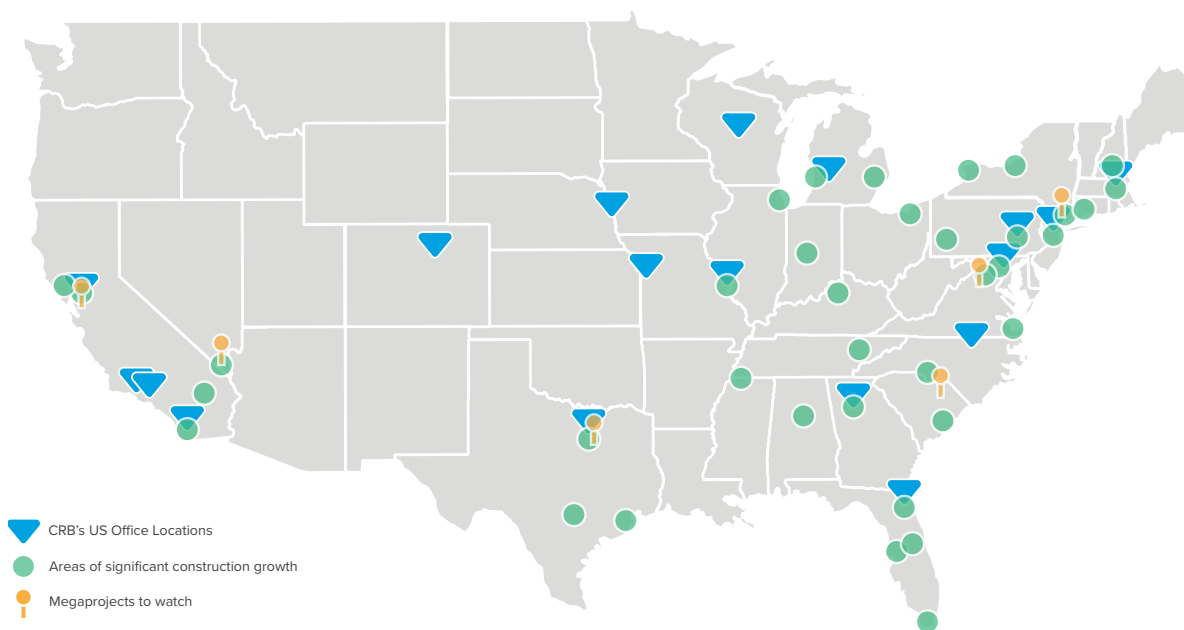
With increases to construction inflation slightly slowing, and in consideration of the economic headwinds, CRB’s Director of Estimating, Greg Casper, recommends carrying 4-5% annual cost escalation when developing new budgets. This recommendation is lower than the levels of inflation experienced over the preceding two years, yet tracks higher than the pre-pandemic historical average.



While we may not see the same 17% increase in inflation that we saw over the last 12 months, it is still important to consider the factors that may impact your metropolitan areas. Historically, one of the leading indicators of increased levels of construction cost escalation has been the acceleration of new construction opportunities in a market. Figure 5 shows markets where construction growth increased in 2022, as reported by [FMI](#). It also highlights locations where high-profile, high-impact projects, reported by [Construction Dive](#), may be leading to higher costs in that market.

FIGURE 5

Market impact map



Graphic Source: CRB
Data Sources: CRB, FMI

Key takeaway:

While our recommendation to carry 4-5% cost escalation when developing new budgets is reflective of typical life science and food + beverage capital investments, many factors can drive escalation outside this typical range, and it is critical to have a partner helping study real-time project conditions against market conditions.

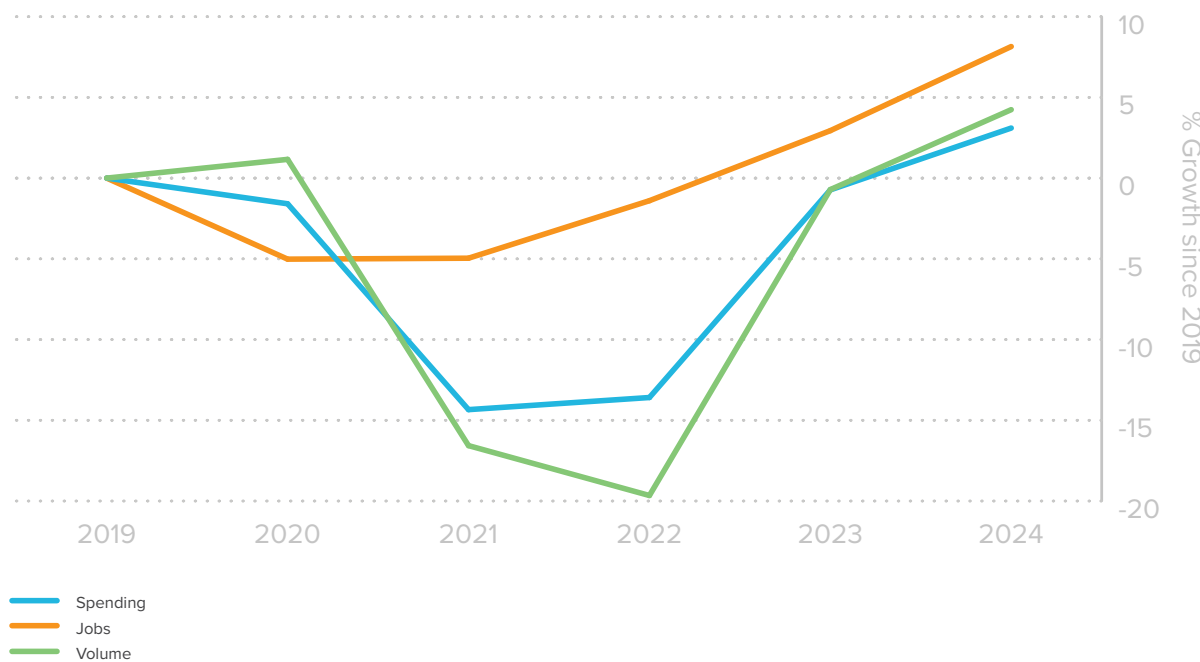


Figure 6 highlights construction spending, construction volume and construction jobs, as calculated by [Construction Analytics](#). Market volume for new nonresidential buildings is approaching pre-pandemic levels and is expected to surpass this benchmark during 2023. The data shows jobs decreased at a much slower rate than volume during 2020 and 2021, followed by a steady increase in jobs last year, albeit at a rate lower than the growth in volume.

This could mean that more jobs are needed to support the same level of volume, which is a concern for forward escalation. If this trend persists, the lower levels of craft productivity coupled with competition to retain skilled labor portends higher labor costs and longer schedules to complete the same scope of work. On the other hand, some experts speculate the cause of differing rates of growth for jobs and volume may be due to contractors holding staffing levels in anticipation of returning volume to the market. If this proves to be true, meaning the industry can absorb new volume with lower levels of growth in new jobs, we could expect a reduction in labor’s effect on forward cost escalation, a positive sign indeed.

FIGURE 6

Nonresidential building construction spending, volume and jobs



Graphic Source: CRB
Data Source: Construction Analytics



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.

CONTRIBUTORS



Legal Notice

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although CRB endeavors to provide accurate and timely information, there is no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.

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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