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Breakdown



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Industry Insights



Understanding What We're Hearing

In regular publications this year by Engineering News Record there has been a steady reporting of building costs on the rise. They indicate that on average, building costs have risen by over 3.5% since last October.

There isn't a single answer to why. ENR reports stabilization of certain common materials like cement, asphalt, steel and rebar, while PVC and concrete block are on the rise and skilled labor costs are up by over 3.5% this year. So, it's a bit of a grab-bag of information with no clear culprit for rising costs.

As we regularly indicate in this report, the only way to understand why the costs are escalated is to understand the detailed scope of a specific project. Taking any of these indexes and liberally applying them to forecast is not a reliable solution.

The variability by region and metropolitan area is all over the map as well. Though DPR isn't experiencing quite a dramatic variability as ENR is indicating, these are some good indicators of where construction is booming across the Nation, and where it is not so hot.



Dodge Data and Analytics notes that over the last year when is comes to construction project starts, the Southeast is leading the pack with a 31% growth, while New England is hovering around 19% growth and the Pacific and Mountain regions retracting, -1% and -35% respectively.

Dodge Data and Analytics reports dramatic variability in construction starts by region over the last year.

Project Type Breakdown

According to research performed by FMI Corporation, some 15% of the construction starts are in the 'mega-project' category. Projects nearing or exceeding the \$1B mark are continuing to pop-up in some of the more resource-friendly areas where power and water are established and cheap. Without some of these massive projects popping up, there might be near-flat status in the construction spending data over the past year, they say.



Manufacturing construction starts specifically, coming off the CHIPS Act that was set in place August of last year, has shot up by over 200%. It's an incredible impact where funding is coming in and instigating growth across the country.

Whether semi-conductor, battery, data-centers or manufacturing facilities, these are industries are really driving the market right now. A lot of the more traditional buildings such as education, office space and healthcare simply are not matching the pace of growth right now, that's for certain. That doesn't mean that there are not significant growth in these markets in certain geographies. Check out our Core Market sections for more insights on this topic.

Interest Rates Up, Prices Up

With Federal interest rates still at highs and escalation descending very slowly, it doesn't seem that any dramatic shifts will occur in the next few months. Hearing from the officials in the Fed we will be seeing some 'higher-for-longer' escalated rates.

So, what does this mean for us? Well, the cost of borrowing money is high and this can stifle decisions to initiate building projects. Are we seeing a tangible change over the last year or so? Well, yes and no.

Yes, we've seen some projects go on hold or cancel indefinitely. That has been a more recent trend in certain sectors and geographies, yet this hasn't been a significant cliff, at least from our vantage. What we've learned through these times is that if some of these projects go on-hold, we have to be ready to go and go fast when they come back online!



Construction prices are up across the board and they are not dropping. Since COVID, there have been some astronomic escalation factors due to scarcity of materials, labor challenges, subcontractors being booked on other work and a plain crazy economic environment globally. With an election year coming, it's hard to imagine any pricing

reductions coming our way. Any trend downward will be incremental leveling at best and any decrease will still be based on the past dramatic rising cost peaks we've seen recently.

Partnering for Better Outcomes

Needing to mobilize quickly and having the current cost of construction so high has led to some more dynamic engagements between owner, designer and builder that can ultimately serve the project for the better. Working in a proactive team environment allows us to move faster and eliminate as many surprises as possible.



None of these parties are excited about the price of a building going up, especially our clients. It doesn't help anyone to have a cost exceed a set budget, ever. It causes re-work for design and engineering teams, it delays construction, and can be detrimental to progress in general.

Across markets and geographies, we are seeing the benefits of being engaged as early as is reasonable in a more partnership engagement, even design-build and design-assist, to align early on strategies to achieve the client's budget and timeline.



Impacts, material prices, mitigation strategies



In This Section

Supply Chain



Material

Prices

Impacts & Mitigation



Supply Chain



Tim JedDPR Supply Chain Leader

Oh Tanenbaum, Oh Tanenbaum

Over the last few years it's been tricky to interpret what will happen as domestic and international affairs unfold. It seems that the old rules no longer apply, and world events seem to have unexpected outcomes.

Despite signs of an economic slowdown in the U.S., current spending in the construction market was 4.2% above the same period in 2022,¹ ENR's Building Cost Index History for September 2023 is at an all-time high,² the demand for skilled workers continues to challenge the industry,³ and the U.S. Labor Department reported that 336,000 jobs were added to in September, with the unemployment rate at only 3.8%.⁴

Although the writer's strike in Hollywood is over, the actors union, SAG-AFTRA, remains on strike.⁵ There is an expansion of the United Automobile Workers union strike,⁶ and the expiring contracts for Kaiser Permanente led to a three-day strike on October 4th for 75,000 employees.⁷ In fact, The CBS Evening News reported that there are currently 378,000 people striking in the U.S., compared to 40,200 on the same date in 2021.⁸ Meanwhile, in the construction industry, architectural billings dropped below average in August.⁹ You'd think that these factors would lower spending, demand, and pricing, but we saw an uptick in the Inflation Rate to 3.67% in August,¹⁰ up from a low of 2.97% in July.¹¹

- 1 Construction Spending Rose 0.5% to \$1,983B in August (floordaily.net)
- 2 https://www.enr.com/economics/historical _ indices/ building cost index history
- 3 https://www.prnewswire.com/news-releases/us-commercial-construction-market-2023-2027-a-descriptive-analysis-of-five-forces-model-market-dynamics-andsegmentation---technavio-301721154.html
- 4 https://www.barrons.com/articles/jobs-report-friday-september-485e556e
- 5 https://www.latimes.com/entertainment-arts/business/story/2023-10-02/ sag-aftra-amptp-return-to-bargaining-actors-strike-writers-strike-studioshollywood
- 6 https://www.nytimes.com/2023/09/28/business/economy/uaw-strike-dealerships-parts-suppliers.html
- 7 More Than 75,000 Kaiser Permanente Health Care Workers Begin Strike The New York Times (nytimes.com)
- 8 CBS Evening News, October 2, 2023. Not including Kaiser Permanente strike.
- 9 https://content.aia.org/sites/default/files/2023-09/PD23 _ 09-Sept _ ABI _ infographic V02.pdf
- 10 As of August 23, 2023
- 11 https://ycharts.com/indicators/us _ inflation _ rate#:~:text=US%20Inflation%20 Rate%20(I%3AUSIR)&text=US%20Inflation%20Rate%20is%20at,in%20 price%20over%20a%20year.



Imported goods may be affected by the ongoing U.S. Government budget process. On September 30th, the U.S. Government avoided a shutdown and passed a short-term spending bill that will keep the U.S. Government operating through November 17. A shutdown would impact import-related services, which could affect a wide range of products made outside the U.S., or that contain components or parts made outside the U.S. 13



But as 2023 comes to a close, we are encouraged, as our suppliers are predicting stabilizing prices and improved lead times, with the outliers being generators, switchgear, transformers, elevators, and other miscellaneous mechanical equipment. This, coupled with the fact that there seems to be fewer news articles about supply chain disruptions, **suggests things are settling down**. A year ago, we were even seeing supply chain issues for Christmas trees, but this year buying a tree should feel like the old days, pre-COVID, with ample available supply.¹⁴



However, it's not quite all back to normal just yet. In August, the Harvard Business Review noted that we are seeing shortages of skilled supply chain professionals, "from sourcing to production, logistics, and delivery of goods and services," with supply executives reporting that their biggest challenge is hiring and retaining qualified supply chain related workers. Even with technology advancements, it is not enough to overcome the shortfall, and rebuilding the supply chains will require a combination people and technologies.¹⁵

Care for Some Rare Metals with Your Chips?

Semiconductors (aka "chips") continue to be an area of focus, because of how prevalent they are in everyday products. Even some air fresheners contain chips, so we are paying close attention to developments across the globe that could impact lead times due to semiconductor availability.

Tensions between China and Taiwan continue to rise, as demonstrated by recent events such as Chinese fighter jets crossing into Taiwan's airspace in August, ¹⁶ and the unveiling or Taiwan's first domestically made submarine. ¹⁷ Concerns persist that these tensions could cause instability in semiconductor supply, as Taiwan is the world's largest chip producer. The friction is not limited to China and Taiwan, as pressures are building between China and western countries as well, which has led to measures being imposed limiting China's

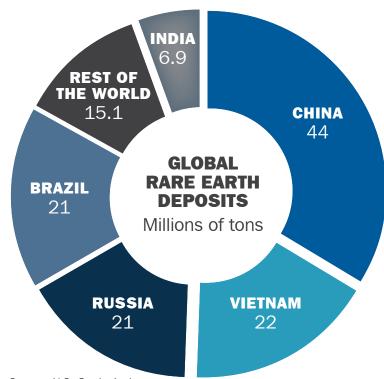


- 13 https://www.bloomberg.com/news/newsletters/2023-09-28/ supply-chain-latest-us-shutdown-and-exports-and-imports?srnd=premium
- 14 https://supplychaingamechanger.com/the-christmas-tree-supply-chain/
- 15 https://hbr.org/2023/09/how-to-address-the-supply-chain-staffing-crisis
- 16 https://www.aljazeera.com/news/2023/8/29/ taiwan-warns-of-surge-in-tensions-as-chinese-fighter-jets-cross-median-line
- 17 https://www.foxnews.com/world/taiwan-unveils-first-domestically-madesubmarine-tensions-china-grow



ability to buy semiconductor manufacturing technology from international sources, so China has shifted strategies to build those capabilities domestically. 18

China is actively working to become independent from international supply chains. It is working to sever international dependencies in chips, automotive, EV, and other products manufacturing these items in-house with companies like CATL, a Chinese battery manufacturer, which is setting up new plants throughout Europe and Asia. In related news, Japanese media reported that a Japanese company sold its shares in a China-based EV maker under pressure from the Chinese government.¹⁹



Source: U.S. Geological Survey, 2023

Providing 70% of all rare earth mined alloys, China is the largest producer globally.²⁰ There are 17 rare earth elements, used for things like magnets, batteries, steel alloys, and many everyday products such as phones, bulbs, LED lights, hard disks, monitors, and the list goes on.²¹ China is considering bans on rare earth exports, and beginning August 1, placed export restrictions on two rare earths metals used in chip production. These two metals are not available domestically in the U.S. and, in fact, 94% of global supply currently comes from China.²²

These factors could significantly impact availability of goods produced outside the U.S., but solutions are on the way, including numerous domestic chip manufacturing facilities under construction in the U.S., which should eventually help to assure availability. Further, the U.S. State Department began partnering with the Government of Vietnam to explore opportunities to grow and diversify the global semiconductor ecosystem under the International Technology Security

and Innovation (ITSI) Fund, created by the CHIPS Act of 2022. This partnership will help create a more resilient, secure, and sustainable global semiconductor supply chain.²³ And for rare earth metals, Congress has introduced the bill, HR 2849, which will help to establish rare-earth magnet production within the U.S. by offering tax credits for domestic mining and manufacturing.^{24 25} In addition, on September 25, it was reported that Vietnam, which has the second-largest rare-earth deposits, plans to restart its biggest rare-earths mine next year with the help of Western allies, including the U.S.²⁶



¹⁹ https://www.digitimes.com/news/a20230927PD202/china-ev-supply-chain-auto-components-automotive-ic-battery.html#:~:text=Japanese%20media%20 reported%20that%20a,ban%20rare%20earth%20alloy%20exports.

- 21 https://www.americangeosciences.org/critical-issues/faq/how-do-we-use-rare-earth-elements
- 22 https://thehill.com/policy/energy-environment/4079680-china-imposes-export-controls-on-rare-minerals-used-to-make-semiconductor-chips/
- 23 https://www.state.gov/new-partnership-with-vietnam-to-explore-semiconductorsupply-chain-opportunities/
- 24 https://www.congress.gov/bill/118th-congress/house-bill/2849/actions
- 5 https://www.wsj.com/articles/the-u-s-wants-a-rare-earths-supply-chain-hereswhy-it-wont-come-easily-dfc3b632
- 26 https://www.reuters.com/markets/commodities/ inside-vietnams-plans-dent-chinas-rare-earths-dominance-2023-09-25/



²⁰ https://www.reuters.com/markets/commodities/chinas-rare-earths-dominance-focus-after-mineral-export-curbs-2023-07-05/#:~:text=WHICH%20 COUNTRIES%20HAVE%20THE%20MOST,world%20total%2C%20 USGS%20data%20showed.

Flooding on Land, Drought in Waterways

We've been hearing about excessive heat and rainfall in the news. New York, Hong Kong, China, Taiwan, Libya, Brazil, and even the Burning Man festival in Nevada have all experienced record rain and catastrophic flooding in the last few months.²⁷ Conversely, we are also hearing about droughts in rivers around the world, including in many of the same locations that have had the record rainfall, in major waterways used for freight like the Rhine in Europe,

the same locations that have had the record rainfall, in major waterways used for freight like the Rhine in Europe, ²⁸ The Yangtze in China, ²⁹ the Amazon in Brazil, ³⁰ The Panama Canal, and The Mississippi River. These droughts are a growing concern, as 90% of products moving around the world via oceans and waterways. ³¹



The Panama Canal is a critical channel for about 40% of global cargo, but due to drought, restrictions are stiffening over time. The reduced number of ships going through the locks has created a backup of 162 ships waiting to enter the canal, with an average waiting time of over 20 days. As the holiday season approaches, this backup could increase due to rising demand, and could further impact and delay receipt of goods.³³

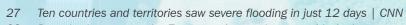
The drought of the Mississippi River has put New Orleans drinking water at risk. In fact, the extent of the drought and the shortage of water flowing out of the Mississippi to overcome the influx of salt water is so severe that salt water has encroached more than 30 miles upstream from the Gulf of Mexico. ³⁴ Materials that are shipped on the Mississippi are being slowed. The size of the barge shipments has been reduced up to 38% in tow size, mostly due to the number of barges that can be tied together widthwise, and there have been vessels grounded in the river. The delays in transit could be anywhere from 48 to 72 hours and loading barges in St. Louis and on the Illinois River have been reduced by 15%. ³⁵

Meanwhile, in ocean freight, container shipping rates continue to drop. Trans-Pacific spot rates have fallen by double digits over past month. On September





26th FreightWaves reported that: Asia-U.S. West Coast prices are 40% lower than the same time last year, and Asia-U.S. East Coast prices are 62% lower than the same time last year.



- 28 Drought threatens major European river trade route with ripples across the continent (cnbc.com)
- 29 China Yangtze region's severe drought affecting production | The Asahi Shimbun: Breaking News, Japan News and Analysis
- 30 https://www.usatoday.com/story/news/world/2023/10/02/dolphins-amazon-drought-deaths-brazil/71029128007/
- 31 Droughts are damaging supply chains on waterways | World Economic Forum (weforum.org)
- 32 as of 8 August, 2023
- 33 https://www.hellenicshippingnews.com/ panama-drought-and-its-impact-on-bulk-shipping/
- 34 https://www.nola.com/news/environment/ saltwater-to-top-emergency-sill-threaten-belle-chasse-water/article _ 9aab57f4-5271-11ee-93e0-03e3709cf50b.html
- 35 https://www.freightwaves.com/news/ arge-rates-to-move-grain-rise-anew-amid-low-mississippi-water-levels
- 36 Twenty Foot Equivalent Unit, aka 20' Container

On September 8th, the National Retail Federation (NRF) reported that "Import Cargo Volume Could Hit 2 Million TEU³⁶ Three Months in a Row" for August through October. This reflects optimism among importers for consumer strength over the holiday season. Even though yearly TEU projection for 2023 is lower than the unusually high spike we saw in 2021 and 2022, the forecast for 2023 is about 2.3% above 2018, the prior record. Late fourth quarter shipping strength is likely, a positive sign of a general restocking cycle, as these goods would arrive too late for the holidays.³⁷



<u>1.3%</u>

In trucking, overall freight demand is up. The American Trucking Associations' advanced seasonally adjusted For-Hire Truck Tonnage Index rose 1.3% over July and August, and it

is expected to continue to increase in the near term, which could push prices up.³⁸ Despite this increased demand, Yellow Freight filed for bankruptcy in July, but many of their customers had already shifted to other carriers. This does, however, impact some glass related products and may lead to more than 30,000 jobs being put at risk.³⁹

The Good News

Companies are learning and adapting. The "COVID and semiconductor crises have 'pushed logistics industry forward'" stated Renee Wawrzynski, executive director, Global Logistics at GM. She went on to say that pre-pandemic, GM didn't have complete visibility of its entire tiered supply base, but "we have that data now, so we're going to be better moving forward." 40

We, too, are learning and adapting. Through leveraging our full family of companies and capabilities in direct sourcing and supplier relationship management, warehousing, logistics, and quality control, we've overcome many challenges in navigating the disruptions of the past three years. Our ability to capture, track, and forecast impacts, and our connections with leadership among many top tier material manufacturers, helps us to control our destiny and deliver projects on time at the highest quality, working collaboratively with our customers for the best possible outcome.



Impacts & Mitigation

Biggest
Impacts
since last
Quarter

These impacts are based on actual communications received from our suppliers and distributors, and may be different than the Market Conditions Dashboard, as this information is based on specific products compared to the general data in the Market Conditions Dashboard.

	LOGISTICS SUMMARY	CAUSE	ACTION
	Domestic Trucking	Spot market rates continue to decrease as capacity exceeds demand. National Flatbed rates have dropped	Continue to look at the spot market to bid the best rates for loads.
	Increase of 0% to 2%	from the high-water mark of \$3.45 per truck mile in	
	0 - 1 week lead time	June 2022 to \$2.50 per truck mile in August 2023,	
		a 28% price drop. This has caused smaller trucking	
		companies to leave the market. It is anticipated that the market will bottom out and may begin to rise.	
		the market will bottom out and may begin to fise.	
The state of the s	Ocean Freight / Containers	Less consumer spending, coupled inflationary	Continue to look at the spot market
		pressures and lingering COVID issue has caused Ocean	to bid the best rates for ocean
9	Decrease of 5%	freight from Asia to U.S. to drop 5%.	freight.
		As of 9/26/23, Freightos Baltic Index, Asia-U.S. West	
		Coast prices (FBX01 Weekly) fell 5% to \$1,778/FEU. This rate is 40% lower than the same time last year.	
		Asia-U.S. East Coast prices (FBX03 Weekly) fell	
		8% to \$2,650/FEU. This rate is 62% lower than the	
		same time last year.	

IMPACTED TRADES	CAUSE	ACTION
Copper and Conduit Tube 7% Price Decrease	Weak global demand.	Recommend purchasing cooper needs over the next 12 months, expect pricing to stabilize and raise given coopers' role in the global EV market.
Cement 7-10% Price Decrease	Continue high energy and labor cost.	Recommend securing cement needs early, expect cost to increase over Q4 as energy cost increases.

MARKET CONDITIONS DASHBOARD





Scan the QR code or click to view the current market conditions dashboard

https://www.dpr.com/company/market-conditions

Past data reflects the movement of PPI indices, as provided by the U.S. Bureau of Labor and Statistics and is captured and updated monthly.

Future forecast data is gathered through DPR's Supplier Relationship Management Program in coordination with leading industry manufacturers and suppliers. Forecasted data is captured and modeled quarterly as an average of several surveys to multiple suppliers within the trade.

IMPACTED TRADES	CAUSE	ACTION
PVC 3% Price Decrease	Weak domestic demand with manufacturers operating at 66.8% capacity.	Recommend purchasing PVC needs for the next 12 months now. Pricing is expected to increase with increase demand from EU due to soaring energy cost. U.S. cost is expected to also recover and increase due to energy cost increase and potential weather impacts in the gulf.
Elevators and Lifts Lead Time Increase to 20-28 weeks.	Tier 2 and 3 components are impacting manufacturers.	Early release and engage manufacturers when possible.

Mitigation
Strategies
Implemented
on Recent
Projects

DPR has been actively working to control our destiny and prepare for the future in managing our supply chain. Our aim is to ensure a reliable supply chain that keeps our projects on track, hitting critical milestones, and minimizing the effects of outside events.



STRATEGIC SOURCING

One of our projects in California was over budget on metal panels and purchasing through distributors. Our supply chain team was able to source the metal panels directly from the manufacturer and leveraged our national position to save the client 35%.

WHY THIS MATTERS: Leveraging DPR's aggregated volume helps keep our clients within budget targets.





INNOVATING FOR QUALITY & EFFICIENCY

Our supplier risk assessment program has expanded to include new supplier due-diligence and existing supplier performance measurement and progress tracking. This enables us to source and procure materials responsibly, strengthen relationships with our supplier partners, and continuously improve our services to DPR's Family of Companies. By utilizing a risk based and data driven approach we create awareness and actionable risk mitigation plans towards reducing disruptions and improving predictability and efficiency.

WHY THIS MATTERS: A robust and holistic quality program will act as a preemptive warning system to minimize and address liabilities, as well as, limiting our financial and contractual risks in the early phases of planning.



LEVERAGING SUPPLIER RELATIONSHIPS

Recently, a confidential client in Seattle had a major issue threatening to delay the project's electrical panel boards, so the project team reached out to obtain support. We leveraged our relationships with leadership of the manufacturer and through a collaborative strategy, were able to solve the issue and mitigate the issues, and deliveries of the panel boards were prioritized which resulted in a timely delivery of the panel boards without impacting substantial completion date of the project.

WHY THIS MATTERS: Having strong relationships with suppliers differentiates DPR as it helps us to mitigate risks, protects completion dates, and helps ensure on-time quality delivery.



COLLABORATIVE PROCUREMENT

Electrical items, such as Switchgear, continue to have extending long lead times. By collaborating with key distributors and our Family of Companies, we have developed a program to procure unused equipment from previously canceled jobs. This program helps us to overcome risks and unforeseen manufacturing issues, as we can provide our project teams necessary electrical items quickly, keeping project schedules on time.

WHY THIS MATTERS: At DPR, we are putting more emphasis on warehousing and sharing information, providing better optics and allowing us to gain deeper insights into problems and opportunities, get ahead of potential impacts to projects, and better serve our customers.



Insights from our core market leaders on Life Sciences, Healthcare, Commercial, Higher Education and Advanced Technology trends



CORE MARKET INSIGHTS

Life Sciences

Despite economic and cautionary capital investment, the life sciences industry outlook remains strong.

The lab real estate market continues to be regionally challenged, especially regarding startups, but is underpinned by "Big Pharma" consolidation and growth plans across the country. The current lab space inventory built and in construction is creating increased competition and a surplus in supply, increased tenant leverage, and reduced rental rates.

The downstream manufacturing sector remains hot driven by supply chain resilience, in-shoring and biopharmaceutical drug approvals. The market continues to see investment in both in-house and contract manufacturing across the globe with hot pockets in the Southeast and Northeast. All this combined with an environment ripe for M&A, the outlook remains strong for the foreseeable future.

What We Are Seeing

Although we are seeing some positive shifts toward more historically normal escalation and improvements in select supply chain lead times, mitigating volatility of price and schedule uncertainty will remain a priority.

Ever increasing demands and focus in Life Sciences on speed to market, sustainable strategies, safer installations, and competition for qualified labor, particularly on complex large scale or more remote projects, are driving alternative approaches to project delivery and design.

Dennis KirkpatrickCore Market Leader



Mike MarstonCore Market Leader









ALTERNATIVE DELIVERY APPROACHES

Design-assist and design build subcontracting methods are two nontraditional strategies increasingly being utilized while still providing best value market competitiveness. Mitigating long lead schedule risks, optimizing buying

strategies, cost informed decisions, resource commitment, prefabrication planning, early coordination and constructibility resolution are some of the benefits of a more integrated collaborative team approach. These more integrated project approaches ensures greater opportunities to meet a project's goals for complex Life Sciences work.



ENVIRONMENTAL STEWARDSHIP

Sustainability has become an increasingly important trend in the Life Sciences market as organizations and consumers prioritize environmental and social impacts. Our customers are exploring ways to reduce their impact on the planet and enhance their environmental stewardship by:

- Adopting Green Lab and Green Chemistry
 Embracing principles of Circular **Practices**
- **Emphasizing Ethical Research Practices**
- Using Renewable Energy

- **Economies and Sustainable Supply Chains**
- Targeting Net Zero and Zero Carbon

PREDICTABILITY AND SPEED TO MARKET

In an age where schedule predictability and speed to market are more important than ever, prefabrication continues to be a solution that our Life Sciences customers come to expect.

From traditional and non-traditional skids, modular pipe racks, modular cleanroom systems, central utility plants and electrical rooms, controls rooms to panelized walls and ceilings, many prefabrication avenues can be explored. Not all of the methodologies are appropriate for all projects, but moving labor offsite can pay dividends by:

- Creating safer working environments
- Construction activities taking place concurrently
- Tempering of craft labor availability issues in hot construction markets
- Reduction in craft labor rates and hours in high wage rate locations
- Reduction in sitewide General Conditions and Project Requirements
- Streamlining testing, passivation, commissioning and validation timelines

How Can We Help?

Our dedicated in-house subject matter expertise, capabilities, and experience uniquely allow us to deliver Life Sciences projects with greater predictability under today's demanding market needs.

PREFABRICATION

Prefabrication capability to build more safely, save time, money, and meet the challenge of labor shortages while constructing high quality facilities to enhance your brand with more detail and precision than traditional construction methodologies.

SUSTAINABILITY

Our teams are supported by global sustainability resources that can evaluate opportunities to optimize a project's sustainable goals throughout the project lifecycle. Our corporate commitment to sustainable construction practices can further reduce a project's environmental impact.

PROCESS EQUIPMENT PROCUREMENT & OES

Our process equipment procurement team can provide purchasing services that will mitigate schedule, logistical, and coordination risks, as well as optimize skidding solutions that best fit a project's execution plan. Combined with the power of DPR's OES (Organized Efficient Services) organization we provide a one stop shop for construction supplies and requirements.

SYSTEMS EXPERTISE

We have technical experts in MEP, process, and I&C/ automation systems that allow us to provide critical early design and cost inputs and facilitate alternative procurement methods that ensure more predictable outcomes for schedule, cost, and constructibility.



CORE MARKET INSIGHTS

Healthcare

Hospital's "Labordemic"

Hospital margins are stabilizing as patients resume more normal patterns of care, according to the latest Kaufman Hall National Hospital Flash analysis, which reported positive operating margins for the sixth month. Although the financial situation has shown improvement, median operating margins, now slightly above 1%, are well below both pre-pandemic numbers and the 3% operating margin necessary to sustain operations and invest in growth.

Although patient volumes are increasing, a greater percentage of patient revenue originates from the outpatient setting, underscoring the **continued shift away from hospital-based settings to lower-cost sites of care.** Additionally, hospitals are challenged by **decreasing reimbursement rates** as more patients age into Medicare or federal payer insurance. Adding to the financial challenges is an increase in bad debt and charity care resulting from Medicaid eligibility reevaluations, causing millions to lose access to Medicaid coverage.

Expenses remain elevated, as a "labordemic" is expected to continue through 2024 due to **shortages in many categories of health workers**. Increased staffing costs will continue to drive high operating expenses and drain balance sheets as health systems continue to access cash reserves to support operations. This economic trifecta of reduced reimbursements increased operating expenses, and minimal margins is leading to projects being delayed, put on hold, or canceled all together.

Sean AshcroftCore Market Leader



Hamilton EspinosaCore Market Leader



1%

Median operating margins have risen, but are still below what is required to sustain operations.



Greater
percentage of
patient revenue
generates from
outpatient
settings.



An aging population reliant on federal insurance is resulting in decreased reimbursement rates



Continued worker shortage combines with increased staffing costs



In this challenging financial market, **some health systems are seizing the opportunity** to double down on higher growth, higher margin outpatient and ambulatory care services, focusing on geographies with favorable demographics, commercial payers and strong population growth. There is significant growth in specialty care like behavioral health, cancer centers, and proton therapy centers. And as the last of the Baby Boomers age into Medicare by 2030, the demand for post-acute care and inpatient rehabilitation continues to be in high demand.

Erik Swanson from Kaufman Hall states, "this 'new normal' is an incredibly challenging environment for hospitals." Understanding this, the model of providing care based on what was profitable in the past has shifted. The industry must work collaboratively to transform the existing hospital business model and create new and unexpected value.

Strategies proven to assist in navigating this shifting terrain:

PLAN EARLY AND OFTEN

With continued constraints on hospital operating margins, an early, collaborative and integrated approach to capital planning for projects will yield greater returns, extending the ability to maximize capital investments to do more with fewer resources, accurately calibrating cost expectations to program outcomes. Onboarding the contractor with or immediately following the design team ensures their collective insight into a volatile market informs design solutions to maximize value. Historical case studies show builders can successfully limit unanticipated cost overruns through earlier engagement in project development.

INTEGRATED PREFABRICATION APPROACH

Similar to the healthcare industry, the construction industry is experiencing a significant skilled labor shortage. A robust prefabrication approach will help alleviate field labor capacity constraints. Additionally, delivering prefabricated assemblies eases, if not eliminates, adverse impacts to active campus operations, reducing time of installation and disruption. On a recent vertical expansion project, DPR leveraged prefabricated elements to deliver the project four months faster than a traditional stick-built approach. This construction approach was costneutral; however, the healthcare system was able to activate the project and see patients faster, leading to accelerated revenue.

COST CERTAINTY WITHIN A VOLATILE MARKET

In concert with both strategies mentioned above, a Target Value Delivery (TVD) process can be one of the most effective tools in mitigating cost volatility and unanticipated capital expenses in today's market. TVD is a multidisciplinary approach organized around building systems where owners, designers and builders work collaboratively to clearly define project goals and performance expectations, establish budget targets that align with the owner's capital plan, proactively research and evaluate alternative approaches, and ultimately maximize value.

How Can We Help?

In today's evolving healthcare world, DPR is committed to staying ahead of the industry's everchanging needs and partnering with health providers throughout the entire lifecycle of project development. While technology and regulations change, the foundation of healthcare remains the same: providing an exceptional care environment for patients.

As a leading healthcare builder, we take that charge seriously. DPR's healthcare team, backed by a team of clinical operations specialists, regulatory and design professionals, digital health advisors and data analysts, provides our builders unique insight into health organization's current condition, performance opportunities, and future growth opportunities—enabling enhanced conviction in the clinical and operational decisions informing capital investments in real estate and technology.



CORE MARKET INSIGHTS

Commercial

Generally, the economy has continued to be more resilient than most economists have forecasted through the end of 2023. However, with interest rates projected to stay higher, longer, deal making has stalled in a significant way across the country.

Workplace Trends

A recent survey by IBI has shed light on significant changes in workplace dynamics. In 2024, 90% of major companies are planning to reintroduce "return-to-office" policies and this shift comes on the heels of the challenges and disruptions caused by forced in-office regulations in 2023.

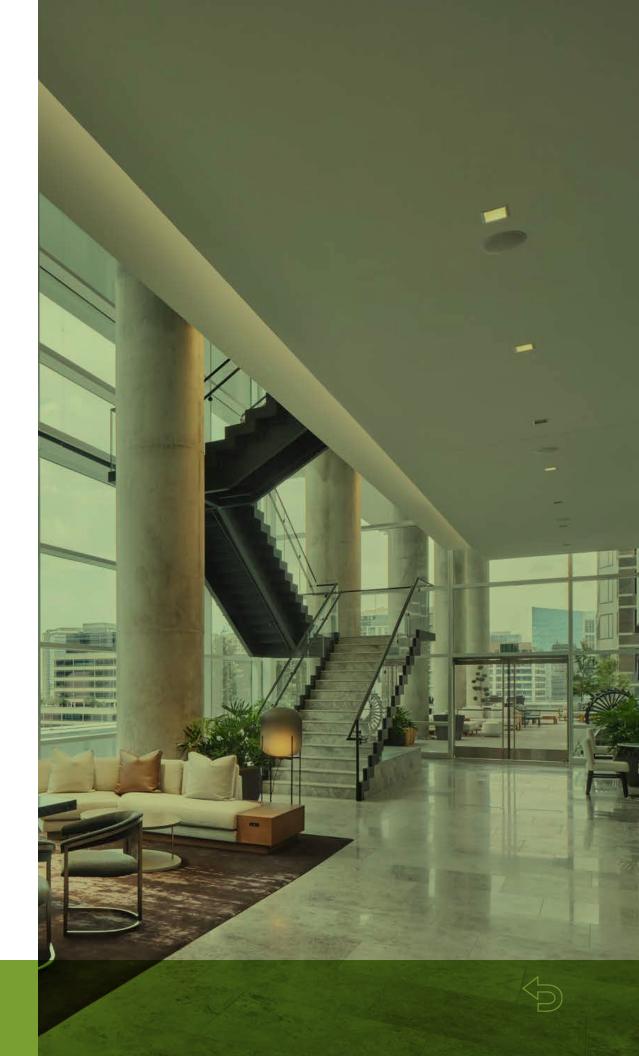
The predominant trend in the workplace is the adoption of a hybrid model, aimed at enhancing flexibility and optimizing productivity, employee engagement, job satisfaction, and retention. This trend has not only impacted office vacancies but has also given rise to the "Flight to Quality" concept. To facilitate the hybrid work model and attract talent, businesses are strategically relocating to smaller, more enticing office spaces with enhanced amenities. In particular, larger, well-capitalized firms are leading the charge in the steady growth of corporate campus construction, with an emphasis on creating iconic and sustainable headquarters that consolidate operational centers and serve as cultural hubs.

"Survive to 25"

is the prevailing mantra as market conditions slow and cap rates increase for almost all market sectors (CBRE, 2023) before stabilizing towards the end of 2024.

Scott LyonsCore Market Leader





Continued Growth for Adaptive Reuse

The adaptive reuse and repositioning of underutilized buildings, predominantly in the office sector, reached its peak in 2023 and is set to continue as a prominent trend.

This approach not only revitalizes struggling downtown areas but also champions a more environmentally sustainable method to meet the growing demand for new construction.

In 2024, experts forecast a significant 63% increase in upcoming adaptive reuse projects, with a particular focus on residential properties. Los Angeles stands out as a prominent hub for adaptive reuse, and similar projects are gaining traction in cities such as New York and Chicago.

A critical factor for success in adaptive reuse projects is early collaboration with the design team for thorough assessments of existing building conditions, leading to notable improvements in construction timelines and cost management.

Hospitality/Mixed-Use

The live/stay industry has experienced a shift in construction focus. Ground-up hospitality projects have decelerated in most cities, but there is a growing emphasis on renovating and expanding existing hotels to cater to the expanding business travel market.

Positive hotel revenue growth in the last quarter reinforces expectations for continued growth into 2024. Notably, many new mixed-use development opportunities are on the horizon, particularly in Texas, Florida, and Nashville. These ventures integrate Class A+ office spaces and retail but are more likely to move forward with the addition of high-end residential and an onsite hotel component.

These developments present promising prospects for the industry's future but have more demanding returns on the larger-scale projects.

63%

increase in upcoming adaptive reuse projects



Adaptive reuse champions struggling downtown areas and more environmental sustainable construction solutions



Growing areas include hotel renovations and new mixed-use developments

How Can We Help?

Our in-house subject matter expertise, capabilities, and experience uniquely allow us to deliver Commercial projects with greater predictability and quality under today's demanding market needs.

Prefabrication: Our prefabrication capabilities are proving out in real time by delivering exceptional quality, time savings, improved safety metrics and taking significant labor hours offsite. More specifically, we're implementing Surepods bathroom pods on all of our hotel projects along with prefabricated exterior envelope solutions both of which are resulting in improved quality and a faster delivery time.



Read More about Prefab for Commercial.

Development Services Group (DSG): Based in Austin, TX, our DPR Development Services Group provides real estate and development consulting to companies, institutions or individuals engaged in the acquisition, disposition, and development of real estate. Our team has been educated and trained within this industry and across all facets of land use policy, design, and development. Our goal is to support our customers by providing site selection, site assessment, pre-development, entitlement management, land use, design management and civil engineering services. Please feel free to reach out to us.





CORE MARKET INSIGHTS

Higher Education

Enrollment decline, reinvention, and division between the "have's and have-not's."

Continued declines in enrollment, lingering inflation, and high interest rates have resulted in ongoing stress for financially challenged institutions. Mergers, acquisitions, and consolidations continue. Smaller institutions reliant on lower return-on-investment (ROI) degree tuition for revenue are being forced to reinvent and critically reduce costs. Repurposing and renovation opportunities are growing through divestiture of underutilized assets and consolidation of programs into spaces delivering higher utilization and facility efficiencies.

Despite ongoing issues in the stressed sectors, there is plenty of good news associated with R1 Research Institutions and other highly selective institutions. This group remains competitive both for student enrollment and financial stability, with endowments and alternative revenue sources (research, housing, athletics, etc.) providing ample capital for robust facilities programs. Specifically, research facility funding continues to exhibit positive year-over-year growth. These institutes will continue to produce graduates with superior employability, economic and social influence.

Unfortunately, a byproduct that is unfolding is a widening gap between what can be characterized as the "haves and have-not's". An unintended consequence has forced demographic change impacting historically marginalized students and DEIB programs.

Greg FraikorCore Market Leader



20%

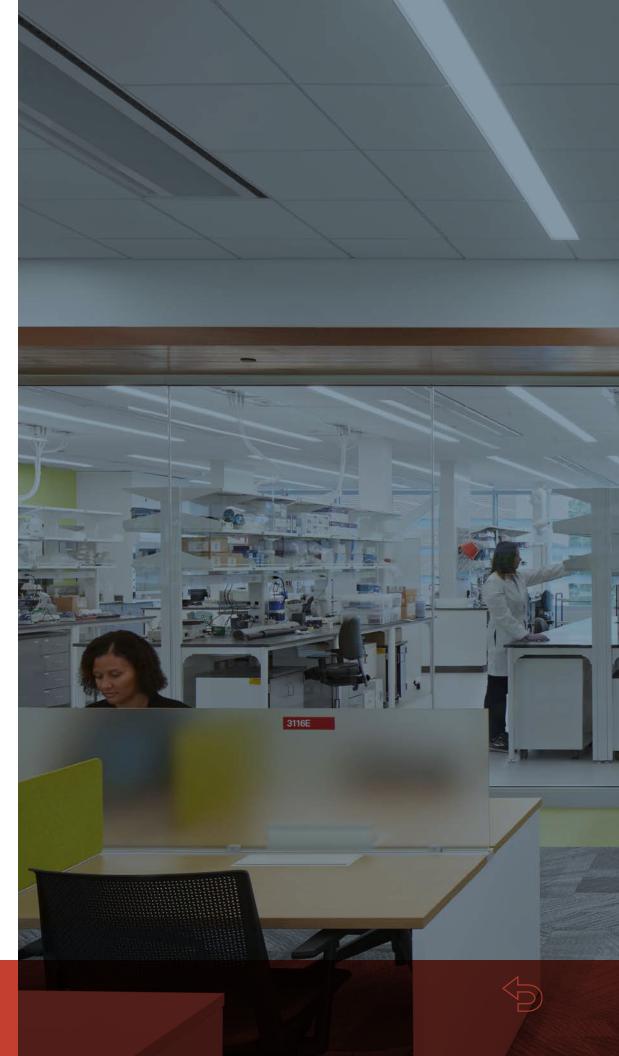
of all research space need upgrades, fueling the renovation and new construction trends heading into 2024.



Over the last decade, research space has increased by a remarkable 32M square feet.



Agricultural, computer science, biological/biomedical, health sciences continue to dominate the space types.



Next-Generation Collaboration and Delivery Platforms Needed to Address Growth in Research Facilities

Over the last decade, research space has increased by a remarkable 32M square feet and planned construction starts in this sector exceeded 10M square feet and \$13B in FY22/23. Agricultural, Computer Science, Biological/biomedical, and Health sciences continue to dominate the space types. Over 20% of all research space needs upgrades, fueling the renovation and new construction trends heading into 2024.

The size, scope, and complexity of the projects demand more sophisticated design and construction contracting capabilities and increased collaboration with multi-stakeholder project teams. Interest in collaborative and early integration delivery methods is on the rise. Progressive Design Build (PDB) is one such method that is growing in popularity.

Heading into 2024 One Thing is Certain... Continued Evolution

Despite continued global economic and political uncertainties and generally flat construction trends, notable strengths in research facility segments are a continued source of brightness. Philanthropic investments continue to increase (\$6.6B) with 12.1% to research universities. Reinventions, revenue diversifications, and top-to-bottom financial evaluations are front and center for stressed institutions. For select institutions, P3s and student housing opportunities continue, as do some financial closing delays, inherent with the complexity of this delivery method.

As all this transpires, the debate and impact of artificial intelligence (AI) rages on with one unified area of consensus—AI is here to stay and in a big way. Higher education facilities and faculty must be prepared to develop responsible, AI-ready students and provide the technological infrastructure to support their learning. The next 3-5 years are poised to be incredibly interesting, characterized by groundbreaking innovation and invention, turmoil and change. Advice? Put your seatbelt on, be nimble, and ready to adapt.

Progressive Design-Build

DBIA-WPR recently sponsored Progressive Design-Build (PDB) legislation (SB 706) expanding the authority for the use of PDB by state and local agencies in California. "PDB supports a collaborative project approach between partners, allowing design and constructibility to develop until the guaranteed maximum price is agreed upon. This process requires cost transparency while the project is collectively shaped to the Owner's unique criteria."

Intrigued and want to learn more?

<u>Click here</u>.

How Can We Help?

DPR is a leader in collaborative project delivery methods with experience in IPD, ILPD, DB, and PDB. We are a top 10 ENR builder of Health Care, Advanced Technology, and Life Science construction projects employing over 9,000 experienced builders and subject matter experts that we routinely leverage to deliver challenging interdisciplinary, research, and technical Higher Education projects.

College and University projects are unique, and the family of DPR companies offers unique prefabrication, supply chain, and self-perform capabilities to deliver challenging projects with strict schedule and budget challenges.

Our early integration and cost modeling services provide critical project design, construction alternatives, and information to help inform and execute successful procurements and projects.



Advanced Technology

Advanced Manufacturing

It's not just your imagination nor flashy headlines, the U.S. is in a construction boom for manufacturing, led by a focus on advanced manufacturing like solar, semiconductors, and electric vehicles and their associated supply chains & infrastructure. These are all areas of focus for DPR.

While this rise is generally attributed to federal grant/lending programs like the CHIPS Act and the Inflation Reduction Act, much of the news coverage is presenting construction dollars already spent, so many of those projects

Figure 2: Real Manufacturing Construction Spending by Type

Billions of 2022 U.S. Dollars

125

Computer, Electronic, and Electrical Food, Beverage, and Tobacco Chemical Transportation Equipment Other

Other

Signed

25

2005 2007 2009 2011 2013 2015 2017 2019 2021 2023

Source: U.S. Department of the Treasury

were already planned prior to those incentive programs. We are continuing to see positive momentum around this product type for the next several years as many of these technologies are interlinked. Take a look at this map tracking where some of these projects are happening in the U.S.

John ArcelloCore Market Leader



John Vardaman *Core Market Leader*



Customer Challenges

UTILITY
AVAILABILITY &
DISTRIBUTION

INTERNATIONAL CLIENTS WITH RISE OF FOREIGN DIRECT INVESTMENT

INTEGRATION OF TOOL VENDORS, DESIGNERS, CONSTRUCTION SCHEDULES, WORKFLOWS & PROCESSES

LIMITED DESIGN CAPACITY

How Can We Help?

We tap our in-house supply chain team to locate and source generation and distribution equipment to meet critical lead times prior to construction commencing. We can also provide early analysis of existing or greenfield sites to compare capital costs versus time to start production.

Leveraging DPR's international resources in both Europe and Asia Pacific to help facilitate common understanding of goals, regulations and common practices in both the originating country and in the U.S.

Using 3D-modeling, virtual design and construction skills, and integrated project management tools, we have been able to bring production tools into the virtual built environment prior to their completion to reduce install and start-up timeline - critical in a manufacturing project.

As the construction boom in these technical spaces continues, more designers are seeing their own resources taxed. We can provide support for critical areas of design to alleviate pinch points and allow the design team to focus on critical areas without sacrificing the details needed to support construction.

Mission Critical

As previously stated in our Q2 2023 market report, the demand for data center development is arguably the strongest of any real estate sector. While in it's infancy, AI is generating a great deal of industry chatter and cloud services are growing rapidly to support AI's need for exponentially more computing power.

Hyperscalers continue to drive the industry by aggressively expanding their footprints across the globe, both as owner/operators and tenants. Validated by CBRE, far and wide Northern Virginia remains the largest global market, followed in the U.S. by Dallas, Silicon Valley, Chicago and a rapidly growing Phoenix market. Both hyperscalers and colocation developers are now looking more closely at secondary and emerging geographies due to limited land and power constraints in primary markets.

Looking at data from JLL Research, in the past 10 years we've seen the average transaction size for leased space range from 2 to 36 megawatts (MW). Currently in 2023, we're seeing transactions range between 36 and 72MW. In 2024 and beyond, we are expecting to see a wider spread of transactions, ranging from smaller 2MW deals up to mega 300+ MW.

Customer Priorities

SPEED TO MARKET

COST &
SCHEDULE
CERTAINTY

POWER
AVAILABILITY
& CAPACITY
CONSTRAINTS

How Can We Help?

Shepherding the use of more collaborative project delivery methods like full design-build, MEP design-build, or designassist enables projects to be delivered safely, quickly and cost effectively.

As we look at strategies to reduce field labor on site, increase safety opportunities, and enable greater speed to market, **Design-to-Build** processes provide consistency and predictability in project delivery from initial concepts through occupancy.

Total cost discussions A few hundred hours of upfront analysis can save millions on the backend when working collaboratively with a design and owner team to ensure efficiency of the space, and understanding of all capital costs.

We are leveraging **4D scheduling** to analyze the sequence of construction, and sharing that data with our trade partners to be more efficient. Even sharing these types of tools to help trades or craft understand the sequence, safety risks, or complex logistics scenarios.

While utility providers are working through power constraints with 3-5 year lead times in some geographies, we can help Owner's assess the viability of alternative sources for primary and backup power.

As discussed at our <u>Sustainable Data Centers</u>
<u>Roundtable</u>, alternative sources include solar, wind, hydro, renewable natural gas, fuel cells, battery storage, small modular reactors, among others.







Resource Materials

Information in this report is compiled from third-party reporting that is available to the public. It is not owned by DPR Construction.

United States Census Bureau

https://www.census.gov/

United States Department of Labor

https://www.dol.gov/

United States Energy Information Administration

https://www.eia.gov/

United States Chamber of Commerce

https://www.uschamber.com/

United States Bureau of Labor Statistics

https://www.bls.gov/

Engineering News Record

https://www.enr.com/

American Institute of Architects

https://www.aia.org/

Cumming Corporation

https://cumming-group.com/