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How and When Will our Industry Feel This Recession?

While many see the negative growth of our Gross Domestic Product as proof of a recession, Q1 and Q2 were only two percent less than 2021—a year that saw three of its four quarters eclipse six percent growth. Two trends that are more pronounced and persistent are higher construction costs and the volatility in our supply chains. Though Engineering News-Record's (ENR) Building Cost Index has recorded three consecutive nearly flat months, most local markets are still seeing rising costs as massive investments continue to be made in big tech, life science and public sector projects. However, the Federal Reserve's aggressive tactics to curb inflation by raising interest rates is starting to have an impact on growth. With money more expensive to borrow, many projects appear less viable. The recent decline in housing starts and the first decline in the average sale price of a home is evidence of this sentiment. Higher costs are also impacting development projects with strict return guidelines, as deals are not meeting proforma requirements.

As many large businesses announce measures to curtail costs, overall demand will likely contract and we expect to see the pace of cost escalation decline and possibly normalize later in 2023. In the near term, the activity that exists in the aforementioned sectors makes the probability of any significant cost decrease and long-lead supply chain improvements unlikely in Q4 2022 or Q1 2023.

Steve Stouthamer | Executive Vice President, Project Planning

Mitigating Risks:



Continue to forecast escalation at a cautious level. We are currently recommending six to eight percent/annum for the next 6-12 months.



Some regional markets could feel recessionary pressures sooner or more significantly than others. Monitor project volumes in your area and move quickly with projects should the opportunity for capacity present itself.

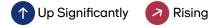


Using our insights on the supply chain, continue to plan for the early procurement of long lead, critical path items such as HVAC equipment, electrical gear, generators, below grade drainage pipe, and high purity stainless steel process piping.

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Construction and Material Pricing Trends Snapshot

Index, Commodity or Material		Current Figure	% Change from prior qtr	Past One Year Trend	% Change from prev year
tion	Construction Industries Index	13,173	+0.5%	2	+5.7%
Construction	Building Cost Index	7,958	+0.8%	A	+10.3%
Con	Material Price Index	5,888	+.09%	1	+19.4%
	Skilled Labor Index	11,293	+1.1%	2	+3.8%
	Inputs to Construction (goods)	323	-3.7%	2	+16.3%
	Architecture Billings Index	53.3	-0.4%	Ŋ	-4.1%
	Fuel (\$/gallon)	\$3.70	-6.9%	N	+43.2%
	Oil (\$/barrel)	\$79.49	-24.8%	A	+5.9%
	Freight (\$/ton)	\$1,933	-5.8%	Ŋ	+2.7%
	Portland Cement (\$/cy)	\$172	-1.4%	A	+14.9%
	Insulation - Unfaced (\$/sf)	\$9.32	+6.8%	lacktriangle	+28.6%
	Stainless Steel (\$/cwt)	\$296	+1.4%	1	+20.4%
	Steel- Standard Plate (\$/net ton)	\$1,721	-5.0%	N	+8.0%
	Asphalt PG 58 (\$/ton)	\$617	+0.2%	1	+36.1%
	Plywood (\$/msf)	\$1,241	-2.0%	Ŋ	-1.0%
	2 X4 Common (\$/msf)	\$964	-18.9%	7	-9.6%
	Gypsum (\$/msf)	\$366	+5.2%	1	+18.4%
	4,000 PSI Concrete (\$/cy)	\$156	-0.4%	7	+8.5%







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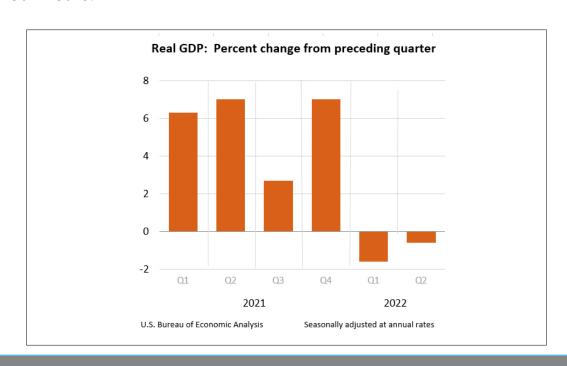
Overview and Economy (page 1 of 2)

U.S. Economic Indicators

Real gross domestic product (GDP) decreased at an annual rate of 0.6 percent in the second quarter of 2022, following a decrease of 1.6 percent in the first quarter. The smaller decrease in the second quarter, compared to the first quarter, reflected an upturn in exports and an acceleration in consumer spending.

Private goods-producing industries decreased 10.4 percent, private services producing industries increased 2.0 percent, and government decreased 0.2 percent. Overall, 9 of 22 industry groups contributed to the second-quarter decline in real GDP.

Total nonfarm payroll employment increased by 263,000 in September, and the unemployment rate edged down to 3.5 percent, the U.S. Bureau of Labor Statistics reported. Notable job gains occurred in leisure and hospitality and in health care.



Producer and Consumer Price Index

The Producer Price Index, which is a group of indexes that calculates and represents the average movement in selling prices from domestic production over time, for final demand increased 0.4 percent in September, seasonally adjusted, the U.S. Bureau of Labor Statistics reported. Final demand prices declined 0.2 percent in August and 0.4 percent in July. On an unadjusted basis, the index for final demand advanced 8.5 percent for the 12 months ended in September. The producer price index can often be correlated with construction price escalation.

Prices for final demand less foods, energy, and trade services advanced 0.4 percent in September, the largest rise since increasing 0.5 percent in May. For the 12 months ended in September, the index for final demand less foods, energy, and trade services moved up 5.6 percent.

The Consumer Price Index for All Urban Consumers (CPI-U) rose 0.4 percent in September on a seasonally adjusted basis after rising 0.1 percent in August, the U.S. Bureau of Labor Statistics reported. Over the last 12 months, the all items index increased 8.2 percent before seasonal adjustment.

The all items index increased 8.2 percent for the 12 months ending September, a slightly smaller figure than the 8.3-percent increase for the period ending August. The all items less food and energy index rose 6.6 percent over the last 12 months. The energy index increased 19.8 percent for the 12 months ending September, a smaller increase than the 23.8-percent increase for the period ending August. The food index increased 11.2 percent over the last year.

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Overview and Economy (page 2 of 2)

U.S. Manufacturing PMI (Purchasing Managers Index)

The S&P Global U.S. Manufacturing PMI was revised higher to 52 in September 2022 from a preliminary of 51.8 and above 51.5 in August. Still, the reading pointed to subdued operating conditions although output and new orders returned to growth. Nonetheless, firms expanded their workforce numbers at the fastest pace since March, although labor shortages continued to hamper firms' ability to work through incoming new orders. Outstanding business rose again and at a quicker rate. At the same time, cost pressures softened amid reports of lower prices for some inputs. Although slower than those seen earlier in the year, the rate of selling price inflation picked up slightly as firms continued to pass-through higher cost burdens to customers. Finally, concerns regarding inflation and client purchasing power weighed on expectations, which dipped from August, and input buying.

Global Markets

The EUR dropped 2.5 percent against the U.S. dollar to \$0.98 in September 2022, from \$1.05 in June 2022. The CAD fell 6.9 percent against the U.S. dollar at \$0.72 in September 2022 from \$0.78 in June 2022.

FedEx stock prices dropped in September 2022 (\$148.47, down from \$226.71 June 2022). UPS stock prices also fell in September 2022 (\$161.54, down from \$182.54 June 2022.)

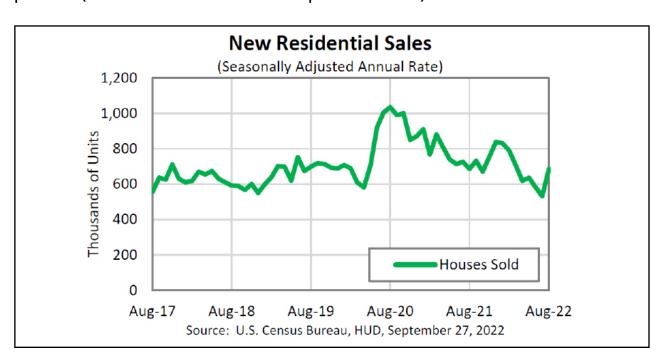
Trading Economics reports exports in South Korea increased to \$57,460 Million in September from \$56,670 Million in August of 2022.

U.S. Home Sales

Sales of new single family houses in August 2022 were at a seasonally adjusted annual rate of 685,000, according to estimates released jointly by the U.S. Census Bureau and the Department of Housing and Urban Development. This is 28.8 percent (±18.3 percent) above the revised July rate of 532,000 but is 0.1 percent (±16.5 percent) below the August 2021 estimate of 686,000.

The median sales price of sold in August 2022 was \$436,8000. The average sales price was \$521,800.

Existing home sales fell 1.5 percent from August 2022 to a seasonally adjusted annual rate of 4.71 million in September 2022. Year-over-year, waned by 23.8 percent (down from 6.18 million in September 2021).

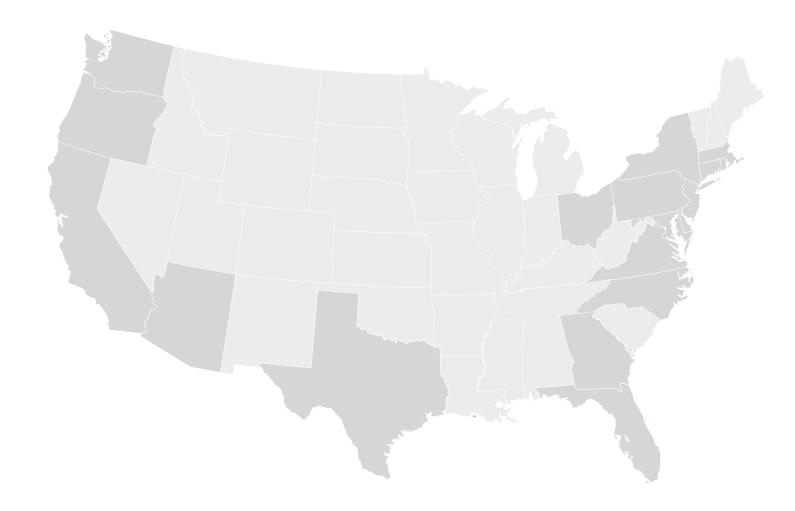


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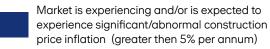
Forecasting Local Construction Costs Across the U.S.

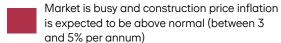
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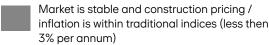
Click on the map to see more details on a specific city or state.



Construction Cost Key







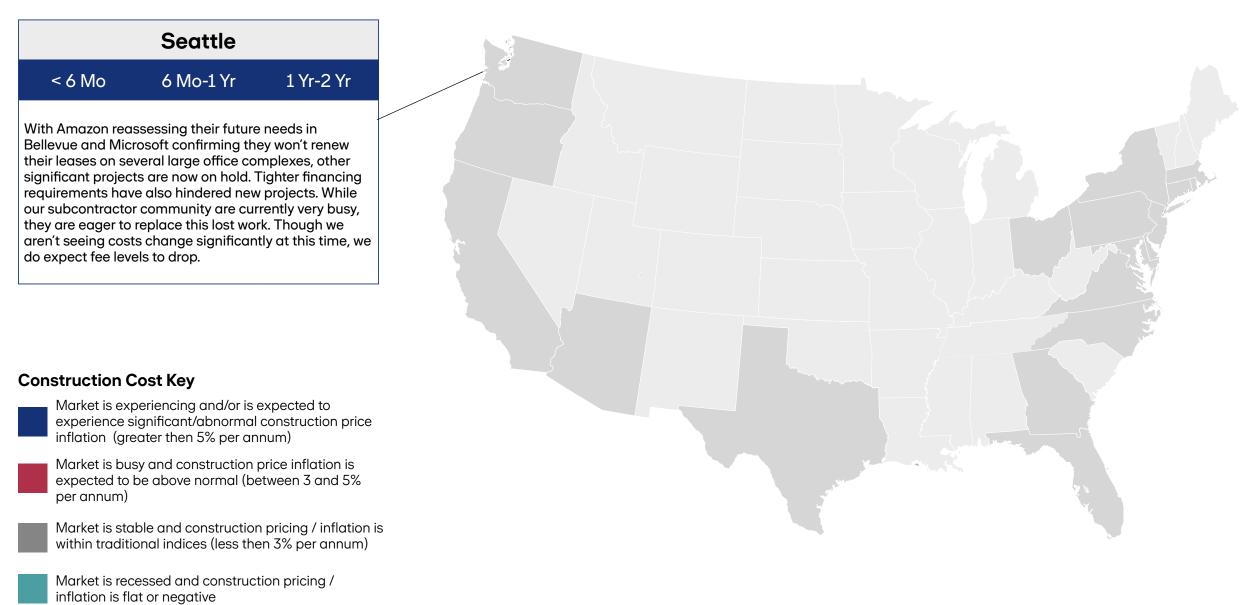
Market is recessed and construction pricing
/ inflation is flat or negative

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Forecasting Local Construction Costs Across the U.S.

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Click on the map to jump to another city or state.



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Click on the map to jump to another city or state.

Portland < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr Although we were burned last year by a fall lull in cost escalation, this year's conditions seem to be more conducive to a continued slowing instead of another winter price spike. More general contractors are participating.

escalation, this year's conditions seem to be more conducive to a continued slowing instead of another winter price spike. More general contractors are participating in prebid walks and subcontractor response to bids has been stronger. A November vote regarding Portland city governance may instill optimism in a new chapter for businesses downtown or extend the continuing challenge to get back to a pre-pandemic business climate.

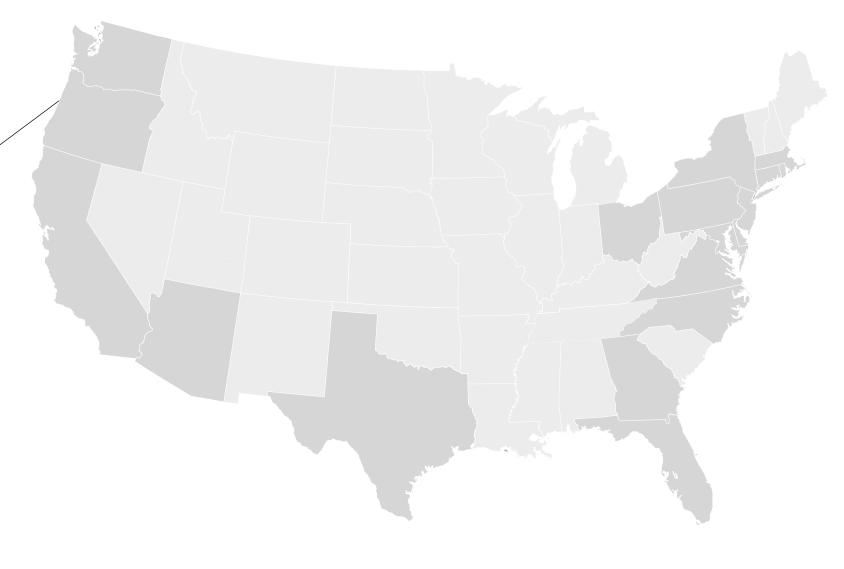
Construction Cost Key

Market is experiencing and/or is expected to experience significant/abnormal construction price inflation (greater then 5% per annum)

Market is busy and construction price inflation is expected to be above normal (between 3 and 5% per annum)

Market is stable and construction pricing / inflation is within traditional indices (less then 3% per annum)

Market is recessed and construction pricing / inflation is flat or negative



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San Francisco < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr Challenged by the market conditions, clients are requiring extra time to make decisions as they are under pressure to reallocate funds to stay within budget. The skilled labor market is tight, particularly in millwork, rebar, fire protection, miscellaneous metals and drywall. With backlogs stretching through 2023, they are more selective when choosing projects. We are continuing to recommend above average cost escalation in current estimates and lead times on MEP equipment continue to be a concern. DGS California Construction Cost Index (CCCI) is projected to be at 9.3 percent by the end of 2022 compared to 13.4 percent in 2021.

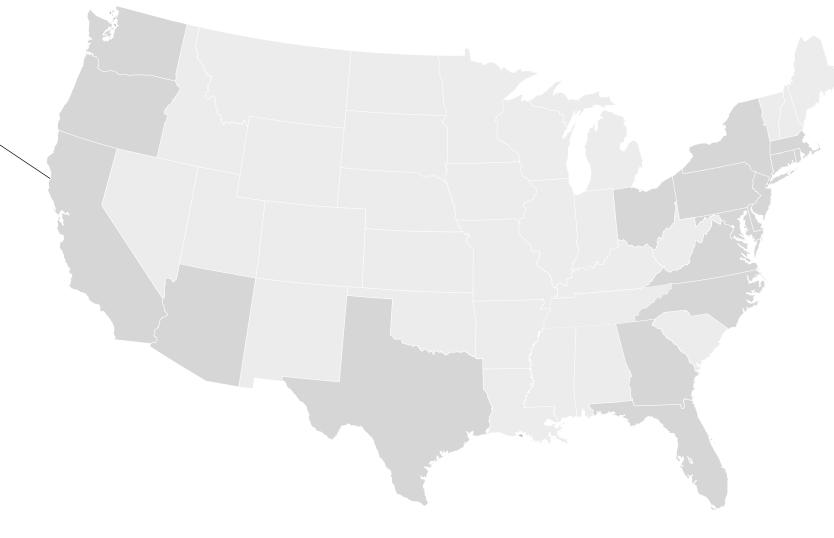
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Los Angeles < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr A variety of challenging economic conditions haven't caused a notable change in contractor pricing behavior. Ongoing large aviation and transportation-related programs, as well as solid demand for mixed-use residential and student housing, continue to underpin the L.A. construction market. Building, material and labor costs are 30-40 percent higher than the national average. One positive trend note, ENR's Los Angeles Building Cost Index (BCI) in September 2022 shows that local costs were up 9.6 percent on average compared to 11.9 percent nationally. **Construction Cost Key** Market is experiencing and/or is expected to Market is stable and construction pricing / inflation experience significant/abnormal construction price is within traditional indices (less then 3% per inflation (greater then 5% per annum) Market is busy and construction price inflation is Market is recessed and construction pricing / expected to be above normal (between 3 and 5% inflation is flat or negative

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Click on the map to jump to another city or state.

Phoenix < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

The greater Phoenix marketplace has been very busy particularly in the data center market, but also in the hospitality, multifamily, manufacturing and distribution sectors. The biggest challenges in the marketplace are sufficiently staffing the projects due to the busy labor market and the long lead times that exist on mechanical and electrical products due to supply chain issues. We would anticipate the market remaining strong for the next 18-24 months with demand keeping prices high but escalation not continuing at the same double digit annual pace that it has been in the past 24 months.

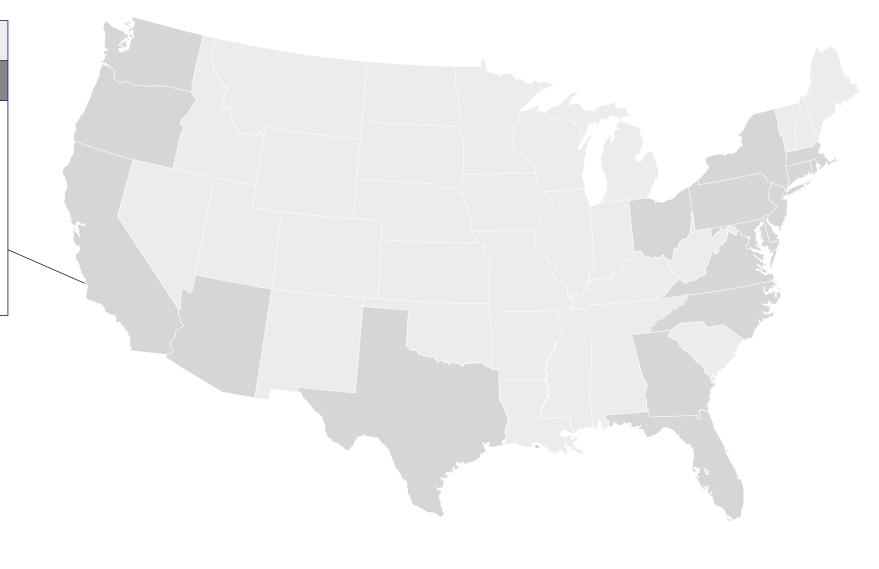
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San Antonio < 6 Mo 1 Yr-2 Yr 6 Mo-1 Yr As reported last quarter, there are several extremely large projects in the region (specifically in Austin) that are impacting the labor pool. This activity is causing a ripple effect on availability and costs with some subcontractors increasing wages and offering monthly stipends to secure a more stable workforce. August and September experienced a flattened inflation level, but it may be several months before prices stabilize. Material availability is now more predictable, but extended lead times, particularly in the electrical space, continue to impact procurement efforts. **Construction Cost Key** Market is experiencing and/or is expected to experience significant/abnormal construction price inflation (greater then 5% per annum) Market is busy and construction price inflation is expected to be above normal (between 3 and 5% per annum) Market is stable and construction pricing / inflation is within traditional indices (less then 3% per annum)

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Click on the map to jump to another city or state.



The Dallas-Fort Worth market continues to be very busy. With 147 hotel projects and nearly 18,000 new rooms in the pipeline, our region matches Atlanta as the top hotel-building market according to Lodging Econometrics. The Dallas City council has also approved plans for a new 2.5 million-SF, \$2 billion convention center. The higher education sector continues to be active with TAMU, TCU, UNT, UTA and other universities adding to their campuses to keep up with our rising population.

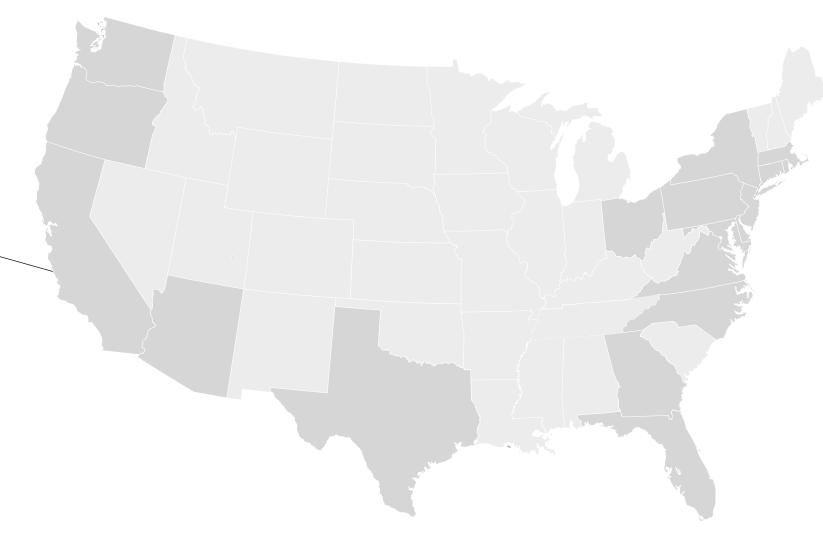
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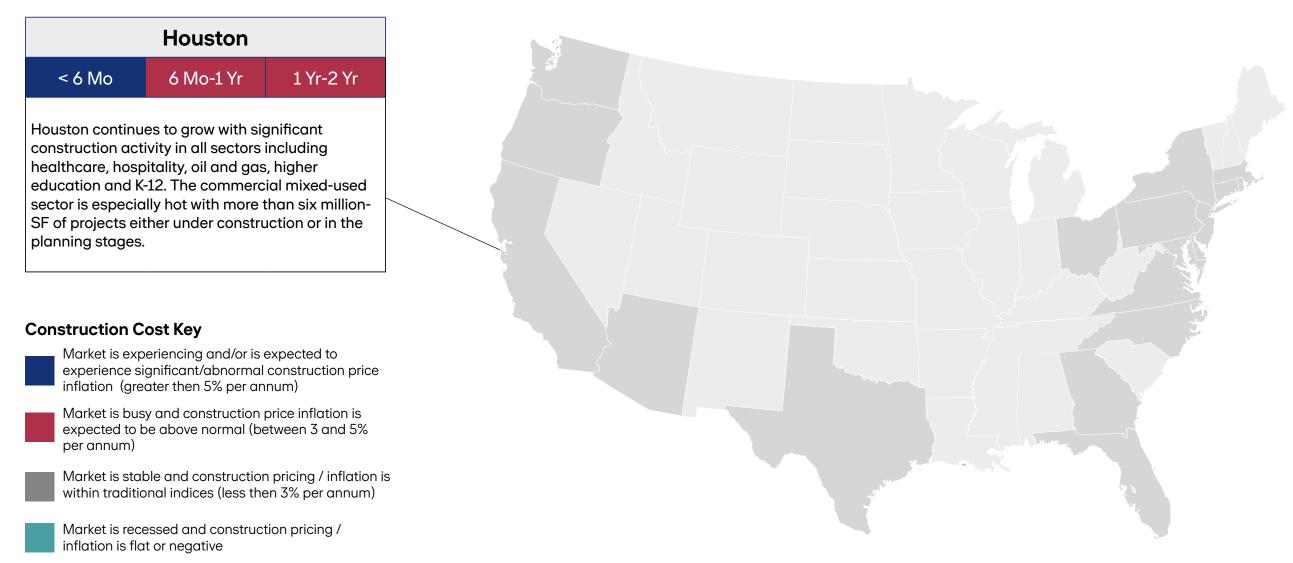


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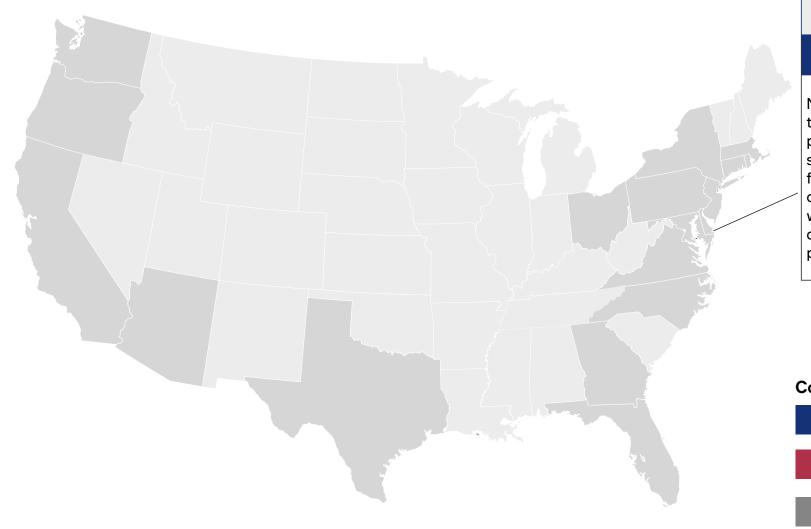
SKANSKA

Construction Market Trends Report Fall 2022 | Skanska USA Building

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Forecasting Local Construction Costs Across the U.S.

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Nashville < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

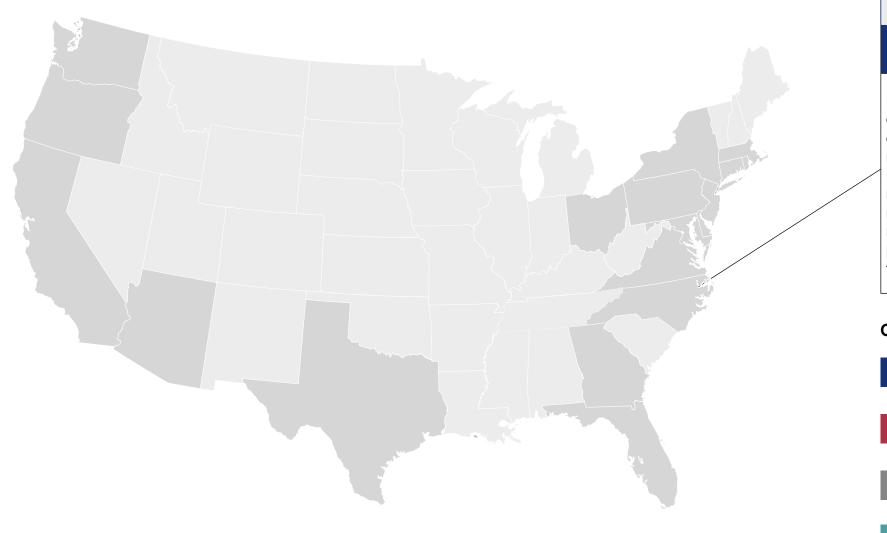
Nashville continues to see unprecedented growth throughout the city and surrounding counties. While this activity is positive, our subcontracting community has a significantly stretched backlog of work for the next two years. Nashville still faces a very high demand for housing due to the limited supply of apartments, but this will ease somewhat in the next year with more than 15,000 apartment units under construction and approximately 33,000 additional units in the permitting/planning phase.

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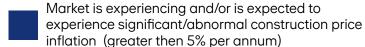
Forecasting Local Construction Costs Across the U.S.

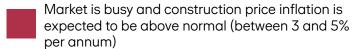
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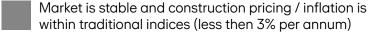


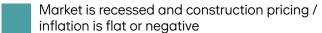


Material prices and lead times continue to increase each month in Georgia as they are around the country. The latest challenge in the market has been mechanical and electrical equipment lead times. Possible solutions are to explore alternate equipment manufacturers as well as resizing equipment to more standard or readily available sizes. Despite raw material steel pricing showing some decline, local pricing for steel remains high and an area of concern for projects.





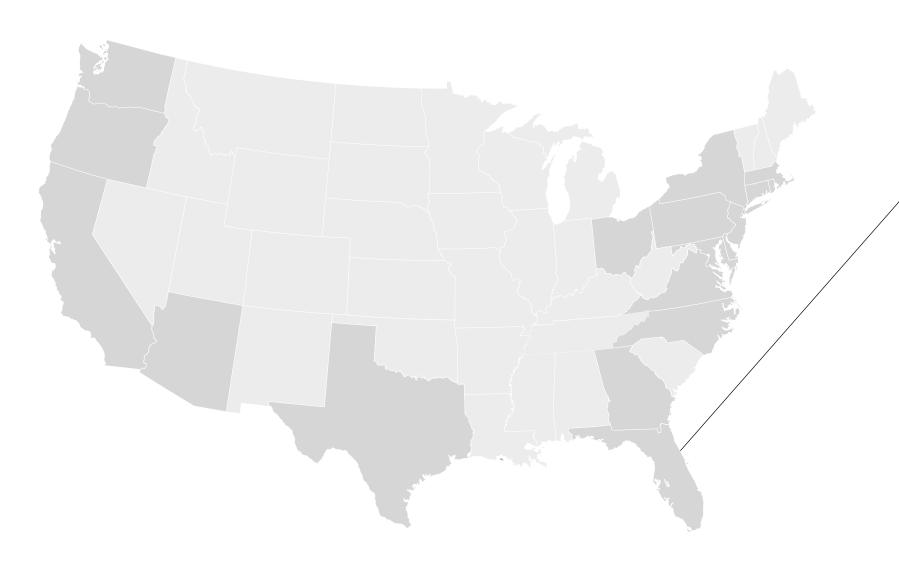




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Forecasting Local Construction Costs Across the U.S.

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Tampa < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

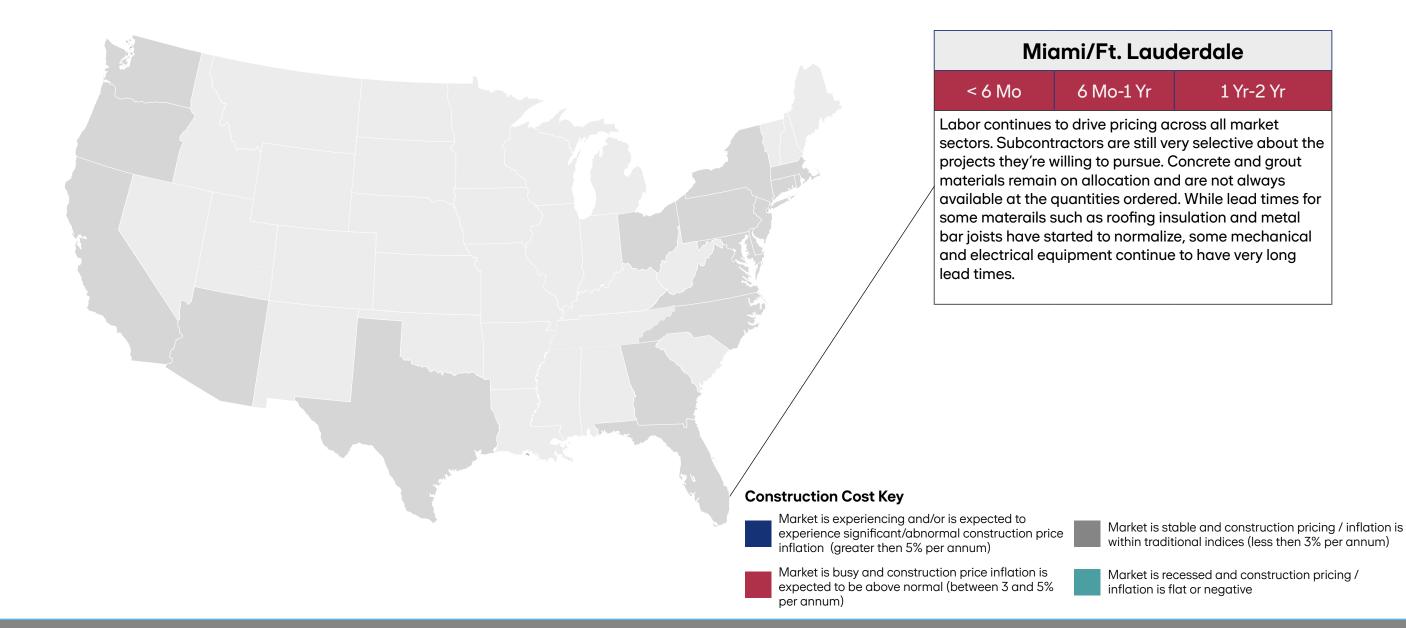
While the residential housing market has begun to slow since the Fed increased interest rates to curb inflation, it remains one of the hottest in the country. Though this growth has fueled our local economy, it has also strained the supply of skilled workers in all sectors. As the state recovers from Hurricane lan, we anticipate additional material shortages in many construction materials—especially roofing, lumber and drywall.

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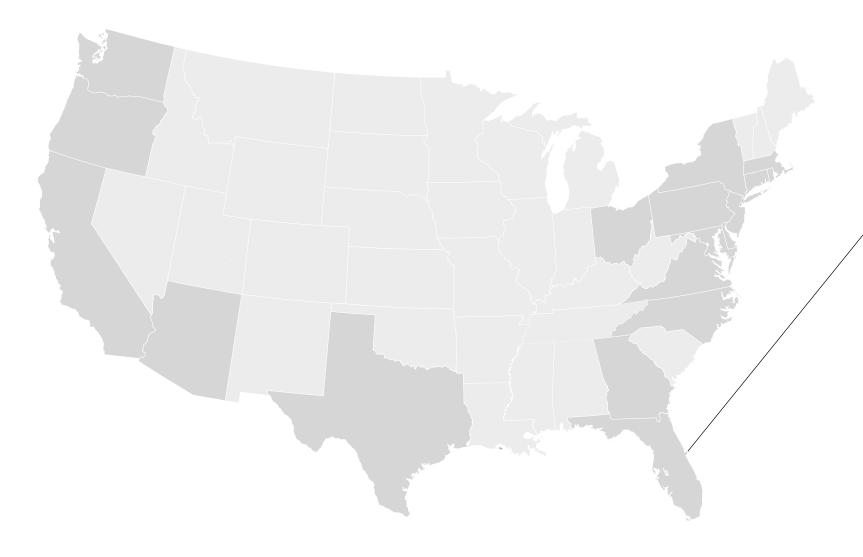


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Forecasting Local Construction Costs Across the U.S.

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Orlando < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

Thousands of manufacturing facilities, factories, warehouses and distribution centers could be impactedin the months that lie ahead due to likely material supply shortages/loss, increased delivery costs and facility damage. On a positive note, healthcare, education, hospitality/entertainment and residential construction markets are thriving. The residential market, spurred by both retirees and younger homebuyers, remains strong when compared to other major markets throughout the state, but has leveled off after a steady decline. This housing trend has eased local labor shortages just as major construction projects get underway. The steady population growth of those between the ages of 24 and 54 has also improved our labor market.

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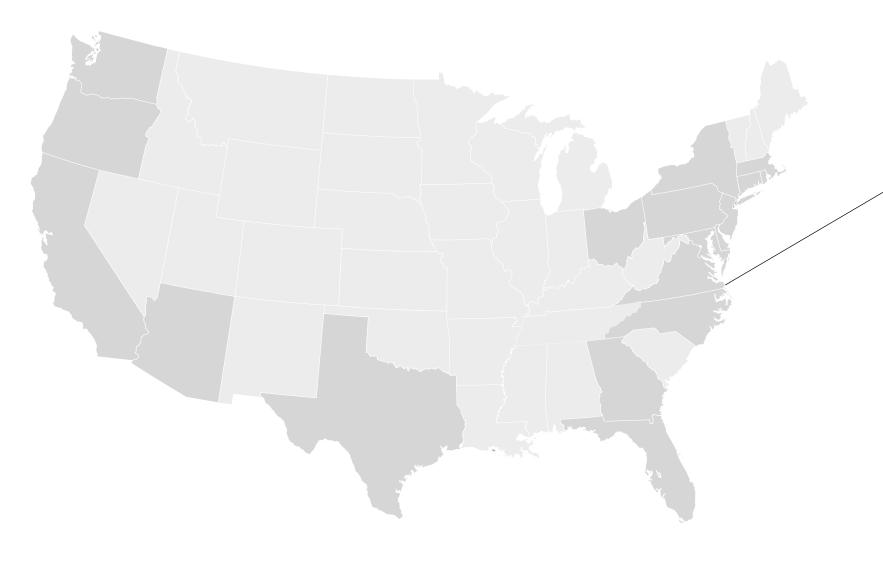
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Forecasting Local Construction Costs Across the U.S.

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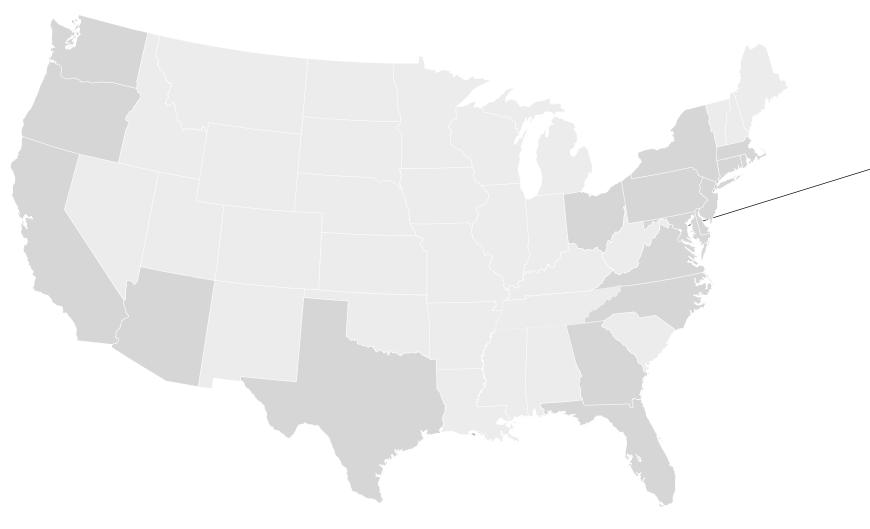
North Carolina / Virginia < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr Though long lead times for some materials present ongoing challenges, costs are returning to slightly higher than prepandemic levels. Trade contractors are facing pressure to increase wages to secure qualified workers in a limited labor market, creating a selective bidding environment for many key trades including electrical and drywall. Projects with particularly aggressive schedules are viewed unfavorably by trade partners due to the additional risk, resulting in additional cost premiums. Despite the challenges over the last 18 months, optimism is growing as large projects, particularly including life sciences and manufacturing, continue to advance. **Construction Cost Key** Market is experiencing and/or is expected to experience significant/abnormal construction price inflation (greater then 5% per annum) Market is busy and construction price inflation is expected to be above normal (between 3 and 5% Market is stable and construction pricing / inflation is within traditional indices (less then 3% per annum) Market is recessed and construction pricing / inflation is flat or negative

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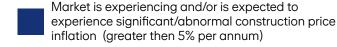
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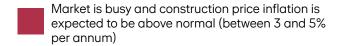
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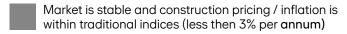


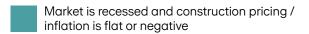
Washington, D.C. < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

While the D.C. market is challenged by a strained supply chain and increased construction costs, several markets are moving forward. Multi-family residential projects are one example. Other growing markets include industrial, institutional, healthcare and educational facilities. Commercial office space is being cautiously evaluated due to the massive retreat from the office and the main concern for the local labor force is not so much quantity, but quality. The good news is that we do see cost escalation slowing down amid ongoing financial uncertainty.







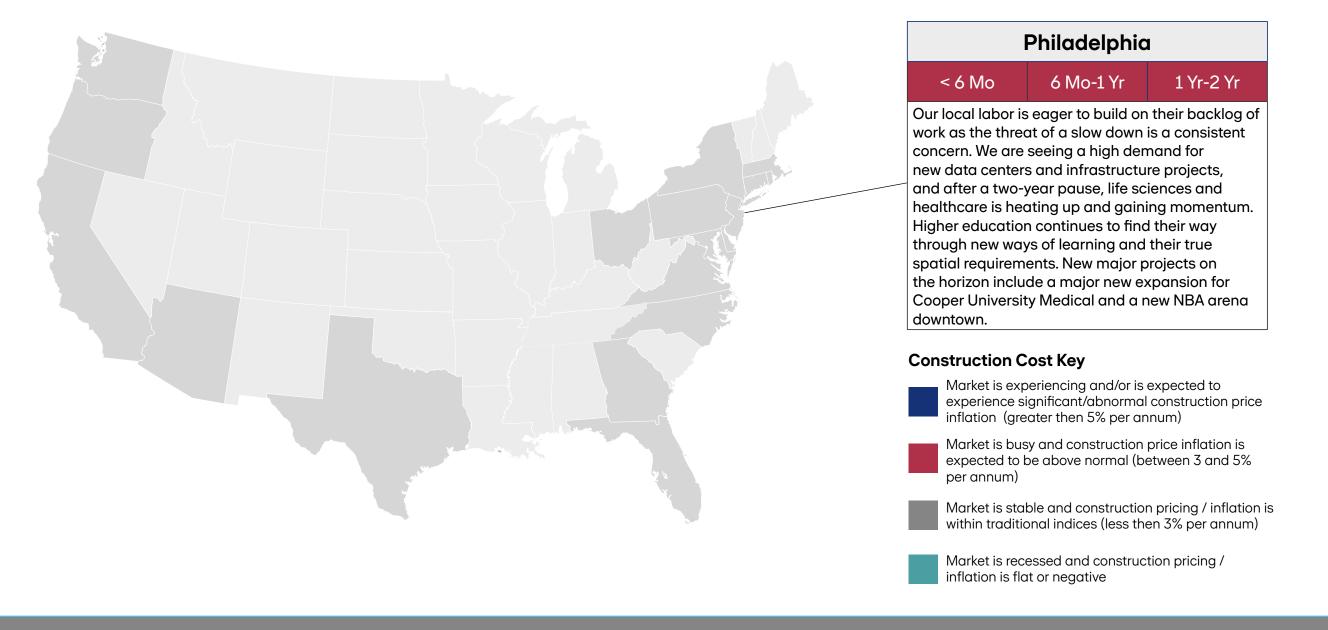


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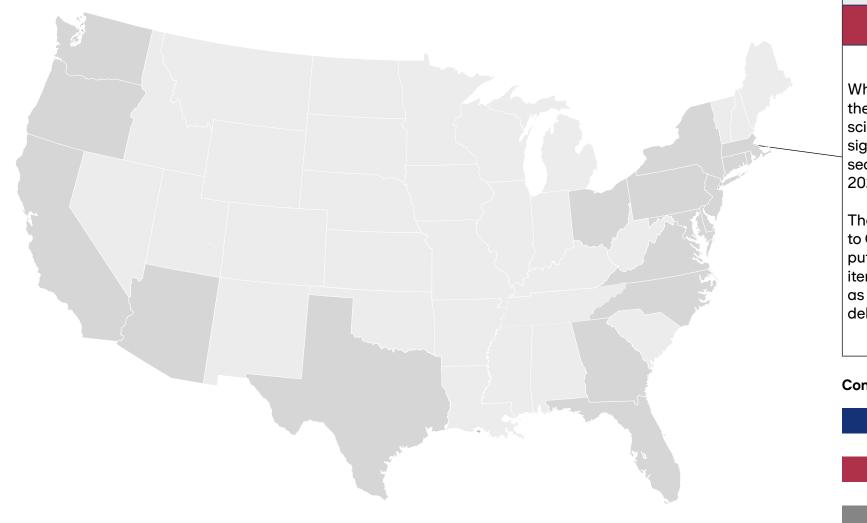


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Forecasting Local Construction Costs Across the U.S.

This chart reflects local Project Planning Services team leaders' opinions of market volume and capacity and is not based on published analytics or third-party forecasts. To discuss market position with your local contact, requests can be made via Matt

Impastato. Click on the map to jump to another city or state.



Soston/New England < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

While construction within city limits is slowing due to changes in the approvals process, work beyond city limits is still growing in life sciences, higher education, residential and government —with a significant expansion in the commercial lab and pharmaceutical sectors. As a result, many subcontractors have solid backlogs for 2022 and into 2023.

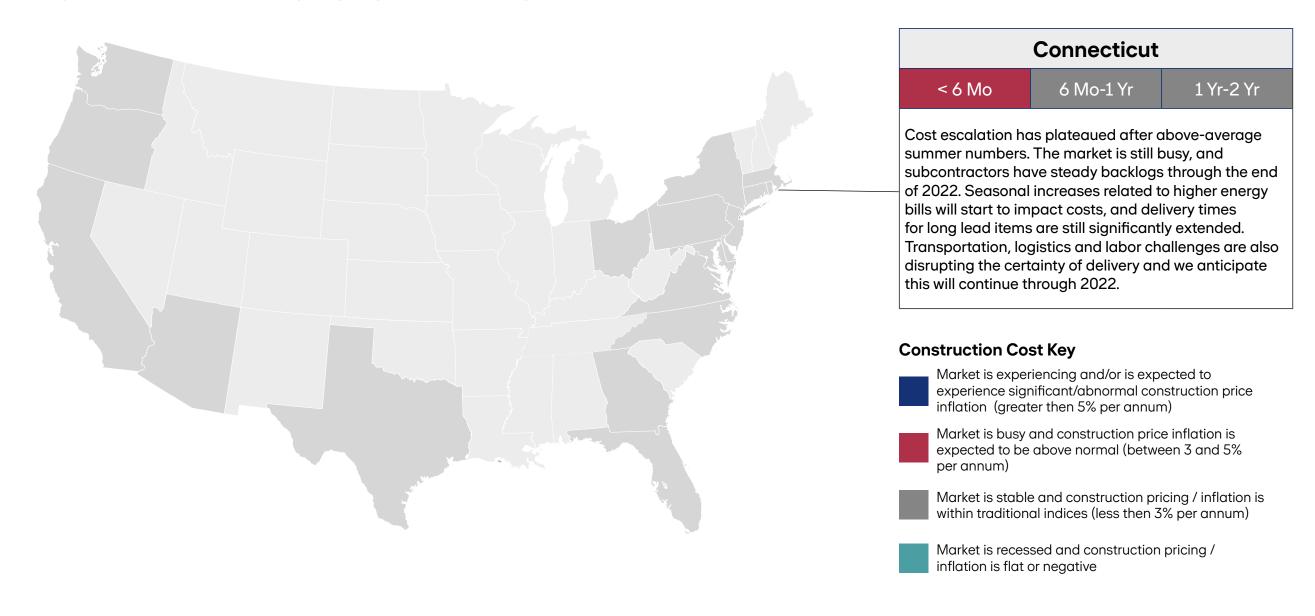
The material cost escalation of the summer months has returned to Q1 levels, but cooler weather and higher energy costs will put upward pressure on escalation. Delivery times for long lead items is still very challenging with some items extending the wait as much as 100 percent. Strained logistics are also disrupting delivery certainty and will continue through the end of 2022.

- Market is experiencing and/or is expected to experience significant/abnormal construction price inflation (greater then 5% per annum)
- Market is busy and construction price inflation is expected to be above normal (between 3 and 5% per annum)
- Market is stable and construction pricing / inflation is within traditional indices (less then 3% per annum)
- Market is recessed and construction pricing / inflation is flat or negative

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Forecasting Local Construction Costs Across the U.S.

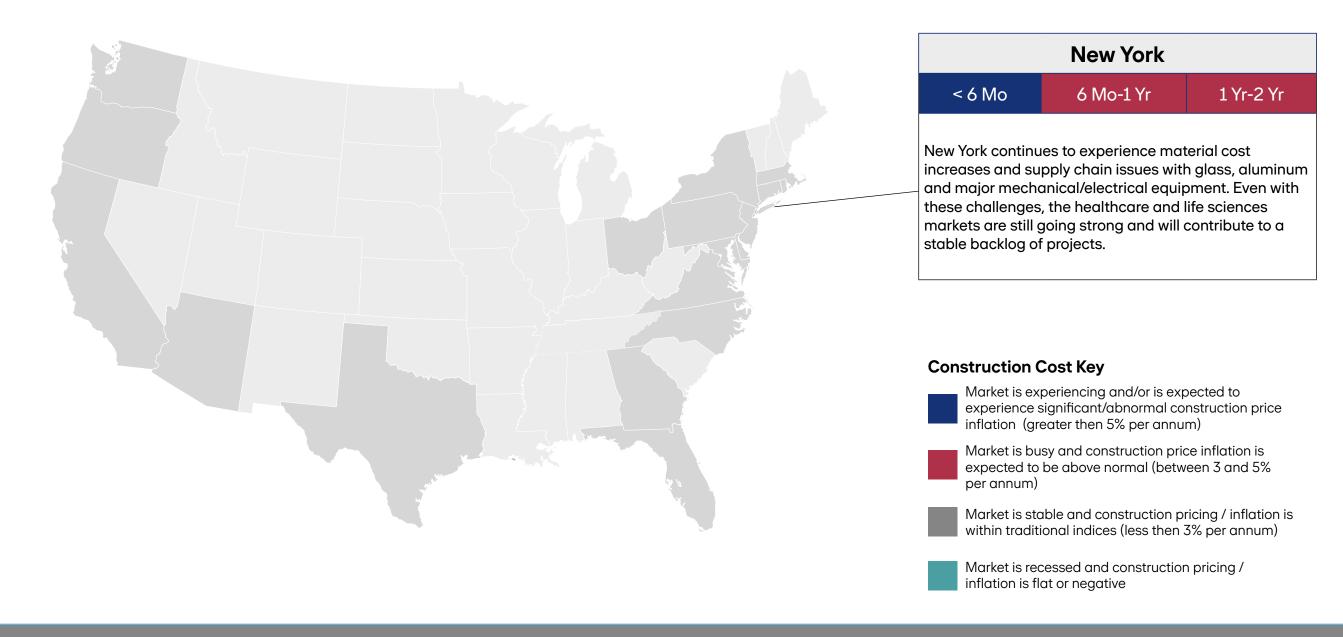
This chart reflects local Project Planning Services team leaders' opinions of market volume and capacity and is not based on published analytics or third-party forecasts. To discuss market position with your local contact, requests can be made via Mattenger: Impastato. Click on the map to jump to another city or state.



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Forecasting Local Construction Costs Across the U.S.

This chart reflects local Project Planning Services team leaders' opinions of market volume and capacity and is not based on published analytics or third-party forecasts. To discuss market position with your local contact, requests can be made via <u>John Tamborino</u>. Click on the map to jump to another city or state.

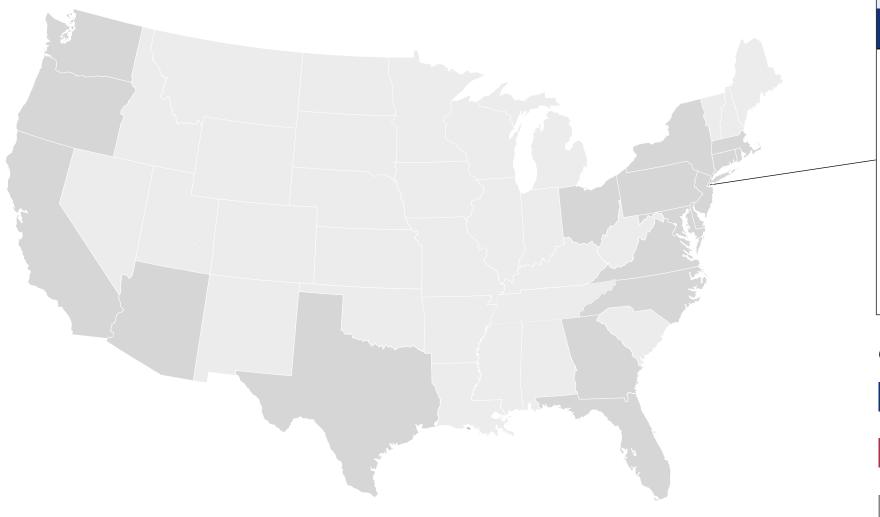


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Forecasting Local Construction Costs Across the U.S.

This chart reflects local Project Planning Services team leaders' opinions of market volume and capacity and is not based on published analytics or third-party forecasts. To discuss market position with your local contact, requests can be made via Nick Culver.

Click on the map to jump to another city or state.



New Jersey < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

Vacant office spaces are being redeveloped into industrial projects throughout the state. Amazon's new 205,350-SF facility in Woodland Park and CenterPoint's 185,917-SF building for Costco in Newark were recently completed in Northern New Jersey. Central New Jersey celebrated a new 190,000-SF warehouse in North Brunswick that replaced an outdated one, with another 220,000-SF, is scheduled to be completed in Millstone this quarter. Steel, plastic, aluminum, and lumber have all seen unprecedented price escalations due to supply shortages and increased demand. Scheduling concerns, escalation clauses and reduced durations on price hold guarantees have also become the norm in subcontractor bids.

Construction Cost Key

Market is experiencing and/or is expected to experience significant/abnormal construction price inflation (greater then 5% per annum)

Market is busy and construction price inflation is expected to be above normal (between 3 and 5% per annum)

Market is stable and construction pricing / inflation is within traditional indices (less then 3% per annum)

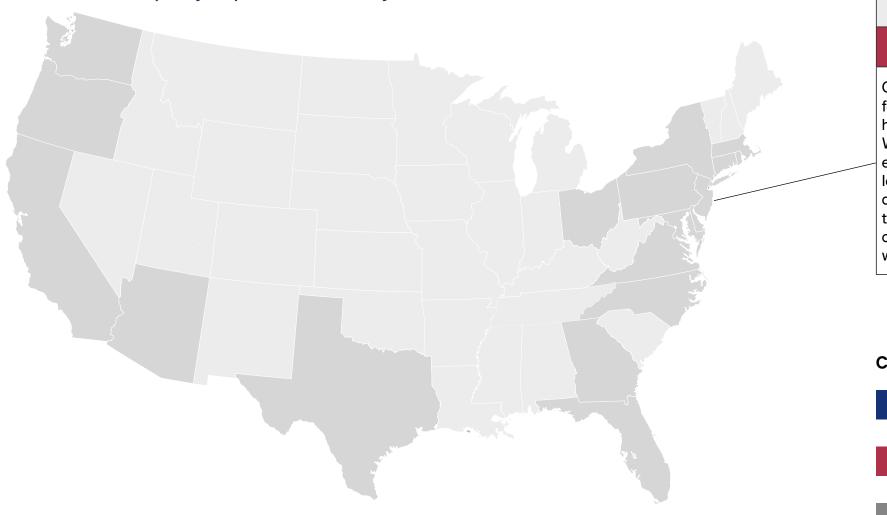
Market is recessed and construction pricing / inflation is flat or negative

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Forecasting Local Construction Costs Across the U.S.

This chart reflects local Project Planning Services team leaders' opinions of market volume and capacity and is not based on published analytics or third-party forecasts. To discuss market position with your local contact, requests can be made via Jeff
Smoker.

Click on the map to jump to another city or state.



Cincinnati < 6 Mo 6 Mo-1 Yr 1 Yr-2 Yr

Construction demand will remain strong for the foreseeable future. There are sizable projects on the horizon that will stretch an already tight labor market. While we have seen some relief as it relates to material escalation and lead times, we are expecting Hurricane lan's devastation and the subsequent rebuilding to strain construction supplies. Trade partner pricing continues to rise due to increased labor costs and decreased competition as they have the ability to be very selective with the projects they pursue.

- Market is experiencing and/or is expected to experience significant/abnormal construction price inflation (greater then 5% per annum)
- Market is busy and construction price inflation is expected to be above normal (between 3 and 5% per annum)
- Market is stable and construction pricing / inflation is within traditional indices (less then 3% per annum)
- Market is recessed and construction pricing / inflation is flat or negative

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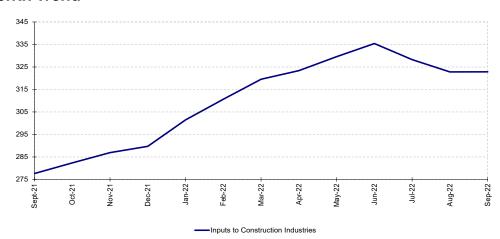
Construction and Labor (page 1 of 3)

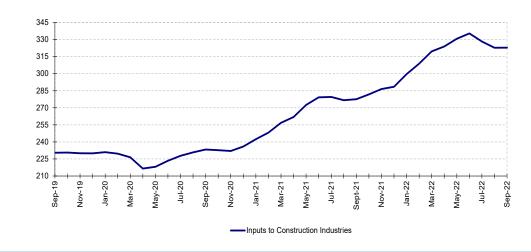
Per the U.S. Census Bureau, construction spending during August 2022 was estimated at a seasonally adjusted annual rate of \$1,781.3 billion, 0.7 percent (±1.0 percent) below the revised July estimate of \$1,793.5 billion. The August figure is 8.5 percent (±1.6 percent) above the August 2021 estimate of \$1,641.6 billion. During the first eight months of this year, construction spending amounted to \$1,183.8 billion, 10.9 percent (±1.0 percent) above the \$1,067.4 billion for the same period in 2021.

Construction Spending	1 Month	1 Year					
Public Construction							
Total Public Construction	-0.8%	+3.3%					
Office	-5.1%	+1.3%					
Commercial	-1.5%	+11.2%					
Healthcare	-2.1%	+5.7%					
Education	-0.4%	-3.0%					
Public Safety	-1.2%	+0.3%					
Private Construction							
Total Private Construction	-0.6%	+9.9%					
Office	-0.5%	-0.9%					
Commercial	-0.1%	+19.1%					
Healthcare	-0.4%	+7.9%					
Education	-0.4%	+0.3%					
Lodging	+1.6%	+9.1%					
Total Construction	-0.7%	+8.5%					

Inputs to Construction Industries

12-Month Trend





↓ Click to jump to each section

Construction and Labor (page 2 of 3)

Construction employment increased by 19,000 in September 2022, in line with average monthly job growth for the first eight months of the year. Construction unemployment dropped to 3.4 percent, below the national rate of 3.5 percent for all industries. ABC Chief Economist Anirban Basu claims the "hot jobs" report is actually terrible for the construction industry which is already operating at capacity.

Average hourly earnings have increased to \$35.04 as of September, up from \$34.67 in June.

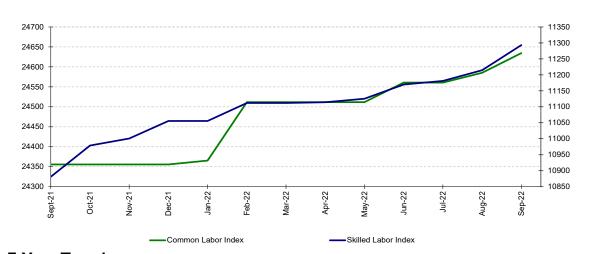
Construction Unemployment

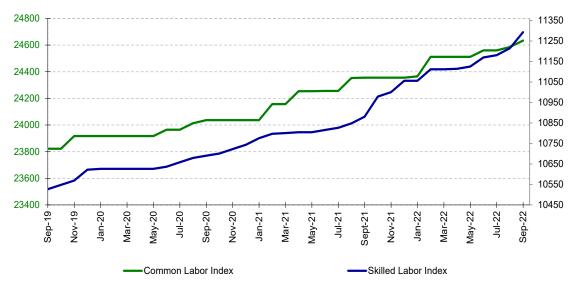
12-Month Trend



Common and Skilled Labor Index

12-Month Trend



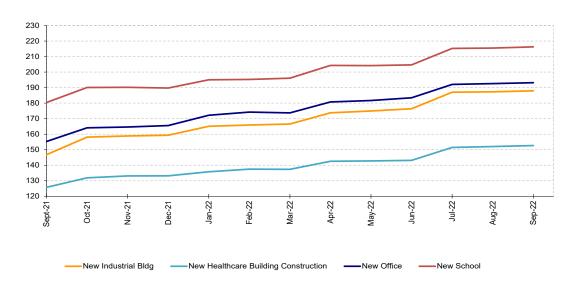


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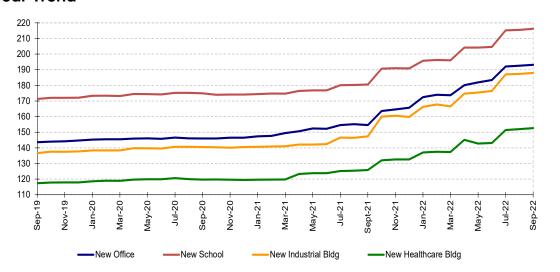
Construction and Labor (page 3 of 3)

New Construction Index

12-Month Trend

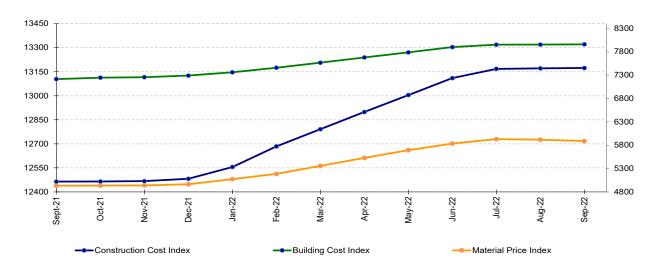


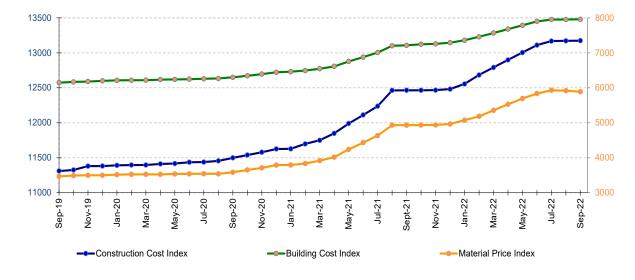
3-Year Trend



Construction Cost, Building and Material Price Index

12-Month Trend





↓ Click to jump to each section

Architecture Billings Index

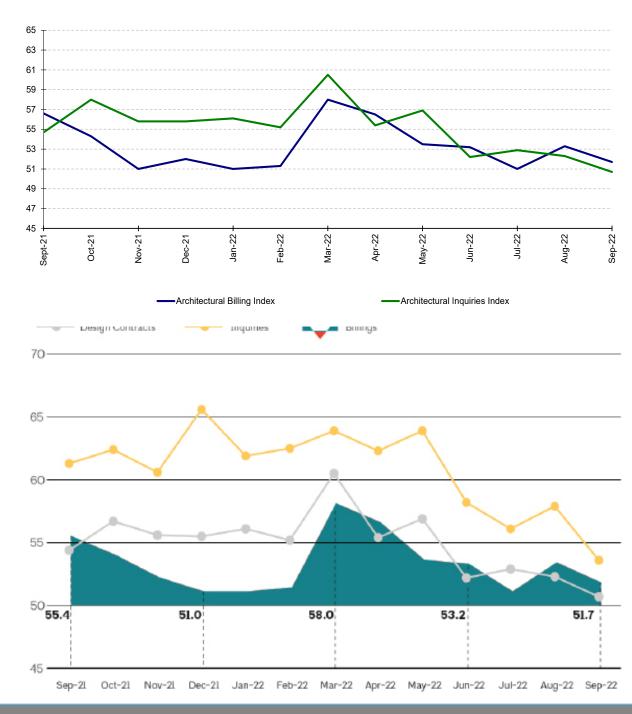
In September, the Architecture Billings index (ABI) reported a score of 51.7, a slight dip from 53.3. in August. Client inquiries into new projects and the value of design contracts recorded their lower post-pandemic growth rates in September. The strongest conditions were reported by firms in the Northeast and Midwest, but multi-family residential and commercial/industrial sectors across the country saw their billings decline in September.

Read the full ABI Report for September 2022 here.

Business conditions remain strong across the country Graphs represent data from September 2021–September 2022 across the four regions. 50 represents the diffusion center. A score of 50 equals no change from the previous month. Above 50 shows increase; Below 50 shows decrease. 3-month moving average. West: 51.6 South: 52.1 Northeast: 54.6

Architecture Billings Index

12-Month Trend



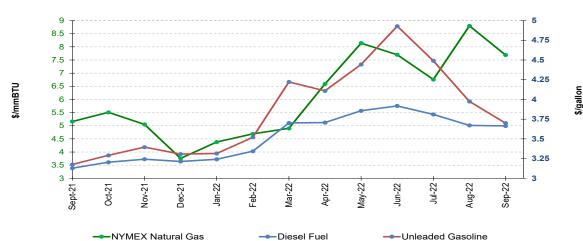
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Commodities Pricing

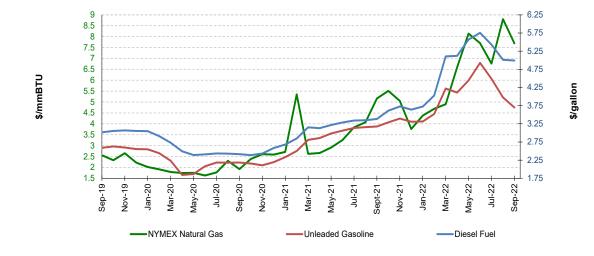
After hitting a record high average of \$5.02/gallon for regular unleaded gasoline in mid-June, average prices have receded modestly to a national average in October of \$3.70/gallon. Experts report that fuel pricing is largely speculative and reactive to economic indicators. If continued inflationary fears persist and traders remain concerned about a period of recession, the price of oil will likely continue to slide and fuel prices along with it. If demand powers through the recession and the sanctions remain in effect against Russia, fuel prices could climb even higher.

Natural Gas, Gasoline, Diesel Fuel

12-Month Trend

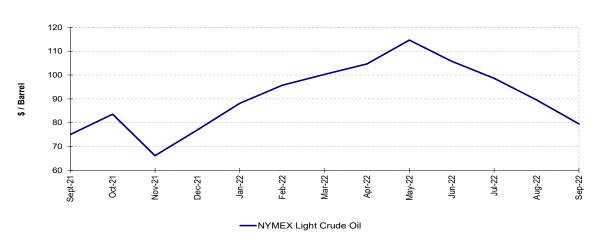


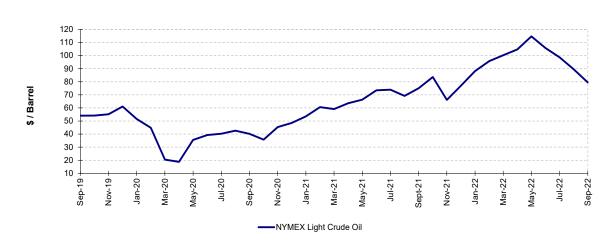
3-Year Trend



Light Crude Oil

12-Month Trend





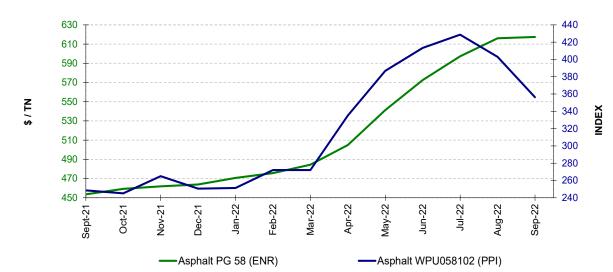
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Materials Pricing (page 1 of 8)

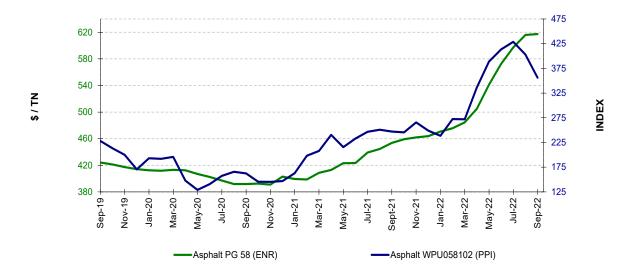
While asphalt pricing indices remain at an all-time high, some leveling has occurred the past two months as petroleum pricing levels have receded. As previously mentioned, the asphalt industry usually lags the petroleum industry in its pricing levels.

Asphalt Products Pricing

12-Month Trend

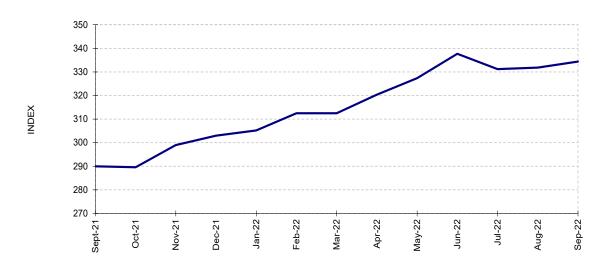


3-Year Trend



Prepared Asphalt and Tar Roofing Products Index

12-Month Trend



3-Year Trend

Prepared Asphalt & Tar Roofing & Siding Products WPU1361



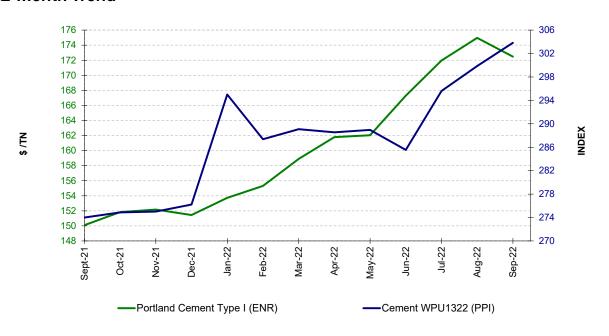
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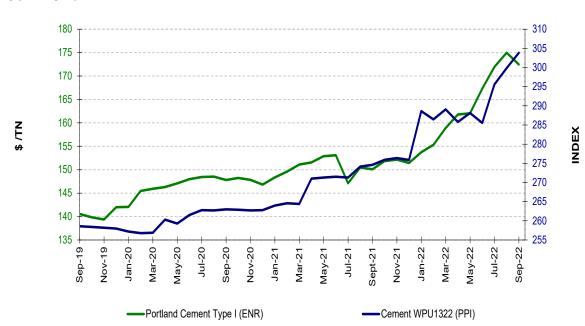
Materials Pricing (page 2 of 8)

Cement supplies remain tight and allocation to ready mix suppliers remains in place in many markets. Tight supply lines are expected to remain through the balance of 2022. It is anticipated that continued slowing in the housing market and a seasonal slowdown in demand over the winter months will allow manufacturers to catch up. The relatively mild winter experienced last year meant that demand remained elevated. What winter of 2022 will bring remains to be seen.

Cement Products

12-Month Trend



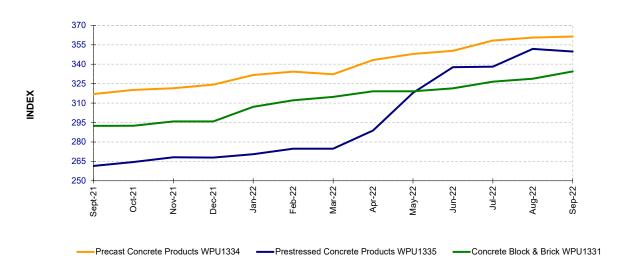


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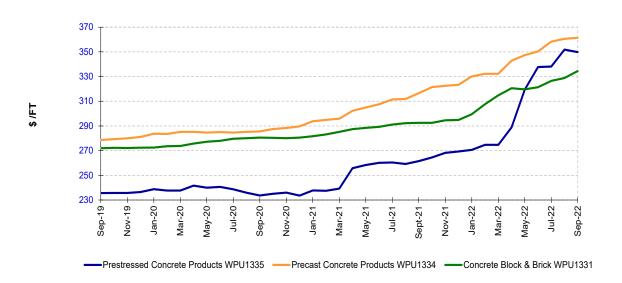
Materials Pricing (page 3 of 8)

Concrete Products

12-Month Trend

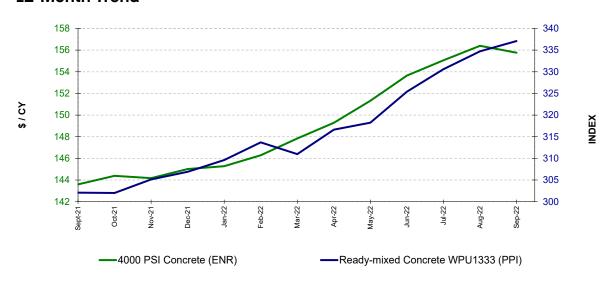


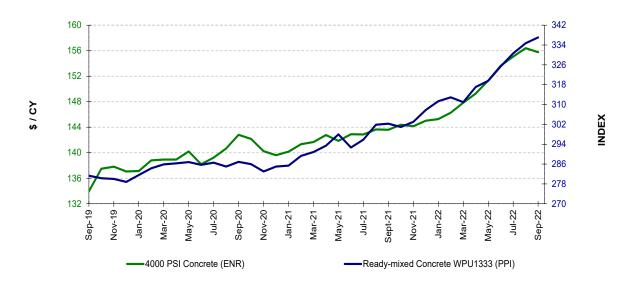
3-Year Trend



Concrete PSI and PPI

12-Month Trend





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Materials Pricing (page 4 of 8)

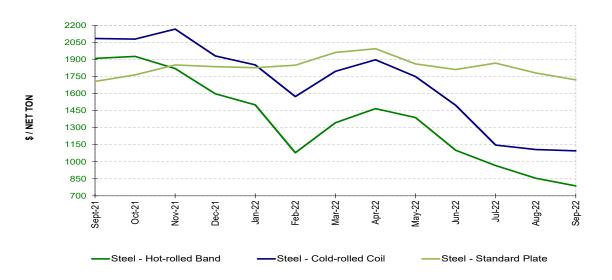
The World Steel Association (worldsteel) has released an update of its Short Range Outlook (SRO) for 2022 and 2023. Worldsteel forecasts that steel demand will contract by 2.3% in 2022 to reach 1,796.7 Mt after increasing by 2.8% in 2021. In 2023 steel demand will see a recovery of 1.0% to reach 1,814.7 Mt. The current forecast represents a downward revision over the earlier forecast, reflecting the repercussion of persistently high inflation and rising interest rates globally. High inflation, monetary tightening, and China's slowdown contributed to a difficult 2022, but infrastructure demand is expected to lift 2023 steel demand slightly.

Reinforcing - Grade 60 #4 and Iron and Steel Scrap 12-Month Trend



Structural Steel - Hot-rolled Band, Cold-rolled Coil, and Standard Plate

12-Month Trend



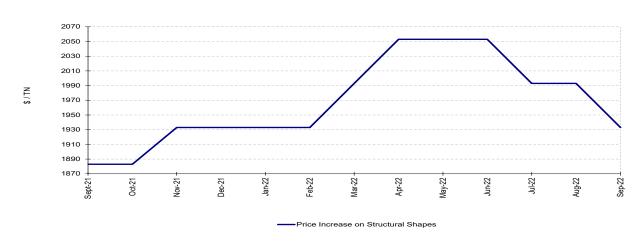
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Materials Pricing (page 5 of 8)

Pricing for structural steel, wide flange and steel plates is declining. Pricing for hollow sections has been much more volatile but are currently down 33 percent after peaking much earlier in the year.

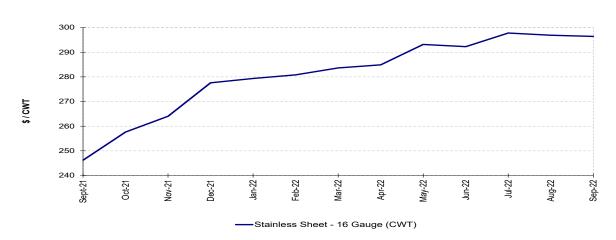
Price Increase on Structural Shapes

12-Month Trend

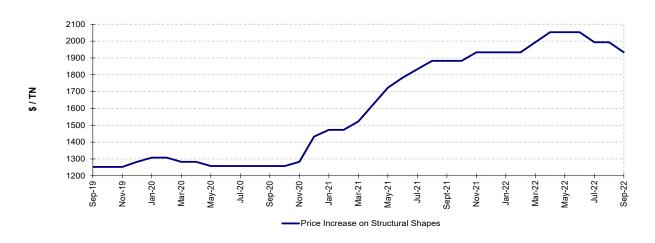


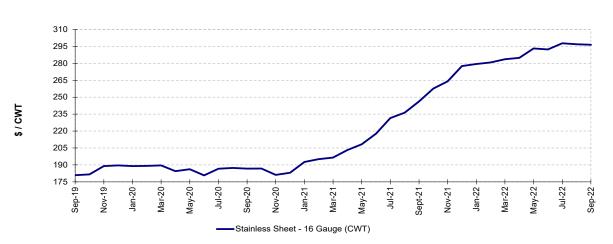
Stainless Steel

12-Month Trend



3-Year Trend





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Materials Pricing (page 6 of 8)

Aluminum

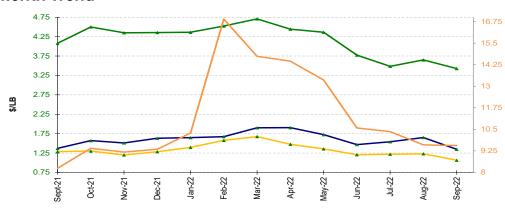
Aluminum prices continued to trend downward from the March record high. There may be some pressure on the price in the upcoming months as production decreases due to high energy costs as well as a potential tariff on aluminum from Russia—the second largest producer.

Copper

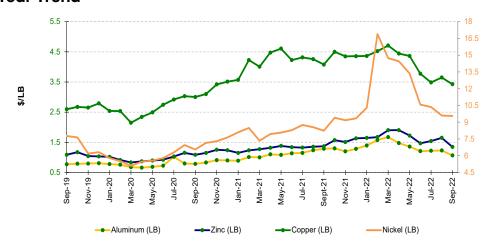
Recession fears have continued to keep the price of copper down—around 20 percent from January. There is some concern over future supply with top producer Chile shutting down one of its mines, but for now prices are estimated to remain relatively stable.

Aluminum, Zinc, Copper and Nickel

12-Month Trend



3-Year Trend



Zin

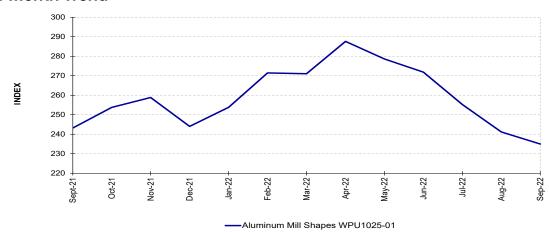
Zinc prices have risen slightly as supply remains low but have not fully rebounded as recession fears have kept the price muted. Top producers in Europe have taken production offline because of high energy costs.

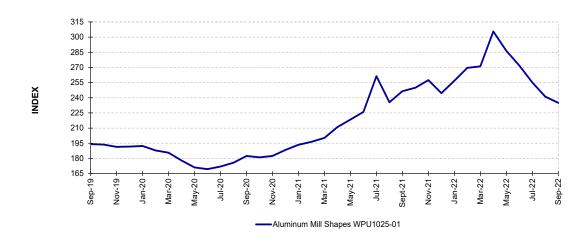
Nickel

Nickel prices have remained near the July low as top producer Indonesia has increased production, and the global supply of nickel may see a small surplus.

Aluminum Mill Shapes

12-Month Trend



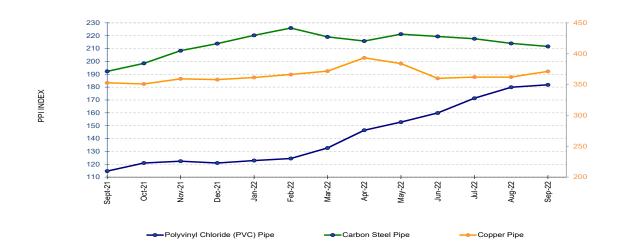


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Materials Pricing (page 7 of 8)

Pipe Pricing

12-Month Trend



Polyvinyl Chloride (PVC) Pipe

Average prices rose only one percent since last quarter.

Copper Pipe

Average pipe prices increased three percent since last quarter.

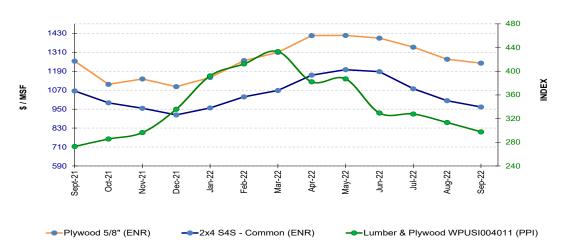
Carbon Steel Pipe

Carbon steel prices declined five percent since last quarter.

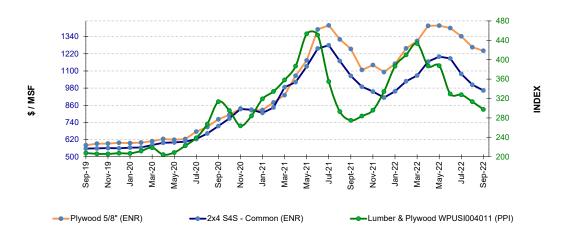
Wood Product Pricing

Lumber pricing continued its downward march. Pricing has now reached pre-Covid levels and is down 63 percent since it peaked in March 2022.

12-Month Trend



3-Year rrena



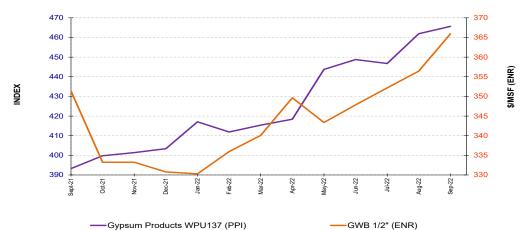
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Materials Pricing (page 8 of 8)

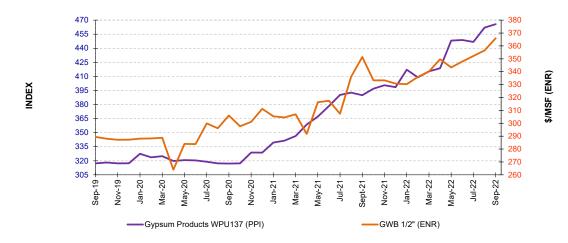
Drywall, metal stud and insulation price increase announcements have continued to be quiet during the third quarter. This may change once rebuilding starts in Florida in the wake of Hurricane Ian. It's too early to say what the impact will be on building materials as efforts so far have been focused on cleanup and getting roads and other transportation arteries back into operating condition.

Gypsum Product Pricing

12-Month Trend

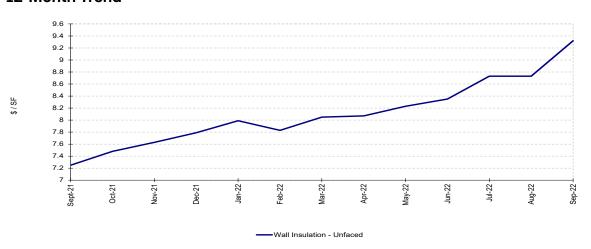


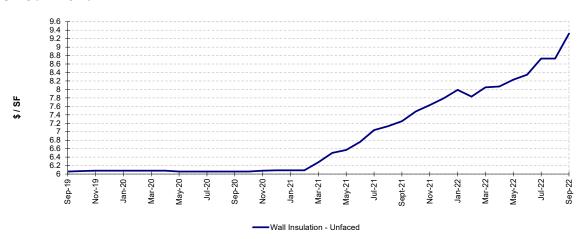
3-Year Trend



Wall Insulation

12-Month Trend





↓ Click to jump to each section

Supply Chain Trends

Despite the current level of economic uncertainty, we are optimistic that many material categories have peaked and are predicting lower costs and shorter lead times. During our ongoing discussions with manufacturers, we've heard positive signs of this long-awaited improvement. One notable exception is mechanical and electrical equipment. As demand dramatically outpaces supply, we forecast continued price escalation and growing lead times for these two categories.

Most manufacturers point to stronger raw materials supply chains as the key driver behind the recovery. A healthier resin supply is one example. After Hurricane Ida struck the Louisiana coast in August of 2021 and caused a major disruption to petrochemical processing, resin supplies were hit hard. PVC pipe manufacturers can now get the resin supplies they need and pricing for these raw materials are trending downward.

New housing starts and Hurricane lan's supply chain impact are key focus areas. Some analysts point to historically low inventory as why new housing starts have not decreased as much as expected due to rising mortgage rates. Since many homeowners secured record-low refinance interest rates in 2020 and 2021, there is little incentive to place their homes on the market and buy at higher rates. As a result, the need for new homes may remain higher than expected but will certainly decline.

It is still too early to assess lan's impact on the supply chain as Southwest Florida is still rebounding. Direct challenges to building material manufacturers should be minimal compared to Hurricane Ida, which hit petrochemical processing especially hard. One thing is clear, Florida's already strained construction labor market will become even tighter due to intensive cleanup and rebuilding efforts

Status Key	Trending Up Significantly		7 Trending Up Stable/Consistent Fluctuating Trending Down		
Category	Leadtime 12 month change	Leadtime Forecast 6-12mos	Price 12 month change	Price Forecast 6-12mos	Comments
Roofing products	2	Z		7	Roofing supply chains are starting to recover including some relief in lead times that have been extended out to a full year. Polyiso insulation lead times are now averaging 30 weeks, down from their 52-week peak. Most membranes are running at 20 to 25 weeks and cover board material is 30 to 36 weeks. One category to watch is fasteners. Nine inch or longer fasteners can have lead times more than nine months. We will monitor this category closely for impacts associated with Hurricane lan.
Structural steel	2	7	7	A	Hot Rolled Coil (HRC) pricing has dropped by 50 percent since the start of the year and structural steel pricing is just starting to drop after holding steady. Wide flange pricing is down 3.5 percent since peaking in June.
Architectural interiors (ceilings, drywall, metal studs, flooring, paint, etc.)	(-)	٦	→	\Rightarrow	Pricing for some interior materials continue to escalate, while others have stabilized. Armstrong has announced a 10 percent increase on ceiling tiles (effective October 3) sighting the high cost of natural gas as one of the main drivers. CertainTeed has also announced a 10 percent increase on ceiling tiles (effective October 20). After a quiet second quarter with no drywall increase announcements, National Gypsum announced an unspecified increase effective July 25 on their Gold Bond fire-resistant wallboard. We have not yet seen others follow. Insulation and metal stud pricing has been quiet during the third quarter.
Wood-based building materials (lumber, MDF, wood floors, finish material)	٧	٦	٦	٧	Lumber pricing is back down to pre-COVID levels. Both dimensional lumber and panel pricing has declined throughout 2022—63 percent lower from the start of the year. Rising interest rates continue to cool the housing market with housing starts fluctuating between 1.4 and 1.6 million.
Doors and Hardware	2	7	\Rightarrow	(-)	Doors and hardware continue to experience extended lead times. More standard hardware lead times are in the four to five week range but as the hardware becomes more specialized, lead times extend significantly. For example, custom finishes can add up to six weeks to standard lead times. Standard doors and frames are experiencing lead times in the 9-12 week range. The most challenging materials continue to be on the electronic access side. Card reader lead times are still unpredictable so a six-month

lead time budget is recommended.

↓ Click to jump to each section

Supply Chain Trends (continued)

To learn more about supply chain trends, reach out to <u>Tom Park</u> or <u>Rob Cantando</u>.

Status Key		ending Up gnificantly	7 Trend	ling Up	Stable/Consistent Fluctuating Trending Down
Category	Leadtime 12 month change	Leadtime Forecast 6-12mos	Price 12 month change	Price Forecast 6-12mos	Comments
Lab casework and fume hoods	7	\Rightarrow	\Rightarrow	7	Lab casework lead times continue to get better and are down in the 8–12-week range. Standard casework lead times can be as low as 8 weeks from some manufacturers. As input material price escalations have slowed, pricing in this category has also stabilized.
Appliances	\Rightarrow	>	\Rightarrow	\Rightarrow	Demand for appliances remains high and lead times are still extended as sourcing components remains challenging. As housing starts continue to cool, it is expected that demand will soften. For the short term, lead times will remain elevated at the 16 weeks or higher.
Elevators, escalators, moving walks	(-)	(-)	(-)	(-)	Both lead times and pricing are beginning to stabilize with lead times holding steady for the next six months. Prices are up eight to 20 percent year-to-date but are not expected to increase at this rate in the next 6 months. Lead times for elevators vary considerably depending on the category; low rise elevators range from 14 to 27 weeks, mid-rise elevators range from 20 to 27 weeks, high-rise elevators range from 40-48 weeks and freight/service/escalators
Plumbing and Drainage (includes fixtures)	→	7	7	73	Manufacturers continue to improve their production and delivery performance of rough plumbing and finish plumbing fixtures with increased inventory levels at distribution and manufacturers. Concern is now shifting to an oversupply and risk of inventory devaluation. As a result, lead-times are approaching normal ranges with many orders being filled out of current stock. Below grade pipe is the exception with lead times still running 10-20 weeks. From a pricing standpoint, there have been over 150 announced manufacturer price increases averaging between 10-15 percent in the past 3 months. While commodity prices for steel, PVC resin and copper are down, manufacturers and distributors are trying to maintain prices and reduce inventory positions in anticipation of lower future demand. We believe copper, PVC and steel pipe prices are peaking and will begin to come down over the next three months.
High Purity Process Pipe, Valves and Fittings (PVF)	1	7	7	7	Due to strong demand in life sciences, healthcare and the semiconductor markets, pricing and lead times continue to increase. While it varies depending on the material/equipment, the trend is still moving up across the board. Lead times for A269 SMLS Tube is running 24-26 weeks from the mills.

↓ Click to jump to each section

Supply Chain Trends (continued)

Category	Leadtime 12 month change	Leadtime Forecast 6-12mos	Price 12 month change	Price Forecast 6-12mos	Comments
HVAC equipment	7	1	7	7	Demand for HVAC equipment continues to be very strong across all market sectors—especially in the semiconductor, data center, automotive and life sciences sectors. Nearly all manufacturers are struggling with supply chain delivery issues resulting in factory rescheduling and decommitting ship dates, as much as 6 months in some cases. Some of the components causing delays are semiconductors, compressors, ECMs and VFDs. Lead times for ECMs are running 70 or more weeks, and because traditional VFDs are being substituted for ECMs, VFD lead times are longer as well. Prices YTD are up 25-30 percent.
Electrical gear	1	1	7	7	Manufacturers continue to struggle with supply chain issues and historically high demand for electrical gear. Semiconductor shortages are severely limiting the delivery of trip units needed for solid state circuit breakers. There is also an industry-wide shortage of Switchgear and Panel lugs resulting in many manufacturers being unable to ship switchgear and panels or "short shipping" products requiring field assembly. Switchgear and switch panel lead times are running 80 weeks and are expected to increase due to demand from data center clients, industrial, healthcare, education, semiconductor. Transformer lead time and pricing is also increasing due to demand and iron core material cost increases. Recently passed legislation will also drive increased demand from the public sector including electric vehicle charging stations and infrastructure.
Electrical commodity materials (includes lighting fixtures)	(-)	7	\Rightarrow	7	Lead times and pricing for several commodity electrical items are down because of declines in copper and PVC resin raw material costs. Lead times for specific items like 5kV medium voltage cable are improving—running 18-20 weeks, which is down from 30 weeks in the previous quarter. These lead times are still higher than the standard of six to eight weeks. Electrical conduit pricing and inventory have stabilized as PVC resin supply has recovered. Panel lugs are still in short supply, causing industry wide delays with all panel manufacturers.
Generators	1	1	7	7	Demand for generators continues to be very strong and shows no signs of slowing. In fact, demand for 1.2MW and above has increased in the past three months, with lead times ranging from 60 to 100 weeks. Gensets below 1.2MW are running at least 52 weeks without sound enclosures. Custom sound enclosures are also taking longer to procure with lead times at a minimum of 30 weeks. Prices continue to rise at an annual rate of 15-20 percent due to material, labor and overall demand.
Transportation	N/A				Transportation costs are starting to recede after the CPI index peaked at an all-time high of 284.64 points in June. The index decreased in the last three months and now stands at 266.11. Although this decrease is a welcomed sign, it should be noted that the CPI Transportation index averaged 107.66 points from 1950 through 2022. The current index is more than double the historical average. Another welcomed sign is lower shipping container rates, dropping to under \$3700 for routes from Asia to the U.S. West Coast. This reflects a decrease of more than sixty percent year over year—thought the prices are still 200 percent higher than the pre-pandemic level.
Logistics	N/A				The Logistics Managers Index (LMI) tracks key metrics—such as transportation, warehousing and inventory data —and is collected monthly from industry professionals. A value of less than 50 indicates a contracting market and above 50 indicates a growing market. The LMI for September was 61.4. This is up slightly from the August reading, which indicates that growth is increasing in key categories of inventory, warehousing, and transportation capacity and utilization.













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Sources and References

Sources and References

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Questions, Comments and Feedback

If you have questions, comments or feedback about the data and information presented in this report, please reach out to <u>Steve Stouthamer</u> or <u>David Formichella</u>.

If you are having issues with the file, spot an error or are interested in developing material similar to this report, please reach out to <u>Sarah Vakili</u>.