THE LAST NORMAL DAY:

How Strategic Planning Can Address the Different Realities of the Post-COVID World

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Jay Bowman

In February 2020, Atul Khanzode, a member of Redwood City, California-based DPR Construction's management committee, was wrapping up what would become his last business trip of the year. In a matter of days, the U.S. would quickly shift as Seattle announced the first fatality from COVID-19, and local firms such as Amazon, Microsoft and Facebook pivoted to work-from-home policies.[1] [2]

As the virus spread quickly, California Gov. Gavin Newsome issued a state of emergency on March 4, and by March 16, shelter-in-place orders extended to Boston, New York City, San Francisco and other U.S. cities, triggering shutdowns on construction job sites across the country.

As the U.S. economy halted, many business leaders and government officials struggled to determine which operations had to continue and which would unfortunately be shut down for public safety. DPR, which counts telecommunication, health care and life sciences as three of its core markets, shut down sites as it waited to see if work would be able to continue.

"In the initial stay-at-home orders, there was confusion as to whether construction was considered essential work," recalled Khanzode. Builders at this time had to make huge decisions. "Customers were also trying to figure out what the next steps were and how they and their contractors would manage risk," Khanzode said.

After a short lockdown period, DPR was able to continue work on critical infrastructure jobs while establishing new employee work policies, a strategic task force and new lines of communication with subcontractors.

Nearly a year later, public safety regulations continue to evolve, the virus continues to mutate, and engineering and construction firms continue to fine-tune policies and procedures, with the goal of keeping workers safe and their businesses moving forward.

FMI's research into previous downturns suggests that some sectors will get a boost and be able to capitalize on new opportunities, while others will be threatened. Pandemics historically force societies to reinvent and innovate, and construction and engineering (E&C) firms will need to do the same to compete and win. Here, we talk about the changes brought by the pandemic and how firms can position themselves to be competitive in 2021 and beyond.

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[1] "First Death Due to Novel Coronavirus (COVID-19) in a Resident of King County." Public Health — King & Seattle County. Feb., 29, 2020. Retrieved: December 8, 2020.

[2] "Amazon, Google, Facebook, and Microsoft are asking Seattle-based staff to work from home because of coronavirus." The Verge. March 6, 2020.

FIVE YEARS OF CHANGE, OVERNIGHT

2020 began on a high. In February, construction put-in-place (CPiP) spending hit a pre-pandemic peak of $1.44 trillion, building on years of expansion.[3] As state and local governments shut down nonessential activity during March and April 2020, the country lost 22 million jobs.

"Construction lost 1.1 million jobs, which was half as many as lost in the last downturn over five years," said Ken Simonson, chief economist at the Associated General Contractors of America (AGC). It was a "sharp and calamitous contraction."

The immediate effects of shutdowns were unprecedented: Office buildings and malls were suddenly empty, as stay-at-home orders pushed e-commerce to $1 out of every $5 of retail sales.[4] Demand for warehouse construction and cold storage started to soar, as delivery services like Instacart saw a 500% year-over-year increase in order volume and cold storage vacancies dropped below 10%.[5] Stadiums were populated by cardboard cutouts, with the cancellation of sports events projected by Emsi, a modeling firm[6], to cost $28.6 billion in lost earnings through the end of November. Nationwide, telecommuting policies and unemployment drove population movement. Among respondents to a June survey by Pew Research, 3% said they had moved due to COVID-19.[7] At the end of 2020, mortgage purchase applications had risen year on year for 29 straight weeks, and private residential construction was strong, showing 14.5% year-over-year growth in October, at $637.1 billion in spending.[8]

It was like riding out a monthslong earthquake. Thirty-two percent of respondents to AGC's monthly survey reported canceled projects in June 2020, growing to 75% of respondents by October.[9] In the second quarter, GDP dropped by 31.4% on an annualized basis, only to shoot up 33.1% in the third quarter (on

[3] "Monthly Construction Spending, October 2020." U.S. Census Bureau. December 1, 2020.

[4] "U.S. Ecommerce Sales Jump 37% in Q3." Digital Commerce 360 analysis of U.S. Department of Commerce data. November 19, 2020.

[5] "Cold Storage in the Post-COVID Economy." Jones Lang LaSalle. Fall 2020.

[6] Joe Drape, David W. Chen, Tiffany Hsu. "2020: The Year in Sports When Everybody Lost." New York Times. December 13, 2020.

[7] "About a Fifth of U.S. Adults Moved Due to COVID-19 or Know Someone Who Did." Pew Research. July 6, 2020

[8] "Value of Construction Put in Place Survey." Census Bureau. October 2020.

[9] "Coronavirus Impacts and Implications for U.S. Construction." AGC. December 2, 2020.

a quarter-over-quarter basis, the second quarter decline was closer to 10%).[10] In the background, you had a turbulent presidential election and race to develop a vaccine for a notoriously tricky class of virus. Uncertainty was, and remains, the underlying constant.

Amid an uncertain timeline for distribution of COVID-19 vaccines, and absent clear guidance from the federal government, companies had to act decisively and solve problems themselves.

"WE COULDN'T WAIT FOR A SOLUTION:" SOLID LEADERSHIP AND STRATEGY AS PREDICTORS OF SUCCESS IN A DOWN MARKET

Thornton Tomasetti, the multinational scientific and engineering consulting firm, was early to respond to the rising risk of the novel coronavirus, sending personal protective equipment to the staff of its Shanghai office before implementing a remote-work protocol there. When shutdowns hit North America and Europe, the company quickly pivoted to remote working and developed its own secure contact tracing app to allow employees to note whether they were in office or remote, their health status and any contacts they encountered in the office. Collaborating with Intel, the company also developed GoGuide, a comprehensive technology solution for safe, secure visitor reentry.

> YOU'RE EITHER A DRIVER OF CHANGE OR DRIVEN TO CHANGE. WE ALWAYS CHOOSE THE FORMER.
>
> — Thomas Scarangello
> Executive Chairman
> Thornton Tomasetti

"We couldn't wait for a solution," said executive chairman Thomas Scarangello. The 70-year-old firm operates according to the philosophy that "you can't remain the same when the world is changing," he said. "You're either a driver of change or driven to change. We always choose the former."

2020 marked the beginning of a new five-year plan for the company, and Scarangello said the events of the past year, though unforeseen, didn't derail the plan. "If anything, they revealed some new opportunities."

[10] "Gross Domestic Product, Third Quarter 2020 (Second Estimate)." Bureau of Economic Analysis. November 5, 2020.

Strategic planning had a direct impact on profitability for E&C firms following the Great Recession of 2008, according to FMI's research. Construction companies with higher profit margins during the recession prioritized deep, authentic client relationships; diversification of geographies, segments or services as a hedge against risk; and streamlined operations. A key differentiator was the ability to put strategy into practice. In speaking with more than 150 engineering and construction executives, one of the things FMI heard was that the strategic decisions companies made were mostly the right ones — they just didn't implement them fast enough.[11]

Coming out of the recession, the financial health of a company was tied to its leadership structures. FMI's research into leadership styles through bull markets found a quantitative link between investment in talent and higher profit margins.

"Growth is about people. If you do other things than the financials well, the money will follow," one executive said.[12]

The leadership pipeline was tested again in March 2020. Companies that invested in developing their next crop of leaders were able to adapt quickly, rolling out new processes and communication protocols to keep jobs operational and identify client needs.

Seeking to better anticipate shifts in its diverse and growing market sectors, Thornton Tomasetti moved to broader-based leadership teams in 2019. Those who stepped into new roles were "forged under fire" by the challenges of 2020, said Scarangello. "We tend to promote from within, so the depth of industry and institutional experience of our rising leaders, as well as the support from existing leaders, positions us to succeed in this moment and thrive in the future."

[11] "Leading Through Business Cycles: Lessons Learned From E&C Executives/2020 Leadership and Strategy Survey." FMI Corporation. 2020.

[12] Rusty Sherwood, Sara Tsahakis and Emily Livorsi. "A Detailed Look at E&C Leadership Styles During a Bull Market." FMI Quarterly. September 2, 2019.

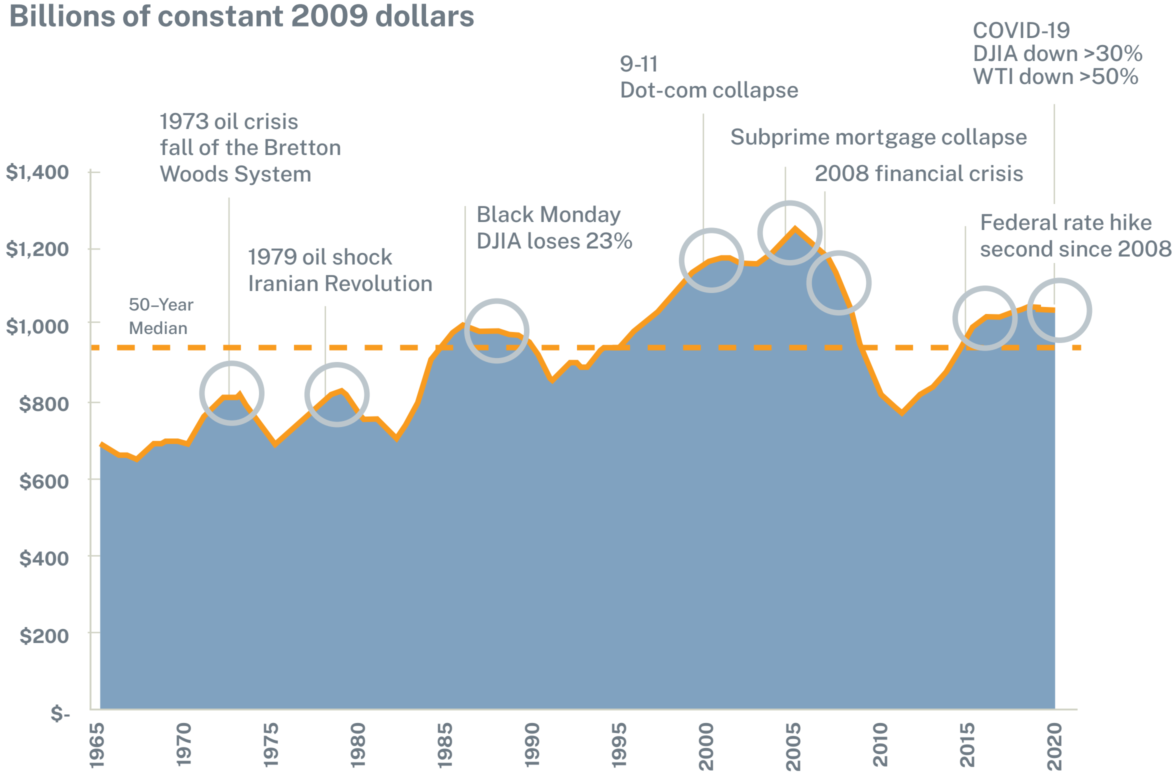
NO SUCH THING AS "BUSINESS AS USUAL": THE GREAT DISRUPTION AND ITS IMPACTS ON INDUSTRY SECTORS

While the economic picture we have of the Great Recession is of a precipitous dip in activity (Figure 1), FMI's data tells a more complex story. Of the 19 industries tracked, eight saw significant expansion between 2006 and 2011. Power construction grew by more than 85%.

FIGURE 1.

THE IMPACTS OF THE 2020 RECESSION ARE YET TO PLAY OUT IN THE E&C INDUSTRY

Total Construction Spending Put In Place (U.S.)
Billions of constant 2009 dollars



Source: Yahoo Finance

The difference between sector performance is even more pronounced now. FMI estimates construction won't fully feel the effects of the recession for at least another year. Looking at the changes in CPiP from February 2020 to October 2020, mass transit spending looks to be up 18% or 19%, but "of course, that's one of the sectors of the economy that has been the most devastated," said AGC's Simonson. Those types of projects take years to spend out and won't bounce back as quickly as sectors with shorter project cycles.

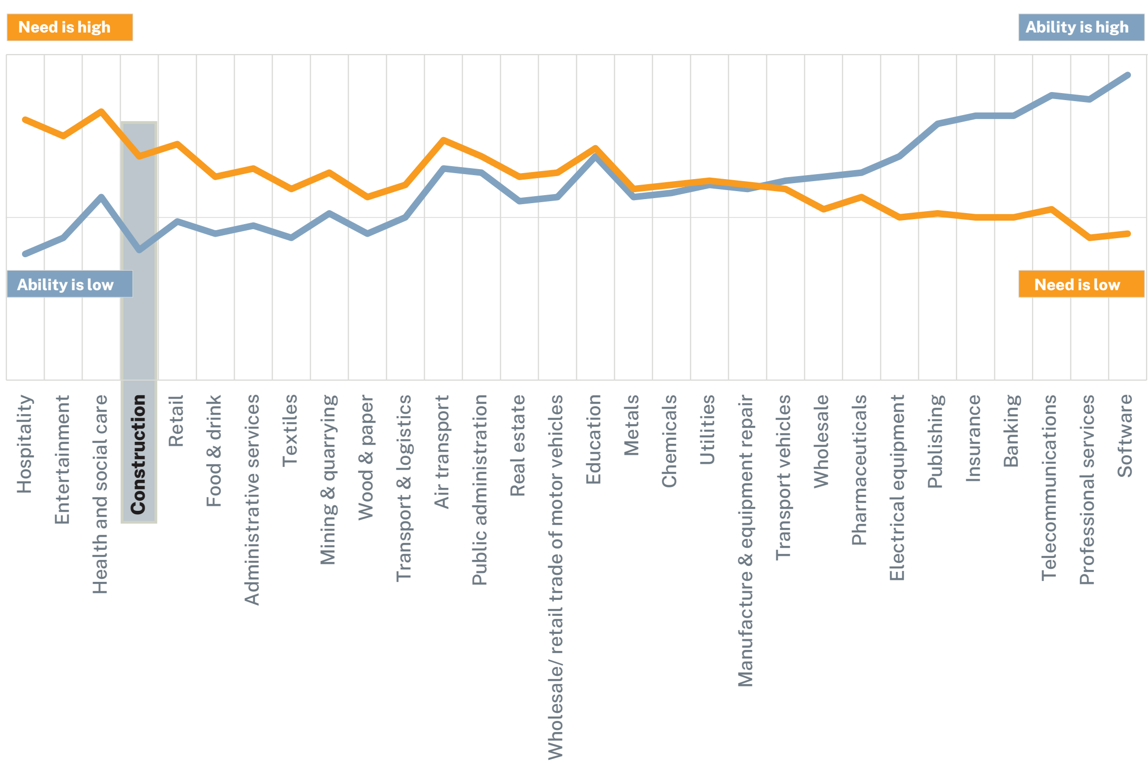
The ability for sectors to return depends on how firms pivot to a remote world (see Figure 2, winners include banking, telecom and software). Firms will also need to innovate to capture new customers and keep the ones they have as behavior shifts.

FIGURE 2.

SECTOR RECOVERIES WILL DEPEND ON SUSCEPTIBILITY TO THE VIRUS AND ABILITY TO WORK REMOTELY

U.S. Market Outlook

Some occupations and businesses can adapt readily to remote working; in others, the work location is fixed and cannot adapt easily



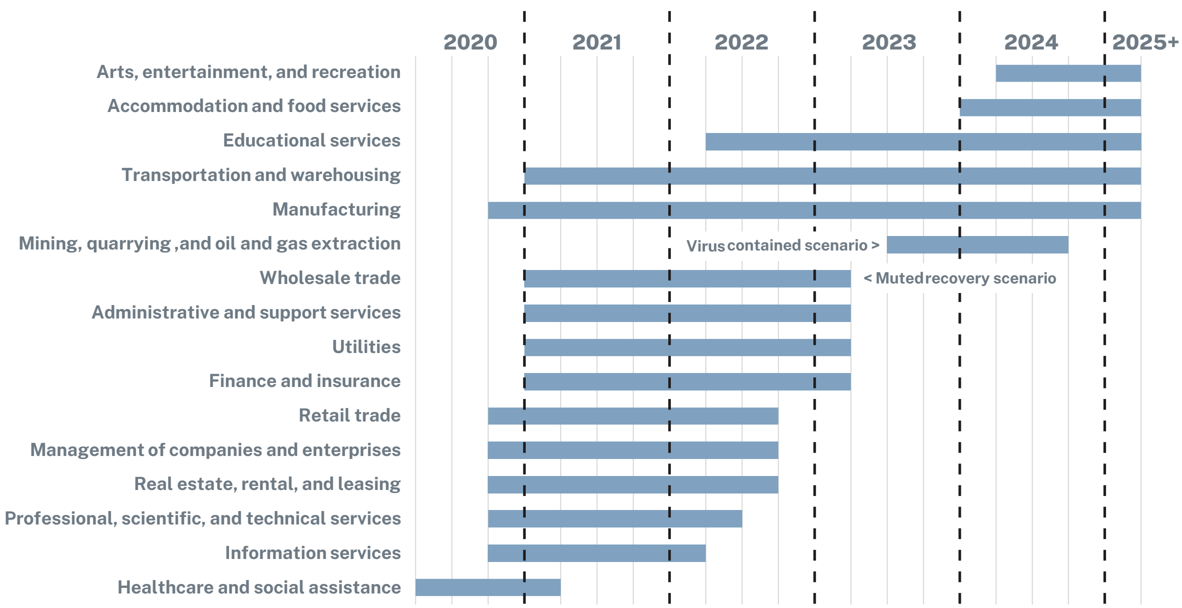
Source: Eurostat, LabourCube, U.S. Bureau of Labor Statistics, McKinsey

In many ways, 2020 was an engineering, logistics and operational challenge. The U.S. had to find capacity to test more than 200 million people, solve medical supply chain problems, set up field hospitals and conduct education remotely across the country, as well as develop, test and transport a COVID-19 vaccine at subzero temperatures. Many of the early winners are innovators who provided solutions to pandemic-related problems, like players in cold storage and cold-chain logistics who saw millions of dollars pour in from investors.[13] (Of existing cold-storage facilities, 78.2% were constructed prior to 2000 and may need replacing, according to research by the property investment company Jones Lang LaSalle.)

FIGURE 3.
RECOVERY TIMELINESS FOR CONSTRUCTION SECTORS VARIES

U.S. Market Outlook

It could take more than five years for the most affected sectors to get back to 2019-level contributions to GDP



Source: Oxford Economics, McKinsey

[13] Kate Kelly. "Critical to Vaccines, Cold Storage Is Wall Street's Shiny New Thing." New York Times. December 15, 2020.

It’s important to drill down into the data on sector performance. Some of the biggest opportunities are in subsectors lumped into legacy categories that were devised to capture the construction industry of the 1960s. Cold storage is categorized by the U.S. Census Bureau as part of the warehouse sector, while data centers — another area of massive demand in a digital-first world — fall under the office sector. This dates to the 1960s, when “data centers” were just a “bunch of mainframe computers cranking away” in a designated room in an office building, according to Simonson. In other words, the data might understate the opportunity in some subsectors, and the biggest sector in five years’ time might not even have a name yet.

Owners certainly don’t view the world through legacy categories. The line between design, construction and operations has blurred in terms of the building life cycle and asset life cycle, according to Scarangello. “We saw it coming, but I think [2020 has] accelerated that process. We see growing client interest in resilience, sustainability, healthy buildings and larger issues of carbon footprint.”

KEY OPPORTUNITIES

Data centers: Massive market segment, with emerging need in edge facilities. Potential innovation in a catalog approach, offering design variations on HVAC and power systems as well as types of electrical rooms.

Cold storage: Biologic drugs, pharmaceuticals (including COVID-19 vaccines), and next-day and home-food delivery have pushed this market into a golden age, but facilities are complex to develop. Aging infrastructure may need replacing.

Warehousing: No slowdown; ongoing expansion in years ahead. Intelligent transit systems: Emerging opportunity as governments look to electronic tolling as a source of revenue, with ability to manipulate tolls according to need.

Retail and office: Opportunities as facilities need reconfiguration to reopen and retailers focus on experiential design.

Wind: Sector set to double in size. The cost per megawatt has declined from $1.5 million to under $700,000, which will impact margins.

Health care: Elective surgeries postponed in 2020; sector could return in 2021.

Manufacturing: The life sciences segment is predicted to expand rapidly with push to reshore vaccines, drugs and diagnostics.

WHERE WERE YOU WHEN IT HAPPENED?
GEOGRAPHIC DIVERSIFICATION AHEAD OF NEW PUBLIC AND PRIVATE INVESTMENT

One great quirk of COVID-19 was that it looked different depending on where you were: On the ground in Florida, there was no mask mandate, and businesses were open, while in New York, retail and hospitality were shuttered and the subways ran on a reduced schedule as people avoided the enclosed cars. Geography becomes a key characteristic of the market moving forward, rewarding companies that can successfully diversify across regions as a multispeed recovery takes place.

We believe this recovery will be driven in part by significant public infrastructure investment. The Biden administration is likely to make economic recovery and action on climate change pillars of its agenda. Both areas portend massive spending in public infrastructure, whether it's renewables and energy or investment in the crumbling transportation sector, though the dynamics will vary by state.

FMI mapped state-by-state economic recovery projections by looking at each state's fiscal condition going into the pandemic and policy response to the pandemic (Figure 4). Utah, Iowa, Arkansas and Georgia were identified as low-risk and high-resilience markets, while Colorado and Illinois were identified as high-risk and low-resilience regions.

Interstate corridors are a hot spot for growth, driven by ongoing urbanization, with cascading effects as infrastructure grows. We could see certain geographic markets — take the I-35 corridor between Austin and San Antonio or the I-85 and I-77 spokes running south and southeast out of Charlotte, North Carolina, — accounting for an increasingly large share of development in the next 10 years (see Figure 5).

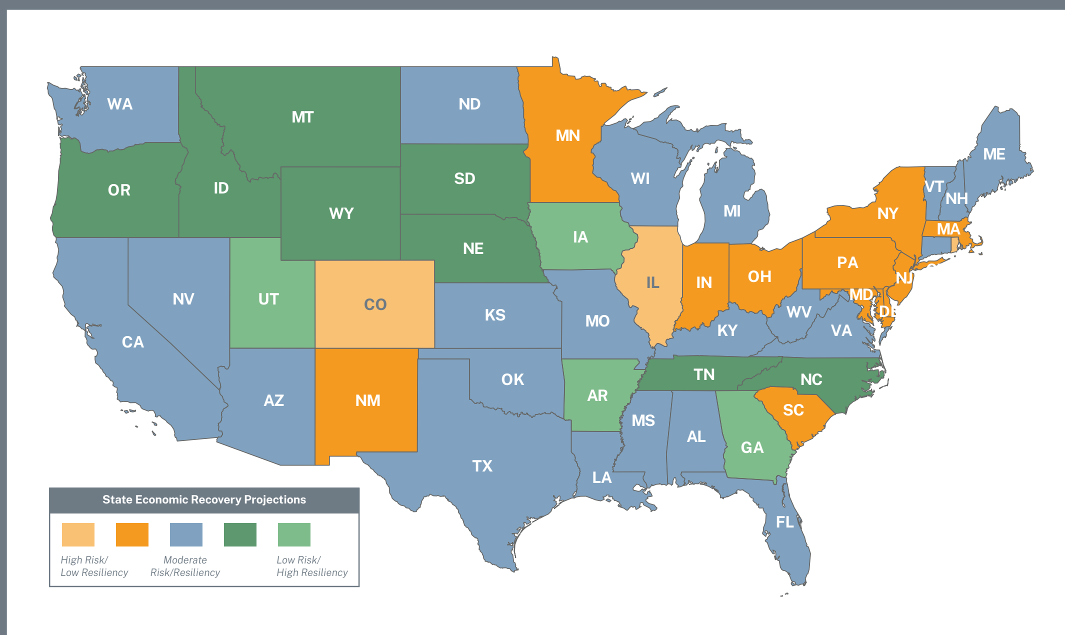
Uncertainty and disruption provide an opportunity for those willing to take some risks; but as bidders go after projects, they need to think about how owners will evaluate one provider against another. Leaders need to ask: Does our value proposition resonate with these people? What's our state of readiness to pursue this type of work? Do we have existing relationships we can leverage?

FIGURE 4.

RISK PROFILES ACROSS THE UNITED STATES

U.S. Market Outlook

The Northeast and Midwest are challenged to have a strong recovery.



Source: The Council of State Governments Special Report: COVID-19: Fiscal Impact to States and Strategies for Recovery; FMI, As of August 7, 2020.

The challenges facing the U.S. in 2021 are immense, and those who can offer innovative solutions have a huge opportunity.

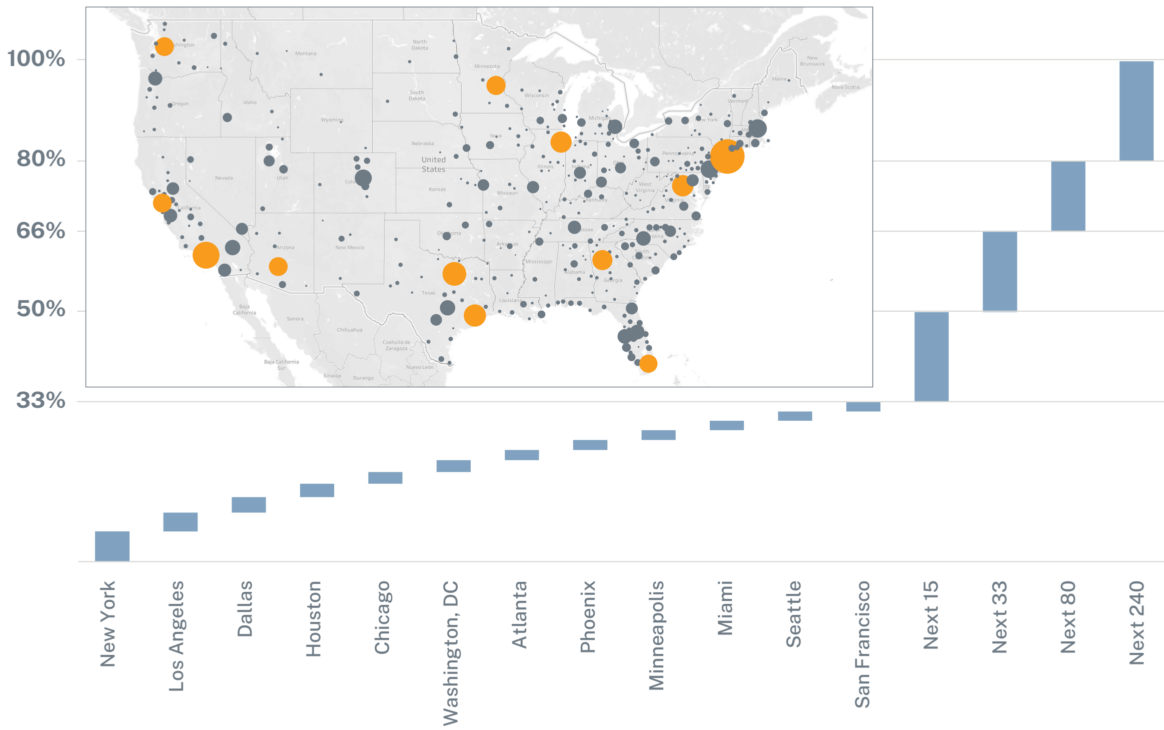
December brought the first doses of Pfizer and BioNTech's COVID-19 vaccine as well as a new shutdown order for California, where DPR is headquartered. This time DPR kept all its job sites open. Reflecting on a longer than expected crisis and how strategic planning played a role, Khanzode said that proactive efforts and innovations gave DPR the ability to deliver for its clients. "Those early strategic conversations set us up to protect the health and welfare of our team for months to come," he said.

FIGURE 5.

MARKET SHARE WILL SHIFT ACROSS GEOGRAPHIES

U.S. Market Outlook

20% of metropolitan markets represent 70% of total U.S. construction spending.
Distribution of construction spending by MSA.



Source: FMI

KEY UNKNOWNS

Federal programs under Biden administration:

- Possible push for reshoring could mean a boom in manufacturing/tech/medical sectors.
- Climate action would mean funds for large-scale civil projects like renewables.
- Potential economic stimulus could come in the form of massive public works in horizontal construction space.

Shape of economic recovery:

- Activity dependent on "if and when" consumer behavior supports a return to restaurants, retail and hotels.
- Containment of virus determines industry return to pre-pandemic activity levels.
- Where is the funding going to come from for infrastructure (a potential gas tax), higher education (tuition is projected to drop) and other projects?

THE GREAT REBUILDING: NOW IS THE TIME TO PLAN

If anything, forced shutdowns disrupted the usual market forces and rewarded strategic thinkers. Necessity drives innovation, and project owners are increasingly going to reward a consultative approach that solves their many needs. As E&C companies look to 2021 and 2022, trade wars, coronavirus vaccines, the incoming Biden administration and other uncertainties will all play a role in how they plan for the future. Anticipating 2014-level spending in the industry, companies will see real growth opportunities in the months and years ahead, with double-digit growth in certain types of spending.

The story in 2021 is anything but fixed. Paradigmatic shifts in how we live, work and recreate are still underway, with tomorrow's landscape dependent in part on the vision of those designing and building it.

Jay Bowman is a principal with FMI. Jay Bowman assists a broad range of stakeholders in the construction industry, from program managers and general contractors to specialty trades and materials producers, with the identification and assessment of the risks influencing the strategic and tactical decisions they face. He can be reached at ***jbowman@fminet.com*****.**

ABOUT FMI

FMI is the leading provider of consulting and investment banking to the built environment. We provide services in the areas of strategy, leadership and organizational development, performance, technology and innovation, mergers and acquisitions, financial advisory and private equity financing.

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