



2022 Q1

THE LOOK AHEAD

Market Overview

While portions of the construction industry are starting to see some relief due to the end to pandemic-related restrictions and immediate solutions to port delays and trucker shortages; protracted supply chain issues, skyrocketing inflation, and geopolitical tensions globally indicate another challenging year in 2022.

In this issue, we explore the current issues facing our National Healthcare Team, transportation, economics, and the geopolitical forefront and offer solutions to mitigating these impacts on construction.

THE PHOENIX MARKET

Supply chain, labor, and material issues are continuing to dominate the market. The stability of material pricing has given way to extended lead times and allocations. Overall the ability to hold pricing is decreasing with the increased issues with supply chain challenges. Concrete allocations are starting to push projects due to extended back logs of current work. Smaller steel shops are having hours bought to support the larger structural steel projects in the region. Joists lead times have not improved in the Southwest due to project volume. Raw steel materials are starting to settle but energy and fuel prices are pushing costs up. Roofing materials and any "Dens" product is considered long lead times with material sourcing challenges for manufacturers.



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Phoenix Area Escalation Q12022



Glazing is predicting a material increase of 8-12% by the end of the year with some suppliers hinting at a 4-5% increase per quarter. Mechanical equipment manufacturers are releasing price increases with little to no warning. Stainless steel pricing and availability is becoming a challenge with the data center and food processing work in the valley. Labor stays an issue for trades. With larger work drawing the workforce at a premium, there is a need for more skilled labor. Trades are considering schedules first and foremost with filled back logs often with estimating departments 4-6 weeks out from bidding work.

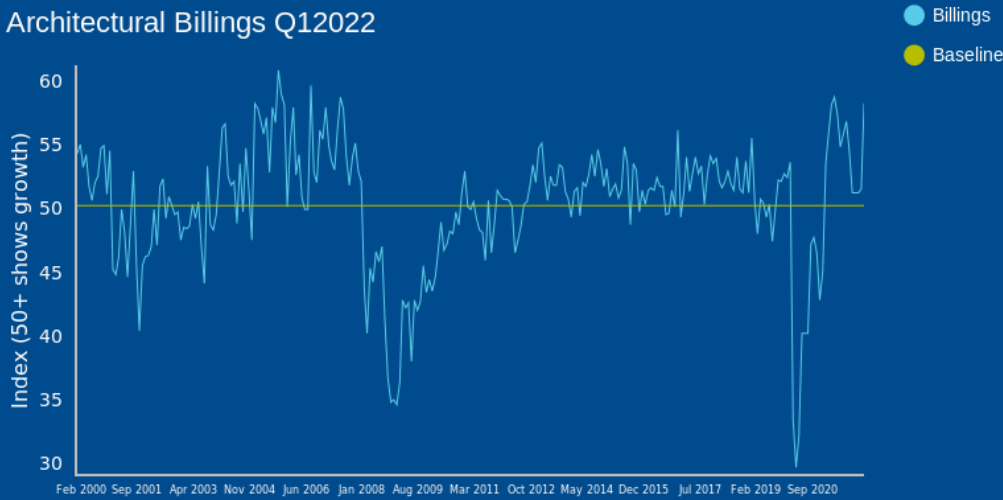
LABOR & MATERIAL TRENDS THIS QUARTER

Labor Wage Change		Material Price Change	
Carpenter	0.00%	Fabricated Steel	1.14%
Laborer	0.00%	Fabricated Copper	4.19%
Sheet Metal Worker	0.00%	Fabricated Aluminum	36.34%
Plumber/Fitter	0.00%	#2 Diesel Fuel	27.68%
Electrician	0.00%	4,000 psi Concrete Ready Mix	3.77%
Bricklayer	0.00%	Lumber, FOB Jobsite	-1.75%
Iron Worker	0.00%	Glass	1.88%
Glazier	0.00%	Sheet Metal	3.70%
Roofer	0.00%	Gypsum	7.16%
Operator	0.00%	Other Materials	5.44%

Other Materials consists of brick, block, precast insulation, floor covering, ceilings, and Miscellaneous materials

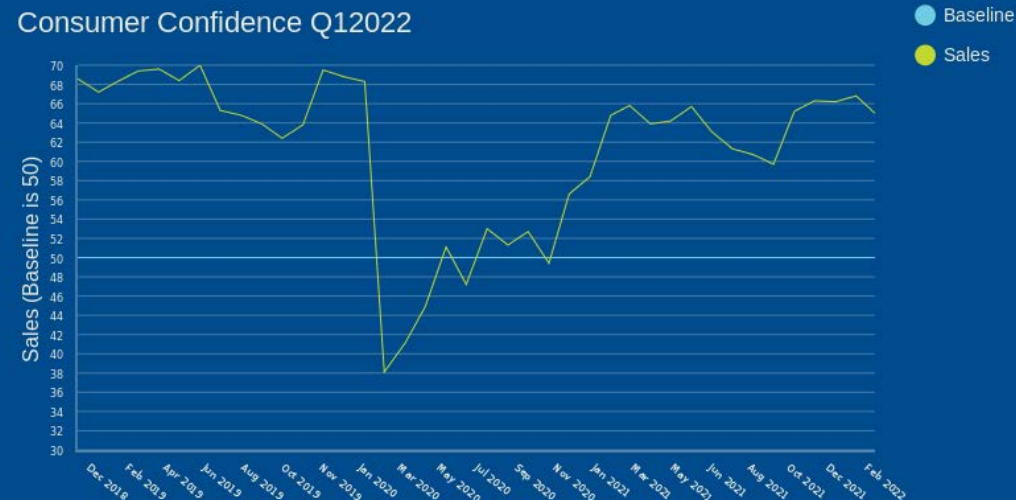
NATIONAL CONSTRUCTION INDICATORS ACTIVITY & PRICING METRICS

Architectural Billings Q12022



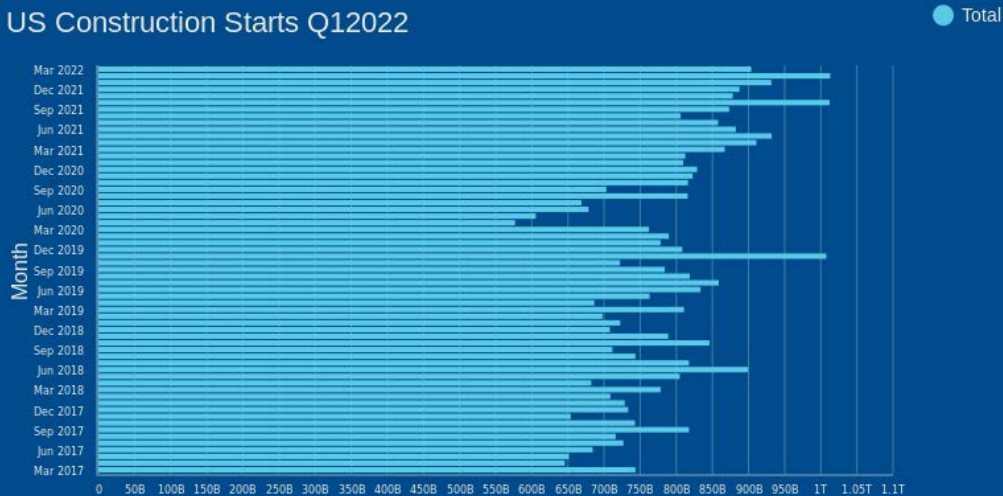
Business conditions at architectural firms compared to last month. Source: AIA

Consumer Confidence Q12022



Source: Associated Builders and Contractors

US Construction Starts Q12022



Dollars (Source: Dodge Data & Analytics)

Construction Backlog 2022Q1



Month (Source: Associated Builders and Contractors)

HEALTHCARE



Sam O'Connor, Preconstruction Director – National Healthcare, describes what his team is doing to guide clients through the current staggering escalation. His clients are asking the same three questions consistently: How much does this project cost today; How much is it tomorrow; What can we do to keep moving forward?

AT THE PROJECT LEVEL

How much today? – Month-to-month pricing is changing dramatically. A project that was procured even six months ago is considerably different than a new project today. For this reason, Sam has created a national healthcare dashboard for our preconstruction teams, design partners, and clients which includes every project across the country we price in today's market – regardless of their level of design – to ensure our data is always live with today's costs. Waiting for formal GMP or finished cost data is too late with the volatility we are facing today.

How much tomorrow?

The truth is no one has a crystal ball to foresee the future. Current trends have increased construction costs at a scale of 1%+ per month, which is the rate we have been advising our clients to expect for additional funding as we chart construction costs over the project's life cycle. This rate is historically high as ANNUAL escalation over the previous 10 years was a steady 2-3% per YEAR. We have seen time after time that "hoping" for better pricing is simply not happening, so formally reconciling funding with the current economic environment is the reality and should be supported with an appropriate contingency strategy upfront.

So what do we need to do?

The short answer—time to redesign is too expensive. Waiting for an economic pause or redesigning an over-budget project to reduce costs is not realistic right now. The cost of time and the escalation exposure routinely outweighs the benefits of any potential incremental savings. For example, a three month pause that reduced cost by 3% will be wiped out by the 1% per month escalation impact to the project over the same span.

We advise clients to scale back original programmatic baseline requirements to the bare bones of the project's initial business case at the start. We need to know the acceptable minimum scope and eliminate the "would-be-nice-to-have" items. Misalignment of old funding requests with current market conditions in the norm and we need to know how "small" we can get at programmatic level for the client to see what escalation to date can be countered by reduction of space. As stated before, the escalation impact does not grant us the flexibility to pause and reign in programmatic creep once in design – this must be done at concept.

"How much tomorrow" is a team decision on risk tolerance on how to handle future escalation. Some projects have a single board ask, whereas some projects inform the board of the outstanding risk and choose to fund the future escalation as a separate financial source. The project specific funding expectation will be the backbone of where and how escalation risk and its associated contingency value will be established and housed.

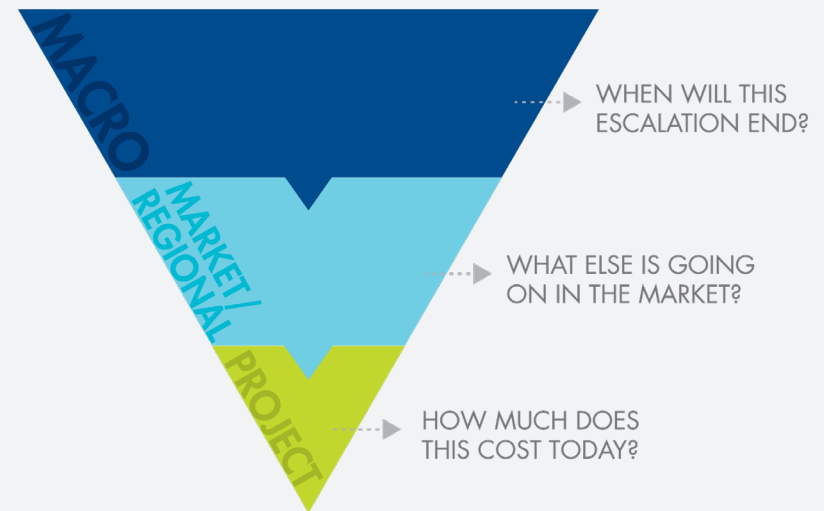
After baseline programmatic requirements and future escalation risk are financially addressed at project formation, projects can now delineate scope development

versus escalation impact in the design phase. Clear delineation of adding client requested "nice to have" items are tracked against a dedicated funding source, whereas evolving market conditions are tracked against a separate escalation contingency. This organizes the project financials for "controllable" scope management versus an "uncontrollable" market risk mitigation in the form of escalation contingency health assessments balanced with market conditions as they become known in design.

AT THE REGIONAL LEVEL

These project-level determinations are impacted by what else is going on in your region. We are seeing megaprojects in towns such as Austin or Phoenix with 1M+ sf projects creating trade-specific strains in the build community. This can have a direct effect on your project cost. We maintain schedules of all large projects – not just ours – going on in each of our markets to proactively mitigate impacts of labor shortages and concentrated escalation. We advise to secure trade partners with early procurement strategies, partner with vendors for bulk material purchasing, and implement innovative prefabrication strategies to alleviate supply chain bottle necks.

PROJECT FUNNEL



TRANSPORTATION

Driver shortages, delays at the port and rising gas prices headlined transportation in 2022's first quarter. These disruptions to the supply chain have left the construction industry scrambling to secure materials, and in some cases, change design and material selections at the last minute so as not to cause unnecessary project schedule delays.

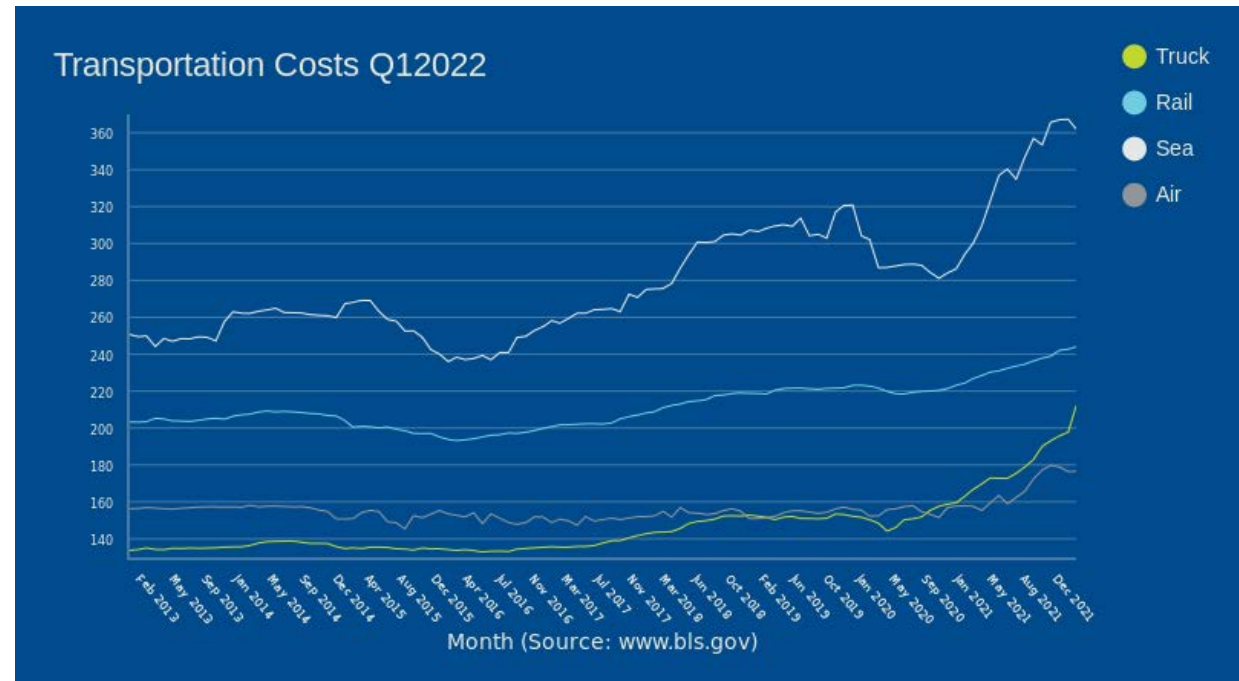
Port Delays

According to Port of Los Angeles Executive Director Gene Seraka, unloading ships at ports on the West Coast has become more efficient and fewer workers are missing shifts due to COVID-19 infections.¹ In addition, smaller ports around the country such as Cleveland (+ 69%), Galveston (+13%) and Jacksonville (+ 10%) have seen huge increases in their traffic helping alleviate some backlog at larger ports.²



Trucker Shortages

The Trucking Action Plan rolled out in December of 2021 made necessary and quick corrections to some of the challenges facing the trucking industry. Those issues include high turnover rates, an aging workforce, and long hours. With 72% of our goods shipped via truck, the need for good, safe, and stable trucking jobs is critical. The Transportation Action Plan offers accelerated programs for truckers to receive training and their CDLs, career initiatives, and veteran-focused recruitment.³ The result has been pay increases between 7-12% in the past year. The Department of Transportation provided \$57 million to help states expedite commercial driver's license issuances, resulting in a 112% increase in CDL processing in the first two months of 2022 as compared to the same time period the prior year.⁴



Sources: 1) Supplychaindrive.com 2) Fox Business.com 3) Whitehouse.gov 4) TransportationDrive.com

ECONOMICS

We're all feeling escalation at the project level, but what is causing it at the macroeconomic level? The national health crisis created by COVID-19 caused the federal government to use their known mechanisms to stimulate the economy, which ultimately resulted in record-breaking inflation.

The Federal Reserve is responsible for maintaining financial stability in the US. They grew their balance sheet and lowered interest rates, which provided a quick stimulus to our economy and created short-term demand to combat the pandemic's economic effects. However, historically high inflation has been the long-term consequence.

One way the Fed combats inflation is to raise the Federal Funds Target Range, which in turn raises short-term interest rates. Another way they reduce inflation is to reduce the size of their balance sheet. The Fed is currently doing both.

Interest Rates

On March 15, 2022, the Fed raised the overnight lending rate 0.25 points and outlined the potential for seven more rate hikes before the end of the year. Interest rates act as a governor on the economy. When the Fed raises the interest rate, the goal is to slow down spending, which lowers demand—in turn eventually lowering prices as well.

Balance Sheet

In March of 2020, the US balance sheet totaled \$4.7 trillion, and today (March 2022) it sits at \$8.9 trillion. They plan to deploy "rapid reduction" strategies, which typically include selling securities and then not reinvesting in mature securities. This puts upward pressure on long-term rates as demand decreases, also causing prices to decrease.

\$4.7T
March 2020

\$8.9T
March 2022

The escalation we are seeing in construction is not driven by just inflation. Supply chain issues, politics, natural disasters, and technology also impact escalation. For construction projects in their infancy, we are consistently asked if and when we will see inflation and escalation corrections in the economy, and if it would be worthwhile to delay a project start in hopes of lower material prices. Truthfully, even the most influential experts are not comfortable making those predictions at this time. Each project team, including the design team and owner, will need to put together a market-specific strategy weighing a delayed project start against other project priorities such as construction timing requirements, speed-to-market options, and replacing old assets.

The type of facility proposed is also important. As we outlined in our healthcare market focus above, waiting is not worth the potential impacts, as healthcare typically stays steady through booming times and economic dips. The overall volume warrants moving ahead with an escalation strategy rather than delaying starts.



GEOPOLITICAL

Numerous global factors play into the prices of construction materials. As pandemic-related restrictions were eased in late 2021 and early 2022 saw some relief in shipping gridlock, hopes were high that the global supply chain would see delay and price corrections. Instead, the war in Ukraine and new COVID-related lockdowns in China both caused havoc late in the quarter.

The War in Ukraine

Russia's invasion of Ukraine has served the global supply chain a double punch of raw material shortages and cargo disruption. For example, the two countries account for 60% of the world's pig iron (a core component in 70% of the world's steel) supply, collectively. Steel prices were already up 89% between December 2020 and December 2021 and the shortage of this raw material is driving them even higher. In addition, the sanctions imposed on Russia



and their warfare tactics have closed shipping ports, air cargo routes, and destroyed railroads, further complicating an already fragile supply chain and global distribution climate.

Chinese Lockdowns

In March, the Chinese city of Shenzhen was placed on total lockdown to control another outbreak of COVID causing the Shenzhen port of Yantian to face another shut down. Yantian is the fourth largest port in the world and another shut down will inevitably cause further ripples throughout global shipping.¹ To offer some context to the actual costs the pandemic has doled out to shipping, according to the Freightos index, the cost of sending a standard shipping container from China to Los Angeles rose by 20 percent in January and February to \$16,353. This is an increase of 12 times the cost in the months before the pandemic.²

We're having conversations early and often with our clients and design partners to handle these global issues at a local level. By keeping tabs on what materials are most impacted, we can put a lead-time plan in place or suggest alternative materials that may not be facing these same challenges.

