

Turner

MARKET CONDITIONS **CONNECTICUT**

Q4 2021

CONNECTICUT OFFICE

50 WATERVIEW DRIVE, STE. 220
SHELTON, CT 06484

**FOR QUESTIONS OR
MORE INFORMATION:**

Joe Diiorio

Business Development Manager
jdiiorio@tcco.com
203.395.8115

Q4 2021 MARKET CONDITIONS

EXECUTIVE SUMMARY



The impact of the COVID-19 pandemic has continued through the 4th Quarter of 2021 and has resulted in uncertainty in 2022 market projections. To gain a better perspective on the future state of the economy, we have collected data from owners and architects, along with our trade, equipment and supply partners. We have studied anticipated projects in the pipeline, material pricing, supply chains, construction labor, and escalation to analyze Q4 2021 market results. This has allowed us to provide insight as to what 2022 holds in store.

New Job Starts:

Connecticut and Westchester



The upcoming year is projected to provide healthy construction activity with a considerable number of new job starts across the market, however the predictability of project schedules will pose a challenge if not planned to consider supply chain delays and material shortages.

AIA Architectural Billings Index



Nationally, AIA's Architectural Billings Index displays a decline in architectural firms billings over the fourth quarter, but remained above 50, meaning a majority of architectural firms have seen growth through the end 2021.

Locally in the Northeast, however, business conditions experienced even further decline to below 50, reflecting historical fluctuations in billings over the last few years.

Billings in the residential, commercial, industrial, and institutional market showed modest growth over the quarter.

SourceBlue MEP Cost Index



SourceBlue (Formerly Turner Logistics) is forecasting an overall increase of 10.3% in MEP equipment pricing in 2021.

In addition to this forecast, our SourceBlue team continues to canvas major manufacturers of mechanical and electrical equipment and architectural products to provide current information regarding supply chain impact and anticipated lead times.

Q4 Subcontractor Survey Results & Labor Market



As the market recovers from the initial onset of COVID-19, Subcontractors have continued to experience increased bidding activities throughout the second half of 2021.

With a rise in new work, trades are bidding work less aggressively and are selectively choosing which jobs they bid. We are seeing overhead and profit return to pre-pandemic levels.

With the outbreak of COVID variants and an influx of new work, it is expected that workforce availability will further tighten during the first half of 2022.

National Cost Indices



The U.S. Bureau of Labor Statistics (BLS) Producer Price Index for WPUID612 - Materials and Components for Construction increased 21.3% from November 2020 to November 2021. This number reflects the intermediate demand by commodity type materials and components for construction.

Consumer Price Index (CPI) displayed a 6.8% increase from 11/2020 to 11/2021. The latest Turner National Cost Index reported a national escalation increase of 3.07% from 2020.

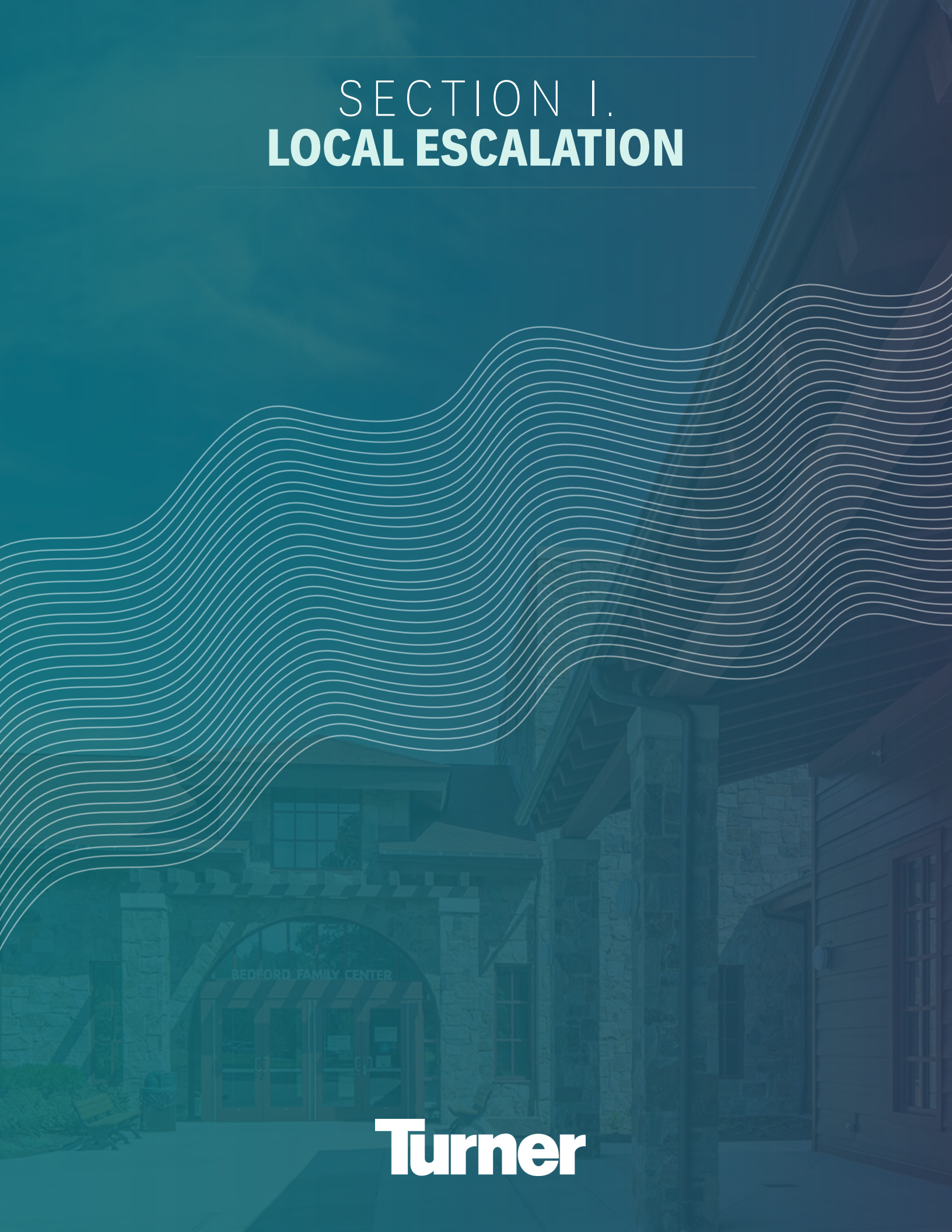
Overall, the results continue to indicate increased costs as well as reduce the vendor/subcontractor market's ability to provide longer pricing commitments for current projects.

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SECTION I. **LOCAL ESCALATION**



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LOCAL ESCALATION

TODAY'S CONSTRUCTION MARKET IS SEEING AN EXTRAORDINARY RISE IN MATERIAL COSTS DUE TO SUPPLY CHAIN CHALLENGES. WITH THE STEADY RISE IN THE COST OF LABOR AND TRADE CONTRACTORS SECURING NEW WORK, EXPECT OVERHEAD AND PROFIT TO LEVEL OUT.

Each dollar spent on construction is made up of three components: Labor, Material and Overhead & Profit. How each category is impacted dictates how pricing increases or decreases. Example: If Labor (roughly 35% of each dollar spent) increased 3% and Material and O&H stayed flat, the construction market experiences a 1% increase in price.

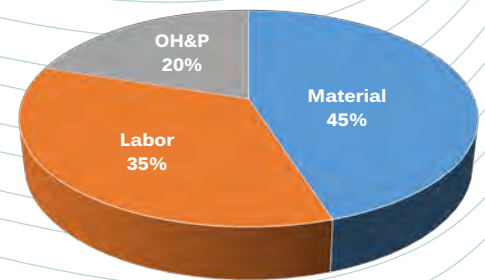
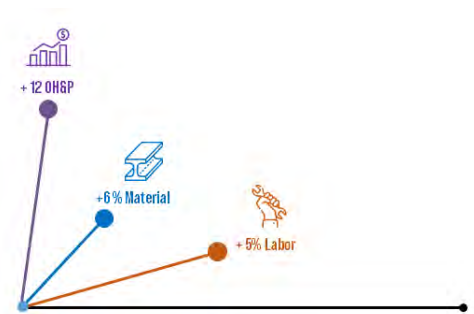
The Current Market. Labor Costs (Roughly 35% of construction pricing) continue to increase annually. This combined with a shortage of skilled workers is creating a higher than normal labor cost.

Material (roughly 45% of construction pricing) is very volatile right now due to various supply chain challenges in the current market. We are still experiencing increases in commodities such as Copper, Aluminum, Gasoline and Steel which have had significant impacts on construction material pricing. We are projecting this trend will continue and material pricing will have a 6% increase on construction pricing.

Overhead and Profit (roughly 20% of construction pricing) With Subcontractor backlog now returning to pre-pandemic they are no longer willing to absorb the increases in labor and material. Expect to see sub contractors overhead and profit return close to pre-pandemic levels.

PROJECTED FUTURE ESCALATION 5.50 - 7.0%

Future State of the Market. Supply chain disruptions continue to impact lead times for key construction materials. At the same time, many vendors and subcontractors are reporting that their backlog is returning to pre-pandemic levels. Overall the results continue to indicate increased costs of 5.50-7.0% as well as reduce the vendor/subcontractor market's ability to provide longer pricing commitments for current projects.



ECONOMIC OUTLOOK

As the economy reopened in 2021, pent-up demand generated strong global growth. As a result, developed markets are now growing much faster than before the pandemic. Many expect continued above-trend global growth in 2022, as momentum carries economies through the first months of the year before slowing in the second half and into 2023.

The world's central bankers seem to have concluded that the coronavirus pandemic is more likely to drive inflation higher than to push economic growth lower. In response to stubbornly elevated inflation, central banks around the world are pivoting toward tighter policy including the US Federal Reserve signaling rate hikes as soon as March.

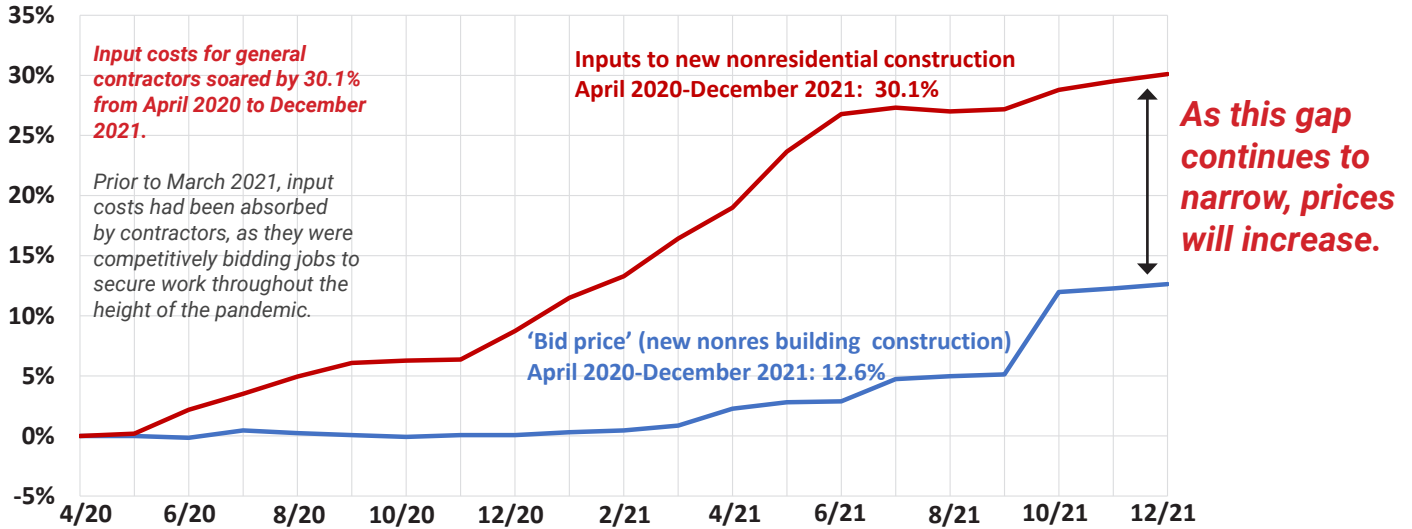
As the year progresses, tighter policy is likely to slow global growth. These conditions—climbing short-term rates and slowing-but-still strong growth—are a recipe for flattening yield curves and flatter yield curves signal caution when it comes to taking risk.



LOCAL ESCALATION

Inputs and 'bid price' producer price indexes (PPIs)

cumulative change in PPIs, April 2020 –December 2021 (not seasonally adjusted)

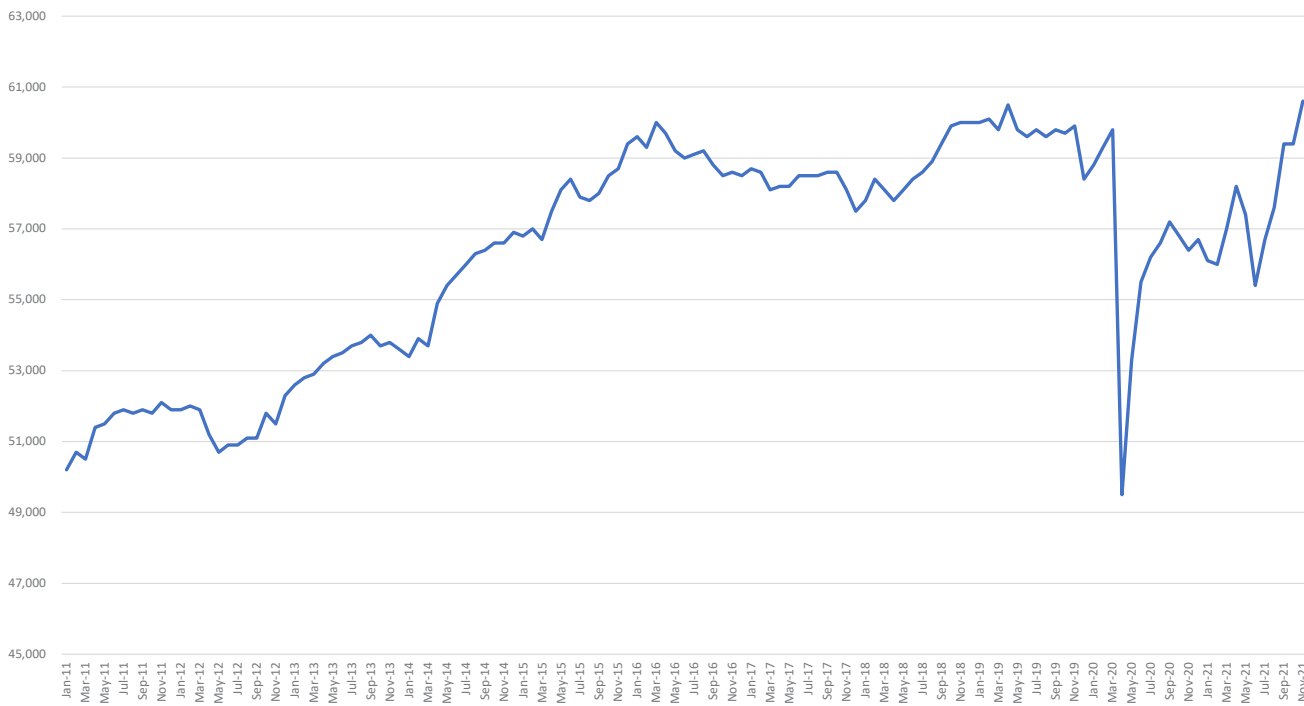


1 | Source: Bureau of Labor Statistics, producer price indexes, www.bls.gov/ppi

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Connecticut Construction Employment

Input costs for general contractors soared by 30.1% from April 2020 to December 2021. Prior to March 2021, input costs had been absorbed by contractors, as they were competitively bidding jobs to secure work throughout the height of the pandemic. With the influx of construction input and uncertainty of material pricing, current contractors bids reflect more conservative pricing.



SECTION II. **MARKET TEMPERATURE**



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CONNECTICUT & WESTCHESTER

MARKET TEMPERATURE

Based on our survey of multiple institutions, design firms, commercial real estate brokers and construction project managers.

COMMERCIAL

According to the United States Census, nationwide Commercial Construction in place has seen steady growth through the fourth quarter 2022. The Dodge Momentum Index also measures a 19% increase in commercial planning since Q4 of 2020.

Connecticut

In 2021, leasing activity in the region was up 23% from the previous year. Connecticut's Governor continues to promote the state as "an ideal place to live and work" and leverage state funded corporate-incentives programs to entice major corporations to move to the state. He has had success persuading major entities such as Charter, iCapital Network, Digital Currency Group, ITT, Tomo, and Philip Morris International to relocate their headquarters to Connecticut. Commercial growth is expected to become more broad-based in the upcoming year as there is a greater focus on office additions and renovations as the workforce continues to shift back into offices.

The warehouse sector continues to lead as the main driver of the commercial building sector, which is expected to continue as Amazon leads the way building massive distribution centers, including plans for new locations across the state.

Westchester

Per CBRE total annual office leasing in Westchester was up 73% in 2021 from the activity level of 2020. Also up 73% was the level of fourth-quarter leasing activity when compared with activity in the third quarter of the year. Activity for the entire year of 2021 surpassed the five-year average for office leasing by 9%.

DATA CENTERS

Connecticut and parts of Western Massachusetts continue to be well-positioned to be a new hub for data centers in between Boston and New York City. For years high power costs, tax, and tricky regulatory environments have kept developers and tech companies away. But with new Tax incentives in both states, proximity and connectivity to some of the nation's largest population and economic hubs, data center developers are eyeing the region and preparing to pull the trigger.

HEALTHCARE



Connecticut and Westchester Health Networks are moving forward with major projects or taking a more serious approach to master-planning to remain competitive. While 2021 saw many hospitals restart projects that were put on hold or delayed due to the pandemic, 2022 and 2023 will bring construction of new hospitals and patient tower expansions.

High-end technology for patient and procedural spaces, larger private and ICU-compliant universal patient rooms, combined heat and power turbines for steam and electricity, combined pre- and post-recovery bays, more space allotted for telehealth and behavioral health, and growth in emergency departments are some of the trends health networks will be focusing on in 2022. There's also a strong demand for outpatient care, although health systems are re-evaluating program sizes to factor the impact of virtual healthcare and remote patient monitoring for lower-acuity chronic case management.

INFRASTRUCTURE

A \$1.2 trillion federal infrastructure bill was recently signed which will increase funds for a range of civil construction projects across the country such as road, dams, rail, resiliency, broadband Internet infrastructure, electrical grid projects, and airport maintenance and improvements. In addition, the recently passed Infrastructure Investment and Jobs Act (IIJA) includes \$550 billion in new civil works spending. These two federal investment provide the much-needed resources to modernize the country's aging and overburdened infrastructure while boosting job availability in the construction industry.

CONNECTICUT & WESTCHESTER

MARKET TEMPERATURE

Based on our survey of multiple institutions, design firms, commercial real estate agents and construction project managers.

INFRASTRUCTURE (CONTD.)

The State of Connecticut is estimated to receive approximately \$6 billion of these funds which will include \$3.29 billion to tackle major corridor congestion, \$1.3 billion to enhance public transportation, \$561 million to repair the state's aging bridge system and \$90 million to make the state's transportation assets more resilient to weather and natural disasters. The state will also utilize \$79 million to reduce carbon emissions in the transportation industry and an additional \$52.5 million to construct electric vehicle charging stations. This funding will also advance the state's "Time for CT" initiative which is designed to improve the rail service between the state, New York, and the rest of the Northeast.

K-12



STRATFORD HIGH SCHOOL

The 2022 Connecticut School Building Project Priority List estimated new grant obligation is \$184,370,861 for new projects – less than half of what was allocated in 2021. With an estimated \$537,684,828 of construction costs, local school districts will be primarily responsible for funding these projects.

With a \$46 billion annual gap in the level of funding for the maintenance and improvements needed for our nation's aging schools, along with an emphasis on ensuring healthy environments in our educational facilities given the current stage of the pandemic, new solutions and systemic remedies must rally around sound public policy to address deficient and inequitable conditions in the state and nation's public school facilities. Despite these challenges, the Connecticut K-12 market is projected to remain strong in 2022 as K-12 facility improvement is of utmost importance to our communities.

HIGHER EDUCATION



UConn Student Rec Center

As competition for students has never been greater, a very real enrollment crisis is looming, philanthropic giving is in decline, state support for higher education has diminished, and expenses are acting as an accelerant to these increasing financial burdens. This compounding of risks means the case for change has never been more compelling. Expect Colleges and Universities to accelerate plans to enhance campuses to attract the digitally engaged group of students of today and tomorrow.

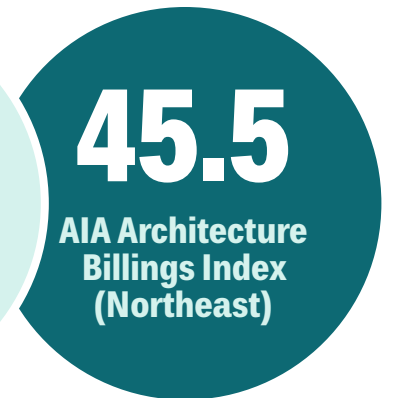
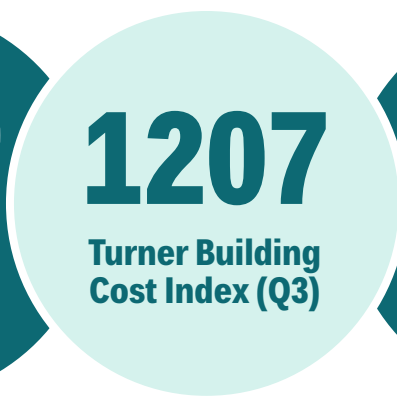
RETHINKING WORKPLACE STRATEGY ON CAMPUSES

Like corporate employees, higher education faculty and staff who have benefitted from working-from-home are driving conversations about how much time they will be required to maintain a physical presence on campus. This call for flexibility is balanced with an appreciation for the value of workplace culture and collaboration inspired by proximity and casual interactions that many have longed for during years of video conferencing. Evolving workplace policies may impact building occupancy rates and offer opportunities for institutions to reallocate space—to "grow in place"—through renovation instead of undertaking ambitious new construction plans.

CONSTRUCTION ACTIVITY IN THE REGION

COMBINED MARKET INDICES

The **ENR Confidence Index** measures executive sentiment about where the current market will be in the next three to six months and over a 12-to 18-month period, on a 0-100 scale. **Ratings above 50.0 indicate a growing market. The Index continued to decline over the latter half of 2021, dropping 5 points since Q3 to a rating of 60. Despite the drop, the index remained at it's highest level since the third quarter of 2018.**



The **Turner Building Cost Index** is determined by the following factors considered on a nationwide basis: labor rates and productivity, material prices and the competitive condition of the marketplace. The last four quarters indicate a cumulative +3.05% increase. The latest Turner Building Cost Index—which measures costs in the non-residential building construction market in the United States—had increased to the value of 1207. **This represents a 1.68% quarterly increase from the previous quarter.**

The **Architecture Billings Index** is an economic indicator for nonresidential construction activity, with a lead time of approximately 9–12 months. **Anything above 50.0 represents growth. On a National Level, ABI Billings Index declined 5.6 points to 51.0 over the fourth quarter. In the Northeast Region, ABI Billings experience a decreased of 6.0 points to 45.5 during Q4 of 2021.**

Although the end of 2021 results in a decline, the ABI scores over the last year continues to be among the highest ever seen in the immediate post-recession periods that have been captured throughout the index's history, underscoring just how strong the bounce back has been this year following the abrupt downturn in 2020.

UPCOMING CONNECTICUT PROJECTS

PROJECTS	VOLUME	PROJECTED START DATE
Charter Communication Tower 2 TI	\$100M	February 2022
Torrington Middle/High School	\$130M	March 2022
Great Wolf Lodge	\$145M	March 2022
Heywood Hospital Expansion	\$75M	April 2022
Westchester Medical	\$150M	June 2022
Farmington High School	\$100M	June 2022
ConnCAT Place on Dixwell	\$150M	August 2022
Yale New Haven Health Bed Tower	\$400M	September 2022
Regeneron	\$1B	September 2022
UConn Dorms	\$50M	November 2022
Indeed	\$75M	November 2022
FritoLay	\$200M	November 2022
Norwalk High School	\$160M	January 2023
Wesleyan Science Building	\$180M	February 2023
Webster Bank	\$75M	February 2023
Hartford Health Bed Tower	\$200M	March 2023
Hartford Federal Courthouse	\$100M	May 2023
Yale Physical Sciences & Engineering Bldg.	\$365M	May 2023
Greenwich Hospital Cancer Center	\$60M	December 2023
West Haven VA Hospital	\$350M	May 2024
White Plains Hospital Tower	\$200M	June 2024

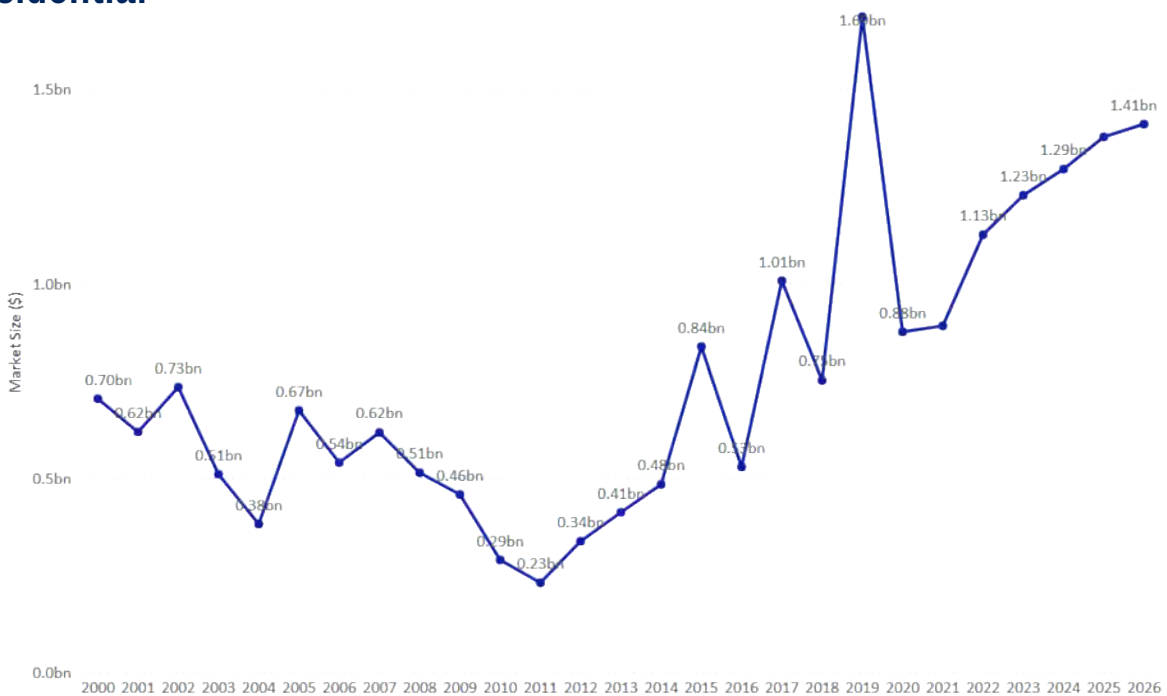
CONNECTICUT MARKET SIZE

Non Residential



WESTCHESTER MARKET SIZE

Non Residential

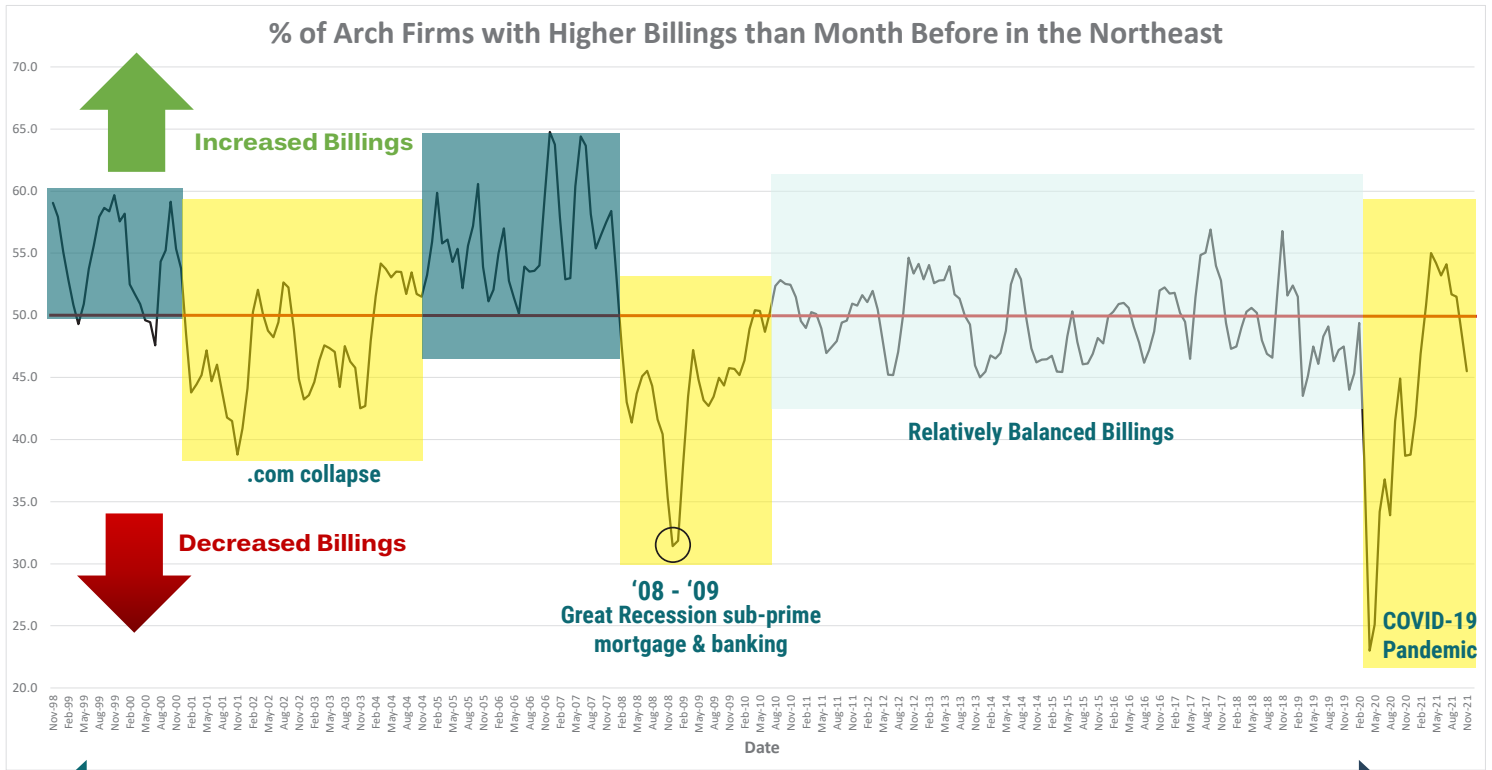


ARCHITECTURAL BILLINGS INDEX

NORTHEAST REGION



The latest National AIA Index continues to display a strong recovery from the initial onset of the COVID-19 pandemic.

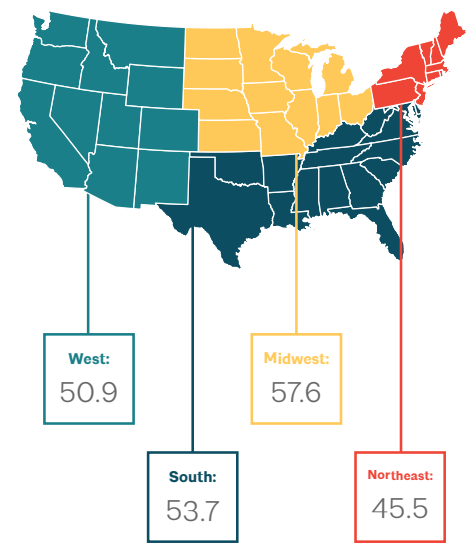


FIRMS IN THE MIDWEST, SOUTH AND WEST SHOW THE STRONGEST BILLINGS WHILE NORTHEAST BILLINGS SOFTEN.

The Architecture Billings Index (ABI) is a diffusion index derived from the monthly Work-on-the-Boards survey, conducted by the AIA Economics & Market Research Group. The ABI serves as a leading economic indicator that leads nonresidential construction activity by approximately 9-12 months. The survey panel asks participants whether their billings increased, decreased, or stayed the same in the month that just ended.

According to the proportion of respondents choosing each option, a score is generated, which represents an index value for each month. An index score of 50 represents no change in firm billings from the previous month, a score above 50 indicated an increase in firm billings from the previous month, and a score below 50 indicates a decline in firm billings from the previous month. The Northeast Market AIA Billings Index declined 2.6 points during Q4 2021.

On a National Level, ABI Billings Index declined 5.6 points to 51.0 over the fourth quarter. With a score over 50, this means a majority of architecture firms still saw growth, but fewer are seeing growth now than earlier in the year. Maintaining the growth rate that was experienced in the Spring and Summer is difficult, and firm billings have now shifted closer to growth seen in previous recovery periods. In the Northeast Region, ABI Billings experienced a steady declining of billings over Q4, decreasing a total of 6.0 points to 45.5. This appears to be following the pre-pandemic trend of fluctuating conditions in the Northeast. **Although the end of 2021 results in a decline, the ABI scores over the last year continue to be among the highest ever seen in the immediate post-recession periods that have been captured throughout the index's history, underscoring just how strong the bounce back has been this year following the abrupt turn down in 2020.**



ECONOMIC INDICATORS

SOURCE: CONNECTICUT ECONOMIC DIGEST

JANUARY 2022 VOL. 27 NO. 1

Philadelphia Fed's Coincident Index (2007=100)**

	Nov	Nov	YoY CHG		Oct	MoM CHG	
	2021	2020	NO.	%	2021	NO.	%
Connecticut	116.51	109.37	7.1	6.5	115.29	1.2	1.1
United States	131.39	124.27	7.1	5.7	130.83	0.6	0.4

EMPLOYMENT BY INDUSTRY SECTOR

	Nov	Nov	CHANGE		Oct
	2021	2020	NO.	%	2021
<i>(Seasonally adjusted; 000s)</i>					
TOTAL NONFARM	1,624.2	1,575.4	48.8	3.1	1,618.6
Natural Res & Mining	0.5	0.5	0.0	0.0	0.5
Construction	60.6	56.4	4.2	7.4	59.4
Manufacturing	155.3	151.6	3.7	2.4	153.6
Trade, Transportation & Utilities	290.8	288.4	2.4	0.8	290.7
Information	28.1	29.2	-1.1	-3.8	27.9
Financial Activities	118.0	119.3	-1.3	-1.1	119.1
Professional and Business Services	214.4	204.2	10.2	5.0	213.4
Education and Health Services	333.7	324.0	9.7	3.0	333.4
Leisure and Hospitality	135.8	119.7	16.1	13.5	135.1
Other Services	61.5	56.9	4.6	8.1	61.2
Government*	225.5	225.2	0.3	0.1	224.3

Source: Connecticut Department of Labor * Includes Native American tribal government employment

INTEREST RATES

	Nov	Oct	Nov
<i>(Percent)</i>	2021	2021	2020
Prime	3.25	3.25	3.25
Federal Funds	0.08	0.08	0.09
3 Month Treasury Bill	0.05	0.05	0.09
6 Month Treasury Bill	0.07	0.06	0.10
1 Year Treasury Note	0.18	0.11	0.12
3 Year Treasury Note	0.82	0.67	0.22
5 Year Treasury Note	1.20	1.11	0.39
7 Year Treasury Note	1.45	1.40	0.63
10 Year Treasury Note	1.56	1.58	0.87
20 Year Treasury Note	1.97	2.03	1.40
Conventional Mortgage	3.07	3.07	2.77

Sources: Federal Reserve; Federal Home Loan Mortgage Corp.

BUSINESS ACTIVITY

	MONTH	LEVEL	YY %	YEAR TO DATE		
			CHG	CURRENT	PRIOR	%
New Housing Permits*	Nov 2021	445	-0.2	4,289	5,513	-22.2
Electricity Sales (mil kWh)	Oct 2021	2,034	1.7	23,232	22,714	2.3
Construction Contracts Index (1980=100)	Nov 2021	368.5	70.3	---	---	---
New Auto Registrations	Nov 2021	17,214	-2.2	196,080	158,288	23.9
Exports (Bil. \$)	3Q 2021	3.75	12.3	10.97	10.55	4.0
S&P 500: Monthly Close	Nov 2021	4,567.00	26.1	---	---	---

Sources: Connecticut Department of Economic and Community Development; U.S. Department of Energy, Energy Information Administration; Connecticut Department of Revenue Services; F.W. Dodge; Connecticut Department of Motor Vehicles; Wisetrade.org
* Estimated by the Bureau of the Census

STATE REVENUES

	Nov	Nov	%	YEAR TO DATE		
	2021	2020	CHG	CURRENT	PRIOR	%
<i>(Millions of dollars)</i>						
TOTAL ALL REVENUES*	NA	NA	NA	NA	NA	NA
Corporate Tax	NA	NA	NA	NA	NA	NA
Personal Income Tax	NA	NA	NA	NA	NA	NA
Real Estate Conv. Tax	NA	NA	NA	NA	NA	NA
Sales & Use Tax	NA	NA	NA	NA	NA	NA
Gaming Payments**	17.2	12		151.3	30.7	

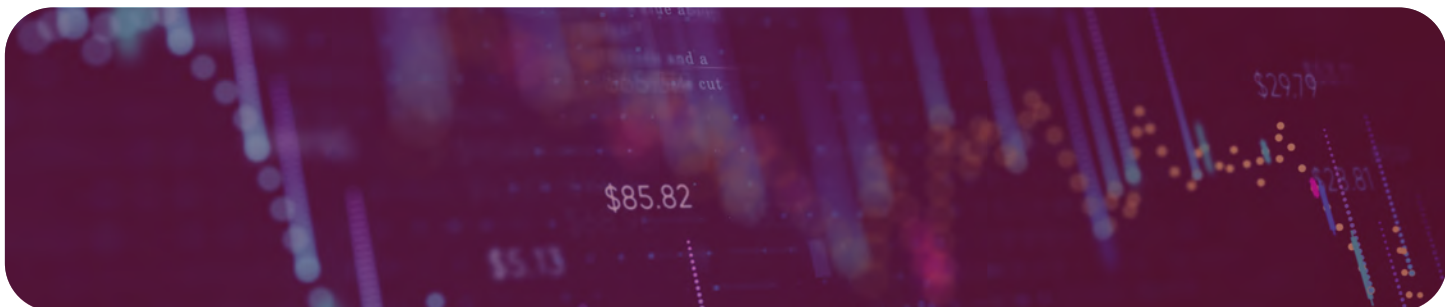
Sources: Connecticut Department of Revenue Services; Division of Special Revenue
*Includes all sources of revenue; Only selected sources are displayed; Most July receipts are credited to the prior fiscal year and are not shown. **See page 23 for explanation.

UNEMPLOYMENT RATES

	Nov	Nov	CHANGE	Oct
<i>(Seasonally adjusted)</i>	2021	2020		2021
Connecticut	6.0	8.2	-2.2	6.4
Maine	4.8	4.9	-0.1	4.9
Massachusetts	5.4	8.4	-3.0	5.3
New Hampshire	2.7	4.2	-1.5	2.9
New Jersey	6.6	10.2	-3.6	7.0
New York	6.6	8.7	-2.1	6.9
Pennsylvania	5.7	7.1	-1.4	6.0
Rhode Island	5.1	7.9	-2.8	5.3
Vermont	2.6	3.7	-1.1	2.8
United States	4.2	6.7	-2.5	4.6

Source: U.S. Department of Labor, Bureau of Labor Statistics

Conventional mortgage rate rose to 3.07% over the month.



NATIONAL

WHAT IS IN THIS REPORT? Among the information included in this publication and of special importance, is the Turner Building Cost Index. The Turner Cost Index, an industry recognized index now for over half a century, is determined by several factors considered on a nationwide basis, including labor rates and productivity, material prices and the competitive condition of the marketplace. The index does not necessarily conform to other published indices because others do not generally take all of these factors into account.

Our mission in publishing this report is to share thoughtful insight with professionals we engage with in our industry regarding trends and their potential impacts.

MATERIAL

Material Producer Price Index*. The selling price in processed goods used or bought for construction.

In Aug 2021, total material inputs to construction had increased +2.8% since May 2021 and increased +17.5% since Aug 2020.

Material PPI - 8/21	Qtr	Yr
Inputs to Construction	+2.8%	+17.5%
Ready Mix Concrete	+2.5%	+5.1%
Steel Mill Products	+23.6%	+123.1%
Flat Glass	+2.8%	+7.1%
Aluminum Mill Shapes	+7.9%	+35.1%
Sheet Metal Products	+12.0%	+25.7%
Gypsum Products	+6.5%	+22.9%
Diesel Fuel	-1.4%	+67.2%
Construction Machinery	+2.5%	+5.4%

LABOR

Construction Employment Cost Index*. The cost to employers for wages and salaries, employer share of benefits, and legally required payments such as unemployment and workers' compensation.

Through Jun 2021, construction wages and salaries had increased +1.6% for the quarter and +3.2% for the year.

Construction Employment Cost Index	Qtr	Yr
Total Compensation	+1.4%	+3.0%
Wages & Salary	+1.6%	+3.2%

Construction Employment*. The employment rate in construction, not seasonally adjusted.

Through Sep 2021, construction employment had increased by 37,000 jobs (+0.50%) since Jun 2021.

Construction Employment	Jobs	%
3-month change	37,000	0.50%

CONSTRUCTION PRICE

Construction Producer Price Index*. Change in Producer Price Index for Final Demand Construction for all non-residential construction and key sub-categories. Includes material costs, labor costs, and contractor overhead and profits.

In Aug 2021, final demand pricing for all new non-residential construction increased +2.4% from May 2021 and +5.0% since Aug 2020.

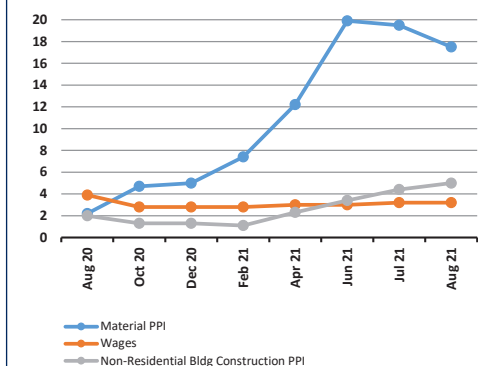
Construction PPI - 8/21	Qtr	Yr
Non-Residential	+2.4%	+5.0%
Office Building	+1.5%	+6.0%
School Building	+2.6%	+3.0%
Healthcare Building	+1.4%	+4.4%

MATERIAL, LABOR & CONSTRUCTION PRICING

Graphic representation of tables to the left:

- MATERIAL** - Total Inputs to Construction Material PPI
- LABOR** - Construction Employment Cost Index
- CONSTRUCTION PRICE** - Final Demand Construction PPI

Over the 12 month period from Aug 2020 to Aug 2021, the Total Inputs to Construction Material PPI increased +17.5%, the Employment Cost Index increased +3.2%, and the Final Demand Construction PPI increased +5.0%

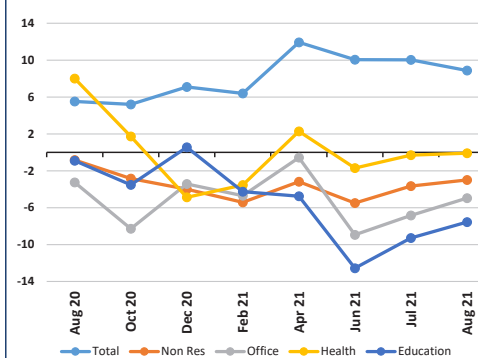


CONSTRUCTION SPENDING

Construction Spending - Value of Work in Place.³ Percentage change in private, non-Residential work in place in the last 1-month and 12-month periods.

Over the 12 month period from Aug 2020 to Aug 2021, Total Private Construction Spending increased 8.9% while Total Private non-Residential spending decreased -3.0%.

Private - 8/21	Mo	Yr
Total	+0.0%	+8.9%
Non-Residential	-0.4%	-3.0%
Office Building	-0.1%	-5.0%
Education	+0.8%	-7.6%
Healthcare	-1.0%	-0.1%



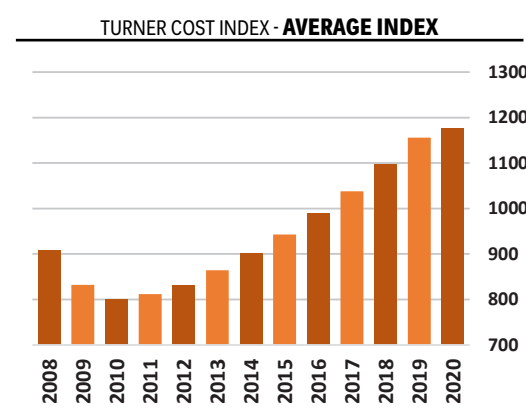
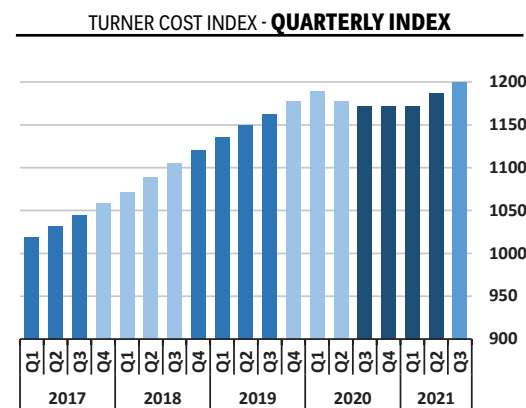
TURNER BUILDING COST INDEX¹

The Turner Building Cost Index. Determined by the following factors considered on a nationwide basis: labor rates and productivity, material prices and the competitive condition of the marketplace.

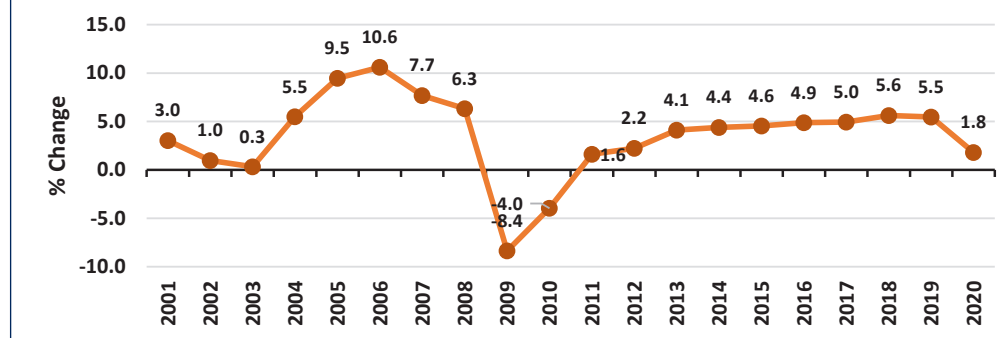
The 3rd Qtr index value of 1207 is a +1.68% change from the 2nd Qtr. The last four quarters indicate a cumulative +3.05% increase.

Last 4 Quarters	Index	Δ%
3rd Quarter 2021	1207	1.68
2nd Quarter 2021	1187	1.28
1st Quarter 2021	1172	0.09
4th Quarter 2020	1171	0.00

Year	Avg Index	Δ%
2020	1177	1.8
2019	1156	5.5
2018	1096	5.6
2017	1038	5.0
2016	989	4.9
2015	943	4.6
2014	902	4.4
2013	864	4.1
2012	830	2.2
2011	812	1.6
2010	799	-4.0
2009	832	-8.4
2008	908	6.3



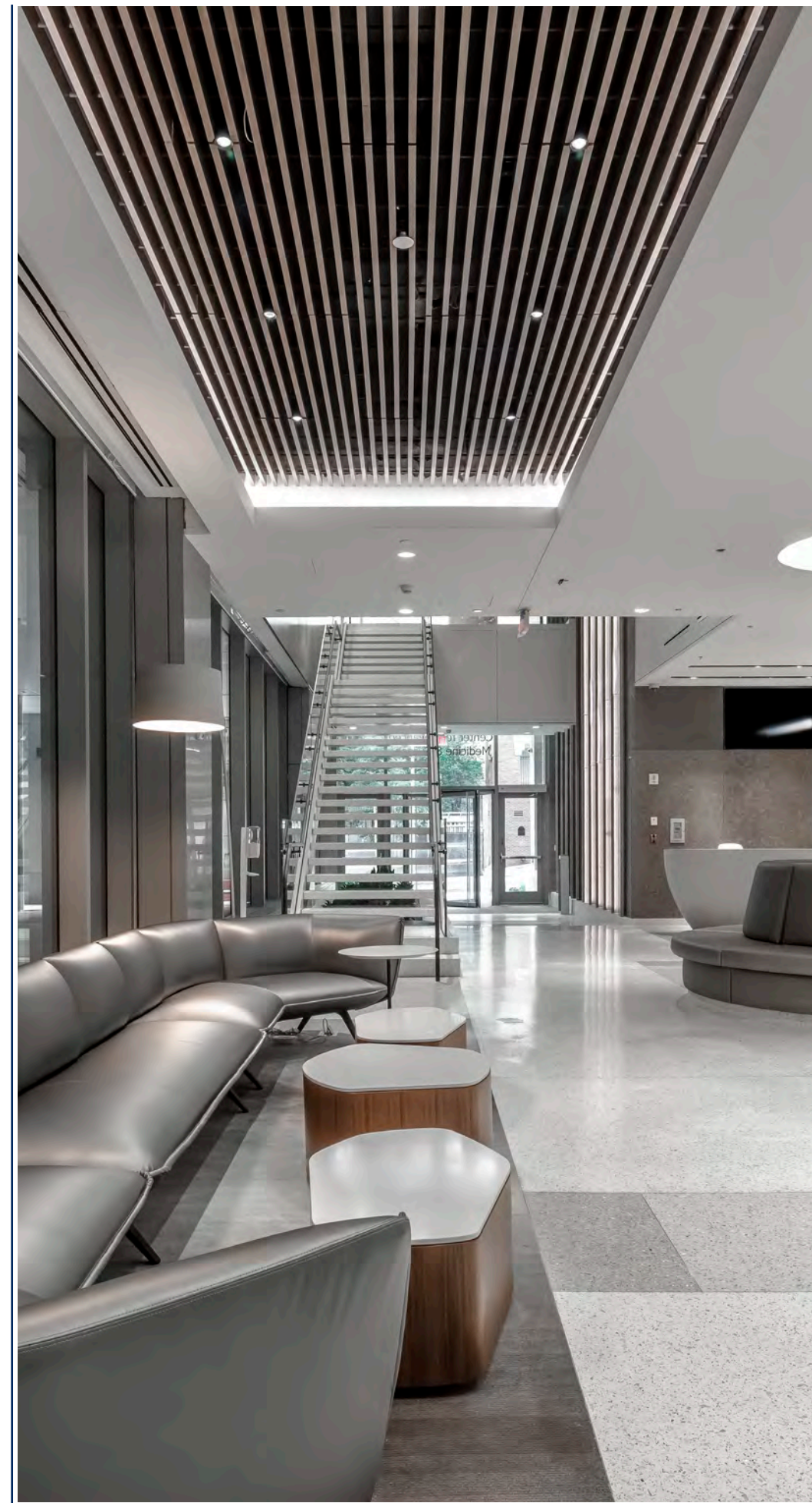
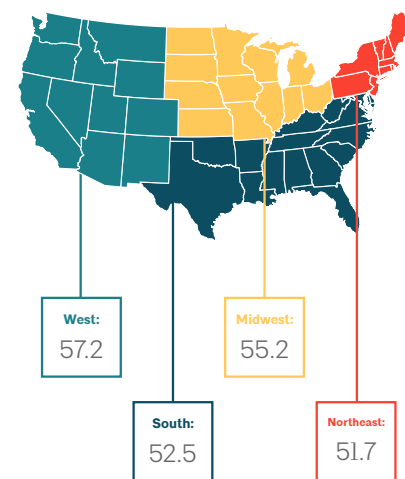
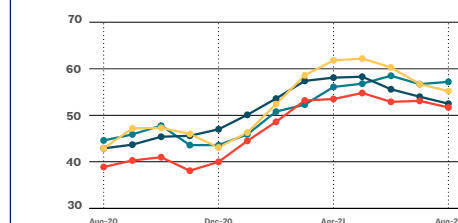
TURNER COST INDEX - PERCENT CHANGE



AIA ARCHITECTURAL BILLINGS INDEX

The Architecture Billings Index (ABI) is a leading economic indicator that leads nonresidential construction activity by approximately 9-12 months. A score of 50 equals no change from the previous month. Above 50 shows increase; below 50 shows decrease. 3-month moving average.

The Aug 2021 Architecture Billings Index decreased to 55.6 indicating a slower increase in billings from the previous month.



* Bureau of Labor Statistics ¹ Turner Construction Company ² Dodge Report ³ Census Bureau

SECTION III.
MATERIAL & SUPPLY CHAIN

Turner

OVERVIEW OF COST CHANGES

+2.8%
FLAT GLASS
Quarterly

+ 2.5% Quarterly
CONSTRUCTION
MACHINERY

+3.91%
COPPER
Quarterly

+2.5% Quarterly
READY MIX
CONCRETE

STEEL MILL
PRODUCTS
+123.1%
Annually

COBALT
+43.92%
Quarterly

+56.6% Annually
GASOLINE

FORMWORK
+15%
Quarterly

ALUMINUM MILL
SHAPES
+45.5%
Annually

+12.0% Quarterly
SHEET METAL
PRODUCTS

+22.5% Annually
GYPSUM
PRODUCTS

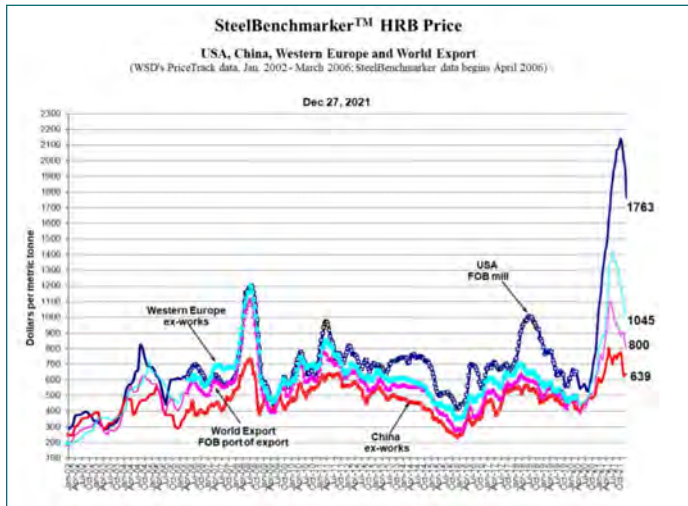
+36.34%
LUMBER
Quarterly

Q4 2021

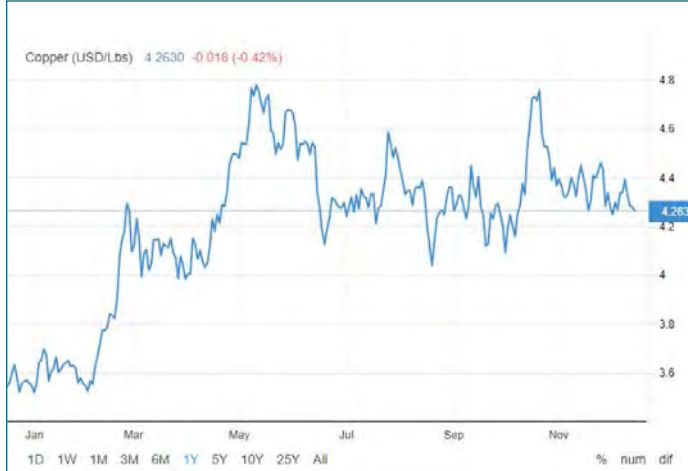
MATERIAL SHORTAGES IMPACTS

With commodities and steel escalating and in high demand and shortages in chemical products impacting flooring, PVC and other products, plus insulation shortages and drywall escalating and/or being on allocation, I think we will be challenged to get subs to commit to pricing OR they will be including contingencies that our clients may either not want to pay OR may want to take the risk themselves.

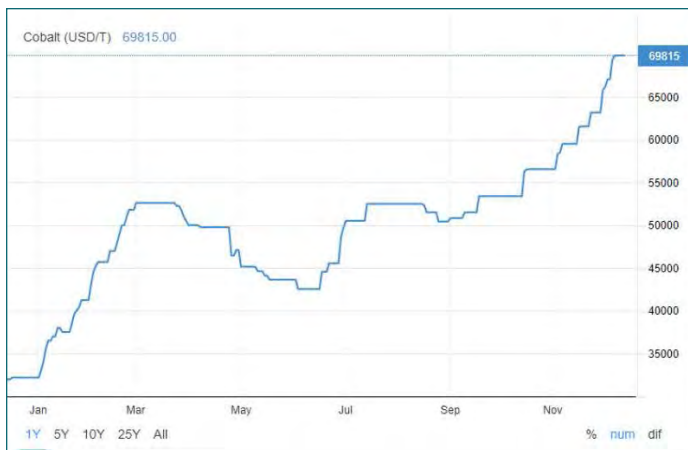
Steel



Copper



Cobalt



Steel

- Steel pricing experienced a rapid decline of 24% over Q4 2021 and is anticipated to continue to fall into 2022. The trajectory will depend on pace of destocking, the new capacity ramping up, and demand.
- Demand is expected to remain stable into 2022.



Copper

- Copper prices soared in Q4 then leveled out towards the end of the quarter, resulting in an overall increase of 3.91%.
- Supply chain issues in Latin America which has kept seaborne concentrate supply tight and prevented global copper mine output from reaching pre-COVID levels, should ease in 2022.
- Copper pricing is expected to soften in 2022 as tightness in global inventories is expected to loosen slightly and demand is anticipated to stabilize.
- Stable demand throughout 2022 will prevent prices from collapsing to level seen before 2021.

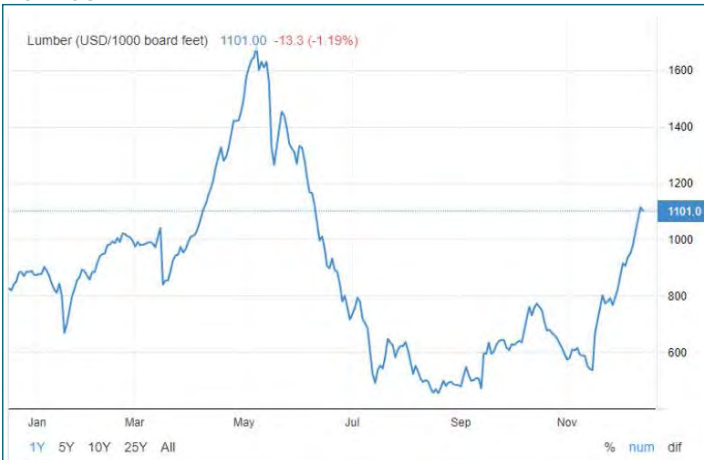
Cobalt

- Cobalt remained relatively stable between Q1 to Q3, but skyrocketed in Q4 with a 30%+ increase to a 3-1/2 year high.
- Cobalt is used in lithium-ion batteries, which are used in electric cars. Amid the green initiative, demand is expected to rise.
- The metal has successfully outperformed its peers after the Omicron variant, while it is expected to continue gained momentum throughout a green transition, as the metal has low exposure to China's property and construction sector, which would not be affected by any crashes in these sectors.

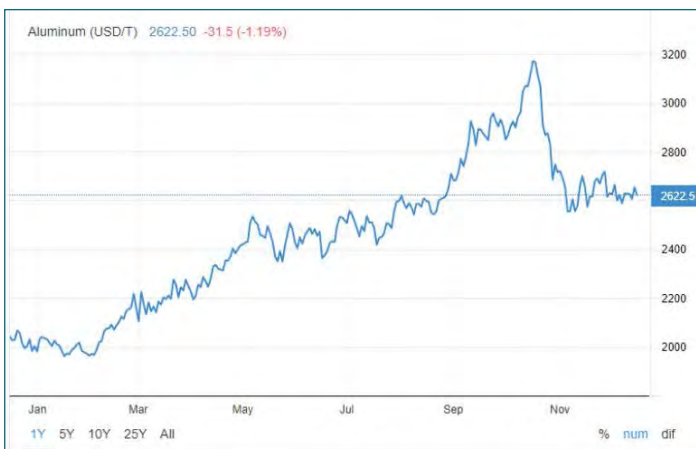
Q4 2021

MATERIAL SHORTAGES IMPACTS

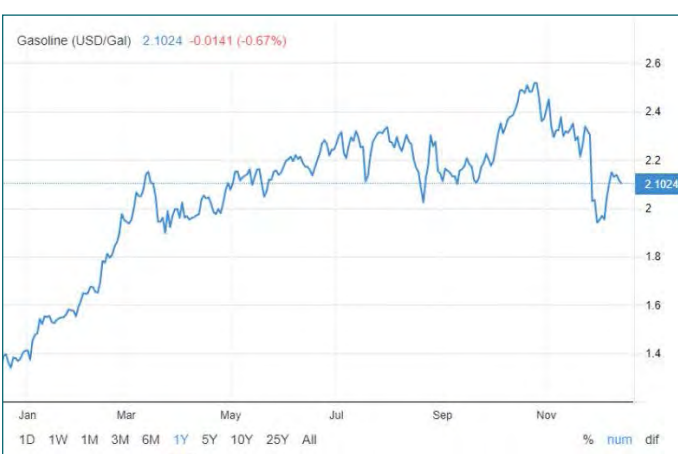
Lumber



Aluminum



Gasoline



Lumber

- Lumber prices remained low in the beginning of Q4 but quickly regained momentum and rose nearly 37% over the quarter.
- Construction companies are hoarding material to avoid affects from any future shortages.
- Supply chain disruptions remain amid labor shortages in the US.



Aluminum

- Experienced a 45% increase over 2021, translating to increased material costs for fasteners, HVAC equipment, roofing materials, insulation, and curtain wall. Production cuts in place in China aimed to curb pollution ahead of the 2022 Winter Olympics.



Gasoline

- Gasoline costs have doubled over the past year, impacting delivery costs and construction materials.





**SUPPLY CHAIN
SERVICES
BY TURNER
CONSTRUCTION**

DELIVERING CERTAINTY TO
Design Decisions
Material Delivery
Quality
Schedule
Specifications
Spending



SourceBlues' sourcing expertise combined with Turner Construction Company's national presence has created a unique opportunity to engage in value chain agreements with manufacturing partners to the benefit of our clients. In turn, Turner's clients can utilize the direct channels to the manufacturers along with SourceBlues' construction and category expertise to ensure their projects are receiving the best quality and schedule.

SourceBlue has been purchasing materials and equipment for 20 years with over \$4B in equipment and materials procured since inception. Our experience and staff of 130 procurement and engineering professionals become part of your procurement team and a resource for support, information and the success of your project. SourceBlues' procurement solutions maximize an owner's control of their procurement strategies to ensure the right product is being sourced at the best available lead time at a competitive and fair value.

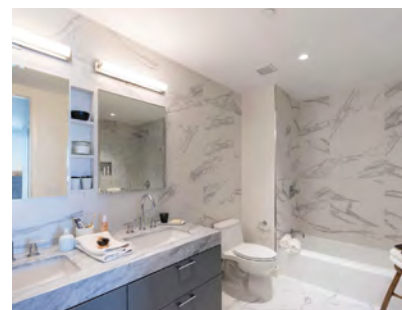
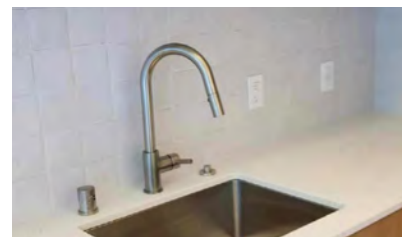
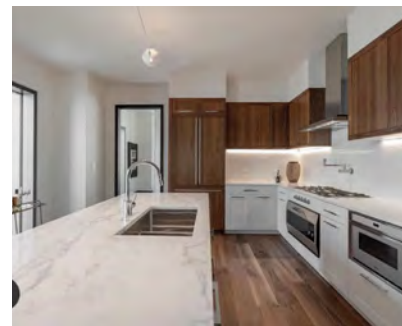
ARCHITECTURAL PRODUCTS (*LEAD TIMES CAN VARY GREATLY DEPENDING ON SPECIFIC SKU)

Please note that product lead times continue to fluctuate and are subject to change weekly. Below is a current estimate.

PRODUCT TYPE	DOMESTIC	INTERNATIONAL	COMMENTS
 Casework	8-12 Weeks	16-18 Weeks	Shipments from Canada & Europe are delayed up to 6 weeks due to COVID restrictions in production & customs. Pricing has increased 20% in the last 90 days.
 Plumbing Fixtures	4-6 Weeks	10-14 Weeks	Plumbing fixtures from China are delayed 60 days in production and are subject to shipping delays.
 Tile	2-4 Weeks	12-16 Weeks	Add 4-6 weeks to lead times for any custom tile. Pricing has increased 5% over the past 2 quarters. 25% China tariffs still in place which has increased pricing on entire low end market.
 LVT	3-6 Weeks	10-18 Weeks	Pricing has increased 5% over the past 2 quarters. 25% China tariffs still in place which has increased pricing on entire low end market.
 Carpet	8-10 Weeks	12-24 Weeks	Carpet pricing is up 3% over the past year, but lead times largely unaffected since most carpet is made in US. Add 2-4 weeks for custom product.
 Quartz Countertops	6-10 Weeks	12-16 Weeks	Imported economy quartz carries 25% China tariffs and Anti-dumping regulation. Domestic quartz carries a premium, so imported quartz is still most cost effective.

MECHANICAL PRODUCTS (*TIMES VARY GREATLY BY COMPLEXITY)

PRODUCT	DOMESTIC	COMMENTS
AHU's	14-45 Weeks	Custom has longest lead time, plus any unit with ECM fans.
Chillers	16-28 Weeks	Steam Turbine and Absorption chillers up to a year.
Cooling Towers	22-24 Weeks	Stainless Steel supply chain issue will start to push lead times. Flood of orders at end of year pushes out lead times.
Boilers	16-28 Weeks	The larger the vessel, the longer the lead time.
Pumps	4-20 Weeks	Casings and VFDs will push out lead times.
CRAC's	14-30 Weeks	Data center projects are filling up factories and ECM fans shortages are pushing dates to Q2 2022.
MERV 13	10-12 Weeks	Anticipate this continuing through first quarter of 2022.
UV Bulbs	18+ Weeks (45' Long Bulbs)	Specifically 45" long bulbs have an 18+ week lead time, though other sizes are less impacted. This is due to rising demand for UV retrofits of existing systems as a result of the COVID-19 pandemic.



ELECTRICAL PRODUCTS (*MANUFACTURER SPECIFIC NOTES)

PRODUCT	DOMESTIC	COMMENTS
Electrical Generators	19-40 Weeks	Generator orders may be delayed due to difficulty getting alternators and other components. Shipping container shortages and oversea shipping issues are also affecting deliveries.
Switchgear / Switchboards	20-52 Weeks	Due to increased demand, particularly from hyper scale data center end users, we are experiencing longer lead times for UL1558 switchgear and complex UL891 switchboards. More complex designs, requiring custom engineering, will be impacted the most. Expect UL1558 switchgear lead times to be as long as 30 weeks after release.
Power Busway	16-22 Weeks	Some manufacturers are experiencing production capacity and delays, with lead times exceeding 20 weeks in some cases, compared to the more typical 6-8 week lead time. We anticipate lead times improving in Q1 2022.
UPS	16-20 Weeks	Lead time will be dependent on availability (type & quantity – lithium ion, VRLA, flooded). Also complex paralleled UPS systems, will require switchgear (see above).
Transformers	8-36 Weeks	Small dry type transformers are fairly ready at 8 weeks. Cast coil, pad mounted oil filled transformers will have significantly greater lead time up to 35 weeks.
Panelboards	4-8 Weeks	Small molded case circuit breakers are continuing to be a challenge for several manufacturers. Raw materials shortages are causing cascading delays, often with difficulty getting delivery commitments from manufacturers and distributors.
Automatic Transfer Switches	16-28 Weeks	ATS deliveries are delays across all sizes due to component shortages, particularly electronic control panels and accessory circuit boards.

Q4

SUPPLY CHAIN INSIGHTS

SUPPLY CHAIN RESILIENCY

- 23%-45% (4% increase since prior report) of vendors anticipate equipment/material delivery later than prior estimates due in large part to raw material suppliers limiting shares; sequencing of production due to project/upstream material delays; and/or transportation congestion.
- Electrical / HVAC / Elevators continue to report the largest percentage of impacts in lead times with 24% to 38%, respectively reporting increased lead times. HVAC manufacturers are referencing delays due to long lead times of ECM fans, UV bulbs, and PLCs. Similarly, electrical distribution and generator manufacturers are extending lead times and quoting price increases due to copper, steel, aluminum, labor, busbar, alternator, and lug shortages.

INDUSTRY CHALLENGES

- Local sales reps may be overly optimistic or reluctant to share “bad news”. SourceBlue recommends requesting factory confirmation of production and order status; do not accept information at face value.
- Due to transportation, port congestion, container & chassis shortages, freight forwarders are estimating an additional 4-6 weeks lead time delays.
- Asia to West coast container pricing is 3.5x higher than a year ago.
- Due to shipping congestion, only 40% of ships globally are arriving on time. This is far behind the reliability levels of the prior two years, when more than 70% arrived on time. Ocean shipping costs and lead times will be unpredictable through the new year.
- Over road truck drivers are in short supply and lead times for trucking queue have extended by 4 weeks over the past 90 days.
- All brands of hollow metal, wood doors and frames, and hardware are having extreme pricing volatility and lead times.
- ECM fans are a major cause of HVAC equipment delays.
- Aluminum raw suppliers are cutting shares, lead times are 24 - 30 weeks, price is steady, new orders for aluminum suppliers are anticipated for delivery 4th quarter 2022 so supply planning is needed.
- General rate increases on shipping containers are continuing to rise in both price and frequency.

20%

SAVINGS POTENTIAL
THROUGH
LEVERAGING
SOURCEBLUE'S
EXPERTISE TO
NAVIGATE COMPLEX
SUPPLY CHAINS

“
SourceBlue has a unique ability to foster relationships with reputable vendors from around the globe allowing them to procure materials/equipment at highly discounted rates.
”

Ken Aspis, President,
Martin Project Management

SUSTAINABILITY SPOTLIGHT

Ground Glass Pozzolan (Pozzotive)



Pozzotive is a ground glass pozzolan and industrial filler made from 100% recycled post-consumer glass. It is a safer, sustainable and higher-performing material that dramatically reduces embodied CO2 emissions in concrete.

Pozzolans are an important component of high-performance concrete, and the most widely used pozzolan—coal fly ash—is declining in quality and availability. Pozzotive® produces superior performing concrete that has been successfully used in ready-mix pours for high-rise construction, roads and sidewalks as well as in concrete block, pre-stressed concrete slabs and permeable pavers. Pozzotive has been used for the last 20+ years in CMU blocks and is now in the ready mix market. The product has been tested and has great results, not only in ton for ton reduction of embodied carbon, but also with strength and curing time.

As a bonus, Pozzotive is being utilized in local towns to recycle glass products that would traditionally end up in landfills. Urban Mining out of Beacon Falls, Connecticut makes Pozzotive® ground glass pozzolan. At this facility, 100% recycled post-consumer glass is harvested locally, then sorted, cleaned, and ground into a very fine powder. Through this initiative, Pozzotive is beginning to be utilized on many local projects throughout Connecticut such as the New Canaan Library. The new England market is expected to see an surge in pozzolan utilization on many upcoming projects due to its many benefits and rising availability.



PRODUCT BENEFITS

CO2 Reduction. Pozzotive® pozzolan can replace up to 50% of cement in concrete, reducing embodied CO2 emissions on a nearly ton-for-ton basis. Because concrete is the most abundant construction material in the world, the beneficial environmental impact of Pozzotive® in concrete is dramatic.



Improved Concrete. Pozzotive® produces a more durable, longer-lasting and higher-performing concrete that significantly improves its resistance to chloride penetration, sulfate attack, efflorescence and freeze thaw cycles.



Circular Economy. Pozzotive® is produced from 100% post-consumer glass, harvested and processed regionally, and used in local, sustainable building projects. This reduces transportation emissions and costly landfills and creates an optimal circular economy.



Safer Material. Pozzotive® is free of crystalline silica, a carcinogen, and toxic heavy metals, making it a safer and more environmentally friendly replacement for use as a concrete admixture, industrial filler and abrasive media.



INDUSTRY SOLUTION

Glass Recycling Industry. The economics for glass recovery are quite poor and municipalities across the US are burdened with a rising inventory of post-consumer glass, a vast majority of which is landfilled. Pozzotive® utilizes 100% of recycled glass regardless of glass color or the presence of ceramics.



Concrete Industry. The EPA estimates that the production of a ton of cement, a vital component of high-performance concrete, releases about a ton of harmful CO2. Replacing cement with Pozzotive® Pozzolan reduces this CO2 on an almost ton-for-ton basis, and provides a consistent, readily-available, clean alternative that actually improves the lifespan and performance of concrete.

Pozzolan Industry. Environmental regulations and the rise of cost-effective alternative energy sources have moved electricity generation capacity away from coal-fired power plants, reducing the supply and quality of fly ash, the most common pozzolan. Pozzotive® fills these supply voids with a high-performance, environmentally beneficial, locally-sourced and easily-replenished pozzolan.



SECTION IV.
LABOR

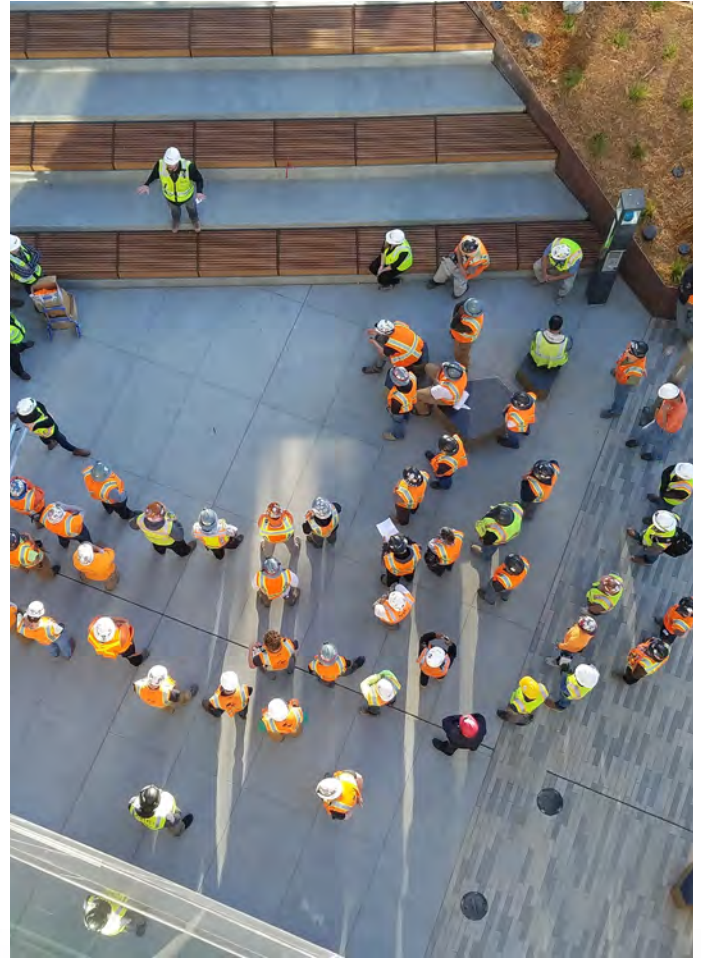
Turner

LABOR

Today's construction market is seeing an extraordinary rise in material costs due to supply chain challenges. With the steady rise in the cost of labor and trade contractors securing new work, overhead and profit is rising back to pre-pandemic levels.

The majority of trade partners remain selective in the type of work they aggressively pursue and have made adjustments to their proposed overhead and profit. Material pricing continues to be the driving factor in the overall increase in escalation, with continuing volatility in materials such as PVC, Copper, Steel, Drywall, Aluminum, Glass and others.

This uncertainty, paired with losses on current projects due to escalation, causes bidders to conservatively price new work without reducing their margins. Project teams continue to evaluate alternative products and payment approaches to mitigate the impacts associated with significant lead times and unavailability of materials.



Union Availability

	LOCAL	MEMBERS	AVAILABLE "ON BENCH"	2022 AVAILABLE %
PIPEFITTER	777	2000	500	25%
SHEET METAL	38/40	725	109	15%
ELECTRICIANS	35,90,488, 3 North	2000	280	14%
IRON WORKERS	424	250	33	13%
CARPENTERS	326	3,100	186	6%

TURNER LOCAL - SUBCONTRACTOR SURVEY

TRADES ABILITY TO HANDLE MARKET GROWTH

TRADE	TRENDING ESCALATION	AGGRESSIVENESS TO BID / ESTIMATING ACTIVITY (1-5) 1- LOW 5 - HIGH	COST DRIVERS & CONCERNS
Earthwork	STEADY	<p>AGGRESSIVENESS TO BID: 3</p> <p>ESTIMATING ACTIVITY: 3</p>	Price uncertainty in material such as PVC and increasing fuel pricing continues to be a concern in bidding work. Local Subcontractors are experiencing steady bidding opportunities and are not seeing the need to erode projected earnings to secure additional work.
Concrete	INCREASE	<p>AGGRESSIVENESS TO BID: 4</p> <p>ESTIMATING ACTIVITY: 3</p>	While rebar and mesh pricing remains a concern, a number of bidders locally have seen a decrease in bidding activity and are aggressively pursuing larger projects to secure work for 2022.
Masonry	STEADY	<p>AGGRESSIVENESS TO BID: 3</p> <p>ESTIMATING ACTIVITY: 3</p>	Estimating Activity is steady from the previous quarter. The impact of commodity pricing on bidding is minimal, with insulation noted as one of the only major concerns.
Structural Steel	INCREASE	<p>AGGRESSIVENESS TO BID: 2</p> <p>ESTIMATING ACTIVITY: 5</p>	Estimating activity remains high and Subcontractors have indicated that they are becoming more selective on bids to pursue and margins to carry on bids. This has resulted in an increase in overall steel pricing due to the fact that bidders are less likely to offset material escalation with a reduction in their margins.
Glass & Glazing / Curtainwall	INCREASE	<p>AGGRESSIVENESS TO BID: 4</p> <p>ESTIMATING ACTIVITY: 2</p>	Increases in Aluminum/ Glass continue to be a factor in bidding. Estimating activity has slowed slightly, and feedback regarding the aggressiveness to bid varies amongst major subcontractors based upon their geographical reach, with firms who also serve Major adjacent markets being selective while more regional bidders are becoming more aggressive.
Carpentry	INCREASE	<p>AGGRESSIVENESS TO BID: 2</p> <p>ESTIMATING ACTIVITY: 3</p>	While Estimating activity is still slow consistent with the previous quarter, significant material increases in drywall, metal studs, insulation, and acoustical tiles are resulting in an overall increase in escalation.
Mechanical / Plumbers	INCREASE	<p>AGGRESSIVENESS TO BID: 4</p> <p>ESTIMATING ACTIVITY: 3</p>	Bidding activity remains steady and highly competitive. Volatility in prices for key materials such as sheetmetal and copper are resulting in significant increases in overall escalation. Some firms have projected an overall increase more than 8% due to the volatility of the market. Lead times on major equipment continues to be a concern, requiring early procurement to secure orders to maintain schedule.
Electrical Trades	INCREASE	<p>AGGRESSIVENESS TO BID: 3</p> <p>ESTIMATING ACTIVITY: 4</p>	Estimating activity is steady but firms within the market remain selective on the work that they are bidding. Uncertainty in Material pricing for PVC and Copper continue to be the main drivers for the upward trend in pricing.

MAJOR TRENDS IMPACTING CONSTRUCTION LABOR OUTLOOK IN 2022



INFRASTRUCTURE WORK WILL IMPACT PRIVATE JOBS

The Infrastructure Investment and Jobs Act (IIJA) was signed by President Joe Biden in November, spurring a once-in-a-generation influx of \$1.2 trillion in new spending - \$550 billion of which was earmarked for infrastructure itself.

The funding means more work for civil contractors - which has been pushed for years - but the new work will not come without its challenges. The industry, which was already in dire need of workers, will now see an increase in demand for jobs across more work sites. As a result, wages are likely to increase for skilled workers who will have more options, and the demand-supply ratio could worsen.

The issue will not just make things harder for civil builders, however. As some workers move to where the money is, private contractors may see more challenges in staffing jobsites. As long as public projects are taking off, private projects will likely take a back seat. The wages will simply be higher for those public projects, and therefore private work will be squeezed.

Despite new challenges the IIJA will no doubt impose, the influx of work will certainly be a net positive, and improve the quality of life in the U.S.



VACCINE MANDATES CONTINUE TO CAUSE CONFLICT

The Supreme Court recently ruled against OSHA enforcing the vaccine-or-test mandate, which would have required businesses with 100 or more employees to have a database of their workers' vaccination status, post their company vaccine policy, provide paid leave to workers getting the vaccine, and require unvaccinated employees to wear a mask at work.

This divisive ruling leaves the decision of whether or not to require vaccines in the workplace up to individual employers. Some are in favor of the ruling as it removes the compliance hurdles from the already tight construction labor market, while some believe this puts our workers at even further risk.

Construction's vaccine rate remains low, with less than 60% of workers being vaccinated in comparison to the typical 80% across other occupations. Employers must take extra precautions to ensure employee safety as the pandemic continues in full force.

Construction's vaccine rate lags other industries

The percentage of vaccinated construction workers compared to all other occupations.



Chart: Zach Phillips | Construction Dive • Source: CPWR • Get the data • Created with Datawrapper

PPI & EMPLOYMENT COST INDEXES



2014-2020

Percentage Change in Producer Price Indexes (PPI) & Employment Cost Indexes for construction - 2014-2020

BLS Series ID		12-month percentage change to December:					to November 2021 since:		
		2016	2017	2018	2019	2020	10/2021	8/2021	11/2020
Table 1: Changes in consumer, producer & construction prices									
CUUR0000SA0	Consumer price index (CPI-U)	2.1	2.1	1.9	2.3	1.4	0.5	1.6	6.8
WPUFD4	Producer price index (PPI) for final demand	1.7	2.5	2.6	1.4	0.8	0.5	1.8	9.6
WPUFD43	Final demand construction	0.5	3.1	5.2	3.9	1.2	0.3	7.0	12.3
WPUFD431	Construction for private capital investment	0.8	3.1	5.3	3.8	1.3	0.3	7.7	13.3
WPUFD432	Construction for government	0.3	3.1	4.7	4.0	0.9	0.3	5.7	10.4
WPU80	Construction (partial)	0.9	2.7	4.5	3.5	0.9	0.4	6.4	11.9
WPU801	New nonresidential building construction	0.4	3.1	5.4	4.0	1.3	0.3	7.2	12.4
WPU801101	New warehouse building construction	1.3	3.5	4.0	4.5	-0.1	-0.3	12.7	20.3
WPU801102	New school building construction	-0.3	3.5	5.4	4.7	1.2	0.1	5.9	9.7
WPU801103	New office building construction	1.3	2.6	5.6	3.6	1.2	0.2	6.1	12.4
WPU801104	New industrial building construction	0.0	4.0	5.9	4.5	2.0	0.8	9.6	14.6
WPU801105	New health care building construction	0.1	2.6	5.0	3.1	1.4	0.5	5.8	10.9
WPU802	Maint & repair of nonres buildings (partial)	2.3	1.2	2.4	2.2	-0.2	0.8	4.2	10.1

Table 2: Changes in PPIs for new, repair & maintenance work by subcontractors

PCU23811X23811X	Concrete contractors, nonresidential building work	4.4	3.0	6.2	4.7	0.9	-0.3	11.1	16.8
PCU23816X23816X	Roofing contractors, nonresidential building work	1.5	1.8	1.0	3.6	3.2	0.5	3.2	9.6
PCU23821X23821X	Electrical contractors, nonresidential building work	-1.1	3.7	4.8	3.6	2.0	0.7	5.8	9.5
PCU23822X23822X	Plumbing contractors, nonresidential building work	-0.8	3.6	5.2	3.7	0.0	1.0	3.6	8.5

Table 3: Changes in PPIs for inputs to construction industries, excluding capital investment, labor and imports

WPUIP230000	Inputs to construction industries			4.0	1.4	5.5	0.6	1.6	20.1
WPUIP2300001	Inputs to construction industries, goods	2.0	5.0	3.5	0.8	2.6	1.4	3.5	23.5
WPUIP23000012	Inputs to construction industries, energy			-5.0	3.7	-11.0	0.1	8.9	76.4
WPUIP23000013	Inputs to construction industries, goods less foods and energy			5.0	0.3	4.8	1.6	2.9	18.8
WPUIP2300002	Inputs to construction industries, services			4.6	2.1	9.1	-0.6	-1.3	15.1
WPUIP231000	Inputs to new construction			4.0	1.4	5.6	0.7	1.7	20.5
WPUIP231200	New nonresidential construction			4.3	1.8	4.4	0.9	2.5	22.1
WPUIP231211	Commercial structures			4.7	1.6	4.2	1.1	3.0	22.6
WPUIP231212	Healthcare structures			4.2	1.7	5.0	1.1	2.8	21.2
WPUIP231220	Industrial structures			4.0	3.2	3.8	1.1	2.6	20.8
WPUIP231230	Other nonresidential			4.3	1.7	4.3	0.8	2.4	21.9
WPUIP231231	Highways and streets			5.0	1.4	1.8	0.8	2.2	21.8
WPUIP231232	Power and communications structures			3.6	1.5	3.6	0.7	2.3	22.9
WPUIP231233	Educational and vocational structures			4.2	1.8	5.8	1.1	2.6	20.4
WPUIP231234	Other misc. nonresidential construction			3.8	1.9	4.8	0.7	2.4	21.9
WPUIP231100	New residential construction			3.9	1.0	6.7	0.3	0.4	17.3
WPUIP231110	Single-family			3.6	1.0	6.6	0.3	0.2	16.8
WPUIP231120	Multifamily			4.2	1.0	7.6	0.2	0.0	17.1
WPUIP232000	Maintenance and repair construction			3.7	1.4	5.7	0.5	1.2	18.4
WPUIP232200	Nonresidential maintenance and repair			3.8	1.3	5.2	0.6	1.7	20.3
WPUIP232100	Residential maintenance and repair			4.0	1.0	6.1	0.2	0.3	15.7

Table 4: Changes in PPIs for services important to construction

WPU4531	Architectural services	1.1	2.7	-1.2	-1.7	0.6	0.3	0.8	2.4
WPU4532	Engineering services	2.0	2.8	2.1	2.0	1.5	0.1	0.6	3.1
WPU3012	Truck transportation of freight	0.2	4.5	6.5	0.0	2.2	1.0	4.5	16.3
WPU443	Const, mining & forestry mach & eq rental & leasin	-1.1	3.4	-0.5	-1.3	-4.6	0.0	0.6	1.5

Updated 12/14/2021

Source: BLS: www.bls.gov/cpi for CPI, www.bls.gov/ppi for PPIs; www.bls.gov/ect for ECIs.

PPI & EMPLOYMENT COST INDEXES



Percentage Change in Producer Price Indexes (PPI) & Employment Cost Indexes for construction - 2014-2020

BLS Series ID		12-month percentage change to December:					to November 2021 since:		
		2016	2017	2018	2019	2020	10/2021	8/2021	11/2020
Table 5: Changes in PPIs for processed goods important to construction									
WPU057303	#2 diesel fuel	21.4	40.9	4.0	-0.7	-2.8	-2.9	13.0	81.0
WPU1394	Paving mixtures and blocks (asphalt)	-5.6	-0.4	10.5	-1.8	-2.7	-0.5	0.2	6.2
WPU136	Asphalt felts and coatings	-1.9	2.2	10.6	-0.8	2.1	2.8	3.4	16.3
WPU1361	Prepared asphalt & tar roofing & siding products	-1.0	1.6	10.9	-0.8	2.5	3.2	3.8	17.7
WPU1322	Cement	5.0	4.3	2.8	1.9	1.9	0.0	0.3	4.8
WPU133	Concrete products	3.1	2.9	3.5	3.1	2.2	0.7	1.4	8.4
WPU1331	Concrete block and brick	2.0	2.9	3.1	3.6	3.0	0.7	0.8	5.2
WPU1332	Concrete pipe	2.2	0.5	2.3	4.1	2.6	0.3	4.7	10.5
WPU1333	Ready-mixed concrete	3.7	3.1	3.2	2.7	2.2	0.7	0.3	7.1
WPU1334	Precast concrete products	0.5	3.5	4.8	3.9	3.0	0.7	3.4	11.9
WPU1335	Prestressed concrete products	11.1	1.9	4.1	2.5	-1.2	1.4	3.5	13.6
WPU1342	Brick and structural clay tile	1.0	1.7	1.3	1.8	3.3	0.0	2.4	6.0
WPU0721	Plastic construction products	-0.1	4.7	2.5	0.4	5.4	1.5	5.8	32.5
WPU1311	Flat glass	3.1	1.1	1.4	1.0	3.7	0.3	2.2	8.4
WPU137	Gypsum products	7.9	5.8	4.0	-5.4	3.6	0.0	1.8	20.9
WPU1392	Insulation materials	3.1	1.2	5.1	-3.1	1.6	0.6	0.8	17.4
WPUSI004011	Lumber and plywood	3.6	11.2	-4.9	-2.2	37.2	3.5	1.0	12.2
WPU062101	Architectural coatings	0.9	2.6	6.7	4.5	1.9	0.6	1.9	12.4
WPU1017	Steel mill products	8.6	7.5	19.3	-16.0	5.2	2.4	11.7	141.6
WPU101706	Steel pipe and tube	5.4	10.2	20.0	-9.0	1.9	2.8	11.0	73.5
WPU102502	Copper and brass mill shapes	21.1	9.0	-5.7	-0.6	23.6	1.5	0.9	37.8
WPU102501	Aluminum mill shapes	5.5	10.1	6.8	-4.4	-1.7	2.3	9.3	41.1
WPU1073	Sheet metal products	2.2	2.2	7.6	-1.3	-0.3	2.9	5.3	33.9
WPU107405	Fabricated structural metal	2.3	3.5	14.8	-3.3	-0.5	1.7	3.7	44.7
WPU1074051	Fabricated structural metal bar joists & rebar	4.9	-0.5	12.1	-2.9	0.5	0.6	3.8	55.8
WPU10740514	Fabricated structural metal for non-industrial buildi	4.0	-1.3	13.1	-3.8	0.2	0.5	3.8	60.2
WPU10740553	Fabricated structural metal for bridges	-7.0	-0.4	15.0	-6.9	-0.4	3.7	3.9	51.4
WPU107408	Ornamental and architectural metal work	2.2	3.5	11.5	0.1	4.8	0.1	15.5	54.3
WPU1076	Fabricated steel plate	0.2	1.4	2.9	-1.3	1.8	0.0	2.1	45.3
WPU1079	Prefabricated metal buildings	4.8	3.1	11.7	-5.3	12.0	0.1	2.0	44.8
WPU112	Construction machinery and equipment	0.9	0.9	3.4	2.3	1.1	0.3	3.8	9.1
WPU07120105	Truck & bus (incl. off-the-highway) pneumatic tires	2.7	1.8	2.5	-0.1	0.3	1.6	0.8	10.7

Table 6: Changes in PPIs for unprocessed goods important to construction

WPU058102	Asphalt (at refinery)	-9.8	28.3	24.9	-17.1	-13.9	8.4	5.9	82.9
WPU1321	Construction sand/gravel/crushed stone	2.3	4.2	3.8	4.2	4.3	0.2	0.2	4.5
WPU1012	Iron and steel scrap	63.7	18.5	14.1	-26.2	40.6	10.7	5.2	78.1
WPU101212	Stainless and alloy steel scrap	30.3	3.9	-15.6	-0.1	27.4	2.8	4.1	63.6
WPU102301	Copper base scrap	11.0	17.5	-9.0	-5.9	30.1	-0.1	2.6	40.0

Table 7: Changes in ECIs for total compensation, wages & salaries (through September 2021)

CIU2010000000000	Private industry--total compensation	2.2	2.6	3.0	2.7	2.6	1.4	4.1
CIU2012300000000	Construction--total compensation	1.9	2.4	2.8	3.5	2.4	0.4	3.0
CIU2020000000000	Private industry--wages and salaries	2.3	2.8	3.1	3.0	2.8	1.6	4.6
CIU2022300000000	Construction--wages and salaries	2.1	2.5	3.1	3.8	2.8	0.5	3.3





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