Breaking Ground

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA

MAY/JUNE 2021

MEGA PROJECT UPDATE

PIT Terminal Modernization Program

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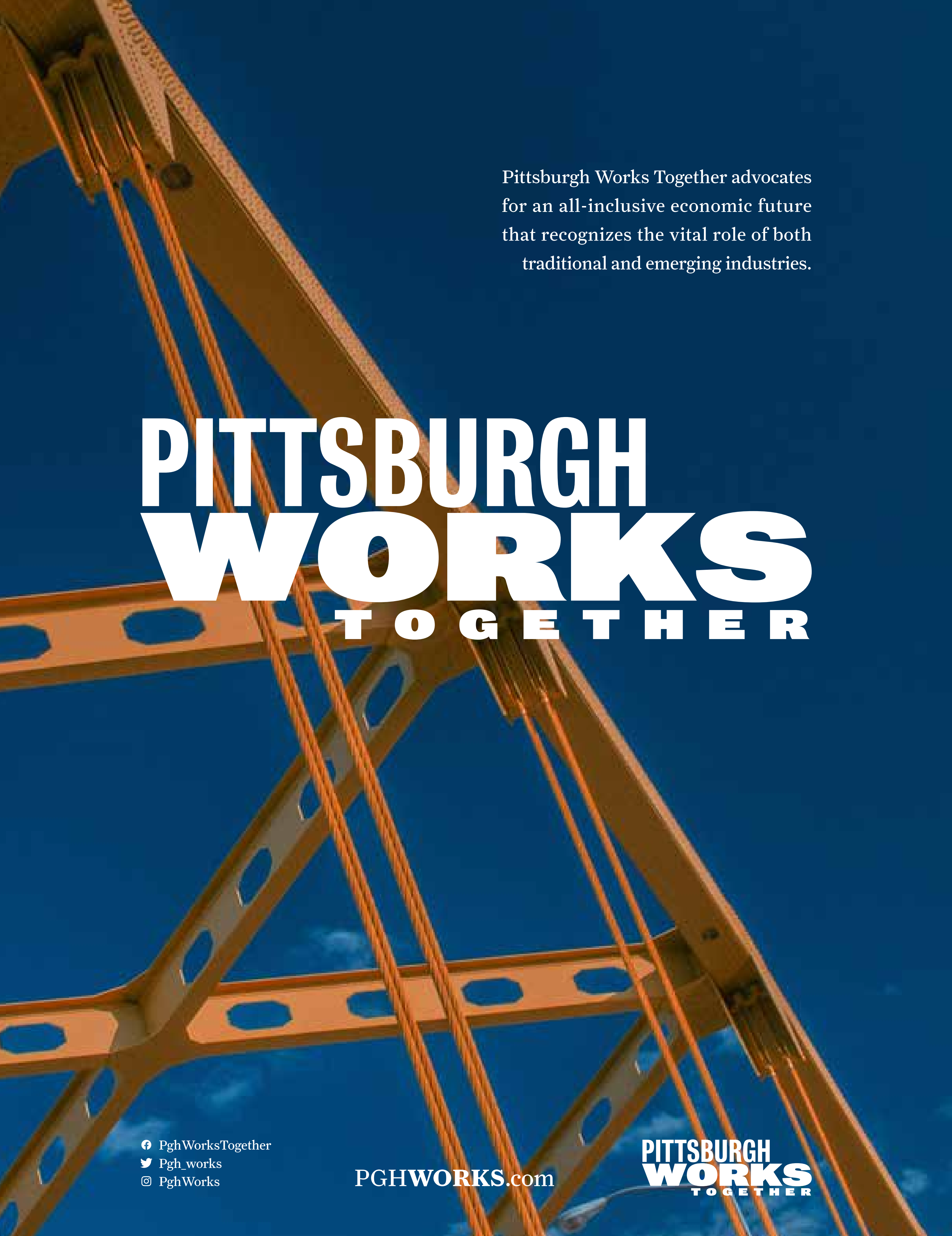

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Contents

PUBLISHER
Tall Timber Group
www.talltimbergroup.com

EDITOR
Jeff Burd
412-366-1857
jburd@talltimbergroup.com

PRODUCTION
Carson Publishing, Inc.
Kevin J. Gordon

ART DIRECTOR
Carson Publishing, Inc.

GRAPHIC DESIGN
321Blink

CONTRIBUTING EDITOR
Anna Burd

CONTRIBUTING PHOTOGRAPHY
UPMC
Gensler
Rycon Construction Inc.
Allegheny County Airport Authority
Master Builders' Association

ADVERTISING DIRECTOR
Karen Kukish
412-837-6971
kkukish@talltimbergroup.com

MORE INFORMATION:
BreakingGround™ is published by Tall Timber Group for the Master Builders' Association of Western Pennsylvania, 412-922-3912 or www.mbawpa.org

Archive copies of BreakingGround™ can be viewed at www.mbawpa.org

On the cover: Pittsburgh International Airport Terminal Modernization Program. Image courtesy Gensler + HDR + Luis Vidal + architects.

PUBLISHER'S NOTE

I'm not an anxious person but I experience a kind of anxiety that is close to what is referred to as "fear of missing out" or FOMO. It's not the FOMO of missing out on the big sale or being the only one not going to the Springsteen concert. My peculiar anxiety might be best described as "fear of being late to the party."

In college I discovered this phenomenon would occur as I neared the house where a party was being held. As I got within a block or so, especially if I could hear the music playing or see people hanging outside, I would have this (almost) uncontrollable urge to run the last 100 yards. The feeling passed quickly, of course, but I have identified that feeling many times over the years as I neared the place or event I had been anticipating.

I'm having that feeling on an intellectual level right now about how things are going to unfold in Pittsburgh over the next few years.

With apologies to Alan Greenspan, there is a rational exuberance about the American economy at the moment. Even as polarized groups of our citizens squabble about masks and vaccines, millions of Americans are being vaccinated each day. That's leading us closer to the day we can return to normal activities. And, while partisans bicker about the need for and magnitude of government aid, millions of households and businesses are using that aid to survive and invest again. A setback is certainly possible, but it appears more likely each day that our economy will be booming by the time the summer is over. It feels like Pittsburgh may be late to that party.

In 2011, Pittsburgh became one of the first three cities to recover to its pre-recession employment level, almost three years before the nation as a whole did. A repeat of that seems like a long shot. With the gift of hindsight, we can see that the great recovery of a decade ago had less to do with our transformed economy than it did a boom in the natural gas industry. That trick will not be repeated in 2021.

So, what will lead the economy forward this time? I still believe our emerging technologies will employ hundreds of thousands of people by the end of the decade, but they are still emerging. Hospitals and universities are foundational to Pittsburgh's economy, but neither sector is growing fast enough to add 90,000 jobs any time soon. Financial services fared best of all sectors during the pandemic, but those companies are not adding headcount for the long term. Construction will certainly see an upswing in the coming months, but there simply aren't enough people working in construction, even at full employment. Recovering to 1.2 million jobs is going to require organic growth, which will take time, or attracting new people and jobs. That's where my FOMO comes from. I'm not sure Pittsburgh is going to get out of its own way and recovery will mean status quo instead of increased opportunity.

Some of the getting in our own way is not something any leader from Western PA can prevent. Pennsylvania's politics are beginning to look a lot like America's. The state has two large cities and its legislature is being led by elected officials who live in between those two cities. The problems Pittsburgh faces don't have the same solutions as those facing Altoona or York. There isn't the political will to face reality and there are some grim realities to face.

Pennsylvania's corporate tax rate is highly uncompetitive. Full stop. You can only imagine how many site searches that include Pittsburgh never get past the 9.99 percent tax rate. The roads and bridges in PA are deteriorating and the revenue needed to replace them is declining. Democrats and Republicans have staked out positions that are irreconcilable, yet the infrastructure will not stop crumbling because they can't agree. The same is true for our growing public pension deficit. Arguing about whether or not you need an umbrella won't keep you dry when it's raining.

Leaders in Pittsburgh have demonstrated a greater willingness to be clear-eyed about the region's prospects than our leaders in Harrisburg, but I fear that the perceived successes of the "Imagine Pittsburgh" era have left our vision clouded. I get worried when I hear regional leaders talk about the perceived competitive advantages – like lower cost of housing or how safe it was here during the pandemic – that don't seem to be resonating with job seekers.

Is there nothing more tangible that can be put on the table to entice new residents? Maybe there's too little within local control to move the needle. Perhaps the question should be, what are the other cities doing that we are not?

For example, the future of Pittsburgh's economy rests significantly on emerging technologies. Smart people feel like the pandemic was a tipping point in the movement of tech talent from Silicon Valley to other cities. That could be correct but thus far Pittsburgh isn't one of those cities. CompTIA, an IT trade association, recently reported on the rapid increase in hiring of tech workers outside Silicon Valley. The report mentioned 15 cities scaling up tech hiring at a rapid pace. Pittsburgh was not one of them.

If we're not attracting tech workers, perhaps we are not in a position to be as selective about what industries we support. As we went to press for this edition, one of the mega projects we write about – the U.S. Steel Mon Valley Works – was cancelled. There are global business factors that scuttled the project, but U.S. Steel was also put through the ringer with its permitting and approvals. Its CEO cited the unfriendly business environment in Pennsylvania, noting that a competitor announced and built a new mill in another state during the time the Mon Valley Works waited for its permit. Do you think the natural gas industry would describe the region as business-friendly right now? How about a developer trying to get a project entitled at DEP or Pittsburgh Planning Commission?

Economic prosperity for all requires jobs. For the foreseeable future in Western PA, that also means jobs for people who are not creating algorithms or splicing genes. Employers who are hiring people without college degrees are saying loud and clear that it is too difficult to do business in Western PA. It's time to get attractive again. It's time to get out of our own way. If the leaders of this region are not feeling a bit of FOMO, it's time they did.

Jeff Burd


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REGIONAL MARKET UPDATE

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As Southwestern PA races past the 50 percent vaccinated level, the most critical measure of the health of the regional economy is total employment. With most restrictions lifted, consumers and businesses are resuming more normal activities as confidence that herd immunity from COVID-19 approaches. What remains for recovery from the pandemic that landed in Pittsburgh last spring is the return to work.

Through March's data, Pittsburgh is lagging the U.S. employment recovery pace, at least as measured by unemployment. Unemployment in the seven-county Pittsburgh metropolitan area was 7.5 percent in March. What remains unknown at this point is whether Pittsburgh's unemployment rate is stubbornly higher or if the lower workforce participation is permanent. More simply put, Pittsburgh's unemployment level might be significantly higher because fewer people are in the workforce. If that's the case, economic growth will be tougher to achieve.

The total number employed in non-farm work neared 1.1 million in March. That's 83,000 fewer people employed than in March 2020 and 106,000 fewer than the October 2019 employment peak. But the workforce shrank by 48,000 during the same period. If those workers have not left the labor pool permanently, it means that the real unemployment rate is 11.1 percent. The most recent month for which there is data – February – was encouraging, with the workforce growing 1.2 percent. Year-over-year comparisons will be mostly favorable throughout the balance of 2021; however, the top line data on total employment and workforce participation will be the best indicators of how robust the regional economy is.

As with all aspects of the economy, recovery is unequal in the varying sectors of construction. The most uneven sector is commercial construction, which reflects the employment situation most directly.

Office occupancy has the most direct relationship to employment, especially in a market like Pittsburgh, where white collar employment makes up the largest share. Work from home has somewhat obscured the long-term trend in lower office occupancy, which is a result of downsizing old economy tenants offsetting the gains from emerging technology companies. This root cause of higher vacancy manifests itself in the disparity of occupancy levels from submarket to submarket. While the secular trend keeps vacancy higher in the Downtown, East Corridor, and North Hills, areas like Oakland, Lawrenceville, and the Strip District – where the growth sectors are centered – have a shortage of space.

Rents in those robust submarkets are considerably higher than the average rent, which has helped push the average office rent in Pittsburgh higher. According to Newmark, the average office rent in the first quarter was $24.46 per square foot, an increase of 1.6 percent year-over-year. CBRE reported average rent at $23.92, up slightly from the fourth quarter. JLL reported slightly higher average asking rent - $26.01 per square foot – but that rate was slightly lower than the previous quarter and year. The stability of the rents, and values relative to other cities, have kept demand for Pittsburgh office properties stable. Rise Pittsburgh reported that the total asset value of office properties in metropolitan Pittsburgh increased from $17.2 billion to $17.5 billion during the first quarter.

The principal problem facing Pittsburgh's office market, beyond the uncertain demand for space post-pandemic, is the amount of office space for sublease. Downsizing by legacy Pittsburgh employers like BNY Mellon, Westinghouse, and Kraft Heinz put 1.65 million square feet of space available in the market for sublease, at rents that are approximately $2 per square foot lower than the market rate.

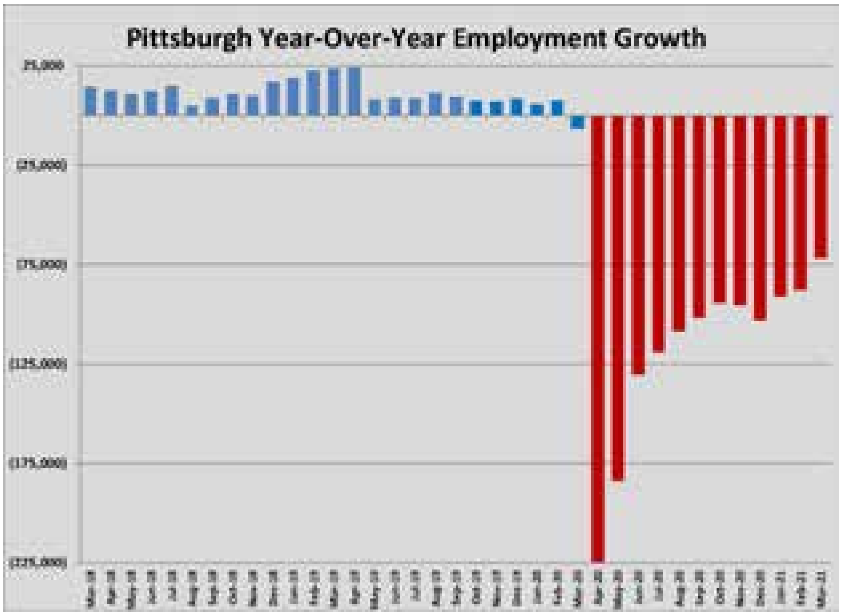
Construction of office space has slowed as absorption was negative by 250,000 square feet last quarter and more than 600,000 square feet for the full year of 2020. These fundamentals will be a drag on office construction through 2022.

At the opposite end of the spectrum is the industrial market, which was strong prior to the pandemic and was bolstered by the sharp increase in online shopping. Demand for space continued to outstrip supply in the first quarter; however, construction of speculative industrial property was mostly for build-to-suit tenants. Pittsburgh's topography and extended entitlement process remain barriers to large-scale industrial development. Relative to recent history, there is more spec warehouse product in the development pipeline, proposed mostly by merchant developers from outside Pittsburgh.

Number of Listings

	January	February
2017	10,623	10,347
2018	9,279	8,908
2019	9,705	8,351
2020	7,591	7,185
2021	3,627	3,289

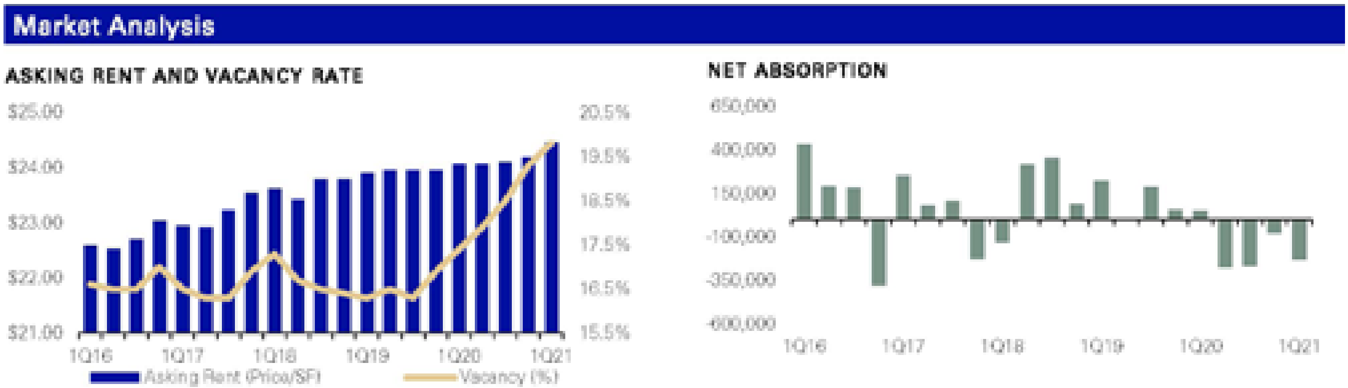
The total number of homes for sale in Western PA fell in February by more than two-thirds compared to the February 2017. Source: West Penn Multi-list Services, Howard Hanna Real Estate Services.



Total non-farm employment remains more than 83,000 lower than in March 2020. Source: Bureau of Labor Statistics, Pittsburgh Today.

According to Newmark, the industrial vacancy rate dipped below six percent in the first quarter, even though the total industrial inventory increased by two million square feet year-over-year. Roughly two million square feet of industrial space is under construction as of April 1, although less than half that space is available for lease. It's likely that much of the available space is committed without formal lease announcements.

The two commercial categories hit hardest by the pandemic – hospitality and retail – have begun to see recovery in fundamental metrics as vaccines roll out, but those property types have a way to go before becoming healthy. Prior to the pandemic, there were few retail or hotel projects in the pipeline in Western PA, so the decline in the sectors has been less of a drag on the construction market than other sectors. Anecdotes from restaurant designers suggest that the food service industry is poised to rebound sharply after the community spread subsides. Experts in the restaurant market expect the businesses lost in Pittsburgh to be replaced within 15-to-18 months. The one major hotel project in the pipeline, the Rivers Casino Hotel, is expected to get underway by June 1.

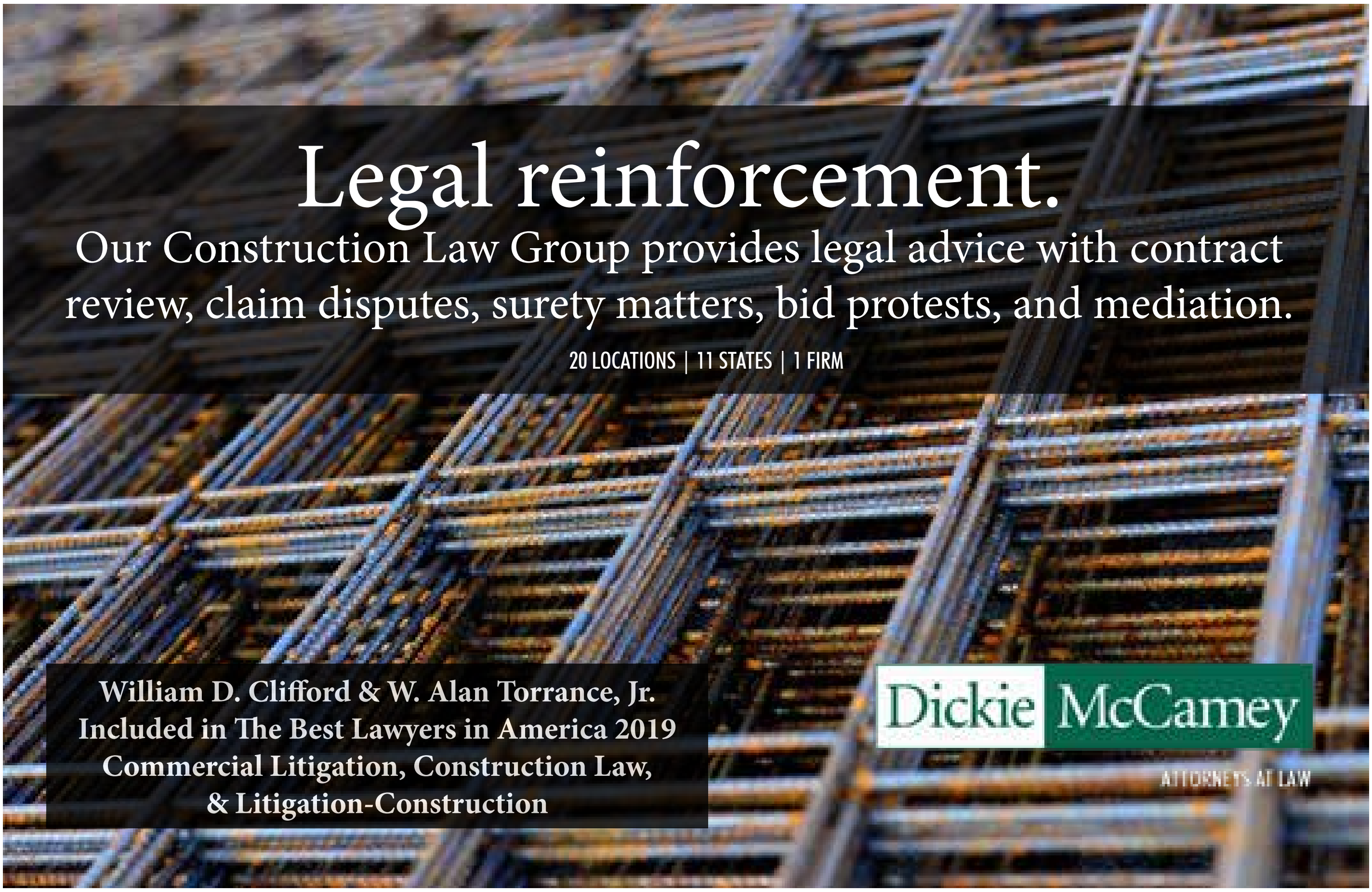


Source: Newmark Knight Frank

NEWMARK

Institutional construction in Western PA is being driven by divergent trends. Healthcare construction has increased markedly because the major hospital systems and insurers weathered the pandemic well and see increasing demand. Educational construction continues to have fewer opportunities because of reduced funding and long-term demographic challenges; however, the Pittsburgh market is fortunate to have several institutions within its geographic footprint that are investing in their facilities.

As the pandemic eases, plans for major institutional projects have been re-booted (see page 22.) The two major healthcare systems have also had dozens of projects, ranging from $100,000 to several million dollars, out to bid since February. The rebound in enrollment has given universities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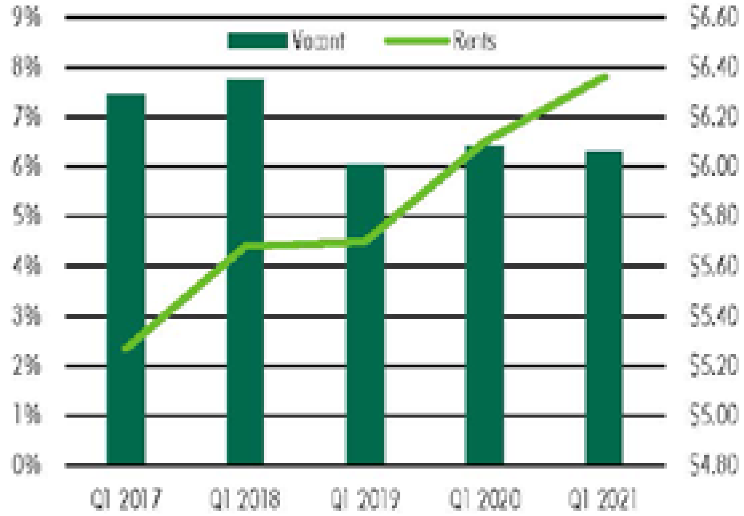
the breathing room to do their normal summer break renovation and modernization projects, many of which did not happen last year. Assuming there is no relapse of the pandemic in the fall, higher education construction in metro Pittsburgh should be stronger than usual going into 2022.

The housing market continues to be supported by an extreme imbalance between the number of buyers and the inventory of homes for sale. Howard "Hoddy" Hanna, Chairman of Howard Hanna Real Estate Services reported that the inventory of existing and new homes for sale in Western PA fell to six weeks supply in February. Hanna noted that a three-month supply is normal for a strong, well-functioning market. The abrupt decline in supply – listings were less than half of the inventory one year earlier – drove double-digit increases in the average price of a home.



Pittsburgh's industrial market saw higher rents and low vacancy rates through the first quarter of 2021. Source: CBRE.

These unusual market dynamics have driven more residential subdivision development since 2019. Increased lot inventory has raised the expectations that new single-family construction may finally return to the 3,000 homes per year levels last seen in 2006. Hanna, speaking to the March 30 Pittsburgh Economics Club, predicted that new construction would leap by more than 15 percent in 2021.

Hanna's forecast has been borne out through the first quarter of 2021. In the six-county Pittsburgh metropolitan market, construction of new single-family homes increased by 23.6 percent, with 854 new homes underway. There were 647 apartment units started in the first quarter, an increase of 119 units compared to the same period in 2020. Overall, housing permits jumped 23.1 percent year-over-year. The imbalance in supply and demand led to a greater increase in the construction costs year-over-year. Compared to the first quarter of 2020, construction costs soared 52 percent, or $141.2 million. Unprecedented increases in the cost of lumber, steel, plywood, and gasoline drove costs higher. The higher residential construction investment was also a by-product of the unusual level of demand, as contractors chose to build larger homes to capitalize on the booming market.

It is worth noting that even with the increasing supply in new construction, the inventory of homes for sale is unlikely to grow nearly enough to cool off the market in 2021 or 2022. If the economy returns to pre-pandemic employment levels over the next 12 months, demand for new housing will increase. These conditions will keep demand for apartments strong, even as surveys show that more apartment dwellers intend to become buyers in the next 12-to-24 months. New construction of apartments in Pittsburgh will top 2,000 units again in 2021.

Nonresidential/commercial construction saw a similar level of growth during the first quarter, a surprise given that most of the first quarter of 2020 was unaffected by COVID-19. Through March 31 construction starts totaled $1.39 billion, including the work put in place at the Shell cracker site, an increase of 22.6 percent over the first quarter of last year. Excluding the impact of the Shell project, permits for new construction during the first quarter of 2021 totaled $152 million more than a year earlier. The markedly higher first quarter activity follows a strong fourth quarter 2020.

Indications from architects and engineers are that the demand for design services and land development has increased as briskly as starts. Firms report much higher billings. Few are not hiring additional staff to keep up with workload and most expect that the surge will not taper off after spring.

Assuming the vaccine supply will outstrip demand by Memorial Day, as expected even with the pause in the Jansen/Johnson & Johnson vaccine, business activity should increase further through the third and fourth quarters of 2021. What lingers as the potential drag on the construction market is material inflation and a disrupted supply chain, which are intertwined as influences. Manufacturing capacity is building quickly ahead of the full economic recovery. How quickly that capacity translates into replenished distribution channels will determine how quickly pricing of key materials returns to pre-pandemic cyclical levels. Most companies in the supply chain expect that to occur sometime in the third quarter, but not before. In cold weather markets, like Pittsburgh, the activity level in 2021 may depend on whether that normalization occurs in July or September. With a pipeline bursting at the seams, most of the post-pandemic construction leans towards 2022. BG

NATIONAL MARKET UPDATE

Through April, all signs of the recovery from the COVID-19 pandemic suggest that the U.S. economy is on a path to growth in gross domestic product (GDP) that has not been seen since 1946. The American Rescue Plan (ARP), in combination with the effects of the CARES Act from 2020, is thus far achieving the goals of providing the final bridge to recovery for consumers and businesses. Economic stimulus, in the form of $2,000 in direct payments to most households since the New Year, has already driven spending, hiring, and planned business investment. Unemployment claims have finally fallen through the floor that had persisted since summer 2020, setting the stage for a recovery in the labor market that should begin the robust economic expansion later this year.

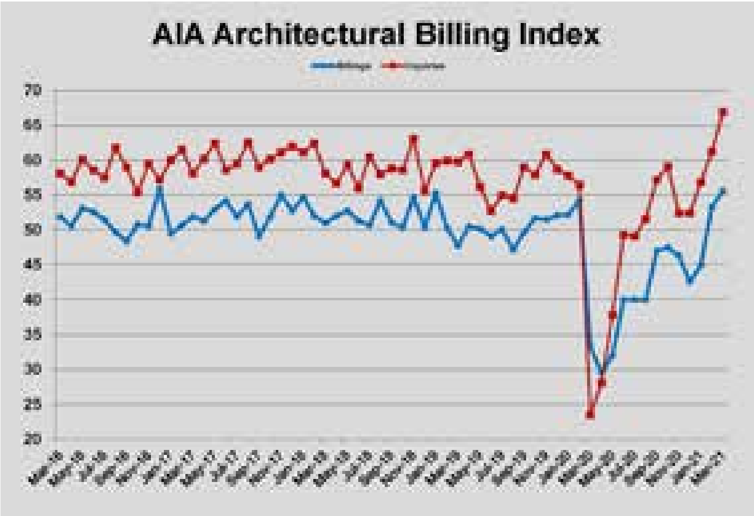
There are wild cards in the deck for the labor market, not the least of which is the continuing pandemic. Assuming the pace of vaccinations does allow the U.S. to reach 75 percent immunity by summer, however, the outlook for roaring demand suggests that hiring will maintain a robust recovery through the balance of 2021. Throughout most of the pandemic, a variety of metrics have pointed to the mixed impact of the virus, with workers in the sectors hardest hit bearing most of the brunt of unemployment while the remaining sectors saw little change.

One data point that supports that theory is the quits rate. Part of the Bureau of Labor Statistics Job Openings and Labor Turnover Survey (JOLTS), the quit rate measures the share of the workforce voluntarily leaving jobs, presumably for another position. The quit rate falls as the economy slows, as employees are more reluctant to risk changing jobs. Prior to the pandemic-induced layoffs, the quit rate remained steady at 2.2 to 2.4 percent. That contrasted with the summer and fall of 2009, when the rate remained 1.3 percent or below. In April 2020, the quit rate bottomed out at 1.6 percent, rebounding to 2.3 percent in July. That it remains high is an indication that the portion of the workforce that has the best opportunity for changing positions is optimistic about the economy.

Through mid-April, employers were beginning to lay fewer workers off. The weekly initial claims for unemployment declined to 586,000 and 547,000 during the first two weeks of April, levels that were 52-week lows each. The number of persons making continuing unemployment compensation claims also fell, declining to 3.67 million. The total number of claims for all unemployment insurance claims remained 4.9 million higher than the same week in April 2020.

Declining layoffs suggest that May's new hiring will be on pace, or higher, than the strong April employment numbers. Most states have eased restrictions on businesses open to the public, setting the table for higher labor demand. For an employment recovery to boom the pace of hiring will need to accelerate, moving closer to 1.5 million jobs monthly to recover to pre-pandemic levels of employment over the next 12 months.

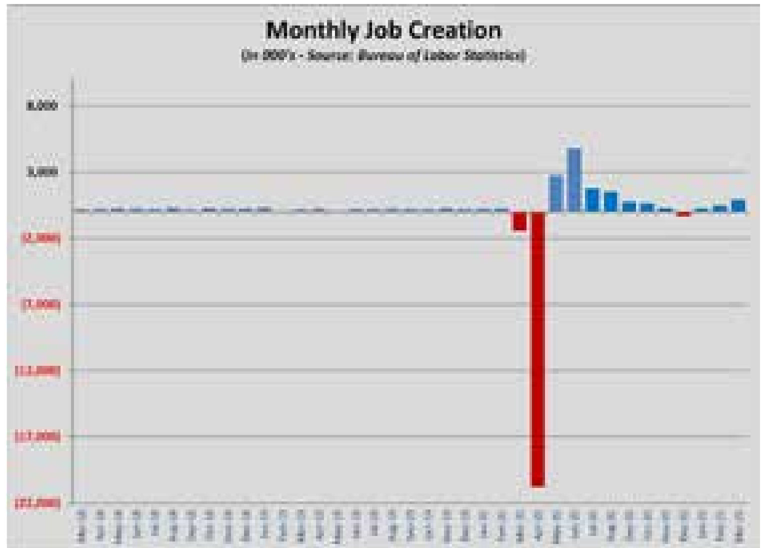
Hiring in March moved towards that accelerated pace. The Employment Situation Summary issued by the Census Bureau on April 2 showed that employers added 916,000 to their payrolls in March and that February's gains were higher than originally reported. The economy added 468,000 jobs in February. Among the details of the March survey, employment at eating and drinking places gained 176,000 jobs; arts, entertainment, and recreation added 64,000 jobs; and hotels added 40,000 workers. Almost 500,000 women returned to the workforce in March, a reversal of the trend since the COVID-19 outbreak.



The American Rescue Plan was signed into law on March 11. In addition to the direct payments to households, ARP contains several other provisions that should prove helpful to construction and real estate. Households that have suffered unemployment directly as a result of the pandemic will be eligible to receive part of $21.55 billion in assistance, which should help reduce evictions and foreclosures. ARP includes $26.1 billion for mass transit, which will help support commercial real estate in major cities. State and local governments will receive $350 billion in aid, with another $130 billion going to support school districts.

President Biden's infrastructure proposal, the American Jobs Plan, would invest $2.65 billion in America's transportation systems, electrical grid, broadband, and clean water infrastructure, as well as in healthcare, housing, and manufacturing. Republican lawmakers have countered with a $568 billion plan, focused almost exclusively on physical and communications infrastructure. An analysis of the White House's plan shows that $932 billion goes directly to infrastructure, meaning that the two parties have a basis for compromise that is far closer than it may appear. While getting Democrats to abandon the healthcare and manufacturing support – particularly the clean energy section – may be difficult, getting a separate compromise bill that focuses solely on physical infrastructure is a path to a solution that both parties want to see reached.

That would be good news for the construction industry. The bad news is that even the Biden administration seems to be aiming for a bill that would pass at the end of the federal fiscal year, which is September 30.



Construction spending remained at high levels, despite the lingering effects of last year's recession. Total spending in February was $1.517 trillion, which was 5.3 percent higher than February 2020. Although the pandemic resulted in a steep 3.5 percent drop in GDP in 2020, construction continued unabated except for a temporary stop in three states. Backlogs coming into 2020 were very high and a boom in residential spending more than offset the decline in nonresidential construction.

Looking forward, design activity leapt higher in March and April. The leading indicator of design activity, the American Institute of Architects' Architectural Billings Index (ABI) rose to 53.3 in February and 55.6 in March. Readings over 50 indicate billings growth month-over-month. March's reading was the highest since December 2016. The ABI for inquiries jumped to 66.9 in March, suggesting that owners were

The quit rate for U.S workers returned to pre-pandemic levels in March. Source: Bureau of Labor Statistics.

pulling projects off the shelf, as well as initiating new work. If that proves correct, the architects' backlogs will turn into active projects sooner than the usual nine-to-12-month lag.

With the onset of warm weather and the tipping point of vaccination supply outstripping demand, community spread of COVID-19 slowed. States that had been hot spots in early spring – California and Michigan for example – saw sharp reversals in infections, meaning that hospitalizations and deaths will trend lower by mid-May. The next economic hurdle to leap will be the remaining vaccine hesitancy that prevents the U.S. from reaching herd immunity. By May 1, all states had opened vaccines to everyone over the age of 16, and the safety of vaccines on those between the ages of 12 and 16 was being tested.

The Center for Disease Control relaxed guidelines on gatherings between vaccinated adults and was expected to further loosen guidelines once community spread was further reduced. This has allowed hospitality businesses to increase sales and hiring. Hotel occupancy recovered after the winter COVID-19 surge, nearing 60 percent in early April, almost the levels seen in February 2020. Transportation Safety Administration (TSA) data for air travelers showed significant recovery as well. By April 23, 1.5 million travelers per day passed through TSA, down from the 2.5 million on the same date in 2019, but up 1,260 percent over April 23, 2020.

Even before most states opened vaccine eligibility to all adults, there were ample signs that economic activity was

Retail sales, excluding food, exploded by 9.8 percent in March. Source: U.S. Department of Commerce, Federal Reserve Bank of St. Louis.

expanding rapidly ahead of re-opening. Among the disparate indicators were:

- Institute for Supply Management (ISM) reported that its services index reached a record 63.7 in March, following its Purchasing Managers Index had hit 64.7.
- Bank of America reported that credit card spending on airlines jumped 37.5 percent in March and credit card spending overall surged 67 percent.
- Retail spending in March exploded by 9.8 percent. Consumer spending jumped 4.2 percent.
- Venture capital investment in the U.S. was $64 billion in the first quarter of 2021. That was 43 percent of the total investment in 2020.
- Indeed reported that its job listings were 16 percent higher in February than a year earlier.
- Weekly first-time jobless claims fell below 600,000 in April.
- The first estimate of GDP growth in the first quarter was 6.4 percent.

JP Morgan Chase CEO Jamie Dimon predicted that a combination of positive factors would boost the economy in his April 7 letter to shareholders.

"I have little doubt that with excess savings, new stimulus savings, huge deficit spending, more [quantitative easing], a new potential infrastructure bill, a successful vaccine and euphoria around the end of the pandemic, the U.S. economy will likely boom," Dimon wrote. "This boom could easily run into 2023 because all the spending could extend well into 2023." BG

WHAT'S IT **COST?**

First for the good news. The April 9 report from the Bureau of Labor Statistics produced no surprises, even though the 1.2% jump in producer price index (PPI) generated headlines. The bad news is that the big increases in oil, lumber, and industrial metals, which economists following the trends in inflation expected, came to fruition.

The headline PPI inflation was higher than anticipated, driven mainly by a 1.7% increase in goods, but the underlying producer prices rose across the board. Demand for goods rose faster than expected, as manufacturing and distribution have recovered more quickly as vaccinations have increased. Year-over-year PPI inflation, which was 4.2%, was exaggerated by the comparison to March 2020, when mandated lockdowns globally pushed prices significantly lower. A third factor pushing March's producer inflation higher was the persistence of the increases in fuel and metals, the effects of which are magnified throughout the value-added supply chain.

Global supply chains were severely disrupted by the pandemic. Manufacturers and suppliers let inventories dwindle in response to the demand decline. Throughout 2021, as manufacturers reopen capacity and suppliers rebuild inventories, material prices will rise and fall sporadically. Seasonal changes in demand will magnify the erratic pricing, particularly in the spring. Inflation will race ahead of the two percent target set by the Federal Reserve Bank, but the spikes should prove temporary.

The transitory nature of inflation in 2021 will be of little consolation to those involved in construction during the first half of the year. Feedback from homebuilders shows that high lumber prices have had a negative impact on new construction, although demand is strong enough that housing starts remain elevated. Nonresidential construction estimators report much higher bids for steel, copper, plastic-based products, drywall, and metal or wood building products. Surcharges for fuel are being applied. And, as often occurs when there is supply chain disruption, price quotes have short durations. In cases of the most volatile priced products, quotes expiring within the week are commonplace.

As volatile as pricing is at the moment, extended lead times for delivery are proving to be as much of a disruption to construction as inflation.

March saw the largest increases from February in steel mill products (17.6%), #2 diesel fuel (15.4%), ornamental and architectural metals (11.1%), iron and steel scrap (10.8%), copper products (8.5%), and lumber and plywood (7.9%). Among the major construction-related categories, only asphalt paving mixtures (-0.1%), sand/gravel/stone (-0.2%), and truck tires (-0.7%) experienced declines from February.

Manufacturers and suppliers have already begun to respond to the economic recovery, which is expected to be as robust as the years following World War II. Long-term capacity for the most volatile of materials remains higher than demand. That means the supply of fuel, steel, and lumber should catch up with demand by the third quarter of 2021. Economists forecast inflation will return to the levels experienced over the past 20 years by 2022. BG

PERCENTAGE CHANGES IN COSTS	March 2021 compared to		
Consumer, Producer & Construction Prices	1 mo.	3 mo.	1 yr.
Consumer price index (CPI-U)	0.5	1.1	1.7
Producer price index (PPI) for final demand	1.2	3.2	4.2
PPI for final demand construction	0.5	0.9	1.5
PPI for new nonresidential buildings	0.5	1.0	1.7
Costs by Construction Types/Subcontractors			
New warehouse construction	0.3	0.2	(0.3)
New school construction	0.0	0.3	1.0
New office construction	1.6	2.6	3.3
New industrial building construction	0.1	0.4	1.9
New health care building construction	0.3	0.3	0.8
Concrete contractors, nonresidential	0.1	1.5	1.4
Roofing contractors, nonresidential	1.2	1.5	3.9
Electrical contractors, nonresidential	(0.4)	(0.2)	1.2
Plumbing contractors, nonresidential	0.4	0.8	1.2
Construction wages and benefits	N/A	0.4	2.4
Architectural services	(0.1)	0.5	0.6
Costs for Specific Construction Inputs			
#2 diesel fuel	15.4	35.6	79.5
Asphalt paving mixtures and blocks	2.2	2.6	3.8
Cement	0.5	1.0	3.4
Concrete products	0.4	1.2	1.5
Brick and structural clay tile	0.4	1.0	3.7
Plastic construction products	3.2	5.2	10.4
Flat glass	1.3	0.6	3.2
Gypsum products	1.4	4.6	6.2
Lumber and plywood	7.9	28.4	63.9
Architectural coatings	1.9	1.7	5.3
Steel mill products	17.6	38.3	40.1
Copper and brass mill shapes	8.5	15.9	44.2
Aluminum mill shapes	2.1	6.1	7.4
Fabricated structural metal	3.7	6.5	7.6
Iron and steel scrap	10.8	19.9	59.5

Source Bureau of Labor Statistics, Updated April 9, 2021
Compiled by Ken Simonson, AGC Chief Economist

MEGA PROJECT UPDATE

Shell Chemical's new ethane cracker and polyethylene manufacturing complex in Potter Township, Beaver County.

One of the truths about success in the construction industry is that big projects often make the difference between a good year and a tough one. Most businesses serving the construction industry do well to have a mix of projects – large to small – going on at any point in time but when there's a project in the backlog that makes up 15 or 20 percent of a year's revenue, it is easier to have a profitable year.

Some of the risks associated with doing construction go up as the project size increases but the overhead support needed to manage a big project is not proportionally higher than that which is needed to run a small project. And it is just as easy to make a client unhappy on a small project as a big one.

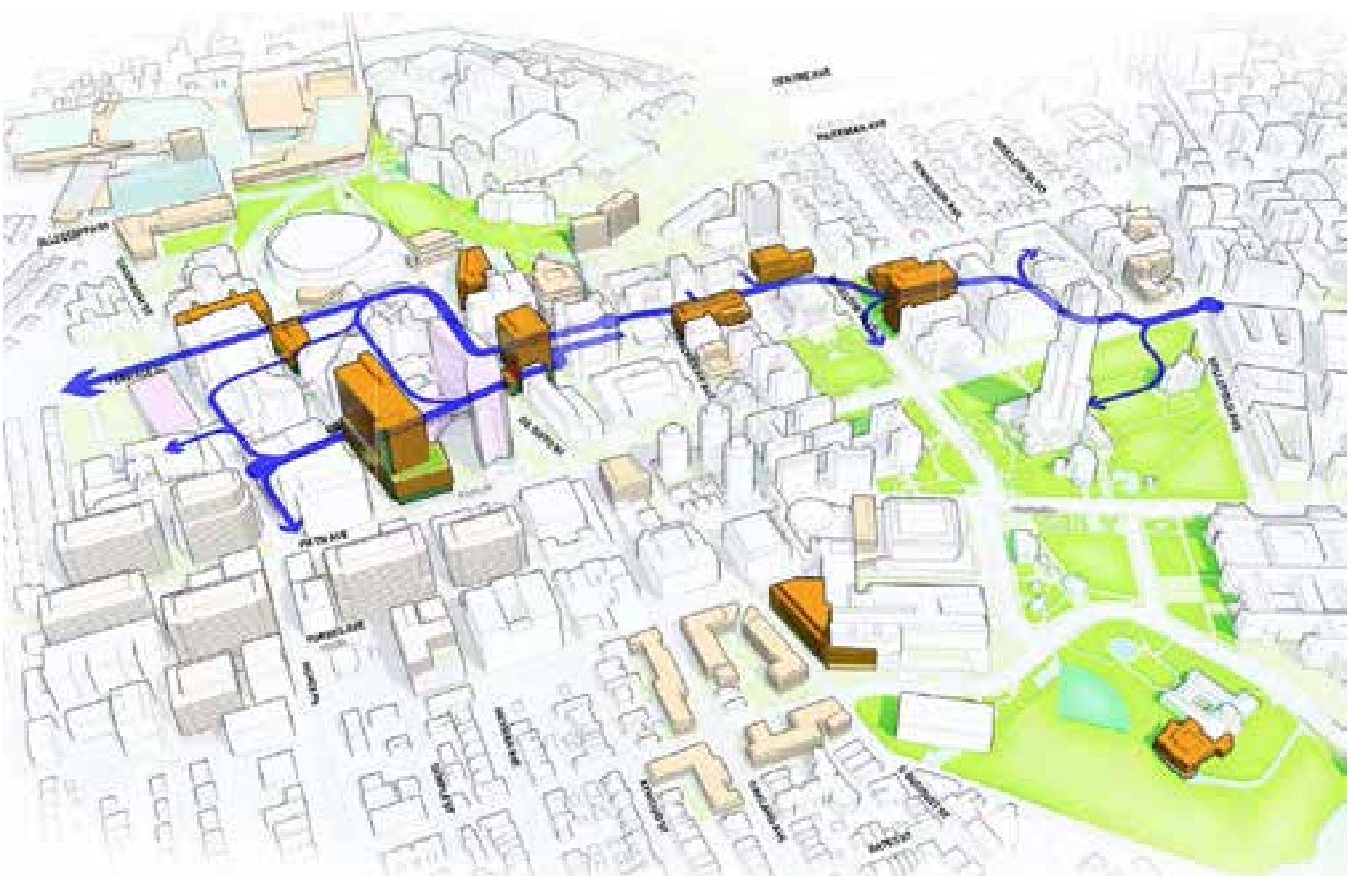
Looking back on 40 years of data on the Pittsburgh construction market, it is also true that big projects are an indication of a strong construction market. This isn't always true, of course. Construction may never have been worse in Pittsburgh than in 1982 but there were three skyscrapers under construction at the same time. Since then, however, the periods when there were projects over $100 million under construction were periods of economic strength.

During the few years before the financial crisis in 2008, Pittsburgh's economic strength was reflected in the number and type of $100 million-plus projects under construction. While there was a quasi-public project built during that period – PPG Paints Arena – the big projects were spread across hospital systems, universities, and private industry. There were multiple $100 million projects under construction for the second half of the 2000s.

In the years since then, it has become more common for there to be multiple $100 million projects underway, in part because construction costs have escalated steadily. As the 2010s wound down, the combination of a strong regional economy and some political will led to another level of large project, the billion-dollar mega project. As the 2020s unfold, there are four such projects under construction or about to be started in this region: Shell's petrochemical complex in Beaver County, ALCOSAN's Wet Weather program, the Terminal Modernization Program at Pittsburgh International Airport, and the UPMC Heart and Transplant Hospital. Two others, the proposed PTT petrochemical complex in Monroe County, OH and the U.S. Steel Mon Valley Works Modernization, advanced to the point of enabling construction getting underway before the projects were put on hold.

In addition to these billion-dollar projects, there are several projects underway or about to break ground that represent an investment of hundreds of millions. In another era, a project that cost $250 million to $500 million would be considered a mega project in Pittsburgh. An update on three of those, Pitt's Victory Heights development, the Lower Hill redevelopment, and Allegheny General Hospital's Cardiovascular Tower, follow. It's also worth noting that there are more than a dozen other $100 million-dollar projects in the pipeline (see page 22) that aren't being updated here. Some of those are too far in the future to be realistic opportunities in 2021, but most of them will be built some time this decade.

The construction industry seems to have dodged a bullet in 2020. On the verge of a boom, construction was halted



University of Pittsburgh Master Plan

by COVID-19 and then slowed as owners tried to make sense of a very uncertain marketplace. Programs like the Paycheck Protection Plan, the CARES Act, and American Recovery Plan carried construction through the pandemic to the recovery on the other side. It's likely there will be casualties from the recession in another year or two (there usually are) but construction will not suffer from lack of opportunities in Pittsburgh.

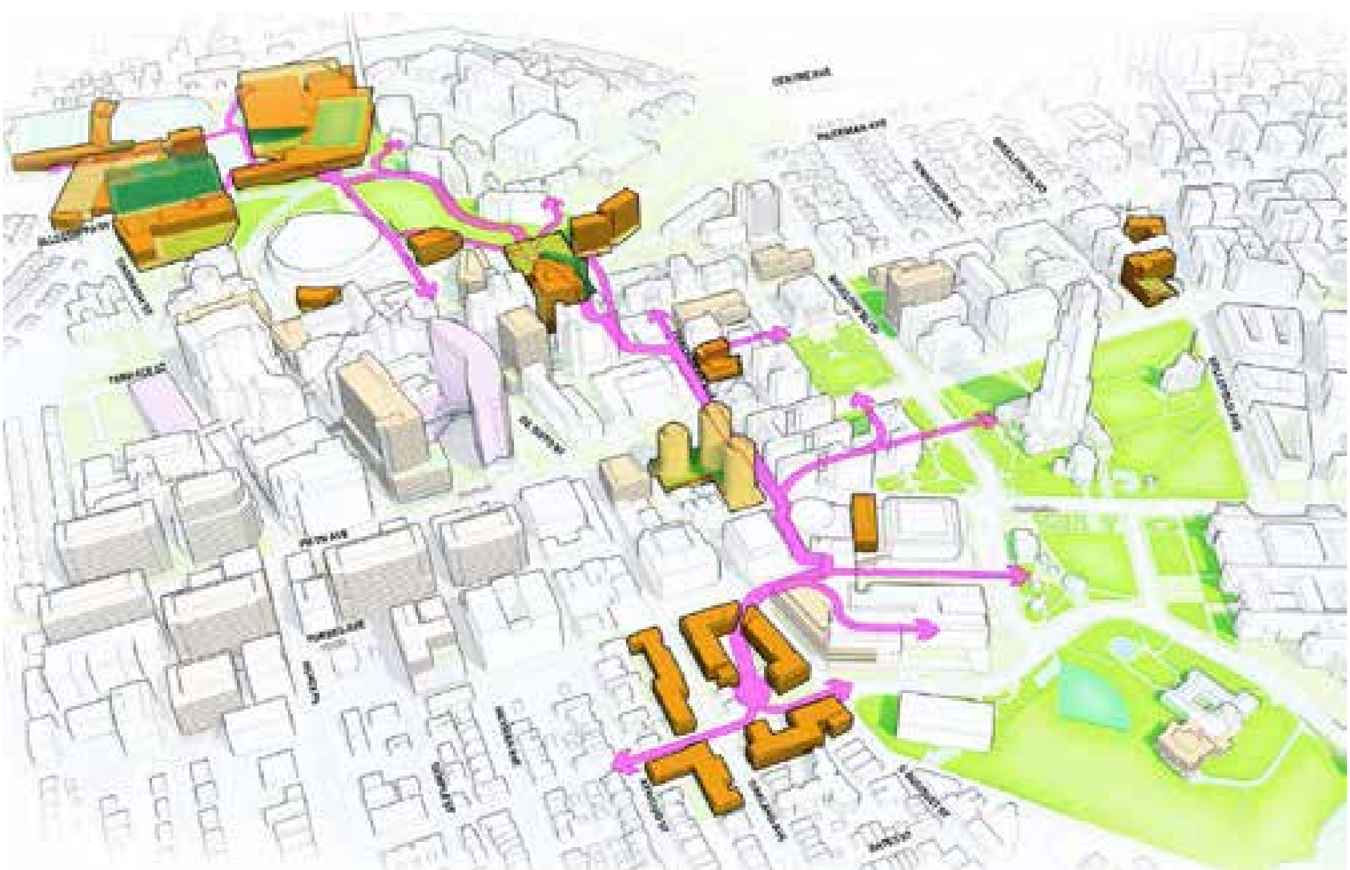
ALCOSAN Wet Weather Plan

None of the projects under construction incubated for as long as ALCOSAN's. Faced with remedying the wet weather sewage overflow problems when the Environmental Protection Agency (EPA) enforced the Clean Water Act, ALCOSAN spent years negotiating a consent decree for compliance. That decree was consummated in January 2008, when the price tag for fixing the combined sewer systems and capacity shortfall was estimated to be $2 billion. The problem was that dozens of the 83 communities (including the City of Pittsburgh) in the ALCOSAN service area had combined storm and sanitary sewer systems that were not feasible to separate. ALCOSAN's North Side plant was inadequate to treat the inflow from the communities.

Over the four years that followed, ALCOSAN and its engineers developed a Wet Weather Plan to bring the authority into compliance without saddling more than 300,000 households and businesses with exorbitant usage fees. The 2012 plan focused on four main strategies: removing flow from the system, moving the flow in the system adequately, holding the excess flow until the system could treat it, and treating the flow by adding treatment capacity at satellite plants or ALCOSAN's main plant.

For the past decade, more than $500 million was invested by regional communities to reduce Pittsburgh's wet weather overflow problem. The plan's biggest components remain the construction that will expand the Preble Avenue treatment plant and its storage capacity. The total of the capital investment at the plant is expected to be $1.5 billion. ALCOSAN'S wastewater treatment capacity will be expanded to 480 million gallons per day (MGD) of primary treatment and 295 MGD of secondary treatment. A series of regional tunnels and conveyances will be built upstream from the plant to hold stormwater and sewer overflow for treatment.

After years of struggling to find a solution that satisfied the EPA and was not cost prohibitive, ALCOSAN brought its first major projects to the market as the pandemic hit. The first project, the North End Plant expansion, bid in May 2020 and came in at $100 million, significantly below the $120 million estimate. Mascaro Construction is the general trades contractor for that expansion. Market conditions were similarly favorable when ALCOSAN bid the new East Head Works in mid-April 2021. PJ Dick Inc. was the successful general contractor on that



Images courtesy University of Pittsburgh project, which came in at a combined $87 million compared to a $110 million estimate.

During the past year ALCOSAN also awarded contracts for an $11.5 million new parking garage and an $18.2 million return activated sludge processing system, for which Kokosing Construction was the successful general contractor.

PROPOSED PROJECTS OVER $100 MILLION	
1501 Penn Avenue Office	Pittsburgh
Amazon E-Commerce Distribution Center	Churchill
Canonsburg Hospital Expansion	North Strabane
CMU New School of Computer Science	Pittsburgh
CMU Skibo Hall/Highmark Wellness Center	Pittsburgh
Pitt Crabtree Hall Redevelopment	Pittsburgh
Pitt Integrated Health Science Complex	Pittsburgh
Pitt One Bigelow Square	Pittsburgh
UPMC Montefiore Expansion	Pittsburgh
UPMC Shadyside/Hillman Cancer Expansion	Pittsburgh
West Penn Hospital Inpatient Tower & Infill	Pittsburgh
West Penn Hospital MOB/Outpatient Building	Pittsburgh
Western Psychiatric Institute Expansion	Pittsburgh
Wexford Health Immunology Research	Pittsburgh

In the pipeline to complete the contracting for the Wet Weather Plan at ALCOSAN's North Side facilities are a $20 million lab/industrial waste facility and $10 million in electrical improvements. Expansion and modernization projects at the wastewater treatment plant are expected to continue into 2025. Beginning in 2024, more than $1 billion will be spent drilling three separate excess flow storage tunnels along the three rivers. In 2024, bids should be taken for the $360 million Ohio River tunnel. Tunnels under the Allegheny River and Monongahela River should bid in 2028 and 2030, respectively. Each of those are estimated to cost $335 million. The final $100 million-plus project, the pump station at the main plant, will start construction after the Ohio River tunnel is completed.

Pittsburgh International Airport Terminal Modernization Program

March 12 was a decisive moment for the airport's terminal modernization program (TMP) and the regional construction industry. The Allegheny County Airport Authority (ACAA) authorized the funding of $182 million in site work and early construction packages for the long-awaited TMP project. At the meeting ACAA also authorized contracts that were awarded last year for more than $19 million in enabling construction that was scheduled to start last April. The authority agreed to an increase in total budget for the TMP to $1.39 billion.

Opened in 1992, Pittsburgh International Airport was designed for a different purpose and a different time. It was designed as a major connecting hub for US Airways to handle more than 32 million mostly connecting passengers. Less than a decade after opening, the September 11 attacks changed airport security. Facilities like Pittsburgh's, with two terminals connected by an underground train, became obsolete overnight. When US Airways "de-hubbed" from Pittsburgh in 2005, ACAA was left with limited capital budgets to keep the lights on and maintain the airfield and safety facilities. A new terminal, sized right for origination and destination travel, is the heart of the TMP.

"The TMP program has two parts. There is the terminal, which consolidates the landside and airside terminals to increase efficiency and improve the passenger experience. There is also a multi-modal transportation center, which takes care of the ground transportation need for the passengers," explains Perfecto M. Solis, TMP program director. Solis adds that the TMP will add close plentiful parking, reduce wait times for baggage, and the latest technology for Transportation Safety Administration screening.

The new terminal will be 700,000 square feet and will combine the airside and landside functions that were separated in the 1992 design. The TMP also includes a multi-modal transportation center that will house the rental car facilities and a 3,300-car parking garage. Construction will be overseen by teams from Turner Construction and a PJ Dick/Hunt joint venture. Contracting had begun on the project at the start of 2020. Early packages were to bid while the design was completed. The pandemic halted construction and gave architects and engineers almost a year to advance the design to serve what will be post-pandemic travel conditions.

The three main packages to be included in the $182 million initial bids are a structural steel and concrete decks, foundations and concrete slabs, and underground electrical and plumbing. The first two packages bid by mid-April. The underground package is scheduled to bid June 1.

The construction management team intentionally broke the procurement into dozens of packages, varying in size from a few million dollars to more than $100 million. That plan optimizes the number of opportunities that will be available on the largest public project to bid since the existing airport in 1989.

Long-term bond financing is expected to be approved by the end of 2021. Construction is scheduled to be completed by the end of 2024, with an official opening in early 2025.

Major Hospital Expansion

New hospital construction has always headlined Pittsburgh's construction market. That's been especially true since the turn of this century. During the mid-2000s boom, it was the new Children's Hospital and UPMC East. Prior to the pandemic, however, a wave of hospital construction was beginning that was unprecedented in post-World War II Pittsburgh. The peak of that wave began just as COVID-19 hit. Recently, planning has resumed on a program that will see $2 billion invested on four new vertical construction projects.

Drivers on Forbes Avenue or the Boulevard of Allies can see structural steel flying on the first of these major hospitals, the Vision and Rehabilitation Hospital at UPMC Mercy. The construction management team of Mascaro/Barton Malow are on track to complete the hospital by July 2023, after a delay of nearly one year because of subsurface problems. The 410,000 square foot facility was designed by HOK with IKM Inc.

Vision and Rehabilitation Hospital was part of a $2 billion planned investment in three major hospitals UPMC announced in November 2017. The new facility at Mercy was a response to UPMC's attracting two of the world's preeminent eye doctors and represents its intent to cure blindness in Pittsburgh. The goal to cure cancer drives the second of those hospitals, the Hillman Cancer Institute at UPMC Shadyside Hospital. The third project UPMC announced was its UPMC Heart and Transplant Hospital at UPMC Presbyterian. The $900 million facility would replace the flagship Presbyterian University Hospital. The fourth major hospital project in the pipeline is the Allegheny General Hospital Cardiovascular Institute tower proposed by Allegheny Health Network (AHN).

The UPMC Presbyterian project was on hold for the past year and, although planning and preconstruction have resumed, the project will not be formally approved for re-start until UPMC's June board meeting. If it is approved at that time, design will continue through the balance of 2021, with construction beginning in early 2022 and continuing through 2024. The architect for the project is HGA, with IKM as the local architect. PJ Dick and Whiting-Turner Construction have teamed up as the construction manager.

As currently designed, the Heart and Transplant Hospital will be an 18-story, 900,000 square foot glass and steel tower with 620 patient rooms. Located on the site of the former Children's Hospital in the 3700 block of Fifth Avenue, the new hospital will integrate nature into the facility through a series of terraced gardens that can be viewed by patients, visitors, and staff. UPMC says that the new hospital will make widespread use of emerging technologies like artificial intelligence to support diagnosis, treatment, research, and medical information.

UPMC Hillman Cancer Hospital has a longer horizon. Construction of the new facilities is not anticipated until 2024. Turner Construction is the project's construction manager, with NBBJ as the architect. The $350 million project consists of two main components, an eight-story, 240,000 square foot inpatient tower at UPMC Shadyside with 180 private rooms, and a four-story, 160,000 square foot outpatient care center.

Less well defined at the moment is the AHN cardiovascular tower at Allegheny General. The $300 million expansion is to be built above the recently completed AGH Academic Cancer Center on North Avenue. AHN's Dick Thompson reports that the project is still being programmed and has not been given the green light to proceed to the point of hiring an architect. AGH's institutional master plan would have to be revised and approved by the city before serious planning for the project would get underway.

The Lower Hill District / FNB Financial Center

The lone commercial mega project is another that has languished for many years. The Pittsburgh Penguins retained the right to develop the 28 acres where the Civic Arena and its parking lots once sat. After battling preservationists opposed to the demolition of the arena, the Penguins and their development partner, Buccini Pollin Group, spent the past decade planning for the redevelopment of what is a commercially and politically sensitive piece of real estate.

Pittsburgh International Airport's new departure terminal. Image courtesy FlyPittsburgh.

First National Bank's new headquarters office building will kick off the redevelopment. Designed by Gensler, the FNB Financial Center is a 26-story, 458,000 square foot Class A office building, of which FNB will lease 165,000 square feet. Roughly 20,000 square feet of the building will be retail space. The construction management partnership of PJ Dick/Mascaro/Massaro took proposals for curtain wall design-assist in April and most of the general conditions packages – including the tower crane – will go out to bid in June. The major specialty contractor packages – structural steel, concrete, mechanical, electrical, and interior trades – are scheduled to go out to bid in July.

In addition to the FNB Financial Center, Buccini Pollin and its design/construction team will be constructing a greenway that re-establishes Wylie Avenue's connection to Downtown and two other buildings. The greenway involves hardscape and landscaping, along with a food hall, that creates a pedestrian path through the 28-acre site, connecting to Downtown via the I-579 cap that is currently being constructed. A second office building, six-to-eight stories and 100,000 square feet, will be built across Centre Avenue from PPG Paints Arena. Directly to the west of that, a 50,000 square foot entertainment venue (reported to be LIVE Nation) will be developed above a parking garage that will serve the public for the development. The PJ Dick/Mascaro/Massaro partnership will also build these elements of the development. Bids on the entertainment venue are expected to be due this summer.

Also on the site, located a couple of blocks east of the FNB Financial Center, will be the first of the planned residential development. Intergen is the developer of two multi-family buildings that will have 288 units, of which 68 units will be affordable. The buildings will be six and 12 stories, with a 221-car parking garage integrated into the site.

When the multi-stage development is completed, it will include 800,000 square feet of office space, 200,000 square feet of retail, up to 1,000 units of residential, and a 220-room hotel, in addition to the greenway, garages, and public space built by Buccini Pollin Group in the first phase.

University of Pittsburgh Victory Heights Program

In April, University of Pittsburgh presented its most updated Institutional Master Plan (IMP) to the city's planning commission. The revised IMP lays out Pitt's vision for its campus over the next 10 years. As it currently stands, Pitt expects to see construction during the next decade that will be more than five times what was spent during the past decade. The space planning is driven by surging enrollments in several key disciplines, including nursing, engineering, computer and informational sciences, applied sciences, and business. High growth in these areas of study and research is driving what Pitt expects will be an increase of up to 10 percent in undergraduate and graduate student enrollment by 2030.

The master plan identified two major axes, or "braids," along which development will occur and three major areas of focus. An east-west braid will be the center for medicine/life sciences, which will involve integrating new university facilities with the related UPMC facilities, like the new or repurposed Presbyterian and Montefiore hospitals, with medical/life science education and research. A north-south braid will center on student life, including enhanced public spaces, additional residence halls, and recreational facilities. Related to that student experience axis will be the development of the upper campus, which Pitt has branded Victory Heights.

As it is currently detailed, University of Pittsburgh's current master plan does not include any mega projects. The plan includes, instead, a series of $100 million-plus projects, several of which will be under construction at the same time for much of the coming decade. The first flurry of these projects has progressed to the point that design and construction teams have been selected and construction schedules have been identified. To the casual observer, the first of these projects, to take place on Pitt's Victory Heights, will appear to be a mega project.

Those first projects include a new $100 million Chilled Water Plant, a $140 million Hillside Housing and Garage, $180 million Student Recreation and Wellness Center, and a $160 million Arena and Sports Performance Center.

The Chilled Water Plant is the first of the projects to proceed. The Turner/Mosites construction management team has taken bids on the project, which should get under construction late summer. Two of the projects are somewhat connected. The Student Recreation Center and Hillside Housing, which will be built by the Mascaro/Barton-Malow team, was originally to be kicked off by the construction of the recreation center, but Pitt's needs for student housing has flipped the schedule. If all goes to plan, work should start on the Hillside Housing by the end of 2021, with the Student Recreation Center following about a year later. The team of Massaro/Gilbane will build the Sports Performance Center on Victory Heights, starting construction in late 2022 or early 2023.

Heart and Transplant Hospital at UPMC Presbyterian. Rendering by HGA. Image courtesy UPMC.

Looking beyond these four major projects, Pitt plans to redevelop additional sites or buildings on Victory Heights, including venerable Trees Hall and Fitzgerald Field House. Perhaps the next mega project at the university will be the Integrated Health Sciences Complex, which is permitted to be up to 900,000 square feet and would be located between the new UPMC Heart and Transplant Hospital and the existing Presbyterian and Montefiore sites. The timeline has not been set for the Integrated Health Sciences Complex, but any construction will occur after 2025.

Petrochemical Plants

The most "mega" of the mega projects in the region were the Shell Chemicals and PTT Global Chemicals ethane crackers on the Ohio River. The projects are world-class petrochemical manufacturing complexes, each adding more than 1.5 million tons of polyethylene and ethylene to the global supply annually. The plants validated the claims of the downstream manufacturing that natural gas producers assured regional leaders would follow the Marcellus and Utica exploration.

Although the two plants were similar in function, the progress of the two projects has been quite different.

As dynamic as the conditions for all the mega projects have been since March 2020, none can match the roller coaster ride that the chemical industry has experienced over the past few years. As recently as 2019, the signs were positive that the buildout of the petrochemical industry was underway in the Appalachian Basin. Shell's Franklin plant in Monaca was heading into peak labor utilization for 18-24 months spanning 2020 and 2021. PTT Global Chemical and its partner Daelim Chemical had selected Bechtel as engineering/procurement/construction firm for its $5.7 billion cracker and polyethylene complex, which was heading towards a final investment decision in 2020. By the time 2019 ended, PTT had spent $200 million on engineering and preparation and $70 million had been invested in the project by JobsOhio, the economic development entity for the State of Ohio.

Since the outbreak of COVID-19 in Western PA, the paths of the projects have diverged. Shell experienced hundreds of infections among the 6,000 workers on site by mid-March 2020 and shut the site down to stop community spread and develop new procedures for operating the site. After a few months of limited crews at the site in Potter Township, the Shell project re-mobilized. Down the river 35 miles at Dilles Bottom, OH, the PTT project came to a halt.

PTT blames the pandemic for its delay in making a final investment decision, but the environment for the project has changed dramatically beyond the public health crisis.

The project's delay is a casualty of the global slump in oil and gas. Although gasoline prices have rallied since fall 2020, oil prices remain volatile. The supply of oil and natural gas were boosted dramatically by U.S. shale extraction during the past decade. The glut in supply led to plunging prices for the commodities, which delayed and reduced the anticipated return on investment for the Marcellus and Utica plays. In July 2020 Daelim Chemical formally withdrew from the PTT project. The cyclical downturn is complicated by a secular trend away from fossil fuels. That durability of the renewable energy trend, and its market dominance, add uncertainty about the longevity of the assets in the Appalachian Basin, as well as the future demand for oil and gas. PTT, like most energy companies, is a global competitor, so the long-term trends in oil and gas are as important as any regional conditions.

PTT signed three agreements for ethane supply and storage after Daelim ended the partnership and PTT reiterated its commitment to the project earlier this year. Although comments made by PTT CEO Kongkrapan Intarajang in a mid-February Thai interview implied that the project could be in peril, PTT spokesman Dan Williamson reassured an Ohio business group that Intarajang's comments had been misinterpreted. Williamson told local reporters that PTT was engaged in discussions with potential new partners and that the mid-2021 timeline for an investment decision was still in place. With market conditions still poor, and environmental opposition to the project growing, the prospects for construction starting at Dilles Bottom in 2022 are not strong.

By mid-2022, on the other hand, Shell is expecting to be producing polyethylene at its Potter Township facility. Construction on the plant remains at peak labor utilization and will remain at that 6,000-worker level for most of 2021. During his February 4 earnings call, Royal Dutch Shell CEO Ben van Beurden announced that commissioning had begun on the plant's major components. As commissioning is completed on the treatment plants, the 250-megawatt co-generation plant, the ethane cracker, and the three polyethylene units, production will begin in 2022. Even as crews complete work during the first half of next year, the site will still see more than a thousand workers daily.

US Steel Mon Valley Works

The project that may have been the biggest surprise to the general public is the $1.5 billion investment U.S. Steel announced it was making to the Mon Valley Works in May 2019. Decades after shutting down or downsizing mills that employed tens of thousands in the Mon Valley, U.S. Steel's plans to build a new, more sustainable, casting and rolling mill at the Edgar Thomson Works in Braddock validated the diversity of the Pittsburgh economy. The steel maker planned to spend $250 million on a cogeneration plant at the Clairton Coke Works as part of the investment.

Many civic leaders saw U.S. Steel's plans as a reaffirmation that the future of the region's economy did not just belong to software engineers or medical researchers. Along with the opportunities provided by the gas and energy industry, a modernized Mon

Valley Works offered well-paid employment to thousands of workers that would not require the expense of a college education.

Almost as soon as the project was announced, however, changes in U.S. Steel's strategic plans impacted the project. In his third quarter 2019 earnings call, CEO David Burritt emphasized to analysts and investors that U.S. Steel's acquisition of Big River Steel was the company's top priority; and Executive Vice President Kevin Bradley announced that plans to spend $400 million on the project in 2020 would be cut in half and focused primarily on engineering and permitting. Then COVID-19 hit.

The enabling projects that had been awarded to Mascaro Construction were cancelled. Burritt made surprising comments about the "optionality" of the mill equipment in his October 2020 earnings call, sewing doubt the future of the project. On April 30, 2021, U.S. Steel announced that the project was dead.

Even without the prospect of the Mon Valley Works modernization, there will still be plenty of work for the construction industry to build over the next three-to-five years. Mega projects, which have come along once every decade or so since the 1980s, will provide the foundation for a booming construction economy through 2025. Should US Steel and PTT go ahead with their projects, there will be a billion-dollar project under construction through the remainder of the decade.

Mega projects build resumes for the local design and construction industry. As often as not, of course, it is the mega project that also leads to the demise of an imprudent or unlucky firm. But, on balance, having multiple mega projects going for more than a decade is greatly beneficial for the industry and the local economy. These billion-dollar projects help attract workers and new businesses. For a region like Pittsburgh, which struggles with job and population growth, mega projects can be the engines now that drive what is next for Pittsburgh. BG

FNB Financial Center.
Rendering by Gensler.

Photos courtesy Rycon Construction, Inc.

PROJECT PROFILE

GLASSHOUSE APARTMENTS

When Trammell Crow Company acquired the site of the Glasshouse in 2015, the company knew it was acquiring a legacy industrial site that had been buried beneath asphalt for almost 30 years. What the developer found underground when construction started helped both define the project and create its biggest challenge.

"It was a contaminated site when we took it through the Act II program through the Department of Environmental Protection. We had to cap the site with asphalt wherever it was exposed and put a cap of topsoil where there are tree islands to keep people from getting down into the slag and other materials," explains James Murray-Coleman, senior vice president of development for Trammell Crow. "It was a fill site for almost 150 years. The reason we call it the Glasshouse is because there were glass factories on that site. There was a sandbar in the middle of the Monongahela River that the manufacturers mined to make glass for many years. One of the manufacturers made such high-quality glass that it was used in the White House for a number of presidents. There was kind of a cool history there. We wanted a very contemporary design with a lot of glass, so the glasshouse theme has both historical precedent and a focus within the design."

What the glass-making legacy provided the project in history and theme, it took away from construction.

"We were expecting to have to deal with regulated soils, which we did, but one of the biggest surprises was that the site had somewhere between eight and 12 inches of glass slag that had been poured out under the surface of that lot, almost in its entirety," says Mike Figgins, project executive for Rycon Construction. "The only places where the slag was missing was where buildings had been located. That was a bit of a curveball."

Unlike slag that results from steel manufacturing, which hardens to concrete-like properties, glass slag is easier to excavate; however, glass slag is a problem for disposal.

"It wasn't difficult to get through, but the slag came out in great chunks and was difficult to dispose of at that size," explains Figgins. "We had an agreement with the Carrie Furnace regulated dump site for regulated sizes, so we couldn't take down huge slabs of slag. We stored the slabs on site and then broke them up."

Slag was one of several significant headaches that were discovered underground.

"The underground was a mess. We found a number of old cisterns that were brick-encased circular water sources that were

still in place, which were unexpected and problematic from a removal perspective," says Murray-Coleman. "We found three underground storage tanks that had never been registered. We ate every penny of our site contingency."

"We also ran into a large gravity well that was used to pull water directly out of the river. There was a dome of brick and timber over the well and when we got to the bottom of it the water table was equal to the river level. We started pumping thinking it was ground water and discovered that it was going nowhere because the water was flowing back into the site from the aquafer," recalls Figgins. "Probably the biggest issue from the soils was the existing sanitary outfall from Station Square. We delayed the work on the north side of the building to get the problem solved on the south side of the property. When we solved that we discovered old fuel tanks. We worked through all that but obviously it got us off to a slow start."

The more significant consequence of the additional unforeseen subsurface conditions was on the planned sequencing of the project. Glasshouse consists of two C-shaped building connected by an outdoor amenity plaza. Rycon intended to progress from the building located on the west side of the site – adjacent to the Smithfield Street Bridge – to the second building with each trade. The subsurface delays on the western portion of the site sent the project management team scrambling and led to a resequencing of when critical basic phases started.

"What we came up with was that Donley's Concrete started in the middle of what was then called Building A and went east to west under that half of the project. Then came back and did the middle of the building to the east," explains Figgins. "Donley's was extremely adaptable and that saved us a lot of time. We recovered quite a bit of schedule by that resequencing."

A mid-July 2018 spike in lumber prices and related shortages of products added a further complication to the phasing. And there was also an unusual political twist that impacted the project.

"We had contracted with a company called BlueBoat International, which is a rep for cabinetry and counters from China, prior to Donald Trump's election. When the tariffs on China were imposed, it caused a major scare for us because of the potential costs on the products we were providing," says Figgins. "As it turned out the tariffs never applied. We ended up rushing big time to get the material into the country to beat the tariffs. That was an interesting twist I've never had to deal with before."

"The second building got off to a troubled start because of availability of lumber and price," Figgins continues. "Instead of working two buildings continuously, the initial delays in the second building allowed us to get the first building ready to rent earlier. We diverted resources from Building B to get Building A and the garage open and ready to occupy."

The 157-unit first building, which included a 343-car underground garage, was ready for occupancy just after Labor Day 2019. The resequencing accelerated the opportunity for Trammel Crow and its partners to generate income from Glasshouse. Getting rent earlier for luxury apartments helped ease some of the pain of the additional costs and delays.

The design optimized the number of units with direct Downtown views. Photos courtesy Rycon Construction, Inc.

Photos courtesy Rycon Construction, Inc.

Glasshouse was developed as a luxury alternative to the new construction that had been added to the Pittsburgh market since 2015. All that new construction had been Class A product, something that was missing from Pittsburgh for more than a decade; however, Glasshouse had an advantage in that its site offered the opportunity to develop a product that would be hard to match. That differentiation drove decisions about the design, including the selection of the architect. Murray-Coleman looked to architects that had done luxury projects on the waterfront. That search led him to Hord Coplan Macht from Baltimore, MD.

"I had seen one of the architect's projects at Fells Point in Baltimore and just fell in love with it. It's on the water and residents experience both the natural water and a pool that is right off the [Patapsco River]. The units were sited in a way to have great views," Murray-Coleman says. "We felt the site at Station Square was a world-class site with the views of Downtown, the river and the bridges. We wanted to take full advantage of those views. The way the architect handled that Fells Point project was different from the projects that have been designed around here. We wanted something different for Pittsburgh, something that would shake things up a little bit."

Chris Harvey, principal at Hord Coplan Macht, says the Glasshouse property gave the architects an opportunity to plug the apartments into its surroundings on every level. Accustomed to the strict regulations governing the waterfronts of Baltimore and Washington, DC, Harvey was unfazed by the multiple reviews of the various city agencies and non-government organizations, especially Riverlife.

"Riverlife was very design-focused. That was a surprise. A lot of the people on the board were very design savvy and we felt they made the building better," Harvey says. "There are these beautiful trails and paths in Pittsburgh, and we loved the idea of engaging those paths. As an architect or developer, you're always trying to maximize those views and get the best rent you can because of those views. At the same time, we took guidance from the city that these buildings needed to engage the public as well. If you go to Glasshouse you'll see there's even a public path that goes right through one of our courtyards. There are some nice things that happen with the buildings to give back to the waterfront and let the public wander through and take advantage of these great views."

Hord Coplan Macht's design resulted in two buildings that are mostly linear to maximize the number of the 319 units that have river and skyline views. Pittsburgh's Planning Department required that the architects design an exterior elevation that was not monolithic or repetitive.

"The city wanted it to feel like a village. We did a lot of things, changed materials and scale, in order to create that appearance," notes Harvey. "The location of those courtyards with the trees helps to break up that elevation. They have a really nice scale."

The outdoor amenity courtyards take full advantage of the proximity and orientation to the Monongahela River and the Downtown views. Numerous seating areas are located around the buildings, especially in the area between the two buildings, where the large swimming pool and outdoor kitchens are located. Inside the building, the lobby and common areas have multiple gathering and eating areas, along with enclosed spaces for work and meetings. There is also a large, two-story open indoor amenity space that created a late-stage challenge for the contractors.

"The interior designer did a phenomenal job, but cost wasn't necessarily a factor in her design choices. There were design changes that occurred during construction because of budget," says Figgins. "There were metal panels on many of her interior surfaces that weren't in the design when we went to the guaranteed maximum price. There was a small custom metal shop that the interior designer recommended to us from the Baltimore area, and we were able to bring that package in on budget. There was a lot of back-and-forth between our people and their people and the interior designer. It took a long time to birth."

Another unusual interior design choice involved the location of the fire stairs. Harvey wanted to position stairs in three glazed corners to take advantage of the orientation of the buildings to Downtown and the proximity to the riverfront. Units located on corners offer developers the chance to get the best rents. To ensure that there would still be those premium units at Glasshouse, Hord Coplan Macht designed two-bedroom units with corner windows adjacent to the stairs.

"It was awesome that Trammell Crow went along with that. We day-lit the fire stairs and they are used in a way that connects the residents to the surroundings. When residents come out of their rooms they look back at the natural light and the city views, which encourages them to use the stairs rather than the elevator," Harvey explains. "Those stairs connect all the residents right to the amenity courtyards, the bike room, and the parking garage. It's kind of a wellness incentive. Those stairs also have card access so they can come right from the walking paths and get to their room."

The fire stairs were emblematic of the decision-making on the Glasshouse. Murray-Coleman expected attention to details that were consistent with the desire to merge modern luxury design with the industrial past of the location.

"We tried to respect the history of the site but also create a building that is of its time and forward thinking," says Harvey. "Pittsburgh is obviously booming, with a lot of new things coming on board and people moving in. There wasn't much precedence for this kind of residential project to be built. We wanted it to be respectful of the city but also exciting to live in and visit."

Construction was completed on the second building at the start of February 2020, about six weeks before COVID-19 hit. The pandemic was one more challenge to meet on this complicated development.

"We have been working on that site for six years and we're just breaking 80 percent leased now, so it shows that there is a long gestation period on these multifamily projects," Murray-Coleman says. We wanted to set the bar high for Pittsburgh in luxury multifamily and create something that was unique, not repetitious. We wanted Glasshouse to have a distinctive characteristic and I think it turned out well. I think Rycon was the right match for this project. They did a lot of work that helped us through difficult situations." BG

Photos courtesy Rycon Construction, Inc.

PROJECT TEAM

Rycon Construction Inc.	General Contractor
Trammell Crow Co.	Owner/Developer
Hord Coplan Macht	Architect
RD Jones + Associates	Interior Designer
Tower Engineering	Mechanical/Electrical Consultant
Arrow Electric	Electrical
Bonitz Flooring Group, Inc.	Flooring
Bryan Construction, Inc.	Wood Framing
Burns & Scalo Roofing	Roofing & Composite Wall Panels
Cost Company	Masonry
Dan Taylor Interiors	Interiors
David R. Smith Construction, Inc	Rough Carpentry
Donley's Concrete Group	Cast-in-place Concrete
Elk Air Conditioning, Inc.	HVAC
Keystone Metals	Ornamental Metals
Kone Elevator	Elevators
Mark Torgent Mechanical, Inc.	Plumbing
Moore & Morford, Inc	Structural & Miscellaneous Steel
Specialty Pool Contractors, Inc.	Swimming Pool
T. D. Patrinos Painting & Contracting	Painting
Tom Brown Contracting, Inc.	Waterproofing

The City of Pittsburgh's Fire Safe Building Inspection Program requires that fire and smoke dampers be inspected and tested regularly by an HVAC Fire Life Safety Technician certified by the International Certification Board. It also requires that smoke control systems be inspected by an air balancer who has been certified by the International Certification Board as an HVAC Fire Life Safety Technician.

Failure to meet the code and have your systems inspected regularly can mean fines of up to $300 per offense!

The ordinance can be found at: **https://pittsburghpa.gov/fire/fire-safe-buildings**

You can find certified technicians at: **https://www.nemionline.org/resources/find-an-icb-tabb-certified-professional/**

Please schedule your inspections today! Don't wait until there is a fire to find out that your fire life safety systems are not working properly! The costs are just too high!

FIRM PROFILE

LISANTI PAINTING, INC.

This is a "how I got started" story you probably won't hear too often. John Lisanti was getting gasoline in late winter 2018 when he noticed that the woman filling her vehicle at the next pump was wearing painter's pants. Always on the lookout for skilled workers, Lisanti started a conversation, inquiring as to whether Knight would be interested in joining the painter's local union.

"I was on my way to a job and was taking my kids to school. John was on the other side pumping gas and he asked me if I was a painter. We exchanged business cards and he said he wanted to talk to me about my future," recalls Margaret Knight, president of Lisanti Painting Inc.

Lisanti was recruiting painters but the chance meeting turned into much more. At 60 years old, he had begun planning for a transition in ownership of his business. Knight was a painter, but she was also the owner of a painting business, Painting With Perfection LLC. As the two began to have discussions, Knight's ambition turned out to be a perfect fit for Lisanti's plans for Lisanti Painting. By April 2018, Knight was working in the field for Lisanti Painting and on a path to ownership of the company.

"Margaret spent a year working on jobs in the field and then she came into the office. After she worked in the office for about a year, we decided to take this opportunity because I'm looking to retire at some point in the future," Lisanti says. "The plan is for me to mentor her for another five years or so to make sure that everything transitions smoothly. She's in the process of getting certified as a minority-owned business. We have been working on this plan since late summer of last year. Margaret has a giant opportunity ahead of her and I'm going help her as much as I can. I believe she can do it."

John Lisanti was born and raised within a few miles of his Allentown office. He learned the painting trade from his father and went to work as an apprentice painter and finisher after high school. In 1984, he and his brother Joe founded Lisanti Painting Inc.

"My brother and I were doing all the painting for other people and we figured why not do it for ourselves," Lisanti says. "The only thing we weren't sure of was how the office worked but we figured that out. Our estimator handled the office for a few years and then we hired Jan [Blum] to do our book work more than 30 years ago and she's handled it ever since."

Lisanti Painting has been one of a handful of commercial/industrial painting contractors consistently serving the Pittsburgh market since the mid-1980s. While the office remains lean, with five people on staff, Lisanti runs between 27 and 37 tradespersons in the field. The company's mix of business includes mostly commercial work, as both a subcontractor to the construction manager, and as a direct contractor to property owners. Lisanti Painting has long-standing maintenance agreements with BNY|Mellon, Highmark, Gateway Center, and more recently with Allegheny Health Network. It also works directly for UPMC, Pitt, Carnegie Mellon, Duquesne University, and countless property owners.

"We go from painting the bridge that goes over Forbes Avenue for Duquesne University to hanging fabrics in Highmark's executive offices. That's our range from light industrial to commercial," Lisanti says. "Commercial work is our bread and butter. The tougher projects are industrial. The biggest challenge is the workforce. We have a great union that trains them, but it's difficult to find people that want to get into the trades and work with their hands. We will go out ourselves and search. We have had maybe five or six new hires that way in the last few years."

"We run our company by the saying 'whatever it takes, no excuses'. The job has to be done and we find a way to get it done. Everybody has excuses but we don't want to hear them," Lisanti continues. "We are very much hands-on in this office. I will still go out in the field and work if the union halls are empty, and we can't get people. I still know the trade and I have gone out on a job site within the past few years."

"Yes, he has," laughs Knight. She says that the hands-on approach is one she is comfortable with.

"My company had four people, including myself," she says. "My mom [Tina Daniels] has her own contracting business, Concrete Rose Construction. During high school I had a favorite art teacher and painting was something I was always into. I really enjoyed decorating and my mom connected me to Rivers Center

Margaret Knight and John Lisanti

For Lisanti, this transition is not his first. He took on a partner, Chuck Herman, when his brother Joe retired and acquired the business outright when Herman passed away. He believes that keeping the same standards in the field will keep his customers happy and his workers focused on the work, rather than the transition. Six months into this current transition, Lisanti is making sure his crews and customers see Knight when they see him.

"Margaret comes on job sites with me now. She has met with our clients. By the time she is on her own the business will be running smoothly without me," Lisanti says. "After that she may be able to give one of our younger estimators a piece of the action but that's for the future. It's one step at a time and everyone's been comfortable with the transition so far. When I talk to the crews, I let them know my opinion of Margaret. And when they meet her, they see that she is what I say she is."

"My biggest concern is that we continue to manage and maintain the workforce. We have really good journeymen and I want them to know they're in good hands when John steps down," Knight says. "I have three principles. You do, delegate, and dismiss. I want the workers to know they still need to do their job no matter who is in charge."

Knight's ownership of the company means that Lisanti Painting Inc. will be a WBE/MBE business in a market that has struggled to build a deep bench of minority contractors. Knight has completed the documentation and first steps of certification. She expects to have the certification process completed by the end of this year. Knight says that her plans with Lisanti took the coming market opportunities into consideration.

"It's getting close. The work is not there yet but we are ahead of the curve so that when the work happens, we will be ready," she notes.

for Innovation. She thought a painting business would be perfect for me. She was correct."

Knight says that Lisanti Painting's retention rate of craft workers has impressed her. In an industry that will struggle with having enough workers for the foreseeable future, retaining skilled people will be critical to success. Knight credits Lisanti for a culture that promotes longevity.

"We want the workers to want to be here," says Knight. "John makes it so that we are accommodating, and people want to be here. He treats the workers like he would want to be treated."

"I remember how it was to be in the field. We treat our people like I want to be treated in the field. I respect them fully," Lisanti says. "Safety is a big issue. We make sure all our people are trained in safety and we provide our own training too. We expect the workers to be safe in the field. That means the basics like hard hats and safety glasses, but we also train them on lifts."

The timing of Lisanti's plan means that John will get to experience the wave of construction projects that are building up in the pipeline. He plans to be available to consult well beyond the next five years. In the meantime, Lisanti expects to work the same seven-day week as always.

"I'm in no hurry to go anywhere. My biggest goal is to make sure that Lisanti Painting and Margaret succeed. I'm not going let that fail," Lisanti says. "Margaret will be by me the whole way even if I have to go out in the field and do the work myself. I know she can do that too." BG

Lisanti Painting, Inc.
1636 Arlington Ave.
Pittsburgh, PA 15210
412-431-6150
www.lisantipainting.com
Margaret Knight, President
Mknight@lisantipainting.com

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LEGAL PERSPECTIVE

UNCERTAIN FUTURE: RETHINKING THE LAW FIRM LEASE POST-COVID-19

BY GAETAN J. ALFANO AND TIMOTHY M. HAZEL

Due to COVID-19's impact, the commercial office market should fundamentally shift in favor of tenants for the next several years. Law firm tenants should find an environment characterized by friendly concessions, options across asset classes and price ranges, and limited competition for space.

Here are some market factors:

- Global office vacancy will rise from a pre-pandemic rate of 10.9 percent to 15.6 percent next year. See, https://www.cushmanwakefield.com/en/insights/covid-19/global-office-impact-study-and-recovery-timing-report
- Rents in the United States likely will fall 6.5 percent this year and 2.3 percent in 2022. https://www.bloomberg.com/news/articles/2020-09-23/office-leasing-seen-remaining-below-pre-covid-levels-until-2025
- The length of lease terms has dropped to a five-year low. https://www.us.jll.com/en/trends-and-insights/research/office-market-statistics-trends

So, what does all of this mean to your law office? If you are negotiating a new lease, or renegotiating an existing one, consider including these seven provisions:

- **Contraction Option.** A contraction option is a right to reduce the size of a tenant's leased premises. As office space needs change, the firm may want to reduce square footage. In seeking to reduce your law office footprint, you should be prepared to negotiate the responsibility for the cost to physically re-demise the space.
- **Shorter Terms.** Commercial office landlords generally desire longer term leases (typically seven to 10 years) to maximize a building's value for financing purposes. Tenants conversely prefer the inherent flexibility of shorter-term leases. Given the anticipated oversupply for the next several years, you should be poised to negotiate a shorter lease term, while recognizing that a shorter-term lease may impact a landlord's willingness to fund space improvements and to provide other financial incentives, such as an upfront period of free or reduced rent.
- **Option to Terminate Early.** Be prepared to experience a period of trial and error as you attempt to quantify office space needs. Where there is a sizable oversupply of office space, a law firm could become an "office nomad" of sorts and set up shop in less costly space (through a direct lease or sublease) as such space becomes available. To take advantage of office space oversupply, consider negotiating an early termination or escape clause. Such a clause may come at a price as a landlord may insist on a termination fee. This fee typically reflects the landlord's unamortized upfront costs such as brokers' commissions and buildout costs together with some measure of lost rental income.
- **Option to Extend.** An extension option (sometimes also referred to as a renewal option) provides a tenant the option, but not the obligation, to extend or renew a lease beyond the lease's base term. The right to extend or renew a lease, when coupled with a shorter length base term, essentially provides your firm the certainty of a long-term lease without the corresponding inflexibility. Conversely, if changes make the firm's lease impractical, then you have the right to "walk away" from the lease when the base term expires.
- **Right to Use Space Outside of Premises.** As space needs most certainly will evolve, buildings offering flexible as-needed "office hotel space," shared desks, meeting and collaboration spaces, and benching spaces outside of a tenant's leased premises may become more common. You should seek out office properties with this alternative "as needed" space, which can be used by your firm on a gratuitous or fee-based basis. Having such space "in reserve" and available to the firm will provide another layer of flexibility.

You should take advantage of market conditions and embrace the opportunity to rethink your lease needs, pursue tenant-friendly options and increase your flexibility to deal with a potentially uncertain future.

- **Limitations on Passthrough Expenses.** Typically, operating expense provisions permit landlords to charge a tenant for a tenant's pro rata share of a very broad range of costs and expenses. Building design and operational changes are inevitable as a result of COVID-19. For instance, landlords may be:
  - » Reconfiguring building common areas, such as lobbies and elevators to maintain proper social distancing,
  - » Incorporating technologies to protect people from exposure, including temperature measurement and UV sanitizing devices,
  - » Upgrading heating, ventilating and cooling systems to improve air filtration, and
  - » Increasing building service staff such as day porters to disinfect areas throughout a workday.

These measures are costly. Does your firm's lease include an operating expense provision and if so, will the landlord's COVID-related operational expenses be passed through to the firm? You should scrutinize the operating expense provision in your lease to determine the extent of your responsibility to pay for any increased operating costs that may be associated with COVID.

- **Force Majeure Abatements.** Finally, although the lease negotiation equivalent of successfully recovering an onside kick, you should attempt to include language in your lease that defines government-mandated shutdowns due to pandemics as force majeure events, which in turn, would trigger an abatement of the firm's obligation to pay rent during this period. This provision, if successfully negotiated, may prove critical in the unfortunate event of a new outbreak.

Conclusion

As someone much smarter than the authors—Einstein—once said, "in the middle of difficulty, lies an opportunity." You should take advantage of market conditions and embrace the opportunity to rethink your lease needs, pursue tenant-friendly options and increase your flexibility to deal with a potentially uncertain future.

Timothy M. Hazel is a partner at Pietragallo Gordon Alfano Bosick & Raspanti and a member of the firm's business and corporate practice group. He can be reached at tmh@pietragallo.com. Gaetan J. Alfano is a partner and an executive committee member with the firm. He can be reached at gja@pietragallo.com

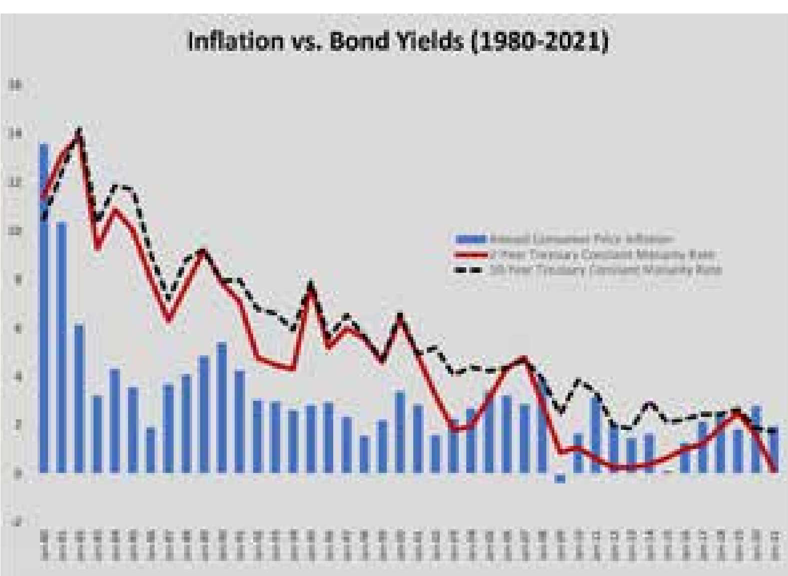
INFLATION WILL BE A HEADACHE IN 2021

As the prospects for a robust recovery of the U.S. economy grow, recent reports on consumer and producer prices have some economists worried about the monetary and fiscal responses to the COVID-19 recession. Although the increases in price have been limited to a small number of basic commodities and materials, economists are concerned that an overheating economy later this year could produce cyclical inflation.

Most observers expect that the completion of vaccination in the U.S. will unleash a wave of pent-up demand in the third quarter of 2021. It is almost certain that the supply of goods and services will not be rebuilt to a level that will meet that demand. When demand exceeds supply, prices are bid higher. That prospect alone is not the source of worry. What has economists on edge is the possibility that booming demand will lead to businesses bidding up wages to retain workers, which will lead to higher prices, which will fuel higher wages and a self-fulfilling cycle of inflation.

Such an outcome would leave policymakers with the options of allowing the upward spiral of inflation to burn itself out or to rapidly raise interest rates to squelch inflation. Neither option is desirable.

The scenario that has the worrywarts most concerned is one in which inflation persists or accelerates to the point that bond investors, which include global buyers of trillions in U.S. government debt each year, would demand higher yields to keep pace with inflation. Investors in 2-year Treasury notes would expect interest rates that could keep pace with consecutive years of inflation at three percent, for example, which would multiply today's yields by 10 or 15 times. In the booming 1990s, when inflation remained steady between two and three percent for five years ahead of the dot.com bubble bursting, the 2-year Treasury yielded between 4.5 and 6.0 percent, with rates jumping to 7.73 percent in 1995. The 10-year rate peaked at 7.88 percent that same year but remained above six percent until the 1999 recession.



Source: U.S. Department of Treasury. Federal Reserve Bank.

At the macroeconomic level, yields rising by two or three percentage points would have calamitous effects. Federal debt service would climb to the point that spending would grind to a halt. Individual borrowing would begin to slow, meaning that consumer spending would decline significantly. Mortgage rates would climb above seven percent. The cost of capital would require a recalibration of rents and development feasibility. None of this is good for construction or the economy in general.

It is possible to imagine a scenario in which the threat of inflation forces a response like Paul Volcker's Federal Reserve Bank took in 1981, choking inflation with interest rates that reached 20 percent. Those measures also choked the economy. Before you hit the panic button, there are more differences than similarities between today's economy and that of the 1970s. Experts skeptical of an inflationary cycle have much to support their position.

One underrated check on inflation is the globalization of manufacturing and trade. That critical point in the inflationary cycle, where demand for goods exceeds supply, is harder to reach when goods can be obtained from anywhere in the world. The optimization of manufacturing, both from a technological and logistical standpoint, makes that tipping point harder to reach as well. Depending on the goods in demand, global manufacturers can respond with increased supply within 30 days. That kind of scalability means rising demand can be met before persistent price increases can take hold.

The reality of spring 2021 is that there is still plenty of pent-up supply available to meet the pent-up demand and roughly 14 million fewer people employed in the U.S. than a year ago. That is sufficient slack in the labor market to keep wages from overheating. Still, there is every reason to believe that unusual inflation will impact many construction materials and products in 2021, and many reasons to feel sure that the increases won't persist.

"Construction is clearly in a period when all kinds of materials are experiencing unprecedented rates of increase. There are a lot of supply chain disruptions from shortages to domestic plants not being able to get enough workers or trucks and containers to move goods," says Kenneth Simonson, chief economist for the Associated General Contractors. "Conditions could be very costly for any contractor that has been locked into a fixed or guaranteed price contract but hasn't bought the materials yet. It sounds as if this is going to persist for quite a few months, but it doesn't mean that we will keep seeing prices go up from here."

Disruptions are already being felt in the manufacturing sector, which remains on a recovery path started as demand for goods surprisingly picked up during the second half of 2020. HIS Markit, which produces the bellwether Purchasing Managers Index (PMI) reported on March 24 that activity had rebounded from the weather-related slowdown in February. March's PMI hit 59 – any reading over 50 indicates growth – and manufacturers were reporting problems getting raw materials and skilled workers, both of which were leading to higher prices. Those conditions will continue until the third quarter.

By the start of spring, prices for several critical building materials had spiked. Steel, copper, aluminum, lumber, and diesel fuel had all seen prices jump 25-to-40 percent year over year. In the case of lumber (and to a lesser extent gypsum board), demand didn't fall during 2020 because residential construction and remodeling boomed by more than 20 percent while supply chains experienced numerous temporary disruptions. The latter is true for the run up in prices for the industrial metals and fuel. The pricing problems those conditions created last year will linger well into 2021, but the law of supply and demand has already begun to reverse the underlying problem.

The severity and uncertainty of the pandemic resulted in an inventory drawdown across the spectrum of the supply chain. Most manufacturers also responded to the uncertainty about a recovery of demand by shutting down capacity. As manufacturing recovered, capacity utilization jumped. The steel industry, for example, reported its capacity utilization was at 77 percent in the first quarter, roughly where it was before the pandemic. In anticipation of demand returning, steel manufacturers have begun re-opening mills throughout the U.S. Other industries are doing the same. Capacity utilization for lumber has also recovered to pre-pandemic levels. It's expected that manufacturing capacity overall will get ahead of demand within six months. That should re-balance supply and demand to the long-term trends that were in place before COVID-19 hit.

The long-term trend for the steel industry was low pricing as a result of excess capacity. The same is true of the oil and gas industry, as well as many other commodities that are manufactured in China or Southeast Asia. A post-pandemic economy that returns to normal will not resolve those issues. Where oversupply existed prior to 2020, prices will stabilize and return to the mean.

Politics are aligned to keep a lid on inflation beyond 2021. Policies to recover full employment are behind the push to stimulate the economy. Federal Reserve Bank Chair Jerome Powell has signaled that the Fed considers high unemployment a greater risk to the economy than higher inflation. Forecasts for employment growth have improved significantly since January 1, with many experts predicting unemployment at or below four percent by spring 2022. Recovering employment to that level would give the government and the Fed room to tighten accommodative measures.

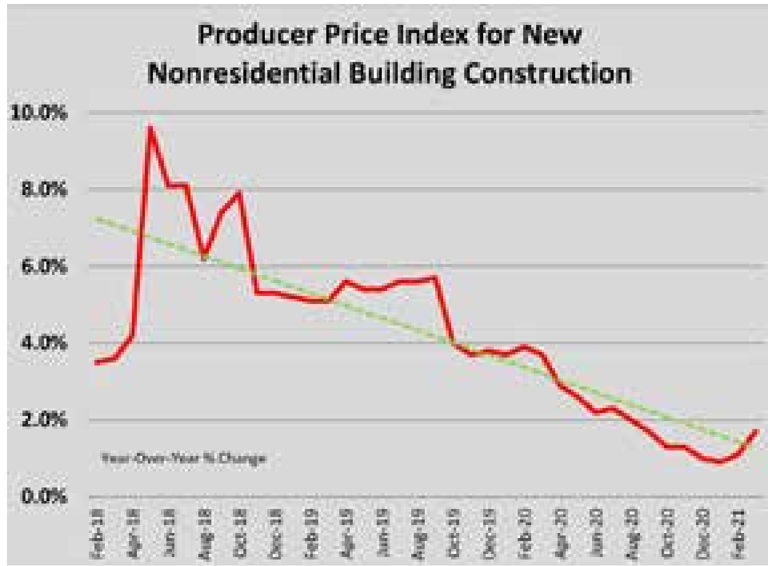
Thus far, the Fed's governors have been unified about the course the central bank should chart, but there are some differences about when interest rates should begin to normalize. Powell was clear in his March testimony to Congress that he saw near zero rates for Fed funds through 2022; however, Dallas Federal Reserve President Robert Kaplan told CNBC on March 23 that he expects to favor an interest rate increase before the end of 2022. Kaplan forecasts 6.5 percent gross domestic product growth this year, a rate of expansion that would elevate concerns about overheating the economy.

"The forecast has improved meaningfully. Having said that, we're still in the middle of the pandemic, and I want to see more than a forecast. I want to see actual evidence that that forecast is going to unfold," Kaplan said. "Inflation is not just a one-time price surge. It's year after year price increases. I think the jury is very much out as to whether we're going to see that. It's not my base case."

"I am an incurable optimist and I have faith in the Federal Reserve Bank. They recognize that there are a lot of price pressures on goods and materials right now, but they don't think that will translate into full scale inflation," Simonson says. "We have had a lot of factors contribute to shortages and price increases for the short term. We all know the short term can get pretty long, but I think fundamentally we have enough supply, enough production capacity, and the economy is not overheating in any sense that I can see. The cost increases are not flowing into a wage price spiral like we had in the 1970s."

History is on the side of those who are less worried about cyclical high inflation. Comparison to the 1970s do not hold up well. The rise of the American middle class after World War II produced purchasing power by the 1960s that exceeded the capacity to supply. Free global trade didn't exist as it does today. Unions exerted more influence over the workforce and bargained for large increases in wages. International currency agreements negotiated at Bretton Woods in 1944 deteriorated and exchange rates fluctuated wildly in the 1970s. And the straw that broke the camel's back was the OPEC embargo that squeezed the supply of oil until prices quadrupled. It was a perfect storm of inflation that the central banks were ill-equipped to manage. There is little that resembles such a storm today.

More recently, you can look at how inflation overall responded to similar periods of limited spiking prices, like in November 2019, when PPI for construction was up 9.2 percent year-over-year. Even in 2008, when oil ran to $144 per barrel, inflation was 3.16 percent, which was the outlier for the decade. Earlier in the decade, spiking metals prices pushed PPI of construction up 10 percent while inflation overall remained around 2.5 percent. During 2009 and 2010, when the American Recovery and Reconstruction Act injected $780 billion into the economy, inflation was -0.36 percent and 1.64 percent, respectively. Through all the gyrations that the global economy has seen since 2000, U.S. inflation has averaged 2.19 percent.



Inflation in several basic commodities is leading the cost of construction materials higher for the first time since May 2018. Source: Bureau of Labor Statistics.

Thus far, the severe spikes in certain materials have failed to fuel inflation outside the range of expectations. An April 13 report from the Labor Department on March's prices sparked headlines, as the Consumer Price Index jumped 0.6 percent from February and 2.6 percent year-over-year. Price increases in March were driven primarily by a 9.1 percent hike in gasoline prices. The core inflation index, which ignores volatile energy and food prices, rose only 0.3 percent for the month and 1.6 percent since March 2020. The year-over-year increase was also exaggerated by the fact that March 2020 prices were already pushed lower as the pandemic hit. The April 13 report reaffirmed the predictions of higher short-term inflation in 2021 that will revert to the long-term levels by year end.

There is no guarantee that the current environment will not evolve into the kind of inflationary cycle that devastated the construction industry 40 years ago. It seems certain that many projects will be interrupted or waylaid in the coming 12 months, as the inflationary and deflationary forces in the market ebb and flow. It will take until at least spring 2022 to render a judgement on whether the markets are experiencing price fluctuations or unrelenting inflation. For now, the reasonable forecast sees the former not the latter. BG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SUBCONTRACTOR DEFAULT ALERT RISK: MARKET UPDATE FOR THE COVID RECOVERY

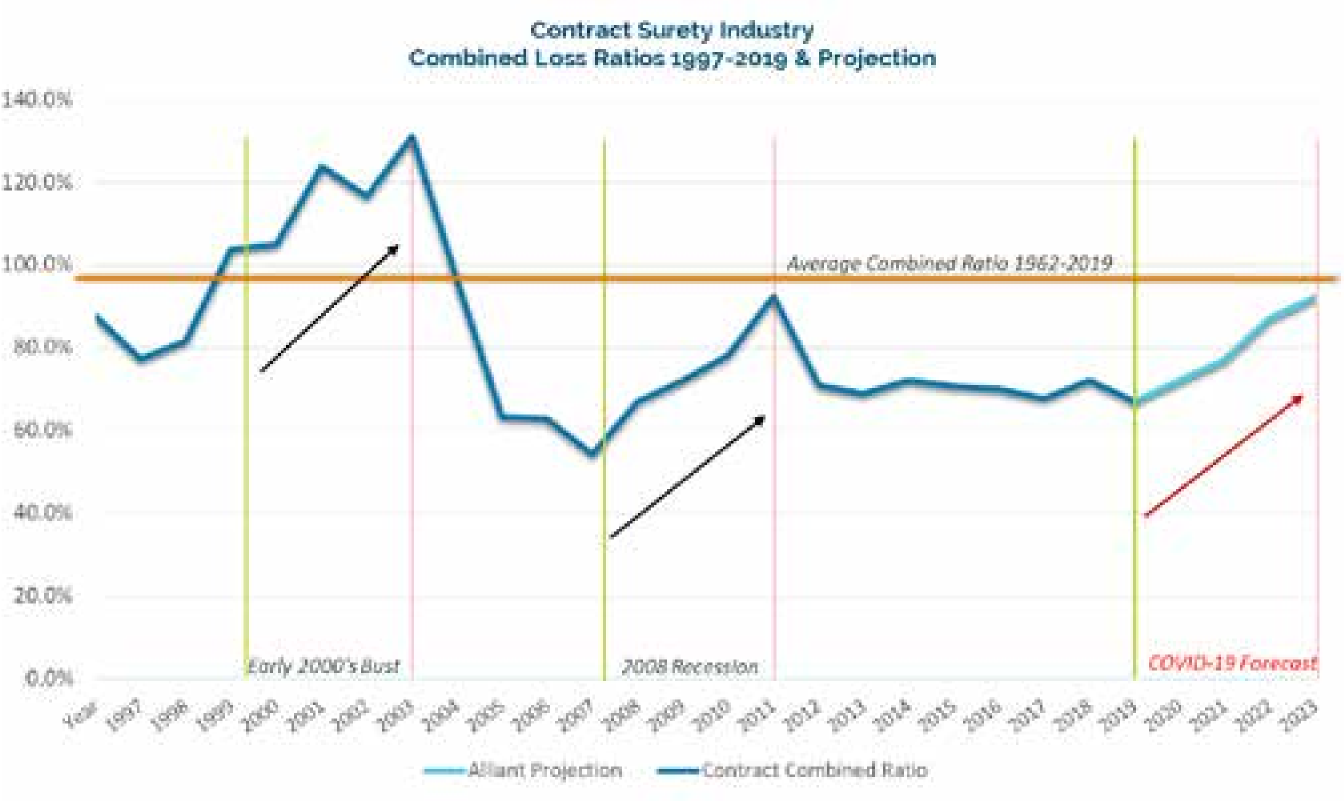
BY JAMES BLY, CPA, CPCU, AFSB

- What to do as job sizes and backlogs increase following the pandemic?
- A Guide for Claims avoidance and managing Subcontractor Default Risk as the economy recovers.

Claims Avoidance and Subcontractor Default Risk Management

The sudden halt in the economy caused by COVID-19 created labor shortages, material cost increases, supply chain disruptions, schedule impacts, and productivity delays that have been significant. The financial effect of these events was partially offset by profitable backlogs for most subcontractors entering the pandemic in the first quarter of 2020 and the receipt of Paycheck Protection Program (PPP) funds received by most subcontractors with less than 500 employees over the past year. Underwriters that provide Subcontractor Default Insurance (SDI) and subcontractor surety bonding will start to feel the impacts of 2020's recession over the next few years. According to industry analytics from past recessions, the losses for SDI carriers and surety markets peaked during the economic recovery - not heading into or during the downturn. Using this historical data from the surety and SDI markets to look ahead reveals the following predictions for SDI and subcontractor bond claims.

We expect surety and SDI loss activity to increase over the next 24 months. Much like the surety industry, the SDI Market's underwriting losses lag the U.S. economic results. The delay in defaults occurs when subcontractors burn off higher margin backlog that was accumulated in a strong economy and replace it with lower margin work that is added during a recession. A recession drives down profit margins due to increased competition on a shrinking pool of new work to pursue. The addition of lower margin work coupled with a reduction in staff or loss of talent through cost cutting measures during a recession often leads to performance issues and insolvency two to three years after a recession when the economy starts to improve. Consider the following:



Historical data provided by SFAA – Preliminary SFAA 2020 results reflect a 4 percent increase in direct losses for 2020. The combined loss ratio is a summary of underwriting losses and expenses v. direct premium written. A combined ratio over 100 percent reflects a loss from operations (before investment income) for the surety.

- In the 1982 recession gross domestic product (GDP) shrunk by 4.3 percent followed by 7.1 percent GDP growth over the next 3 years leading to the 1985 Surety Industry Combined loss ratio of 135 percent.
- In the 2001 recession GDP shrunk by 3.1 percent followed by 4.6 percent GDP growth over the next 2 years leading to 2003 Surety Industry Combined loss ratio of 130 percent.
- In the 2008/2009 recession GDP shrunk by 4.4 percent followed by 4.1 percent growth over the next
- 2 years leading to 2011 Surety Industry Combined loss ratio of 93 percent.
- In the 2020 recession, GDP shrunk by 3.5 percent with expectations of 6.0 percent GDP growth over the next 2 years. If history repeats itself, we could be seeing a 2023 Surety Industry Combined loss ratio of 100 percent or more.

In 2008, the Great Recession was triggered by the banking crisis that was the result of aggressive loans that were underwritten with inflated property appraisals and minimal equity commitments. These aggressive loans were backed by default credit swaps that failed to pay due to the insolvency of their issuers. With tighter banking restrictions after the recession, construction loans dried up, ultimately leading to less work. When the economy began to recover in 2011-2012, many subcontractors had insufficient financing and depleted staffing levels, which led to poor quality labor and a lack of liquidity to handle larger work programs. While the surety loss ratio only reached 93 percent in 2012, the Subcontractor Default Insurance market experienced over $1 billion of SDI losses in 2012 and 2013. If the SDI losses had hit the surety underwriting results in that timeframe, the combined ratio would have been well over 100 percent.

In 2020, the pandemic- driven recession has delayed or cancelled projects and caused major market disruptions. The CARES Act funding, along with the Employee Retention Credit, has provided a much-needed source of cash to cover payroll, rent, utility, or mortgage interest payments in these challenging times. Without PPP funding we believe SDI losses would have already begun to increase. The PPP funding has provided bridge financing that has clearly helped many subcontractors survive. We are not out of the woods yet and a double dip recession (also known as a W-shaped Recovery) could bring even more challenges if the stimulus-based recovery is short lived.

In addition to the COVID-19 caused recession in 2020, there are other warning signs that subcontractor default risk could increase including:

- Most contractors in commercial construction are fighting materials shortages due to the coronavirus pandemic. Shortages exist for wood/lumber in the residential market and steel/ aluminum in the commercial market. Material prices continue to rise providing challenges to maintain margins on hard bid projects.
- A skilled labor shortage is creating challenges. 83 percent of contractors report moderate to high levels of difficulty finding skilled workers. Of those, 71 percent report struggling to meet schedule requirements, and 39 percent are turning down work.
- Over 80 percent of contractors experienced project delays due to COVID-19.
- Longer bid lists on new work as contractors try to add backlog that has been reduced or delayed because of COVID-19.
- Productivity levels have declined due to COVID-19 compliance and work stoppages.
- The labor force is less mobile due to COVID-19, as some workers refuse to travel or stay in hotels while others have difficulty traveling for work due to family childcare or health concerns.

What to do now

It is imperative for owners, construction managers, general contractors, suppliers, and subcontractors to closely monitor the financial stability, liquidity, and ongoing performance of the parties they contract with. Astute owners, construction managers, and general contractors are starting to monitor aggregation exposures to subcontractor failure that could affect multiple projects. Understanding the real time exposure to a subcontractor's backlog is essential to manage default risk.

Subcontractors will need liquidity to recover from the recession of 2020 and fund new work. Stalled projects are being reenergized and the cash burn caused by a combination of financing overhead during the work shutdown, contract disputes, funding unapproved costs and restarting projects will be considerable. During the remobilization phase, construction managers must closely monitor their subcontractors' liquidity needs.

The financial statements for the year-end December 31, 2020 are currently coming in for review. The following report is taken from analyzing the financial statements of 2,870 subcontractors throughout the US. This subcontractor pool works for CMs and GCs with revenues between $100 million and $5 billion. The Contractor Credit Model (C2M)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used to complete this analysis divides subcontractors into four categories including high risk, watch list, favorable and best in class groupings.

The early indications from the 2020 results reflect a modest deterioration in the quality of the subcontractor portfolio overall, as the effects of PPP loans (and forgiveness) and favorable results for 2019 for most subcontractors has slowed the balance sheet erosion that was anticipated at the beginning of the pandemic.

The above report indicates 50.3 percent of the subcontractors reviewed were rated as watch list or high-risk subs for the 2020 financial statement reviews versus 43.1 percent in 2019. With weakened financial results coupled with an expanding market, we are expecting an increase in subcontractor default in 2023.

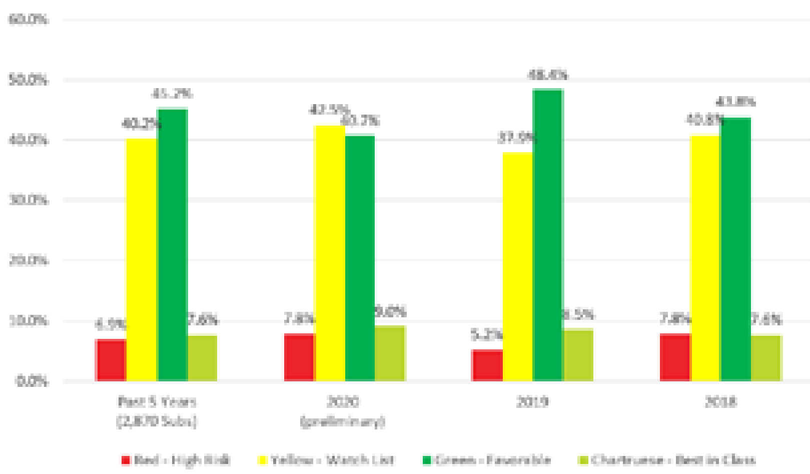
COVID-19's harsh ramifications on the construction industry are unprecedented. Two years from now, construction executives will want to look back and confirm they did everything possible to manage through risk and position their projects for success. The market fluctuations will require vigilance and continuous innovations to manage risk. For project participants to mitigate unfunded schedule impacts and project delays, timely decisions and swift action are required to address risk.

Prepare

Document, document, document and prepare! You can't fix something unless you know what's wrong. The COVID-19 crisis continues to manifest and will require real-time out of the box thinking and creative solutions until the country opens up for business in every market. Every executive will have to rely and lean on the staff, connect virtually and brainstorm even more to identify the consequences of this pandemic. Broad collaboration with trade contractor partners and vendors is a necessity. More than ever before, the advice provided by legal counsel and trusted insurance broker partners is critical to risk mitigation, and the successful navigation of the current market challenges.

Every contract and subcontract should be reviewed in detail. Reduce the critical contract terms to an executive summary

C2M Distribution



and share with your organization's leadership. Cross-reference key contractual challenges and focus on aligning with high quality prime contractor, subcontractor, labor, material and vendor relationships. We strongly encourage construction management firms to triage portfolio projects for contract and subcontractor issues, and determine which contracts require immediate attention. Identify the projects with the most exposure and use the downtime during a shutdown to create a comprehensive risk mitigation strategy.

Cash management will be even more critically important as large projects ramp up. Creating a 13-week cash flow projection is often required by lenders and sureties that want to see how much headroom is available from their clients that are expanding their business with significant new work following a market lull. Knowing how much liquidity is needed to fund future operations is critical in the insolvency assessment analysis.

Subcontractor Prequalification

Evaluate insolvency risk using the surety underwriting model. Sureties underwrite on the three C's: character, capacity, and capital. Contractors with strong leadership, high integrity, favorable work history, good transparency and solid reputations with owners and subcontractors will be well-positioned for success with the expanded work opportunities on the horizon.

Sureties also establish standards for single job capacity and work program limits based on a number of key factors including timeliness and quality of financial reporting, liquidity and cash flow, historic and projected earnings, credit history, bank capacity and prior work history.

Key Subcontractor Prequalification Considerations

- The subcontractor's ability to finalize the external financial statement in a timely manner may have been impacted by the CPA's delay in completing field audits and facilitate client meetings due to COVID. If CPA reports are delayed, ask for internal financial statements and job schedules to begin your evaluation while you wait for the CPA reports.
- The sub may have experienced a slowing of bidding and proposals that led to a backlog dip in 2021, understanding that impact sooner than later is key to avoiding overextension of capacity, the leading cause of subcontractor default for decades.
- Acceleration of work, as owners expect contractors to make up for lost time and meet schedules without adequate compensation, determining if the subcontractor has a balance sheet to absorb these impacts and the ability to fund the pursuit of claims for schedule impacts is important.
- Liquidity: What stress was placed on the subcontractor's banking relationship from increased borrowing or work slowdowns?
  - Banks with accordion features may restrict additional lending.
  - New loan capacity may be unavailable with deteriorated financial results or covenant violations.

What should subcontractors do to prepare for additional prequalification and maintain their capacity to pursue work with key customers?

- In depth analysis of contracts to ensure timely notice provisions are met to inform owners or general contractors of the possibility for:
  - Schedule delays
  - Labor impacts
  - Supply chain distribution
- Complete updated financial projections that include best case, worse case and probable case scenarios based on the probability of successfully acquiring work in targeted geographies and market sectors. Share these projections with your bank and surety and get them to buy into your business plan. Be ready to provide surety bond capacity if requested by your customer.
- Banking – evaluate covenant compliance, available headroom and ask for additional flexibility from the bank to get your firm through a liquidity crunch that may come to finance new work.

In summary, the effects of the 2020 market disruption may be felt for several years. The parties that prequalify and maintain the appropriate levels of contract security based on the risk profile of the party they are contracting with will be well positioned to capitalize on the expanding opportunities in the market while minimizing the risk of subcontractor insolvency. BG

Jim Bly is managing director for Alliant Construction Services Group. He can be reached at james.bly@alliant.com.

TIPS FOR OWNERS IN NEGOTIATING CONTRACTS WITH ARCHITECTS

BY SCOTT D. CESSAR

It is a common occurrence. Clients call to say that they have hired an architect and have had conceptual design drawings prepared, or even construction-level drawings, and are now ready to proceed to hiring contractors and breaking ground. The client asks help in setting up a contractual delivery system that will manage risk and protect from cost overruns and schedule delays.

To an attorney, that is great news, and a welcome opportunity to help; however, the opportunity to craft a contractual delivery system that accomplishes the client's goals may already be limited by the agreement the client put in place with the architect. If disputes on the project do arise, it is not uncommon that the terms of the agreement the owner negotiated with the architect will often proscribe the owner's rights and remedies in effectively addressing those disputes, particularly if the architect's services were potentially part of the problem.

With that in mind, here are five common "problem terms" that over-eager owner clients should negotiate prior to signing that form contract presented to them by the architectural firm.

Limitations of liability. It has become more and more common now for architects to request to contractually cap their liability at a fixed number, like $50,000 or a multiple of their fees. These caps are often woefully inadequate in comparison to the damages that can be caused by a defective design or other architect errors or omissions. These caps must be carefully considered in conjunction with insurance requirements for errors and omissions and general liability, including indemnity obligations. It may be that the owner is paying for insurance protection in excess of the cap, but the cap limits the carrier's exposure as well as the architect's. Caps can also create disincentives to make things right, as the architect knows that there is a high-side limit to its exposure.

Copyrights and licenses. There are a host of issues here, but one stands out as occurring frequently. Most architectural agreements limit the owner's right to use the design and drawings only to the project under agreement. As such, an owner should consider whether it may want to

"Once the plans and specifications are put out for bid, does the owner need the architect to manage and inspect the work on a weekly or a month basis? Does the architect need to review and approve pay applications? Or will it be just as effective, but much more cost efficient, to use a construction manager or a clerk of the works and only consult with the architect on an as-needed basis as to design issues?"

build other buildings with that same or a similar design, which is particularly fair in circumstances where the owner has made material contributions to the design. This situation occurs in office building construction where an owner wants to replicate the original building to construct a twin building, or in residential construction where an owner wants to use design concepts or floor plans from one house on a new house.

If the owner is thinking of this as a possibility, he or she needs to negotiate a paid-up worldwide license, stated in the architectural agreement, to use the drawings on other projects. As part of that agreement and as a matter of fairness, the owner should expect to agree to provide some level of indemnity to the architect for claims arising out of the use of the drawings on a subsequent project, if the architect is not hired to review the plans and confirm the suitability of their use on the ensuing project.

Payment disputes. Many architectural agreements will state that, if timely payment is not made, the owner's license to use the drawings may be terminated by the architect. This means that, even if the owner has a good faith payment dispute with the architect, the architect has the contractual leverage to require payment by the owner or else shut down the job by filing suit and requesting an injunction based on termination of the license.

By reference, Eberhard Architects v. Bogart Architecture, a 2016 case filed in federal court in Ohio, involved a payment dispute between an owner and an architect where the architect terminated the owner's license to use its plans and then sued not only the owner who allegedly failed to pay the architect's fees but also the contractors and subcontractors who were using the plans to build the project. The architect alleged that all parties were liable for money damages under the Copyright Act for violating the license by continuing to use the plans to build the project after the architect terminated the license following a fee dispute.

The short answer here is to contract with the architect so that it cannot terminate the license based on a payment or other dispute and that all disputes shall be resolved through the dispute resolution process set forth in the contract, with the license remaining intact.

Dispute resolution. The risk here is that the dispute resolution clause in the architectural contract may limit the ability to join the architect to any disputes that may arise with other parties, such as the contractors. The dispute resolution clause in the architectural contract should clearly provide that the architect may be joined to any other litigation or arbitration that may arise out of the project. The consequences otherwise are the potential for disjointed proceedings that would delay and make resolution both more risky and more expensive to the owner.

Scope of services. This is not so much a liability issue but an issue of what architectural services your project requires. Once the plans and specifications are put out for bid, does the owner need the architect to manage and inspect the work on a weekly or a monthly basis? Does the architect need to review and approve pay applications? Or will it be just as effective, but much more cost efficient, to use a construction manager or a clerk of the works and only consult with the architect on an as-needed basis as to design issues? These questions need to be considered prior to the contract being signed with the architect.

These five issues are key to consider, and there are certainly others, such as the scope of insurance coverage needed for the project. Perhaps the best advice to provide an owner, however, is to consult your construction attorney prior to signing that architectural contract. An ounce of prevention is almost always worth a pound of cure.

Scott Cessar is a member at Eckert Seamans Cherin & Mellott LLC, where he is on the board of directors and chair of the Construction and Alternative Dispute Resolution practices. He can be reached at scessar@eckertseamans.com.

INDUSTRY & COMMUNITY NEWS

Mascaro completed the Shamrock Shenanigans competition to raise funds for the Cystic Fibrosis Foundation (CFF). Mascaro employees raised over $75,000 in two weeks. The top teams in the challenge were the Warehouse Warriors, Dancing Dubliners, and Shamrock Shakers. Pictured are the Warehouse Warriors and CFF staff (left to right) Jean Schieman (CFF), Nate Martin, Chris McKeever, Taylor Covey-Riggs, Mary Pat Joseph (CFF), and John C. Mascaro, Jr.

On April 22, members of the MBA Young Constructors and Green Builders Committees participated in a cleanup event at the Duck Hollow Trail Access/Parking Area in Pittsburgh. MBA affiliate member firm Republic Services, Inc. provided the cardboard trash bins and removed the collected items from the site.

AWARDS & CONTRACTS

Yarborough Development, Inc. was the successful general contractor on the $1.6 million Norwin High School Aquatic Center renovations in North Huntingdon Township. The architect is Wallover Architects.

Mosites Construction has been selected by Faith Community Partners as contractor for its $5 million renovation of The Depot in Tarentum, PA. The architect is MacLachlan Cornelius & Filoni Architects.

Washington & Jefferson University awarded **Mosites Construction** a contract for the $3.5 million renovation of Adams and Buchanan halls in Washington, PA. The architect is Kimmel Bogrette Architecture + Site.

TEDCO Construction was the successful contractor for PNC Financial Services Group's new branch office on Broadhead Road in Moon Township. The architect for the new 4,015 square foot branch is LGA Partners.

Jendoco Construction Corp. has started construction on the $10 million conversion of The Distillery at South Shore for 129 McKean Street LLC on the South Side. The architect is Designstream LLC.

Landau Building Company is the construction manager for the additions and renovations to the Grove City College Buhl Library. Work will begin May 2021 and is scheduled for an August 2022 completion. The 29,000 square foot project includes site/utility work, vestibule addition, new exterior patio, masonry restoration, MEP upgrades and interior alterations. The existing library is a three-story building and approximately 43,500 SF. PWWG Architects is the designer.

Landau Building Company has begun the AHN Allegheny Valley Hospital Nuclear Camera project, which is being delivered via design/build with Stantec. This project includes interior renovations to the existing suite, adjacent corridors, mechanical equipment upgrades and imaging equipment replacement.

Landau Building Company is the construction manager of the AHN Allegheny General Hospital Locker Room Relocation. This project, on Level 1, will be relocating locker rooms to make way for new CT scanners. Stantec is the architect.

Landau Building Company is beginning work on the 3,823 square foot West Virginia University Medicine Dialysis project on the 4th Floor of Ruby Memorial Hospital in Morgantown, WV. Work will be performed on off hours.

Marks-Landau Construction is completing construction of Mon Health Medical Center Compounding Pharmacy in Morgantown WV. This 4,204 square foot project was a renovation of the former pharmacy including the addition of three new clean rooms for compounding drugs. Paradigm Architecture is the designer.

Marks-Landau Construction was awarded the 1,450 square foot Mon Health Medical Center Radiology Renovation. Broken into three phases, this project includes new CT, future imaging and X-Ray Rooms. Paradigm Architecture is the designer.

Landau Building Company will soon be starting the UPMC Passavant Cranberry Nuclear Camera project in April 2021. This 327 square foot renovation consists of imaging equipment replacement, new casework and finishes plus a restroom renovation. MacLachlan, Cornelius & Filoni Architects is the designer.

Nello Construction was awarded the $24.7 million general construction package for the new $39 million Fayette County Prison in Uniontown. CDI/L. Robert Kimball & Associates is the architect for the 110,000 square foot new prison.

UPMC awarded **AIMS Construction** a contract for the Artificial Heart Equipment Room Replacement at Presbyterian University Hospital. The architect is DRS Architects.

AIMS Construction was selected by Allegheny Health Network as construction manager for the Allegheny Valley Hospital Roof Replacement in Natrona Heights.

PJ Dick Inc. was awarded the $78.5 million general construction package on the $87 million new East Head Works at the Allegheny County Sanitary Authority plant on the North Side. Whitman Requardt & Associates is the project's engineer.

PJ Dick is providing CM at Risk services for Winchester Thurston School for the renovation of a 1920s-era building at 4951 Centre Avenue into the Joan Clark Davis Center for Interdisciplinary Learning. The structure will house 15,000 square feet of adaptable space over two floors, including workshops, studios, and community gathering spaces. The project was designed by Ann Beha Architects.

J.P. Morgan Chase awarded **A. Martini & Co.** a contract to build a new Chase Bank branch at 5055 Library Road in Bethel Park. The architect is Feinknopf Macioce Shappa Architects.

A. Martini & Co. was selected by Highmark/AHN for the renovation of the auditorium in the School of Nursing. The team will be collaborating with MacLachlan Cornelius & Filoni Architects on this project.

A. Martini & Co. was selected by the Hawthorne Group for the construction of their new headquarters in the Henry W. Oliver Building. The architect for this 5,000 square foot space is The Design Alliance.

Google awarded a construction management contract to **Turner Construction Co. Inc.** for the $23 million renovation of 120,000 square feet at its Bakery Square One offices. The architect is Bohlin Cywinski Jackson.

The **Turner Construction/Mosites Construction** joint venture has taken bids on the $100 million University of Pittsburgh Upper Campus Chilled Water Plant. The engineer is Burns & McDonnell.

Rycon's Building Group is set to begin work on the replacement of an existing 40,000-gallon underground fuel tank at Magee-Women's Hospital. This project is in conjunction with a 41,000 square foot generator building addition that **Rycon** is currently working on at the hospital.

In Westlake, OH, work continues at West Bay Plaza by **Rycon's** Building Group. The third phase of the project includes the demolition of an end space and construction of a new 24,100 square foot core/shell building with associated site and parking lot work. SITE Centers is the Owner, Dorskey + Yue is the architect, and **Rycon** is the construction manager on the $21 million total retail redevelopment.

In Monaca, PA, **Rycon's** Building Group was awarded the Pennsylvania State University Beaver Campus General Classroom Building renovation. As construction manager at-risk, **Rycon** will work with the architect, BHDP Architecture, on the $5.8 million, 18,000 square foot renovation.

Rycon's Building Group is responsible for the construction of a new $25 million, 141,000 square foot warehouse facility in Western PA for owner Trammell Crow Company and a confidential multinational technology tenant.

Rycon's Special Projects Group is set to begin work on a new $13.1 million, 62,000 square foot cannabis cultivation and processing center in Beaver, WV. This is the third cultivation and processing center that client, Holistic Industries, has awarded **Rycon** within the last year. MJ12 Design Studio is the architect.

In Aliquippa, PA, **Rycon's** Special Projects Group is working on the expansion and renovation of an existing 4,600 square foot cannabis dispensary for Liberty Cannabis and Holistic Industries. **Rycon's** Casework & Millwork will fabricate and install custom high-end pieces. Piper O'Brien Herr is the architect.

West Virginia University selected **Rycon's** Special Projects Group as the general contractor responsible for renovating the Puskar Stadium press box suite in Morgantown, WV. Work is slated to wrap up by early July 2021.

Rycon's Special Projects Group is working on renovations to Duquesne University's Rockwell Hall. The project involves partial renovations to the underground, third floor, and replacement of the central HVAC systems with a new energy recovery unit on the 10th floor. Combined, the project spans 23,000 square feet and totals $3.1 million. LGA Partners is the architect.

In Columbia, SC, renovations are underway to a Navy Federal Credit Union by **Rycon**. The $893,000 project is on schedule for a September 2021 completion.

Rycon was selected to upgrade a 1,200 square foot U.S. Navy recruitment office in Augusta, GA, for Phillips Edison/ Department of the Army.

Rycon was awarded a 48,000 square foot renovation to the Ohio Army National Guard Armory in Stow, OH for Ohio Facilities Construction Commission. The $3.4 million project includes interior and exterior upgrades to the existing armory.

The final phase to the $45.4 million industrial manufacturing plant addition and renovation project is underway in Orwell, OH, by **Rycon** for a confidential industrial client. **Rycon** has been the general contractor on the project since 2018 when it started.

In Erie, PA, **Rycon** is the general contractor performing upgrades to a 5,000 square foot PNC Bank branch. The three-month, $570,000 renovation project will wrap up June 2021. GPD Group is the architect.

In Hialeah, FL, **Rycon** continues work at Countyline Corporate Park for repeat client Flagler Global Logistics. Most recently, **Rycon** was selected as construction manager to build two new $24.1 million warehouses totaling 400,000 square feet: buildings #27 and #28. Since 2018, **Rycon's** built five other core/shell warehouse buildings plus an interior build-out within the corporate park. All projects awarded totaled 1.4 million square feet.

In Orlando, FL, **Rycon** was selected to build a new, $2.1 million, 3,400 square foot Chase Bank branch by repeat clients, Jones Lang LaSalle/JP Morgan Chase.

Rycon is the general contractor on a 59,000 square foot Dick's Sporting Goods remodel in Downington, PA. The $776,000 project entails drywall, carpentry, electrical, HVAC, and painting. Fox Design Group is the architect.

Rycon is working on a $1 million, 9,600 square foot office renovation for commercial real estate firm, Binswanger. The project is located on the 51st floor of Three Logan Square in Philadelphia, PA. Gensler is the architect.

Rycon was awarded a contract to convert a former two-story Barnes & Noble into a new Burlington in Rockville, MD. The $4 million project covers 32,300 square feet of interior space. Federal Realty Investment Trust is the Owner and Onxy Creative is the architect.

Rycon was recently awarded a third Scissors & Scotch Men's Barbershop & Spa fit-out. Located in Parker, CO, this 1,700 square foot men's barbershop will feature a full-service bar and private lounge. **Rycon** previously worked on Scissors & Scotch locations in Arlington, VA and Washington, DC.

Renovations are underway by **Rycon** on a 6th floor office space in the Pike & Rose development, located in North Bethesda, MD. Federal Realty Investment Trust is the Owner and the architect is FOX Architects. The anticipated completion of the fit-out is July 2021.

Mascaro will be constructing a new announcer booth and concession stand for the Miracle League of the South Hills (MLSH) as part of their new job training center. The new center will hire MLSH athletes and provide training in customer service, accounting, custodial work, and more.

Mascaro received another contract for work at the AMG Vanadium plant in Zanesville, Ohio for the Melt Shop. Mascaro is responsible for the structural work, which will include installing and detailing the structural steel, miscellaneous steel, mechanical support steel, and additional support, access, and maintenance steel. Mascaro also has the contract for the architectural work packages.

Butler Transit Authority awarded a $2 million contract to **Fred L. Burns Inc.** for its Transit Center Expansion and Park and Ride Facilities in Butler, PA. The project was designed by Gannett Fleming Inc.

Volpatt Construction was awarded a construction management contract to renovate the Mellon Institute Hong Laboratories 205/217 at Carnegie Mellon University. Stantec is the architect.

Volpatt Construction was selected as GC for the Barco Law Library Air Handling Unit Replacement at the University of Pittsburgh. The designer is Barton Education.

Oxford Development selected **Volpatt Construction** as construction manager for the SSA/OHO Office Building Phase I Addition of Second Elevator in Johnstown, PA. DRS Architects is the architect for the $590,000 project.

Volpatt Construction was the successful bidder on Chevron Parkman Street Entrance Doors, Graduate School of Public Health Kitchenette 302, and Bruce Hall UPS Store projects at the University of Pittsburgh.

Allegheny Health Network selected **Volpatt Construction** as construction manager for the $1.1 million Hybrid O/R at the Forbes Regional Health Center in Monroeville. The architect is IKM Inc.

Children's Museum of Pittsburgh selected **Volpatt Construction** for exterior grounds and landscape renovations. Andrea Cochran Landscape Architect is the architect.

Franciscan University of Steubenville selected **Massaro Corporation** for its $2 million Antonian Hall Renovations project. The architect is MacLachlan Cornelius & Filoni Architects.

Massaro Corporation was awarded a contract for the University of Pittsburgh Allegheny Observatory in Riverview Park. Pfaffmann + Associates is the architect for the $2 million renovation.

JP Morgan Chase awarded a contract to **Allegheny Construction Group** for its new Chase Bank branch in McKees Rocks. Feinknopf Macioce Shappa Architects is the architect for the $1.25 million renovation of the former Cricket Wireless tenant space in Chartiers Crossing Shopping Center.

Carl Walker Construction has been selected to do repairs to the Galleria of Mt. Lebanon parking garage. The architect is Walker Consultants.

The South Central Transit Authority awarded **Carl Walker Construction** a $1.4 million contract for renovations to its garages in Lancaster and Reading, PA. The architect is DESMAN.

Carl Walker Construction is doing the $750,000 Long Beach Bus Garage Repair and Rehabilitation in Long Beach City, NY. Walker Consultants is the architect.

Penn State University awarded a $765,870 contract to **Shannon Construction** for the Frable Building Second Floor Renovations at the Greater Allegheny Campus in White Oak. The architect is Renaissance 3 Architects.

FACES & NEW PLACES

Jon Trau joined **AIMS Construction** as superintendent. Trau has 15 years' experience and earned a Bachelor of Science in Business Administration at the University of Mount Union.

Turner Construction Co. Inc. announced that **Drew Kerr** has been promoted to general manager of its Pittsburgh office. Kerr began his career with Turner in 2008 in its Philadelphia office and moved to Pittsburgh in 2015. He has held multiple management positions with Turner, most recently as interiors manager and business development manager. Kerr earned a Bachelor of Science in Civil Engineering from Penn State University.

Turner Construction announced that Superintendent **Eric Jordan** transferred to Pittsburgh from its Mid-Atlantic office. He has 12 years of industry experience.

David Etherington joined **Turner Construction** as interiors foreman with 17 years of industry experience.

Turner Construction hired **Sharon Rowles** as assistant accountant in Operational Finance. Rowles has over 30 years of accounting experience.

Haley Turkovich joined **Mascaro** as a project engineer. She is a December 2020 graduate of the University of Pittsburgh with a B.S. in civil engineering. Haley has completed a total of three co-op rotations at Mascaro.

On March 15, **Mascaro** welcomed **Sarah Klein** as a project accountant.

Megan Becker joins **Rycon's** information technology department as IT business analyst. Megan comes to the company with over 10 years technology support experience.

Rycon's Special Projects Group welcomes **Michael Cortazzo** as project manager. Michael is a graduate of Kent State University and brings over 8 years construction experience to the team.

Rycon's Building Group welcomes **Josh Hardaway** as project engineer assistant. Josh received a bachelor's degree in industrial technology management from California University of Pennsylvania.

In **Rycon's** accounting department, **Joseph Dunlap** has been hired as controller. As a certified public accountant (CPA), Joseph brings extensive public accounting and construction experience to the company.

Dan McCarthy has been hired as senior project manager in **Rycon's** Special Projects Group. Dan is a Duquesne University graduate with over 20 years project management experience.

Rycon's Casework & Millwork Division welcomes **Paige Velemirovich** for her Spring internship. Paige is pursuing a bachelor's degree in civil engineering from the University of Pittsburgh.

Mara Weber joins **Rycon's** Casework & Millwork Division as project manager. Mara comes to the company with over 25 years experience.

In **Rycon's** Special Projects Group, **Chris Wessel** joins the team as project manager. Chris received a bachelor's degree in construction management from Kent State University.

Within **Rycon's** Casework & Millwork Division, **Justin Williams** has been promoted to project executive.

Robert Pell joins **Rycon's** information technology department as network administrator. He has over 20 years technology training experience.

Rycon's Special Project Group welcomes **Monna Rossero** as an experienced estimating assistant.

In **Rycon's** Casework & Millwork Division, **Erica Torres** has been hired as administrative assistant.

Gretchen Gring has been promoted to chief financial officer at **Rycon**. This follows the retirement of former chief financial officer, Ron Demay.

Rycon's Philadelphia office welcomes **Abubaker Elhag** for his co-op this Spring. Abubaker is pursuing a bachelor's degree in construction management from Drexel University.

In **Rycon's** Fort Lauderdale office, **Gabriel Encarnacion** has been hired as assistant project manager. Gabriel received a bachelor's degree in civil engineering from Florida International University.

Janet Evans and **Tara Furgerson** join **Rycon's** Atlanta office as project coordinators. Both Janet and Tara bring over 13 years of relevant experience to the team.

In **Rycon's** Philadelphia office, **Michael Knapp** has been hired as assistant project manager. Michael comes to the company with over 11 years construction experience.

Rycon's Philadelphia office welcomes **Jack McCarthy** as senior project manager. Jack, a graduate of Temple University with a bachelor's degree in civil engineering, brings over 40 years experience to the company.

In **Rycon's** Atlanta office, **Brian Paciorkowski** has been hired as senior project manager. Brian comes to the company with over 20 years construction experience.

Bryan Smith was hired as a project manager for **Massaro Corporation**. Smith is a professional civil engineer with more than 25 years of experience providing project management relating to the design and construction of large-scale commercial, industrial, heavy civil, and equipment fabrication projects.

Max Malone was hired as a project manager for **Massaro**. Max is a graduate of Ohio University and has been in project management since 2013. His experience includes a background in land development, construction, property management, demolition, heavy equipment rental, and energy services.

Elizabeth Martini joined **A. Martini & Co.** as business development specialist, assisting in the pursuit of new business and clients. The second grandchild of Angelo Martini, Sr., Elizabeth is a member of the fourth generation working for A. Martini & Co. She is a graduate of George Washington University with a degree in business administration.

MBA MEMBERSHIP

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Rycon Construction, Inc.

Vice President
Raymond A. Volpatt, Jr., P.E.
Volpatt Construction Corporation

Treasurer
Michael R. Mascaro
Mascaro Construction Company, L.P.

Secretary/Executive Director
David D. Daquelente

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F.J. Busse Company, Inc.

Alexander G. Dick
Dick Building Company

Domenic P. Dozzi
Jendoco Construction Corporation

James T. Frantz
TEDCO Construction Corporation

Jeffrey C. Landau
Landau Building Company

Anthony F. Martini
A. Martini & Co.

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Massaro Corporation

M. Dean Mosites
Mosites Construction Company

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Allegheny Construction Group, Inc.
Burchick Construction Company, Inc.
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Carl Walker Construction, Inc.
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DiMarco Construction Co., Inc.
E&G Development, Inc.
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FMS Construction Company
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Jendoco Construction Corporation
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Landau Building Company
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Massaro Corporation
McCrossin
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ACE Lightning Protection Inc.
Advantage Steel & Construction, LLC
All Crane Rental of Pennsylvania, LLC
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Amelie Construction & Supply, LLC
Amthor Steel, Inc.
Brayman Construction Corporation
Bristol Environmental, Inc.
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Century Steel Erectors Co., LP
Clista Electric, Inc.
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Cuddy Roofing Company, Inc.
D-M Products, Inc.
Donley's Concrete Group
Douglass Pile Company, Inc.
Easley & Rivers, Inc.
EMCOR Services Scalise Industries
Fay, An i+iconUSA Company
Ferry Electric Company
Flooring Contractors of Pittsburgh
Franco Associates
G. Kidd, Inc.
Gaven Industries, Inc.
Giffin Interior & Fixture, Inc.
Gregori Construction, Inc.
Gunning, Inc.
Hanlon Electric Company
Harris Masonry, Inc.
Hatzel & Buehler, Inc.
HOFF Enterprises, Inc.
Howard Concrete Pumping, Inc.
Hunt Valley Environmental, LLC
J.J. Morris & Sons, Inc.
JLJI Enterprises, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
KELLER
Keystone Electrical Systems, Inc.
Kirby Electric, Inc.
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L & E Concrete Pumping Inc.
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McKamish, Inc.
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Pittsburgh Interior Systems, Inc.
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Renick Brothers Construction Co.
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Right Electric, Inc.
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Cleveland Brothers Equipment Co., Inc.
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Cohen, Seglias, Pallas, Greenhall & Furman
Colliers Engineering & Design
Computer Fellows, Inc.
Cozen O'Connor
Crawford Consulting Services, Inc.
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DRS Architects
Eckert Seamans Cherin & Mellott
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EPIC Insurance Brokers & Consultants
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Hillis Carnes Engineering Associates, Inc.
Huntington Insurance, Inc.
Huth Technologies LLC
Intertek - PSI
J. S. Held
Karpinski Engineering
Langan Engineering & Environmental Services
Liberty Insurance Agency
Liberty Mutual Surety
Lockton Companies, LLC
Lytle EAP Partners/Lytle Testing Services, Inc.
Maiello, Brungo & Maiello
McKim & Creed, Inc.
Metz Lewis Brodman Must O'Keefe LLC
Meyer Unkovic & Scott, LLP
Meyers Company
Michael Baker International
Mobile Air, Inc.
Mobile Medical Corporation
MSA Safety
Multivista
NCI - Nursing Corps
New Millennium Building Systems
Ohio Valley Drywall Supply
Old Republic Surety Company
Pac-Van, Inc.
Philadelphia Insurance Companies
Pietragallo Gordon Alfano Bosick & Raspanti, LLP
Pittsburgh Mobile Concrete, Inc.
Providence Engineering Corporation
R.J. Bridges Corporation
Regional Industrial Development Corporation (RIDC)
Republic Services, Inc.
The Rhodes Group
Rimkus Consulting Group, Inc.
Schneider Downs & Company, Inc.
Scotti Law Group
Seubert & Associates, Inc.
Stanley Black & Decker
Suburban Propane
Tarax Service Systems, Inc.
Tom Brown, Inc.
Travelers Bond & Financial Products
Tucker Arensberg, P.C.
UPMC Work Partners
USI Insurance Services
VEBH Architects, P.C.
Werner Co
Willis of Pennsylvania, Inc.
WNA Engineering, Inc.
Zilka and Associates, Inc. Architects
Zurich NA Construction

CLOSING OUT

STATE OF THE AIRPORT: FORGING A POST-PANDEMIC FUTURE

BY CHRISTINA CASSOTIS

For many of us, 2020 seemed like a year without end. It was a time of tragedy and grief, with friends and loved ones lost to an unforgiving global pandemic. For some, it meant lost jobs, closed businesses, and shelter-in-place orders.

And if you happen to work in the travel industry, as I do, 2020 was a year of vacant hotel rooms, grounded airplanes, and empty airports.

But as we mark the one-year anniversary of the pandemic, with encouraging news of vaccine rollouts and a declining infection rate, many of the changes imposed by COVID-19 are benefiting our industry and customers alike—and will aid in our recovery.

We've come quite a distance already. Early in the pandemic, passenger traffic fell by 96 percent, with revenue losses not far behind. And while we're only about halfway back to pre-pandemic levels, there are many reasons for optimism in our industry, and in my particular corner of it, at Pittsburgh International Airport.

Let me tell you why, in this "safe distanced" version of my annual State of the Airport message.

Airports across the world are rebuilding their air service portfolios, and competition will be fierce for limited seats in a scaled-down industry.

But we've done this before, and we'll do it again.

After losing our hub, we reinvented ourselves into one of the nation's top origin and destination airports. We have strong relationships with our longtime airline partners, who are already making plans to rebuild their schedules.

We're focused on the growth of ultra-low-cost carriers, which are opening new destinations for leisure travelers, including a Pittsburgh first: Allegiant Airlines' new non-stop service to Key West, beginning in June.

Business travel will come back slower, but it is quietly recovering. I can see it on our front curb, as business visitors climb into taxis to take them downtown, and at our security checkpoint, which fills up early on weekday mornings.

The number of passenger seats departing PIT grows almost every week and is up by more than 20,000 since mid-January. Even more important is the transformational work we've done inside and outside our airport.

Safety and security are an airport's stock-in-trade, but the pandemic required us to add a third priority: public health. We started by taking care of our own people. If we can't keep ourselves healthy, our airports can't run.

Long before the pandemic, we were busy designing a new, future-forward airport terminal. The coronavirus delayed our construction schedule, but the pause allowed us to bring in public health experts to improve our design.

We are building an industry-leading example of what a post-pandemic airport looks like. Construction is expected to begin this year, employing people who reflect the community we serve.

Since the start of the pandemic, we have been testing and incorporating many of these advancements, in three primary areas:

Our personal space. Social distancing is now the norm, whether at security checkpoints or gates. We're exploring a plan for digital queuing at the TSA checkpoint to improve the pre-security experience.

And we're piloting touchless technology, from wave-to-call buttons for elevators, ticketing kiosks that talk to your smart phone and concessions that never require a touchpoint.

How we clean. There was a time when airports worked hard to keep their facilities clean but keep their airport cleaners out of sight. No more. People want to see visible proof of our enhanced cleaning techniques and be assured that our team is constantly on the job. They are.

Last year, our partnership with Carnegie Robotics introduced autonomous floor scrubbers that employ UV technology, a first for a U.S. airport. The four robots, named after aviation pioneers, are such a presence in our airport that travelers seek to have their photos taken alongside them. We're exploring other ways to use artificial intelligence and robotics to clean our facility better and more efficiently.

The air we breathe. Tech giant Honeywell is developing a dashboard that will allow us to monitor, identify and correct problems with air quality issues as they occur. Too much carbon dioxide inside the terminal tells us we need to increase air flow or ease overcrowding. Honeywell and other innovators have taken up residence at xBridge, our new tech incubator at the end of Concourse B.

As part of our healthy design, our new terminal will include outdoor terraces to provide fresh air and outdoor space before and after security—a rarity for airports.

A first-of-its kind microgrid will power the airport via onsite natural gas wells and solar panels. And construction of our new 75,000 square foot cargo processing facility will expand the air cargo operations that became such a critical part of our COVID-19 response.

Above all, let's not forget Pittsburgh itself. Before the pandemic, this region was in the midst of a renaissance, with people coming from all over the world to do business and conduct research, to study and yes, to visit.

Anyone who knows Pittsburgh knows you can't keep this region down for long. There's too much energy and far too much momentum. There are simply too many reasons to come here, and too many other places people here want to go.

Christina Cassotis

Our airport is the front door to this magnificent region, and we're ready for right now—and what's next.

Christina Cassotis is the CEO of the Allegheny County Airport Authority, which operates Pittsburgh International Airport and Allegheny County Airport.

Master Builders' Association
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