MARKET CONDITIONS REPORT

United States - Q2 2021

DPR CONSTRUCTION

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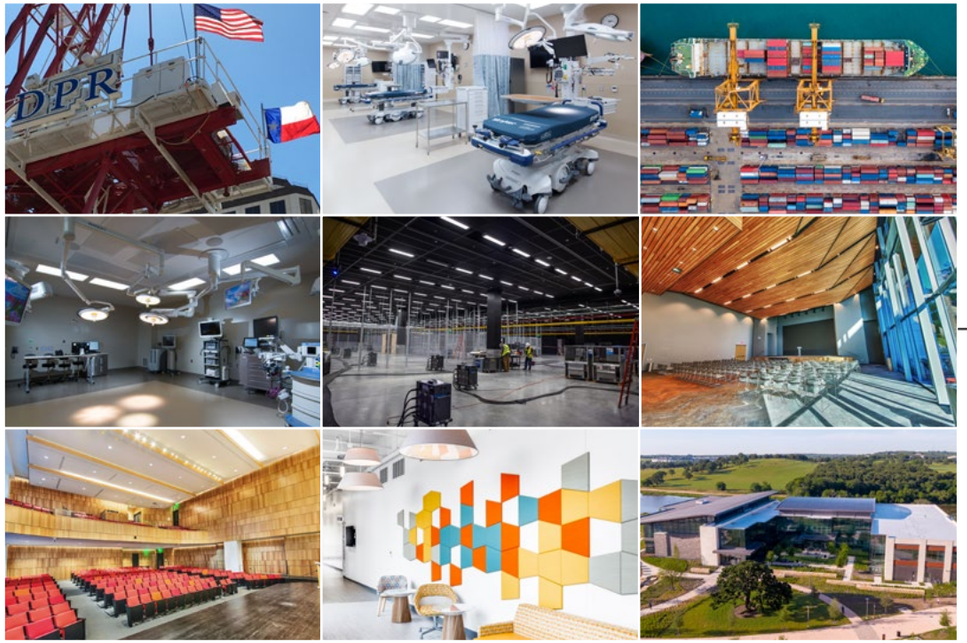


THE ONLY CONSTANT IS CHANGE

New projects and new demands create increased focus on supply chain management and forecasting.

As predicted in Q3 2020, it is clear that the building industry has looked to seize the opportunity to initiate new projects, taking advantage of the dip in the marketplace over the last year. We've seen the pendulum now swing back to a flooded market, full of opportunities, and now we are faced with material and labor challenges yet again. It's a basic supply and demand conversation.

A year ago we were looking into how we can maintain and progressively build through a pandemic. There was a excess of material on shelves and a labor-force looking to 'stay busy.' Today, that scenario has flipped. Now, we are working through how we can get our hands on certain materials for projects and dealing with a community of builders that has a substantial backlog of work.

My, how things can change in a year.

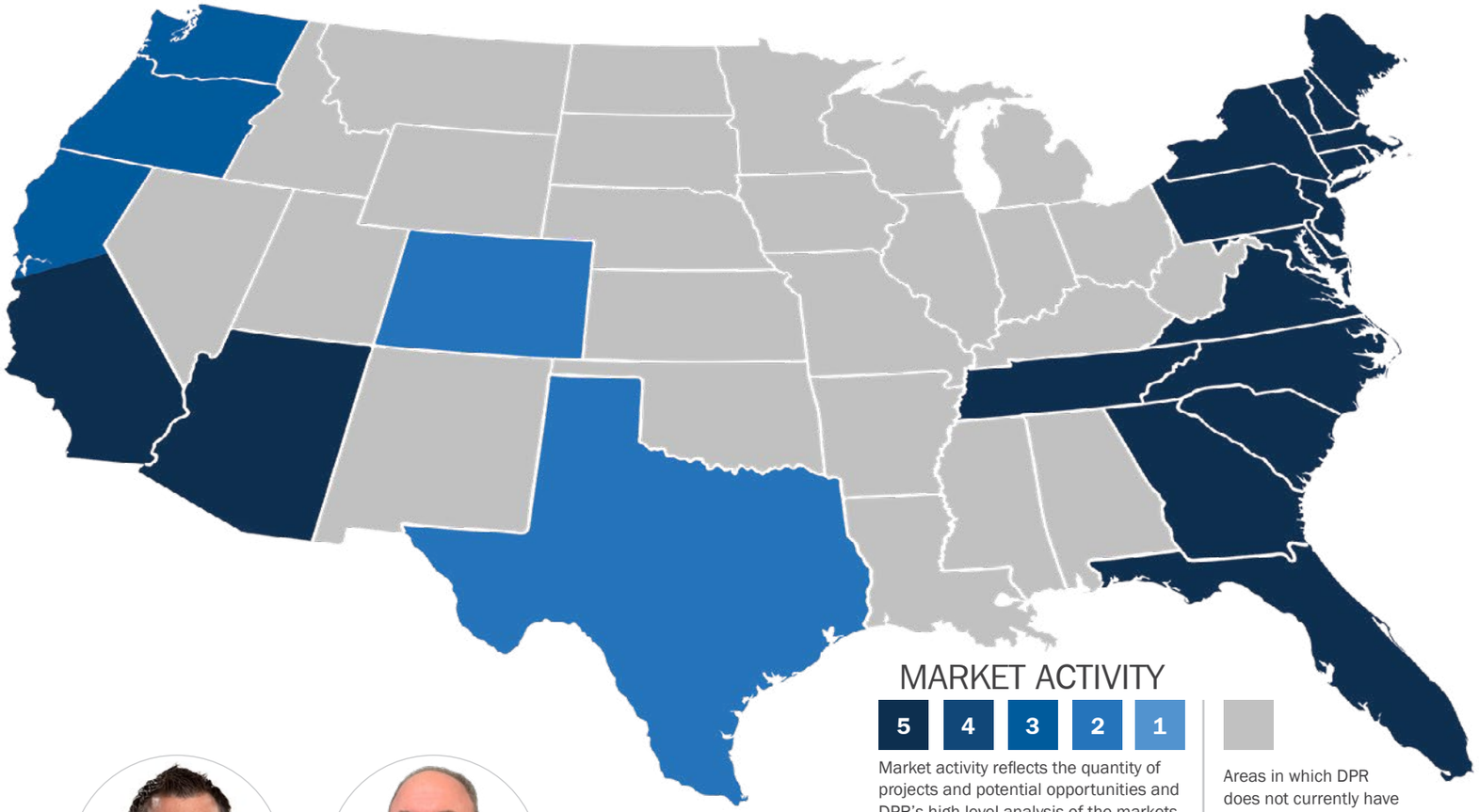
We are not through the storm yet, but there has been a substantial uptick in optimism across the building industry. With that comes a set of challenges that aren't new in our industry, but certainly a different tone from a year ago. We are proactively taking deeper evaluations of our supply chain and ensuring that we can procure what we need to BUILD GREAT THINGS. We are looking into the future and working with our teams to accurately predict where a project's risk lies and developing plans to avoid disruption.

We are committed to our purpose: WE EXIST TO BUILD GREAT THINGS. We hope that you will utilize this report as a conversation starter on your projects and with your customers. This is where it has to start. Team alignment around a coordinated plan will allow us to ensure that we are able to avoid as much risk and disruption as possible.

Ever Forward!

Phil Bartkowski
Preconstruction Leader

HEALTHCARE



MARKET ACTIVITY

5 4 3 2 1

Market activity reflects the quantity of projects and potential opportunities and DPR's high level analysis of the markets in which we actively serve.

Areas in which DPR does not currently have active projects.

REGIONAL SNAPSHOT

Northwest	3
Southwest	5
Central	2
Southeast	5
Northeast	5

Sean Ashcroft
Core Market Leader

Hamilton Espinosa
Core Market Leader

THINGS TO CONSIDER

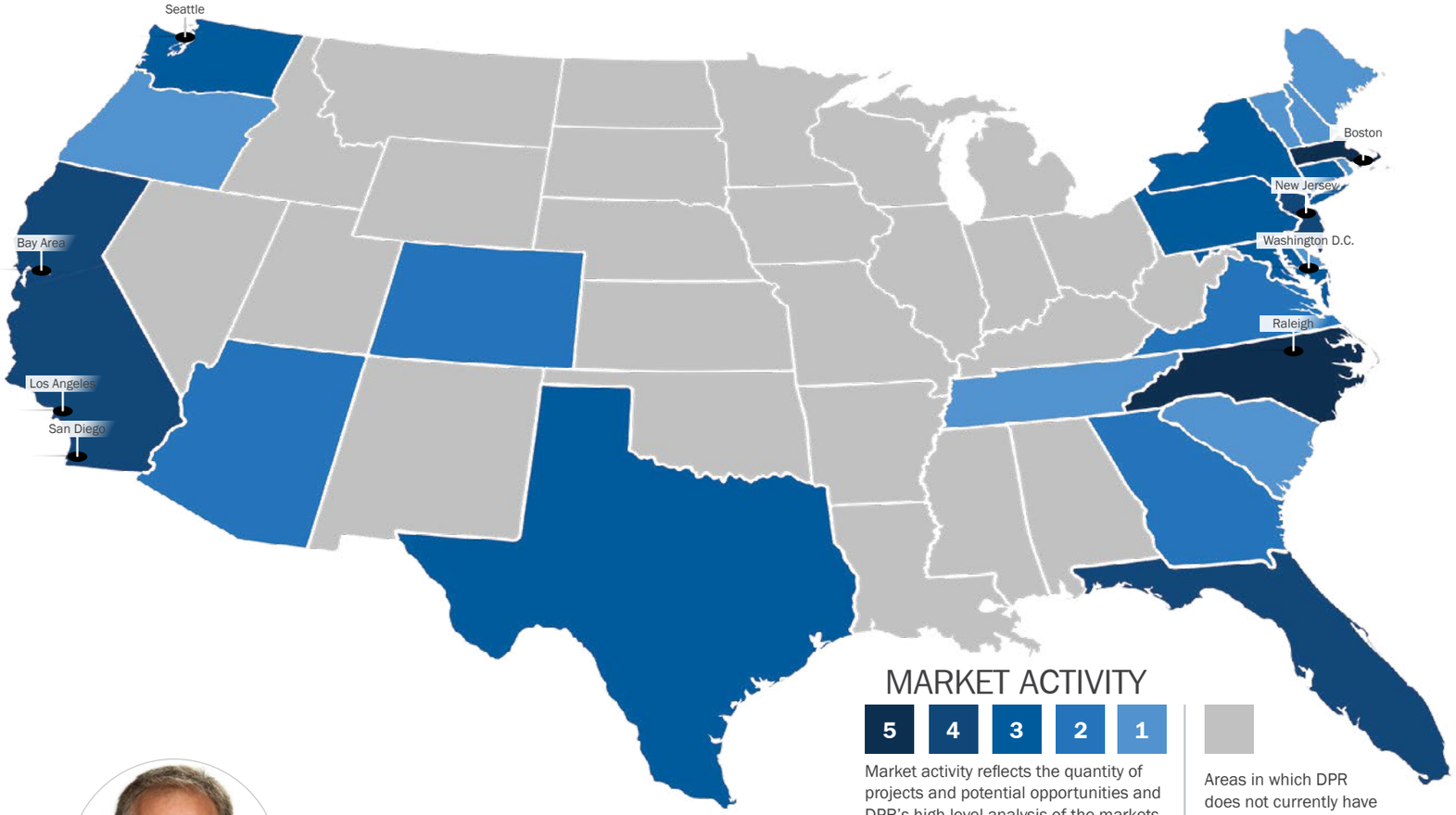
Uncertainty in the healthcare industry continues to drive steady growth as healthcare providers seek to validate their decisions on facility construction and find ways to be more efficient. Some areas are less confident on census numbers and a return to normal, while others have already reignited the fire on their patient care projects. **Focus remains high on additional patient beds, bettering the patient experience, staff mental and physical safety, and infrastructure projects.** Another trend we have observed is the uptick in Behavioral Health and Oncology projects.

Varying appetites for remote work can be seen across the county, which has led to healthcare providers evaluating opportunities to convert administration and office space to accommodate remote workers and telemedicine. **This re-evaluation of space is also driving investment in infrastructure as the healthcare community continues to adopt new technologies and remains firmly committed to maintaining the progress achieved in telehealth over the last year.**

Continued labor shortages in the healthcare and construction industries leave many with the challenge of doing more with less. Labor shortages in the healthcare industry make it more important that providers find ways to implement technologies to improve employee-driven cost outcomes. Travel and time efficiencies, such as remote monitoring and patient follow-up, make frontline nurses and physicians more agile with less waste. **Solutions like prefabrication are being analyzed to address material escalation and labor cost, while other efficiencies have been realized with the use of 3D documentation technologies to facilitate remote teams.**

These considerations have healthcare providers validating how they will use the space they have, what additional space needs they may need, and where to invest their dollars.

LIFE SCIENCES



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Southwest	4
Central	4
Southeast	5
Northeast	4

Scott Strom
Core Market Leader

THINGS TO CONSIDER

Mega-sized cGMP manufacturing projects are being planned across the US. Some of these will be located in cities with a long-standing Life Science presence. Others are being considered for areas that are emerging as strong viable options for these types of facilities.

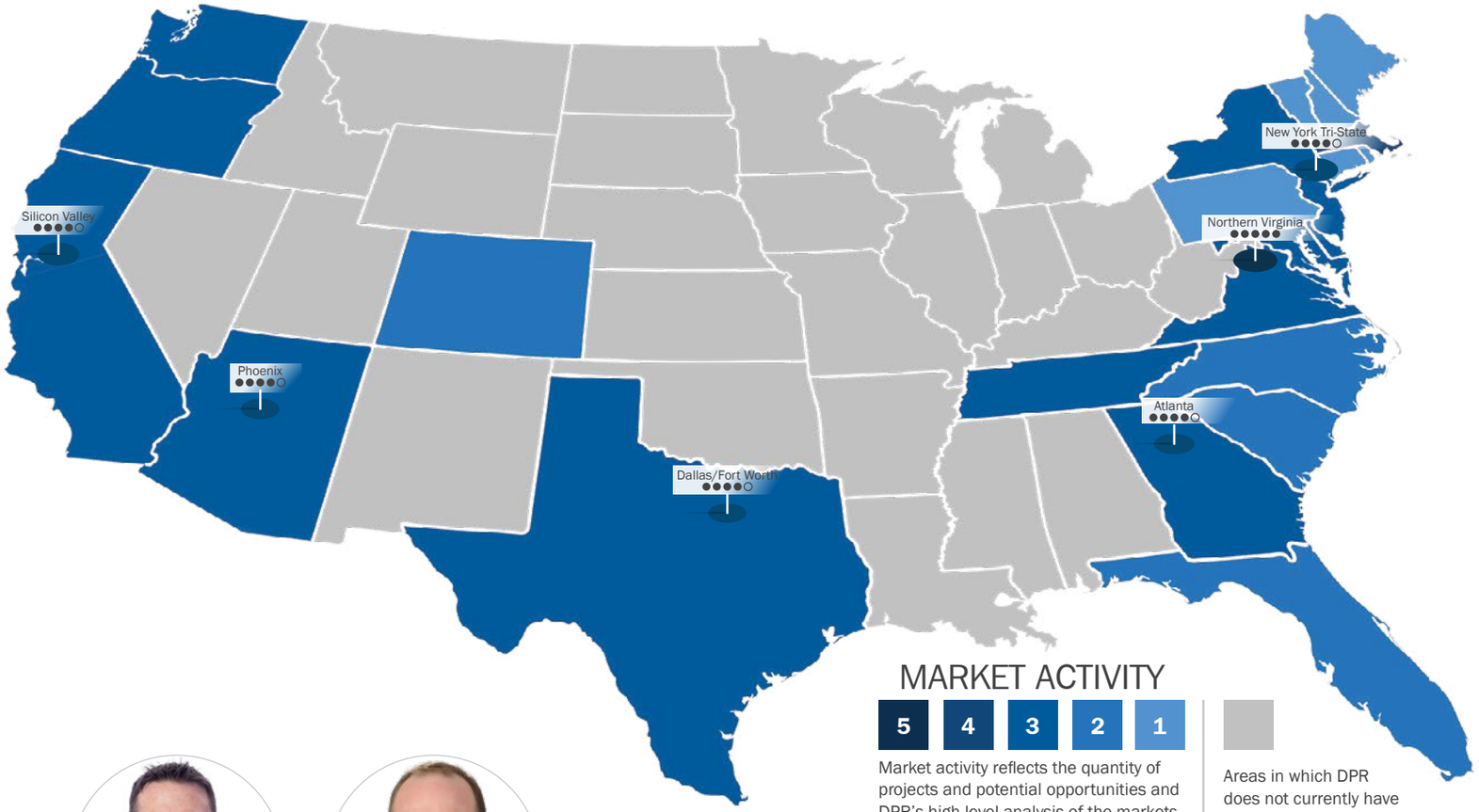
International Contract Manufacturing Organizations (CMOs) are making a strong move into the U.S. looking to grow and/or establish a presence here. CMOs provide drug development and manufacturing services to pharmaceutical companies allowing them to outsource those areas of their business.

The momentum around the cell and gene therapy pipeline and the need for manufacturing space continues to be strong. At the end of 2020, there were 1,100 advanced therapy trials worldwide and those numbers show no signs of slowing, as more drugs are advancing into later stage clinical trials.

R&D market funding for Life Sciences is maintaining its record setting pace stimulating significant investment from Biotech companies and commercial developers who have supported the industry in the past and those looking to enter into the market.

Material escalation remains a concern, with heavy emphasis on stainless steel products used in cGMP manufacturing facilities AND process equipment. Pricing is obviously a concern, but so too is availability. Lead times of stainless steel and process equipment can have major impacts on project schedule. Equipment orders are being placed months out because availability is so limited (mega jobs will continue to effect this availability as those projects require many, many pieces of equipment).

ADVANCED TECHNOLOGY



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John Arcello
Core Market Leader

Andy Andres
Core Market Leader

THINGS TO CONSIDER

Why these markets? Below are market characteristics that are attractive to data center operators:

- Favorable business environment
- Reasonable power cost
- Access to renewable energy
- Low natural disaster risk
- Robust connectivity
- Large population and access to a qualified workforce
- Proximity to nearest airport
- Social climate alignment with company values
- Availability of skilled construction workforce

Life After the Pandemic

The growth that we saw Q2/3/4 of last year was not a surprise but more of an acceleration. We predict last year's growth to continue as businesses have adapted to provide more virtual services. The next 12-24 months will be interesting with **incredibly tight cost pressures for multi-tenant providers with commodities on the rise and volatility in available materials.** This is leading to increased cost exceeding the normal escalation rate. In fact, we have already seen cost spikes in 2021 and predict that trend will continue through Q2/2022.

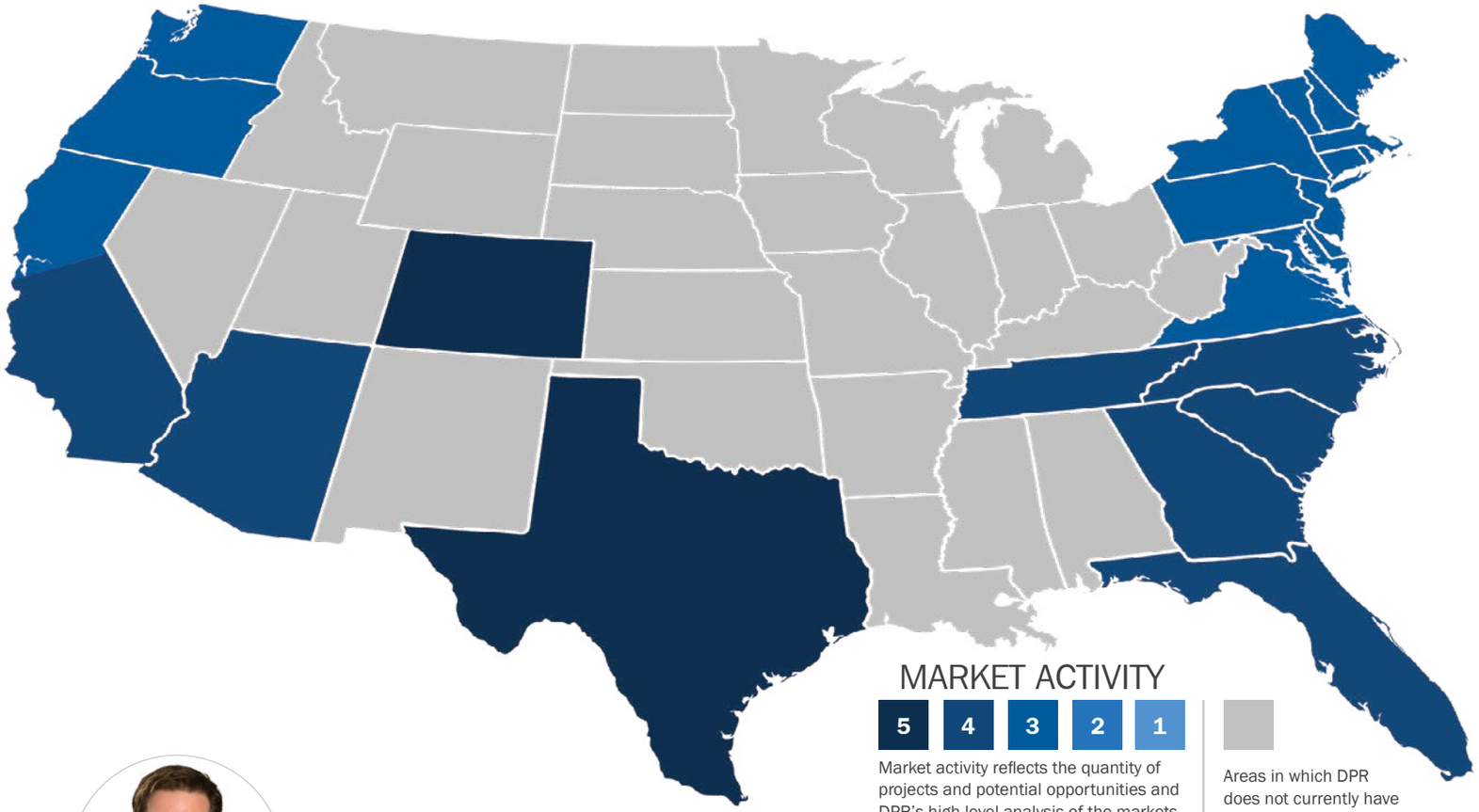
Speed to Market

The demand to quickly bring new compute capacity online continues to drive our business. Operators will defer capital expenditures to the last responsible moment in order to allow proforma certainty in this unstable commodity market. Operators will then be forced to react quickly, moving a project from planning stages to commissioning in shorter and shorter durations. This demand leads to **constant pressures for faster delivery, while deploying infrastructure in a repeatable and rapid manner, with consistent quality.**

Sustainability

Data center owners and developers are fielding pressure from their tenants and stakeholders for more accountability on climate change. **The large energy footprint of cloud computing will enable the data center industry to drive a global shift from reliance on fossil fuels to renewable energy.** In addition, more large data centers will be tasked with exploring trends away from large water consumption such as direct evaporative cooling to more closed loop systems and point of use cooling techniques.

COMMERCIAL



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Matt Murphy
Core Market Leader

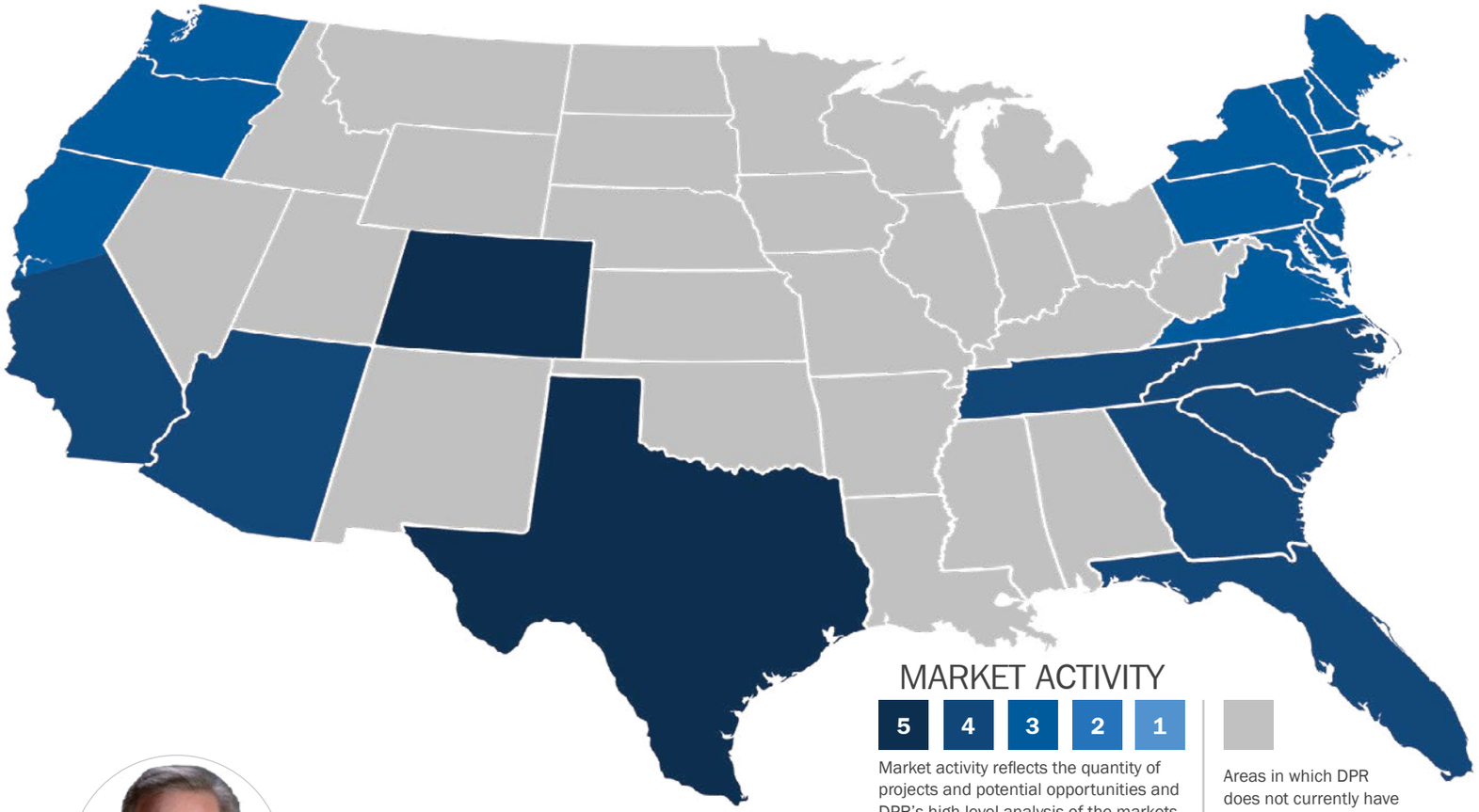
THINGS TO CONSIDER

Although many feared the pandemic would have a lasting negative impact on the office and hospitality markets for years to come, with minimal growth and slow recovery, the reality has been the opposite. Offices will still explore the hybrid model as more workers return in person, but the pandemic experience has revealed that we all still crave camaraderie, culture, collaboration (not Zoom!), and the informal idea-sharing experiences that can only be replicated by in-person conversations.

We have seen a resurgence in projects that we once feared would never be built, office space buildouts with the new workplace in mind, and new projects emerging as we enter the post pandemic era. While this is not consistent in all regions, as some areas are slower than others to emerge post-pandemic, the trend seems to be very positive for commercial office.

The same can be said for hospitality. **Never before has the industry faced such a devastating economic impact and still maintained.** The fear (or for some, the hope) of distressed properties littering the market never materialized. This left lots of capital looking for a place to be put to work. We are seeing this emerge through numerous renovations and rebranding projects, some limited service new builds, and, surprisingly, even the whispers of new build urban hotels. Weekend and leisure travel is very robust and has helped accelerate the recovery, but the most promising statistic is the rise in occupancy in the Sunday to Thursday business travel segment. As this continues to increase and conferences begin to reestablish in-person events, we foresee a quick recovery in hospitality. **Where we once anticipated a full recovery by the end of 2023, we are now looking at the end of 2022, if not sooner.**

HIGHER EDUCATION



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Tracy De Leuw
Core Market Leader

THINGS TO CONSIDER

Higher Education is being reimagined and will continue to focus on the student experience and flexibility for hybrid learning. Trends in Higher Education construction are part of a broader desire to give students a more connected education – **connecting students to other disciplines, the classroom to the wider campus, and students to their career fields and communities.**

One question that we have heard consistently from our Higher Ed customers has been, **"How do we control and carry the right allowance for escalation and inflation post-COVID?"**

Our robust supply chain management identifies manufacturing delays, trucking shortages and price increases. By leveraging our data, sourcing, procurement, logistics, and warehousing capabilities, we are well-positioned to maximize supply chain efficiencies that increases value for clients while creating a competitive advantage. **Enhanced supply chain metrics will help reduce costs, buy at the right time, and reduce escalation allowances, improving overall project performance.** This, combined with control of the labor market through self-perform work groups, will ensure cost and schedule certainty, and ultimately, a better customer experience.

Cost Escalation

CHALLENGES

COST ESCALATION: THE BASICS

WHAT IS COST ESCALATION?

Cost escalation can be defined as changes in the price of specific goods or services in a given economy over a period of time. In the construction industry, cost escalation is a term used to describe the fluctuations and increases in the market related to a project's cost of work.

EVERY PROJECT IS UNIQUE

Escalation can be an extremely complex equation to solve on each project. **There is not a "one size fits all" solution that we can prescribe for all jobs.** There are multiple factors that our teams need to consider in order accurately forecast what it will cost in the future.

The most important thing that you can do is to start a conversation as a team and develop a collective plan on how escalation will be forecasted and dealt with on YOUR PROJECT.

CRITICAL CONSIDERATIONS

TIME
What is your project's timeline and schedule? How far out do you need to forecast? Which scopes of work will be occurring when? How long of a preconstruction and design phase are you looking at?

DESIGN AND SCOPE
What is the stage of the design? When can you 'buy' each scope of work? What are the design elements of the building that are a more prone to cost impacts and supply chain challenges? Reach out to your supply chain and trade partners to determine key risks.

RISK EVALUATION
If there is a perceived risk, talk about it early and come up with a plan. What is this project's risk tolerance? Is the team willing to take an aggressive approach or is a more conservative plan required?

AVOIDING DISRUPTION
Discuss approaches to carrying a cost for escalation from the get-go. Determine if there are design modifications that would allow the team to avoid key supply chain challenges and escalation.

ALIGNMENT
The team must be aligned on how escalation will be forecasted as we estimate a project's value. What is escalation held for specifically? How will the team manage this as key trade partners are brought onto the team?

FORECASTING COST ESCALATION

"What should I carry for escalation in my estimate?" There is no simple answer. A multitude of factors affect cost that you need to consider when forecasting escalation on your project. Start by identifying a few factors that could potentially affect your project and how that might affect how you estimate for a project.

Pricing can be influenced in a wide variety of ways. **Our responsibility is to consider which factors will impact a specific project and develop a strategy together on how to forecast escalation on each project.**

All the factors on this page are examples of what CAN affect a future pricing for any given project. We cannot predict everything, nor should we account for everything that is unforeseeable. **As a team, we need to determine what risks are out there on each unique project, discuss a plan, and account for them accordingly.**

MATERIAL FACTORS

- Natural resource availability (e.g. timberlands, stone, etc.)
- Energy costs to produce a material (e.g. oil and gas)
- Taxes, tariffs, import fees and other political regulations
- Global and domestic demand
- Manufacturing capacity and factory shutdowns
- Lack of competition and single-sources
- Building code changes and influences
- Past or current natural disasters affecting future resource availability (e.g. fires, hurricanes, floods, etc.)

LABOR FACTORS

- Wage rate increases
- Prevailing wages and union agreements
- Laws that modify minimum wage
- Labor availability and remote work
- Onsite vs offsite labor %'s and prefabrication
- Complexity of the work and potential for reduced on-site production
- Current labor strikes and labor disruptions
- Subsistence and travel requirements

REGIONAL FACTORS

- Design criteria and requirements (e.g. temperature, humidity, seismic, etc.)
- Weather & seasonal impacts (e.g. cold, snow, heat, rain, hurricanes, flooding)
- Code changes and requirements (e.g. Title 24, OSHPD, etc)
- State taxes and local government impacts
- Cost of living

DYNAMIC MARKET CONDITIONS

- Construction market saturation
- Subcontractor demand and availability
- "Mega-Project" impact to trades
- Government market and industry investments
- General economics and recessions
- Past or current pandemics, wars, laws, etc.

OTHER FACTORS

- Long-lead items and schedule requirements
- Special items and procurement challenges
- Expediting and Acceleration
- Core Market trends (e.g. data storage, FDA approvals, Healthcare / Medical plans)
- Political Environment (Federal, State, Local)

Supply Chain

INSIGHTS AND IMPACTS

SUPPLY CHAIN MANAGEMENT

Managing the supply chain is more than just simply buying in bulk. The execution of projects requires an intricate choreography of engineering and construction activities inclusive of people and materials of all types and diverse origins. As such, successful implementation is intertwined with a supply chain that spreads across the globe. **DPR has invested in this critical piece of the process, balancing a just-in-time mindset against market impacts to provide customers and projects with more predictable outcomes in cost, quality, schedule, and sustainability.**

Our supply chain strategy is focused, nimble, and adaptive, applying proven concepts to the construction industry in the smartest way possible. We target opportunities to maximize value and minimize the burden.

The data in this chart are Producer Price Indices (PPI) that pulls from the U.S. Bureau of Labor and Statistics (BLS). These categories represent the majority of material cost drivers on a construction project. The increases over the last year have been significant. The only outlier is asphalt, which is an anomaly due to the typical December increase that is followed in April with a market-wide adjustment. **DPR actively tracks the main raw material indexes and fabricated material index costs so we can identify and confirm pricing and spot anomalies in the supply chain.** This knowledge facilitates better discussions with trade partners during procurement.

3 Month & 12 Month % Change - Industry PPI

Index	3 Month Change	12 Month Change	Latest Data Date from BLS
Aluminum	↑ 10.7%	↑ 22.4%	April 2021
Asphalt	↓ -15.6%	↓ -8.0%	April 2021
Commercial and Institutional- Type Electric Lighting Fixtures, Including Parts and Accessories	↑ 4.2%	↑ 4.7%	April 2021
Concrete	↑ 2.1%	↑ 1.9%	April 2021
Construction Machinery	↑ 0.6%	↑ 1.7%	April 2021
Copper Wire	↑ 8.6%	↑ 30.9%	April 2021
Crude Oil	↑ 12.0%	↑ 91.0%	June 2021
Electricity	↑ 2.2%	↑ 4.5%	April 2021
Elevators, Escalators, and Other Lifts	↑ 1.6%	↑ 1.7%	April 2021
Freight	↑ 2.5%	↑ 16.5%	April 2021
Glass	↑ 1.7%	↑ 4.9%	April 2021
Gypsum	↑ 5.6%	↑ 12.1%	April 2021
HVAC and Commercial Refrigeration Equipment	↑ 2.4%	↑ 4.1%	April 2021
Insulation	↑ 2.9%	↑ 4.8%	April 2021
Lumber & Plywood	↑ 22.6%	↑ 85.7%	April 2021
Paint & Coating	↑ 4.0%	↑ 4.7%	April 2021
Plumbing	↑ 2.2%	↑ 2.3%	April 2021
Steel Beams	↑ 22.4%	↑ 26.3%	April 2021
Steel Piping & Tube	↑ 24.4%	↑ 27.1%	April 2021
Steel Studs	↑ 31.3%	↑ 53.3%	April 2021
Switchgear, Switchboard, Industrial Controls Equipment	↑ 1.1%	↑ 2.5%	April 2021

Source: DPR Historical Indices

SUPPLY CHAIN MANAGEMENT

The entire supply chain is a complex workflow of many interlaced processes that generates more data than ever before. **Our systems and teams digest this information in real-time, so we can understand decision trade-offs, which leads to optimal choices and certainty.**

These cost benchmarks show, on a more granular basis, the types of impacts being seen at an individual item level. **This information is useful when considering the actual cost impact of a particular part.** The indices on this page further confirm the aggregated Bureau of Labor and Statistics (BLS) indices in the prior chart and provide a more tangible view.

For example, year over year, a piece of CDX plywood (32SF) was:

May 2020: $\frac{\$619.15/\text{MSF}}{1000\ \text{MSF/SF}}$ X (4' X 8')SF/PC = $19.18/PC

May 2021: $\frac{\$1173.36/\text{MSF}}{1000\ \text{MSF/SF}}$ X (4' X 8')SF/PC = $37.48/PC

The spot price from commercial vendors for this material in Sunnyvale, CA is $93.98 versus $72.68 in Glendale, Arizona versus $66.98 in Queens, New York, which implies that **(a) demand is outpacing supply, and prices are significantly above indices when buying through distribution, and (b) pricing is very significantly impacted by location.**

Engineering News Record 20-City Average Material Prices

Material Description	May-20		May-21		$ Difference	% Change
Portland Cement						
Type 1	$ 146.82	ton	$ 152.89	ton	$ 6.07	4.13%
Ready-Mix Concrete						
3000 psi	$ 123.85	cy	$ 127.44	cy	$ 3.59	2.82%
4000 psi	$ 139.61	cy	$ 141.87	cy	$ 2.26	1.62%
5000 psi	$ 189.06	cy	$ 187.17	cy	$ (1.89)	-1.00%
Copper Water Tubing						
Type L - 1/2"	$ 1.77	lf	$ 1.81	lf	$ 0.04	2.26%
Type L - 1 1/2"	$ 7.06	lf	$ 7.32	lf	$ 0.26	3.68%
Lumber						
2" x 6" Common S4S	$ 649.21	mbf	$ 1,188.63	mbf	$ 539.42	83.09%
2" x 8" Common S4S	$ 679.20	mbf	$ 1,128.48	mbf	$ 449.28	66.15%
2" x 10" Common S4S	$ 733.83	mbf	$ 1,155.58	mbf	$ 421.75	57.47%
5/8" CDX Plywood	$ 619.15	msf	$ 1,173.36	msf	$ 554.21	89.51%
3/4" Plyform	$ 1,047.84	msf	$ 1,306.08	msf	$ 258.24	24.64%
Gypsum Board (Regular)						
1/2" Gypsum Board	$ 284.01	msf	$ 313.36	msf	$ 29.35	10.33%
Standard Structural Shapes						
Wide Flange Beams (W8 x 31)	$ 1,068.80	ton	$ 1,196.00	ton	$ 127.20	11.90%
Aluminum Sheet						
3003H14, 36" x 96" Sheet	$ 232.81	cwt	$ 240.98	cwt	$ 8.17	3.39%

Source: DPR Construction

IMPACTS: PAST REFLECTIONS, FUTURE RESPONSE

As we reflect on 2020 and the last 18 months, several key impacts continue to be exacerbated as a result of COVID-19. Plant shutdowns that occurred when COVID-19 began in 2020 created challenges into 2021 as the economy reopened and demand increased. Metal, concrete, plastic, gypsum, and glass saw pricing increases due to a shortage of material, labor, and original plant shutdown, coupled with increased logistics costs. Piping, electrical wire, and metal prices continued to increase due to pent-up demand from the auto and home building sector, while mills were still operating at reduced capacity, and resulted in an ongoing shortage.

DPR actively monitors impacts from manufacturers and distributors of products to identify exposures and patterns, with both rapid response communications and monthly summaries for our project teams. We work with critical key manufacturers to better predict future pricing and lead time trends to assist us in executing a thoughtful procurement strategy and further enhance the value our teams can bring to the planning stages of your project.

Q1 2021 SUMMARY

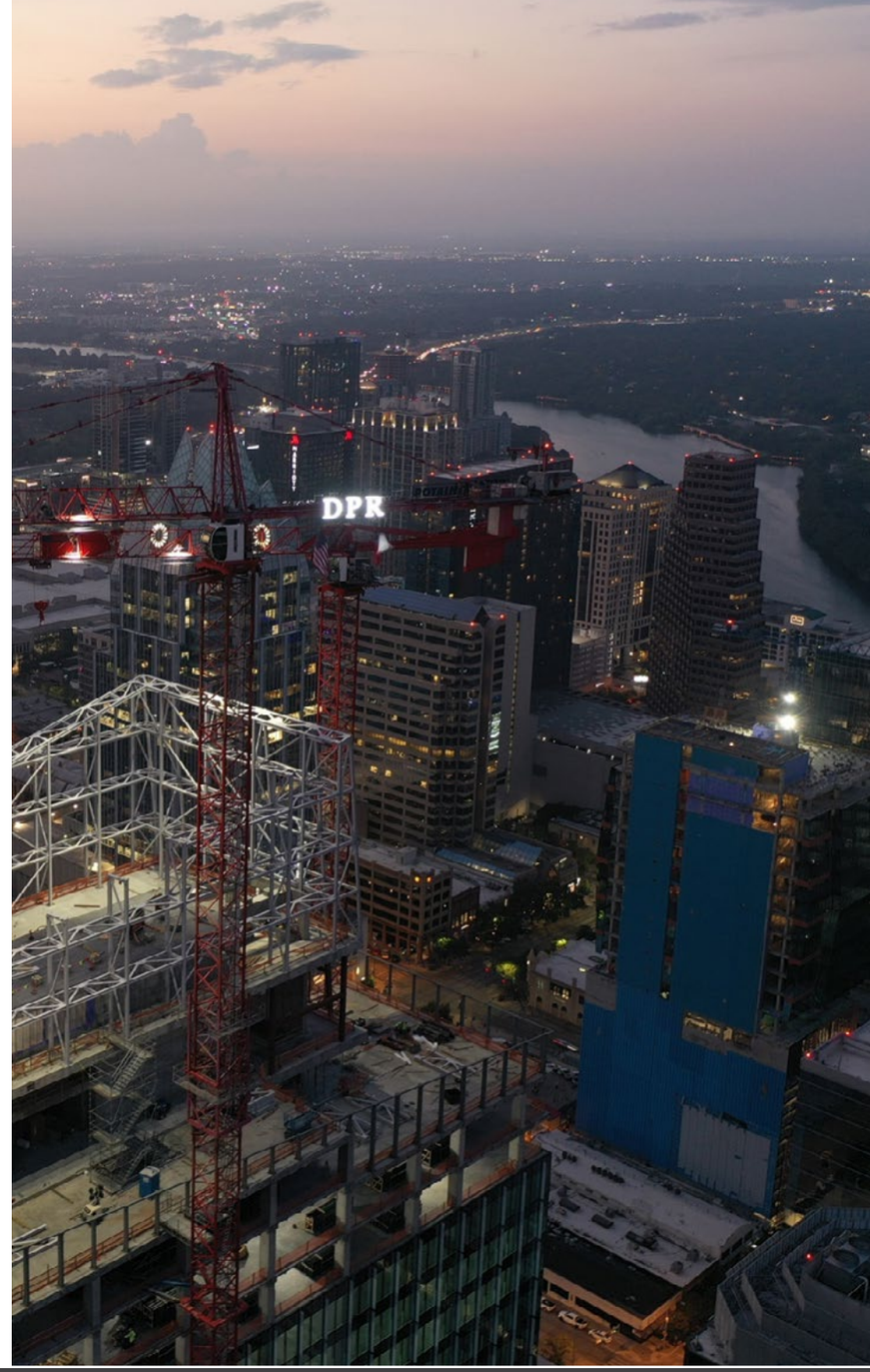
- U.S Administration invoked the Defense Production Act, reprioritizing production schedules on certain products, and affecting lead times.
- Extreme weather caused plant shutdowns in the south and in the gulf, affecting recovery plans to return to normal operating capacity at plants.
- Severe port congestion impacted global logistics, especially offloading, where wait times in LA were as long as 2-3 months. The number of containers sitting there represented 10% of the worlds circulating supply, thereby reducing international competition, increasing lead-times, and raising prices.
- The state administration in Texas executed an order banning the export of natural gas, affecting plant operations in the South and in the Gulf.
- A winter storm in February caused massive shutdowns in Texas (including petrol plant), impacting pricing and lead times of products utilizing resin, e.g chair foams, adhesives, etc.
- Strengthening of the Buy American Act produced additional domestic steel demand, resulting in a shortage of supply.
- An unforeseen surge in DIY home projects juxtaposed with continued growth in the construction sector led to higher demand. Big-box retailers took a wait-and-see position in restocking. Coupled with reduced mill capacity reduction resulting from COVID-19 shutdowns, this led to severe shortages, increased lead times, and caused price spikes. This was further complicated by international tariffs reducing competition.
- Hurricanes in the gulf impacted PVC manufacturers who began claiming force majeure impacts; supply levels dipped which caused price spikes.
- One of three domestic stainless-steel manufacturers, Allegheny Technologies Inc., exited the stainless-steel market, which reduced the number of domestic suppliers, resulting in a run-up of pricing and limiting supply.
- The Suez Canal shutdown resulted in global logistical delays coupled with skyrocketing transportation and container cost due to a container imbalance driven by low empty container returns.

IMPACTS: PAST REFLECTIONS, FUTURE RESPONSE

Q2 2021 SUUMARY

- A union strike at other Allegheny Technologies Inc. plants (not related to stainless steel), further reduced the supply of other metal products, increasing cost and lead times.
- The domestic trucking industry, impacted by a shortage of drivers, resulted in material delays.
- Winter storms and hurricanes from Q1 impacted downstream resin and PVC consumers, forcing manufacturers to allocate inventory.
- Glass manufacturers increased prices due to rising cost and shortage of raw material and labor, delay, and cost of logistics.
- Hilti confirmed the discontinuation date for KB-TZ wedge anchors, impacting project design and specs.
- Structural Steel, decking, piping, and joist impacted by severe lead time delays of up to 40 weeks.**
- Insulation delays of up to 21 weeks caused by material and labor shortages, coupled with spikes in demand.

** The lead-time impact notice related to lengthy delays of decking encouraged one of our project teams in Texas to actively secure 380,000 SF of metal decking for a project with a backup plan to procure the material and store it. This decision was crucial to elevate in front of competing interests, ensuring that metal decking material deliveries wouldn't delay the schedule on the project.



Additional RESOURCE MATERIALS

DPR CONSTRUCTION

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

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U.S. Energy Information Administration
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