BreakingGround

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA

MARCH/APRIL 2024

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Contents 2024

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2024

PUBLISHER'S NOTE

Architects are thinking about AI. I spent the last month talking to a couple dozen architects about the trends influencing their businesses. The conversations started with one question: What is one trend that is having a noticeable impact on your business? At least two out of three said that artificial intelligence was the answer.

What was interesting to me was that, as they elaborated, their replies were not all that different one from another. A few of the architects leaned into the potential labor-saving benefits. Virtually all saw AI as a design tool with great potential to help architects retain the lessons of past projects from thousands of architects. Some were quite optimistic about the possibilities. Most expressed a wariness about the sources of the information that applications would use and the potential for using AI for architecture to circumvent architects. None of the architects were worried it would cost them or their colleagues their jobs.

One reply struck a chord with me. Several architects were concerned that AI would result in fewer opportunities to do the most important part of their jobs: listening to their clients.

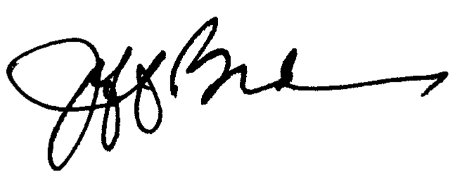
Two stories on that point stood out to me. One was amusing. Eric Booth told of a well-meaning client who had used an AI app to generate more than 50 different images of the house he wanted. The poor guy just wanted his architect to pick one for him. Eric said that it made for interesting conversations. The other story came from Amanda Markovic, who told of a vendor's claim that it could produce a complete hospital floor plan in 45 minutes. Her response was to ask what value that brought the client. What would be missing by avoiding hours of conversations with the client?

I don't know how many architects would agree with me that listening to their clients is their most important task, but I hope it would be most of them. The technology that is coming can be a great help to plug some of the more pluggable gaps in architecture, particularly doing some of the seemingly endless documentation that construction requires. But each construction project is a one-off design, with seemingly endless variables that architects must solve. That is done best by completely understanding what the owner needs and wants. Architects find that out by asking questions and listening to the answers. And then thinking about those answers.

The overlooked ingredient in this recipe is time. Most new technology aims to save its adopter's time. When technology saves us time that is unproductive, like time spent looking up a phone number, humans can move up the value chain. The purpose of that elevation of human value is to spend that formerly unproductive time doing something more productive. In architecture, some technological improvements have saved time at the cost of deliberation. Some years ago, architect Cherie Moshier reminded me that being able to do construction documents in six weeks instead of six months meant that she lost four-and-a-half months to think about the project. Clients who will try to use AI to further compress the process of design would do well to bear that in mind.

The image of architecture could use a little burnishing. In its well-meaning quest to mitigate the risks of the profession, the American Institute of Architects has steadily removed some of the contractual responsibilities that allowed architects to demonstrate their value to clients. AI represents a real risk to architectural practice, but it could also provide a moment for architects to regain some credibility within the construction industry.

Look, not every architect is trying to get it right. I'm sure there are an equal number of architects going through the motions as there are in every other walk of life. If you are a project owner, try not to hire one of them. When you do hire an architect, don't begrudge the time spent talking about the project. If your architect is asking a lot of questions, remember that is a good thing. Give them the time to talk about your project, and to think about it too.



REGIONAL MARKET UPDATE

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Like most of the U.S., Pittsburgh ended 2023 with low unemployment, job growth that was decelerating, and prospects for 2024 that were solid but unspectacular. Macroeconomic factors – primarily related to higher interest rates – dampened construction in several important categories; however, the economy in Western PA was supportive of construction activity that was in line with the average level for the past decade.

Unemployment declined to 3.4 percent in December for the seven-county Pittsburgh region. The rate marked a new low in unemployment, the fourth consecutive month of record lows. Year-over-year job growth slowed in December, however, falling below one percent, or 10,800 jobs. Job growth had been above two percent for most of 2023, tapering from August's high of 2.6 percent.

Nonresidential/commercial construction ended the year within $75 million of the 2022 volume, with $4.31 billion started (including construction put in place at the UPMC Heart and Transplant Hospital). Activity was again driven primarily by institutions and owner-occupiers, which continued to invest in nonresidential structures at a higher-than typical rate. The volume was also within five percent of the $4.53 billion average for the seven-county metropolitan Pittsburgh market since 2016.

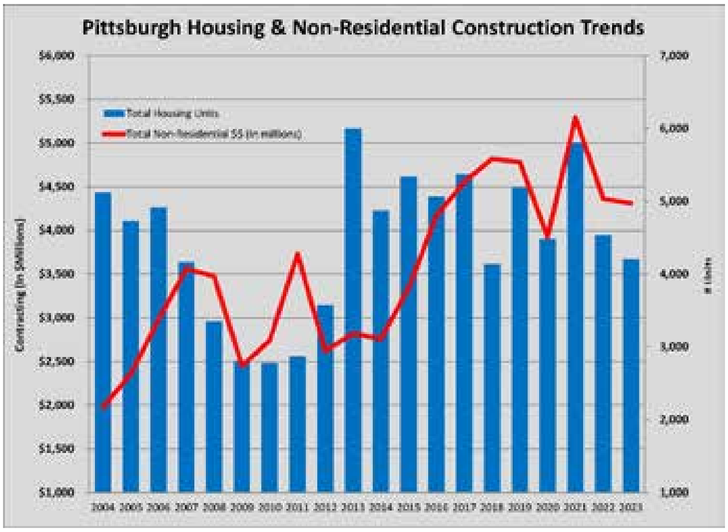
A more detailed look at the bidding activity reveals that the volume could have been considerably higher but for the lingering effects of the severe cost escalation that occurred during 2021 and 2022. While the total volume of work that was deferred or abandoned due to higher costs than budgeted, Tall Timber Group estimates that bids were received on at least $300 million in projects that were not awarded due to budget shortfalls. (That includes $149 million for the Hempfield High School alone.)

This market dynamic may have been most pronounced in the apartment construction pipeline, which saw delays in at least 1,200 units that were scheduled for construction in 2023. Demand for apartment units continues to be strong, however, and many of the projects delayed in 2023 are already poised to start work in the first half of 2024.

With commercial lending rates trending lower, the outlook for construction in 2024 is better than a year ago, although any boost from rate-sensitive projects will come later in the year. If commercial rates fall below six percent by the fourth quarter, the increase in commercial construction – which will primarily come from multi-family and industrial projects – should keep construction volume in the $4.5 billion range again. With the pace of the general economy likely to slow as consumers pull back and negative election politics create uncertainty, the Pittsburgh market will benefit from a strong pipeline of commercial and institutional projects. The market may get additional volume should there be adjustments that enable the large public projects that have been deferred to proceed. Bidding activity in the first two months of 2024 suggests that this may be the case.

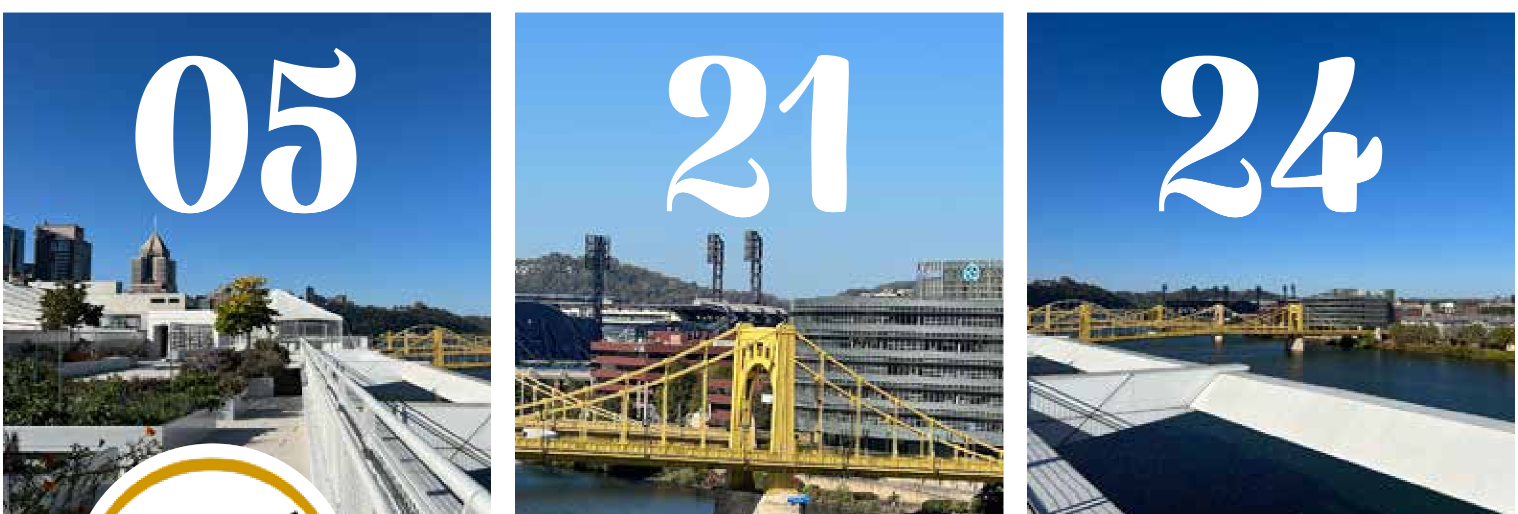
Publicly funded projects are experiencing a resurgence as well in 2024. While the K-12 market remains underinvested, two major new projects that will be in the $100 million cost range – the new Quaker Valley High School and the Hempfield Area High School – should bid before spring ends. The more robust public spending is coming from the Department of General Services (DGS), which is funding two major projects at Pitt, as well as several projects for the Department of Military and Veteran Affairs. The latter include the $40 million Pittsburgh Combined Support Maintenance Shop, the $43 million PA Air National Guard (PAANG) Readiness Center in New Castle, and the $12 million Combined Support Shop for the PAANG in Moon Township.

PennDOT let a $70 million rehabilitation of the Parkway East to Swank Construction and took bids through DGS for a $27 million District 10-1 Maintenance Facility in Armstrong County. The Army Corps of Engineers is in the multi-step



Nonresidential and residential construction activity declined for the second consecutive year in 2023.
Source: Tall Timber Group, Pittsburgh Homebuilding Report.

SAVE *the* DATE



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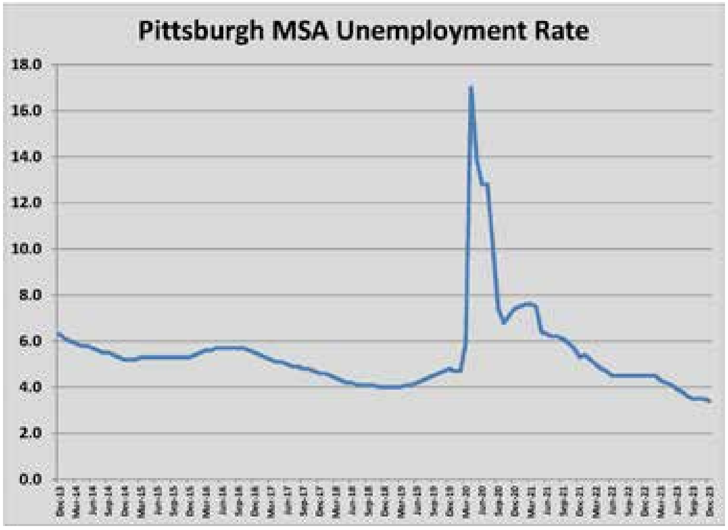
procurement process for a new lock chamber at the Montgomery Locks and Dam on the Ohio River in Beaver County, which is being advertised at greater than $500 million.



Unemployment in Pittsburgh declined to record low levels for the fourth consecutive month in December. Source: Bureau of Labor Statistics.

The coming year should see a continuation of the surge in municipal government projects, which have been fueled by the distribution of American Recovery Plan funds. The volume of municipal buildings, police and fire stations, and public works garages awarded in 2023, at $54 million, was more than double that of the volume in 2022 and 2021.

Tall Timber Group forecasts that the improvements in bidding conditions will push nonresidential/commercial construction higher by five to seven percent, topping $4.6 billion in 2024.

Residential construction declined for the second consecutive year, although the drop off was confined to the multi-family market. Demand for single-family homes continued to outpace supply, even as mortgage rates stayed above seven percent for most of 2023. Demand for new single-family homes was boosted by a severe shortage of existing homes for sale and creative programs by many builders for buying down mortgage points. The limited supply of buildable lots did not improve, however, which restrained new construction from meeting demand more fully.

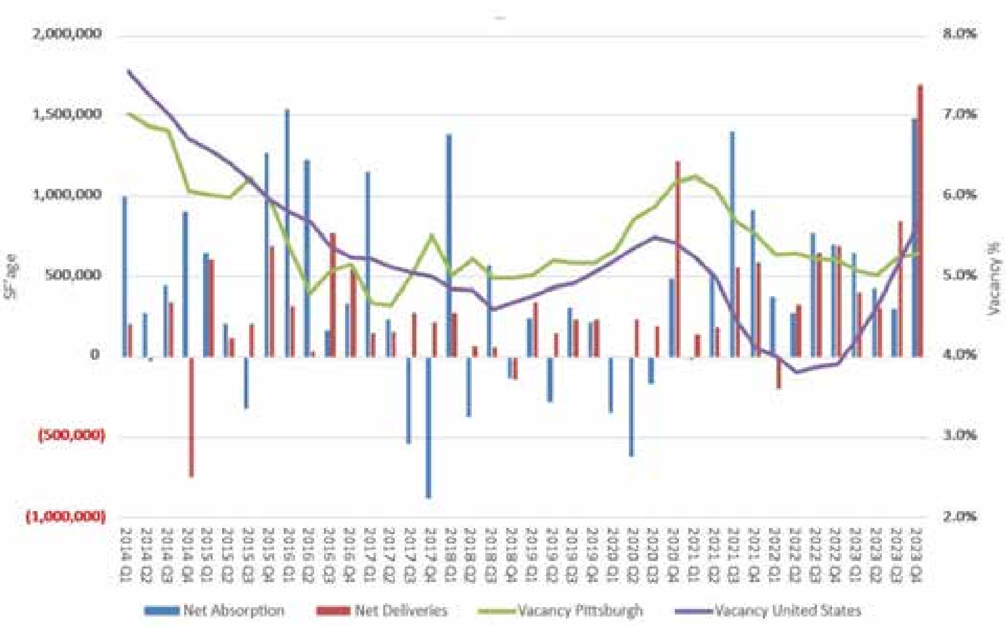
During 2023 there were permits for 2,986 single-family homes, an increase of 2.4 percent over 2022. Construction of single-family detached homes slipped by 0.5 percent, but a 9.0 percent increase in townhome construction offset that decline.

New apartment construction declined more than 30 percent from 2022 to 2023, to 1,355 units. That total was more than 35 percent below the 10-year average for new construction and followed a 16.6 percent decline from 2021 to 2022.

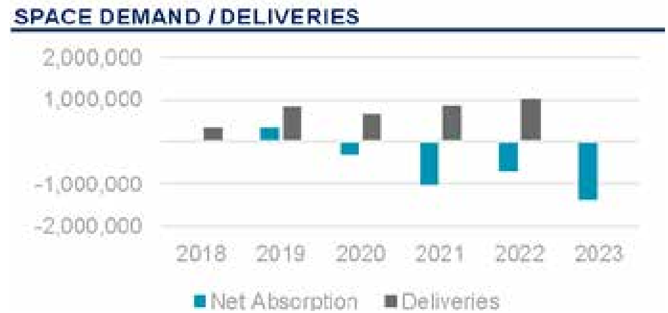
The outlook for residential in 2024 is for another slight increase in single-family homes, driven by continued new development of townhomes and more aggressive land purchases by production-oriented builders. Construction of apartments should improve dramatically as construction costs stabilize and the likelihood of lower interest rates in 2025 makes permanent financing feasible. Based upon the pipeline of entitled projects and permits for more than 1,000 units in the first quarter, the forecast is for at least 2,200 new units starting in 2024.

During the first quarter, work is getting underway on the 400-unit Apex at Newbury, being developed by Alpha Residential, the 276-unit apartment project at 52nd and McCandless Street that Albion Residential is developing, the 216-unit Whispering Woods development that Metropolitan Group is building in Findlay Township, and the 232-unit Meridian that Greystar is developing in conjunction with Echo Realty's Shady Hill project. Following those projects in the queue are the 300-unit City Club Apartments Downtown, 211-unit Phoenix on Forbes Uptown, the 308-unit Cranberry Ridge Apartments in Cranberry Township, and Alpha's 300-unit Marketplace Apartments in Moon Township.

The factors driving the resurgence of new multi-family housing are the shortage of single-family homes for sale, the



Both absorption and deliveries more than doubled from 2022 to 2023, but Pittsburgh's industrial vacancy rate stayed below the national average. Source: Hanna Commercial Real Estate Q4 23 Industrial Report.



lower-than-average construction of new units in 2022-2023, and the expectation that long-term interest rates will be below six percent when the projects are completed, and permanent financing is needed in 2025. And, while the average apartment rental rate declined roughly 1.9 percent, rents in Pittsburgh bucked the national trend in January, rising 0.2 percent.

Lower interest rates will also ease the pressure on industrial, office and retail properties, but the pipeline of projects and lower perceived demand should push activity out to 2025 or beyond.

Reports from the real estate service companies on the commercial market at the end of 2023 saw few surprises. Office vacancy continues to grow, although daily occupancy edged higher. A boom in industrial construction in 2022-2023 resulted in the delivery of more space than there was demand for leasing; however, the vacancy rate remained low, and absorption was steady. Retail benefited from strong consumer spending and a long-term shortage of new construction, which kept occupancy very high.

According to Hanna Commercial, industrial vacancy was 5.5 percent at year's end. Net absorption was a healthy 1.7 million square feet. Newmark reported net absorption of 1.3 million square feet in the fourth quarter and a steep decline in the amount of new space under construction, which fell below 500,000 square feet for the first time since the first quarter of 2019. Genfor Real Estate reported that almost 2.8 million square feet of total industrial leases were written in 2023, down noticeably from the booming 2022 total. Genfor's analysis of the leases by size helped explain the decline. In 2023, 55 percent of the leases were for space between 10,000 and 25,000 square feet (with only six deals above 100,000 square feet). The share of smaller leases increased by 12 percentage points from 2022 to 2023, and was more than seven percentage points higher than the 10-year average.

Newmark reported that office vacancy soared to 24.1 percent in its fourth quarter office market report. That was an increase of 240 basis points from year-end 2022. Newmark excludes owner-occupied buildings, which gives a clearer picture of the space for rent. Cushman and Wakefield reported that the vacancy rate for all buildings was at 16.1 percent and net absorption was negative by more than 1.2 million square feet.

Office leasing activity was improved from 2022 to 2023. The continued flight to higher quality buildings helped push the

OVERALL VACANCY & ASKING RENT

Pittsburgh's office market saw no new product delivered in 2023. Virtually all office metrics were negative.
Source: Cushman & Wakefield Pittsburgh Office Marketbeat.

average rent up 1.3 percent, although most leases included increased tenant allowances or concessions. The gap between average Class A and Class B rents stayed high, at more than $7 per square foot. CBRE reported that average office asking rents increased to $25.08 per square foot, with asking rents for Class A buildings growing to $28.90 per square foot.

Given the arc of the regional economy, the outlook for 2024 is largely decided. The most likely catalyst for more construction is a return to lending rates below six percent. Even if there were to be an early sharp decline in long-term rates, the lead time for development and approvals would push new projects into 2025. The more sustainable catalyst for new construction will come from job creation. Gov. Shapiro announced his blueprint for economic growth at Mill 19 on January 31. It contained several initiatives that have the potential to drive development and/or redevelopment of Western PA communities:

- $25 million for a Main Street Matters program designed to support small businesses and commercial sectors in towns throughout Pennsylvania
- $10 million for the Agriculture Innovation Program, which intends to promote innovation that will support existing farms and spark business-friendly disruption in agriculture
- An unspecified "major investment" to expand the PA SITES program that the Shapiro administration deployed in fall 2023

The latter initiative offers the greatest potential for development in Western PA, but also underlines the challenge Shapiro faces. When PA SITES was announced, 102 applicants put in $236 million in project requests from a fund of $10 million. In his January 31 speech, Gov. Shapiro expressed frustration at the success Ohio has had in wooing businesses at Pennsylvania's expense. But Ohio has an economic development budget of $2.5 billion. The lion's share of that is doled out as incentives. Gov. Shapiro's conundrum is that the current Pennsylvania budget is inadequate to support economic development funding that would be competitive with that level of incentive offerings.

On February 6, Gov. Shapiro presented his proposal for the 2024-2025 budget, which would take effect July 1, 2024, if passed. The governor proposed $600 million in economic

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PITTSBURGH INDUSTRIAL MARKET – 4Q2023 STATS

165,504,256 SF MARKET BASE	9,303,053 AVAILABLE (SF)	5.62% AVAILABILITY RATE	8,242,421 VACANCY (SF)	4.98% VACANCY RATE	$7.14 WEIGHTED AVG ASKING RATE

Submarket	Inventory (SF)	Available (SF)	Availability Rate	Vacancy (SF)	Vacancy Rate	Weighted Avg Asking Rate
Beaver County	11,880,203	435,720	3.67%	375,720	3.16%	$5.01
Butler County	10,110,945	874,505	8.65%	751,361	7.43%	$5.52
City of Pittsburgh	14,539,760	794,036	5.46%	778,340	5.35%	$12.12
Cranberry	9,180,541	267,679	2.92%	187,367	2.04%	$11.52
Northeast Pittsburgh	16,319,069	595,197	3.65%	440,381	2.70%	$6.53
Parkway East Corridor	12,266,726	1,069,851	8.72%	967,860	7.89%	$5.29
Northwest	5,459,733	642,794	11.77%	616,265	11.29%	$8.79
South	14,223,050	396,373	2.79%	385,673	2.71%	$4.96
Washington County	12,860,211	800,995	6.23%	698,745	5.43%	$5.28
West	24,516,579	2,031,510	8.29%	1,725,036	7.04%	$8.11
Westmoreland County	34,147,439	1,394,393	4.08%	1,315,673	3.85%	$6.64

Source: Genfor Real Estate, 2024

development funding, including $500 million for PA SITES to prepare more pad-ready locations for new businesses and development. Opposition to the $48.3 billion budget, which also increases all spending by seven percent from 2023-2024, will focus on the governor's use of $3 billion of the $14 billion surplus to fund the increased spending.

In recent months, at least two manufacturers have included Pittsburgh in their site searches for developments that exceeded one million square feet. At least one of them was looking for the kind of river/rail/highway access, power, and water supply that Pittsburgh's former industrial sites can offer. The CHIPS Act and Inflation Reduction Act offer federal incentives that seem likely to bring more of these kinds of major manufacturing opportunities. One of them could be the next billion-dollar mega project that can anchor the construction market through the second half of the decade. BG

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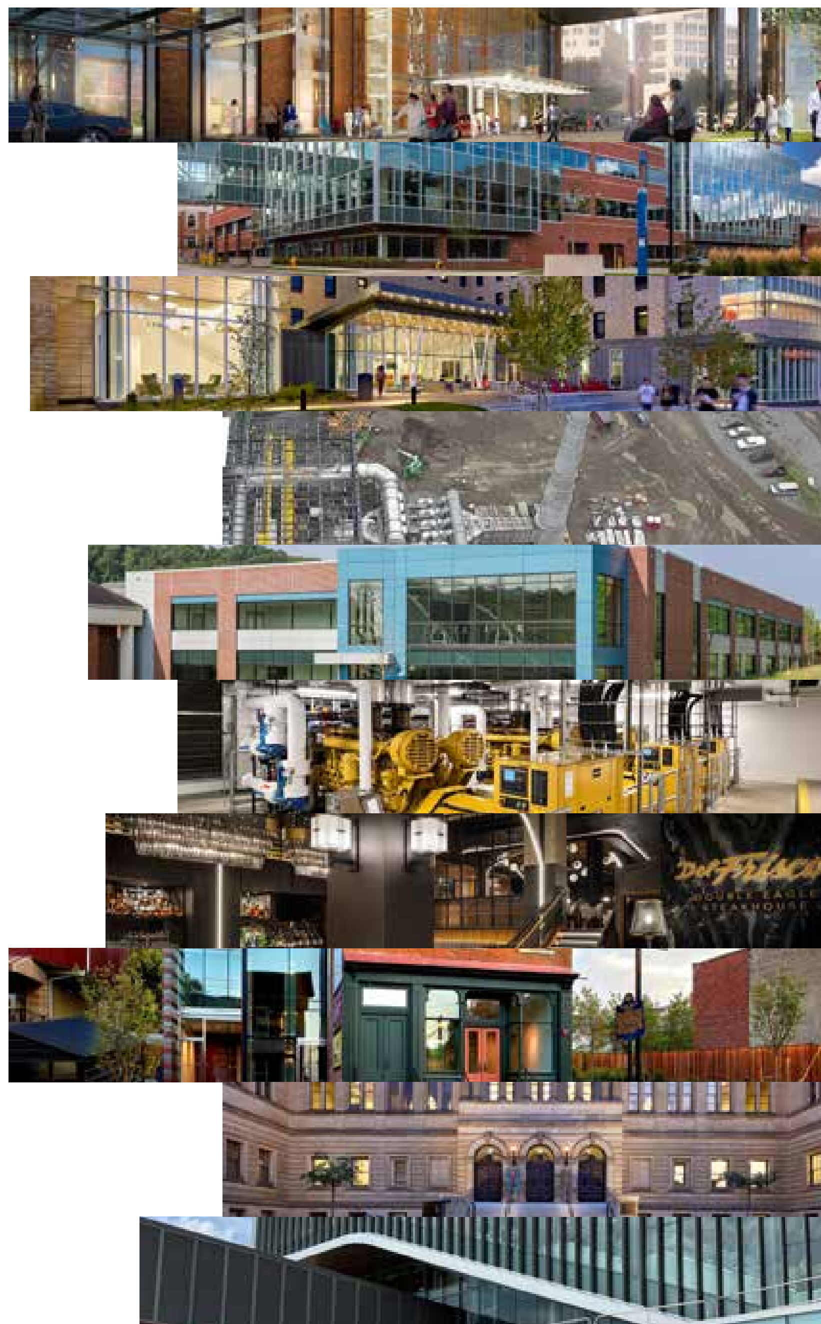
2023
Building Excellence Awards

AWARD **WINNERS**



NEW CONSTRUCTION
Over $200 Million

UPMC Mercy Pavilion

CONTRACTOR:
Mascaro Construction Company, LP

OWNER:
UPMC

ARCHITECTS:
HOK Group Inc., IKM Inc.

MBA SUBCONTRACTORS:
Ace Lightning Protection, Inc.
Century Steel Erectors Co. LP
D-M Products, Inc.
Easley & Rivers, Inc.
EMCOR Services Scalise Industries
Franco Associates
Gunning, Inc.
Lighthouse Electric Company Inc.
Mohawk Construction & Supply, Inc.
Ruthrauff | Sauer, LLC
Schindler Elevator
T.D. Patrinos Painting & Contracting Company
W.G. Tomko, Inc.
Wyatt, Inc.

NEW CONSTRUCTION
$100 to $200 Million

The Erie Insurance Thomas B. Hagen Building

CONTRACTOR:
PJ Dick Incorporated

OWNER:
Erie Insurance

ARCHITECTS:
Albert Kahn Associates

MBA SUBCONTRACTORS:
D-M Products, Inc.
Howard Concrete Pumping, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
Keystone Electrical Systems, Inc.
Maxim Crane Works, LP
Mohawk Construction & Supply Inc.
Schindler Elevator

NEW CONSTRUCTION

$50 to $100 Million

NLMK Walking Beam Furnace Installation

CONTRACTOR:
STEVENS Engineers & Constructors, Inc.

OWNER:
NLMK Pennsylvania

ENGINEER:
Hatch Engineering/Tenova Equipment

MBA SUBCONTRACTOR:
Bruce & Merrilees Electric Company

NEW CONSTRUCTION

$15 to $50 Million

Carnegie Mellon University Forbes and Beeler Residence Hall

CONTRACTOR:
Mosites Construction Company

OWNER:
Carnegie Mellon University

ARCHITECTS:
Goody Clancy, IKM Inc.

MBA SUBCONTRACTORS:
Century Steel Erectors Co. LP
Costa Contracting, Inc.
Franco Associates
Hatzel & Buehler, Inc.
Phoenix Roofing, Inc.
RAM Acoustical Corporation
Redstone Flooring, LLC
Saint's Painting Company, Inc.
Sargent Electric Company
Schlaegle Design Build Associates, Inc.
Wyatt Incorporated

University of Pittsburgh at Greensburg Life Sciences Building

CONTRACTOR:
Rycon Construction, Inc.

OWNER:
University of Pittsburgh

ARCHITECTS:
MCF Architecture

MBA SUBCONTRACTORS:
A.C. Dellovade, Inc.
Amthor Steel, Inc.
Costa Contracting, Inc.
Franco Associates
Howard Concrete Pumping, Inc.
Massaro Industries, Inc.
Schindler Elevator
Specified Systems, Inc.
T.D. Patrinos Painting & Contracting Company

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RENOVATION CONSTRUCTION
Over $10 Million

UPMC Montefiore Emergency Generator

CONTRACTOR:
Mascaro Construction Company, LP

OWNER:
UPMC Corporate

ENGINEER:
Allen & Shariff Engineering LLC

MBA SUBCONTRACTORS:
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Century Steel Erectors Co. LP
Clista Electric, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
Marsa, Inc.
Matcon Diamond, Inc.
Mele & Mele & Sons, Inc.
Mohawk Construction & Supply Inc
Wayne Crouse, Inc.


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Mechanical Excellence
WCI
Wayne Crouse, Inc.
HVAC / Plumbing / Design Build / Pipe Fabrication
Wastewater Treatment / Service & Maintenance

RENOVATION CONSTRUCTION

$5 to $10 Million

Del Frisco's Double Eagle Steakhouse

CONTRACTOR:
A. Martini & Co

OWNER:
Del Frisco's Double Eagle Steakhouse

ARCHITECTS:
Aria Group Architects

MBA SUBCONTRACTORS:
Bristol Environmental, Inc.
Flooring Contractors of Pittsburgh
Franco Associates
Giffin Interior & Fixture, Inc.
RAM Acoustical Corporation
Swank Construction Company, LLC

RENOVATION CONSTRUCTION
$2 to $5 Million

August Wilson House

CONTRACTOR:
A. Martini & Co

OWNER:
Daisy Wilson Artist Community Inc.

ARCHITECTS:
Pfaffmann & Associates

MBA SUBCONTRACTOR:
Costa Contracting, Inc.
Flooring Contractors of Pittsburgh
Marsa, Inc.

RENOVATION CONSTRUCTION

Under $2 Million

Carnegie Library of Pittsburgh Main Entrance

CONTRACTOR:
Burchick Construction Company, Inc.

OWNER:
Carnegie Library of Pittsburgh

ARCHITECTS:
elagin architecture inc.

MBA SUBCONTRACTORS:

A.J. Vater & Company, Inc.
Franco Associates
Giffin Interior & Fixture, Inc.
Gunning, Inc.
Hanlon Electric Company
SSM Industries, Inc.

EXCELLENCE IN

Craftsmanship

UPMC Vision Institute - Electrical Construction

CONTRACTOR:
Lighthouse Electric Company, Inc.

OWNER:
UPMC

ARCHITECTS:
HOK Group Inc./CJL Engineering

NAIOP

COMMERCIAL REAL ESTATE DEVELOPMENT ASSOCIATION

PITTSBURGH CHAPTER

We are the leading industry resource to foster business relationships, promote responsible development & support growth of the region through

education

leadership

and advocacy

NATIONAL MARKET UPDATE

As the fourth anniversary of the COVID-19 lockdowns passes in March, it has become clearer that the government's responses to the pandemic made the economy resilient enough to thrive beyond the crisis. In the longer run, the wildly expanded federal deficits may prove an economic drag that only a major correction reverses; however, both the fiscal and monetary responses to the economic disruptions of the pandemic have given the current U.S. economy a surprising resilience. That resilience may keep a recession at bay again in 2024.

2023 proved to be the year the recession did not happen. Gross domestic product (GDP) grew by 3.1 percent, well above expectations. While the 4.9 percent spike in the third quarter was driven significantly by higher inventory building, exports, and government spending, the 3.2 percent growth in GDP during the fourth quarter was built on more sustainable economic conditions.

Consumer spending continued to be strong, growing 2.8 percent from the previous quarter. Consumers benefitted from low unemployment and wage growth that continued to outpace inflation. Inflation was at an annualized 1.7 percent during the fourth quarter. Business investment in equipment grew 1.0 percent. Investment in nonresidential structures jumped 3.2 percent, while residential investment increased by 1.1 percent. The latter marked the second consecutive quarter of expansion following nine quarters of decline. Despite the strong dollar, exports spiked by 6.3 percent, outpacing imports by more than four percentage points.

U.S. policy makers benefitted from coincidences that may have made fiscal and monetary decisions appear wiser. Most consequential was the demographic shift in labor force. This shift, which is primarily the accelerated exit of Baby Boomer workers, is keeping unemployment historically low. Regardless of other economic metrics, recessions do not occur without rising unemployment. The other significant coincidence was the abrupt shift in pandemic response policy by the Chinese government at the beginning of 2023, which allowed a more rapid normalization of supply chains. That change, coupled with cooling global demand, eliminated most of the shortages that were exerting upward pressure on prices.

More economists are still forecasting a mild recession in 2024 than not, but it is difficult to find one that is willing to predict a significant downturn.

What offers economists optimism that the so-called soft landing can be completed in 2024 are signs that consumer and business demand has softened, which should bring inflation fully back to its two percent long-term average by 2025, and that the Federal Reserve's signaling that it will cut rates will gradually remove the restraints on business. One of the lesser publicized consequences of the Fed's tightening has been the downstream tightening of credit by lenders, especially for real estate. Since Fed Chair Jerome Powell reported that three cuts are expected in 2024, long-term rates have fallen nearly 100 basis points and commercial credit has been more available (although not necessarily for real estate yet).

Initial claims for unemployment insurance remained at a pace that was 15 percent lower than during the third quarter of 2023. Source: U.S. Employment and Training Administration, Federal Reserve Bank of St. Louis.

Powell's comments following the Fed's January meeting, which saw no change in Fed Funds rate, pulled back a bit from his doveish remarks a month earlier. Powell indicated that the data on inflation for January and February would drive any decision to ease policy in March. He cited the strength of the economy as evidence that the rate hikes had not done harm while bringing inflation close to the Fed's target. The January jobs report backs that observation.

The February 2 Employment Situation Summary showed 353,000 new jobs in January. That was a reversal of the slowing momentum for job creation during the latter half of 2023. Moreover, the pattern of downward revisions also reversed, as both November and December were revised upward by a total of 126,000 jobs. Those revisions shifted the previous three-month moving average from 165,000 to 289,000. Unemployment is still historically low and initial claims for unemployment compensation have

AIA 2024 Consensus Forecast (% change)	2024	2025
Nonresidential Total	4.0	1.2
Commercial Total	(0.7)	0.2
Office	(1.7)	(0.7)
Retail & Other Commercial	(1.2)	(0.4)
Hotel	7.4	5.9
Industrial Total	8.9	(0.8)
Institutional Total	5.1	3.1
Health	3.6	3.5
Education	5.8	3.9
Religious	1.1	1.0
Public Safety	9.8	3.6
Amusement & Recreation	3.7	3.1

AIA Consensus Construction Forecast

fallen closer to 200,000 per week after a mid-summer 2023 spike to 265,000.

There are key economic indicators that are trending lower as 2024 began. The Institute for Supply Management (ISM) surveys purchasing managers to gauge activity in manufacturing and service sectors. ISM's key purchasing managers index (PMI) remained below 50 – meaning more respondents reported declining manufacturing than increased activity – throughout 2023. That is typically a leading indicator of a slowing economy.

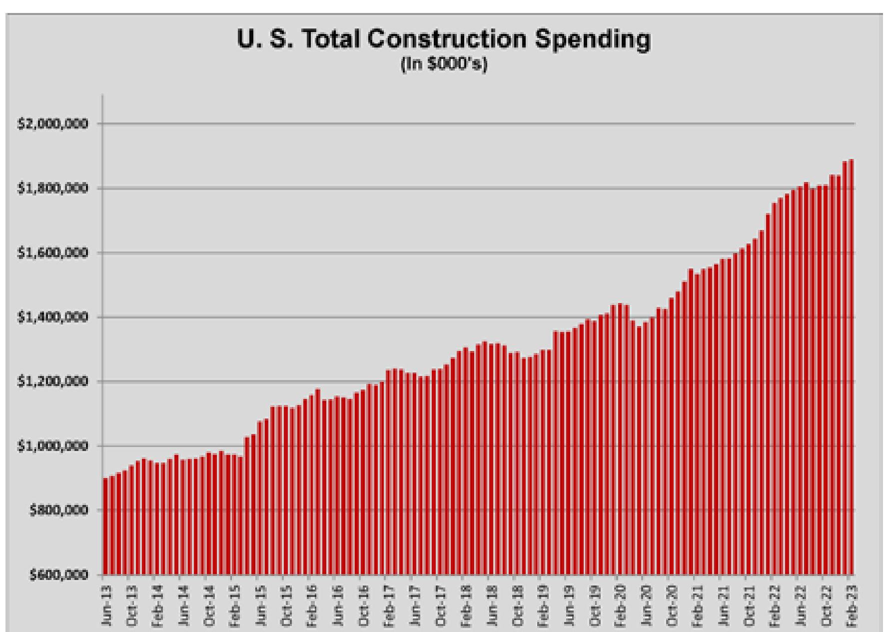
GDP is expected to grow more slowly, despite the strong finish to 2023. After growing at a 3.1 percent clip from 2022 to 2023, GDP is expected to climb a full percentage point slower in 2024.

For those who prefer a more technical indicator, the yield curve is flashing red. An inverted yield curve, one in which short-term rates are higher than long-term rates, is viewed as a predictor of recessions. Since World War II, every recession has begun 18 months – on average – after the yield curve inverted. As of January 2024, the yield curve had been inverted for 18 months. During the same period, every recession began within six months of the yield curve reverting, which occurred in February 2024.

There is no consensus about the likelihood of recession in 2024. Among the more optimistic institutions, Wells Fargo Securities modified its 2024 forecast to predict that the economy would continue to expand, albeit at a slower 1.2 percent pace. PNC economists are still predicting a mild recession in mid-2024 but growth of less than one percent for the year. The National Association of Business Economists (NABE) moderated its forecast for 2024, noting that three-fourths of its members had downgraded the likelihood of recession in the coming year to less than 50 percent. Among major investment banks, only DeutscheBank is predicting a recession, which it sees happening in the first half of 2024. JP Morgan Chase still sees recession as a potential risk to the economy, while Goldman Sachs increased its GDP forecast from 2.1 percent to 2.3 percent for the coming year and removed recession from its outlook. Kenneth Simonson, the chief economist of the Associated General Contractors of America (AGC), puts the chance of recession at 20 percent.

What does this economic state mean for construction? Key activities have already slowed down. One of the better leading indicators is the American Institute of Architects' (AIA)/Deltek Architectural Billings Index (ABI), a binary monthly survey that asks 300 firms nationwide about their billings, inquiries, and new projects. The ABI readings for nearly all aspects have been negative since August 2023. That portends a mid-2024 slowdown in bidding and construction starts. Construction spending slowed throughout 2023 to a pace that lagged the rate of inflation.

The AIA leads an annual consensus forecast of economists from nine organizations – including Dodge Construction Network, S&P Global, FMI, Wells Fargo Securities, ConstructConnect, Moody's Analytics, and others – that predicts the construction market for the coming two years. The consensus forecast sees a rebound of four percent for nonresidential construction in 2024 and a more modest increase of 1.2 percent in 2025. The forecast shows above trend activity in industrial, lodging, education, institutional, and public safety sectors, with declines in commercial real estate projects.



Source: U.S. Census Bureau

Simonson expects residential construction to be flat, but with single-family construction higher by five to ten percent and multi-family lower by 10 to 15 percent. Simonson sees nonresidential construction activity to be five to ten percent higher than 2023.

Most of the rationale for the consensus forecast rests on trends that have been in place since the start of 2023 (and have mostly begun to recede). The forecast points to tighter credit conditions, higher construction costs, declining commercial property values, and structural changes in demand – primarily in office and retail – as the causes of the slowdown in construction. While the first three are no longer as severe headwinds, the negative impact of those factors is baked into the construction market for 2024.

Source: Institute for Supply Management

Construction spending was 0.9 percent higher in December, driven by increased residential spending and a better-than-expected increase in public building construction. Total spending was an annualized $2.096 trillion. Nonresidential construction was 0.4 percent higher than November, at $1.17 trillion. Private nonresidential construction was 1.4 percent higher.

For the full year, construction spending was 13.9 percent higher than 2022. That total is not adjusted for inflation, which was at double-digit levels for construction until mid-year. There were an estimated 1,413,100 housing units started in 2023, a decline of 140,000 units or nine percent.

The fundamentals of the economy will be influenced, if not overshadowed, by the 2024 presidential campaign. Presidential election years are often slower because of the inherent uncertainty about a future administration's policies. That effect is heightened when the perceived differences in potential policies are great, such as is the case in 2024. With Republican candidates running campaigns that are extremely negative on the economy thus far, there is potential that consumers and businesses will be impacted by the negativity. The amplification that a presidential campaign could give a negative message on the economy – particularly when there is bad economic news – has the potential to create a self-fulfilling recession outcome.

Residential and commercial real estate will remain in limbo until interest rates fall below six percent again. Even at the current long-term rates, financing for multi-family and commercial properties is difficult to consummate. Property values are below the levels that landlords and lenders need to make profitable refinancing or acquisitions. The longer the current rate environment continues, the greater the risk to the banking industry will be. It is clear that the Federal Reserve Bank intends to try to reverse the riskiest scenarios in 2024 while avoiding a resurgence in inflation or triggering a recession.

One of the Fed's successful interventions in 2023, the Bank Term Funding Program, represents an additional risk to financing when it expires on March 11, 2024. The program allowed banks to borrow at face value against long-term Treasury bonds that had been drastically devalued when interest rates spiked. It was this devaluation that Silicon Valley Bank was forced to mark to market when its deposit base evaporated on March 10, 2023. The intervention worked to stabilize confidence in deposit banks, but more than $160 billion in loans will need to be refinanced ($100 billion of that is due now).

If banks worked over the past year to bridge the gap between the value of the securities and the value carried on their balance sheets, the resulting losses will be just a few percentage points. If the gap remains wider, however, the Fed may need to intervene again – likely by cutting rates or boosting Treasury purchases – to push long-term yields lower.

With inflation coming in at 2.9 percent at year's end, the real interest rate – the spread between the rate of inflation and the Fed Funds rate – is more than 2.5 percent. That is at least 150 basis points above the normal spread, which gives the central bank plenty of room to cut early and slowly without reigniting inflation. A good argument can be made that failing to cut early will have the same effect as restraining the economy too much.

A recession would not be good for the construction economy but a slowdown that leads to a quicker and deeper reduction in interest rates would set the table for a solid recovery in development, perhaps as early as the fourth quarter of 2024. BG

WHAT'S IT **COST?**

The reports on inflation in January produced a couple of surprises and somewhat disproportionate reactions in the financial markets. The February 13 report on consumer prices showed inflation slowing further in January, at a 3.1 percent pace; however, markets had been anticipating a decline of less than three percent. The upward pressure on prices came primarily from a 0.6 percent increase in shelter inflation.

Markets responded by pushing long-term rates slightly higher, as the report on inflation was viewed as making it less likely that the Federal Reserve Bank would begin cutting its Fed Funds rate in March.

Later that week, the report from the Bureau of Labor Statistics on producer prices showed that deflation continued for goods, while the producer price index (PPI) for services jumped 0.6 percent from December to January. The rise in services prices was consistent with the pattern of increases in January since before the pandemic. PPI for final demand for goods and services combined rose 0.9 percent for the year, while PPI for final demand services rose just over two percent.

For construction materials and inputs, the January data on inflation was quite mixed, probably distorted by the decline in energy and fuel prices and the continued higher demand for materials used in infrastructure projects. Ken Simonson, chief economist at the Associated General Contractors of America, points out that bid prices for new nonresidential buildings jumped 0.3 percent in January, the highest in a year; however, the same category fell 1.1 percent in 2023, the first such decline since 2010. The latter suggests that contractors' response to the unusual escalation in 2021-2022 has moderated.

Inflation was unusual in January for cement (PPI up 4.2 percent for the month and 8.2 percent year-over-year), steel mill products (up 5.4 percent and 4.4 percent respectively), and sand/gravel/stone (up 4.5 percent and 8.1 percent respectively). The PPI for asphalt was up 15.7 percent year-over-year. The bigger declines were in #2 diesel fuel (down 4.1 percent and 27 percent respectively), steel pipe and tube (down 13.4 percent for the year but up 2.2 percent from December) and truck transportation costs (down 7.3 percent year-over-year).

One unwelcome disruption that bears watching is the rising cost of shipping of imported materials and products due to problems in the Suez Canal and the Panama Canal. Attacks on ships moving from the Red Sea to the Mediterranean have pushed more than half the shipments from China-to-Europe to routes around Africa, which has doubled the transportation costs. Severe drought conditions in Panama have reduced the flow of ships through the canal to two-thirds the normal volume. That is creating delays and adding to costs, although neither looks to be a long-term concern for inflation. BG

PERCENTAGE CHANGES IN COSTS	Jan 2024 compared to		
Consumer, Producer & Construction Prices	**1 mo.**	**3 mo.**	**1 yr.**
Consumer price index (CPI-U)	0.5	0.2	3.1
Producer price index (PPI) for final demand	0.6	(0.2)	0.9
PPI for final demand construction	0.3	0.2	(1.0)
PPI for new nonresidential buildings	0.3	0.2	(1.1)
Costs by Construction Types/Subcontractors			
New warehouse construction	0.0	(0.1)	(1.5)
New school construction	0.5	0.4	(1.1)
New office construction	0.2	0.4	(1.2)
New industrial building construction	0.8	0.7	(0.1)
New health care building construction	0.1	(0.2)	(1.2)
Concrete contractors, nonresidential	0.9	1.1	(0.5)
Roofing contractors, nonresidential	0.3	0.4	4.1
Electrical contractors, nonresidential	0.1	0.1	(4.7)
Plumbing contractors, nonresidential	0.4	0.1	2.7
Construction wages and benefits	N/A	0.9	4.2
Architectural services	0.5	0.5	2.3
Costs for Specific Construction Inputs			
#2 diesel fuel	(4.1)	(19.6)	(27.0)
Asphalt paving mixtures and blocks	8.6	8.5	3.9
Cement	4.2	4.1	8.2
Concrete products	1.6	1.1	6.2
Brick and structural clay tile	0.8	0.8	5.4
Plastic construction products	0.3	(0.1)	(2.9)
Flat glass	(0.2)	0.6	2.4
Gypsum products	0.0	(0.3)	(1.9)
Lumber and plywood	0.5	(0.4)	(5.6)
Architectural coatings	0.4	0.4	0.1
Steel mill products	5.4	5.8	4.4
Copper and brass mill shapes	1.0	1.8	(2.2)
Aluminum mill shapes	(1.7)	(2.0)	(5.5)
Fabricated structural metal	0.8	3.5	4.0
Iron and steel scrap	(0.5)	14.9	7.7

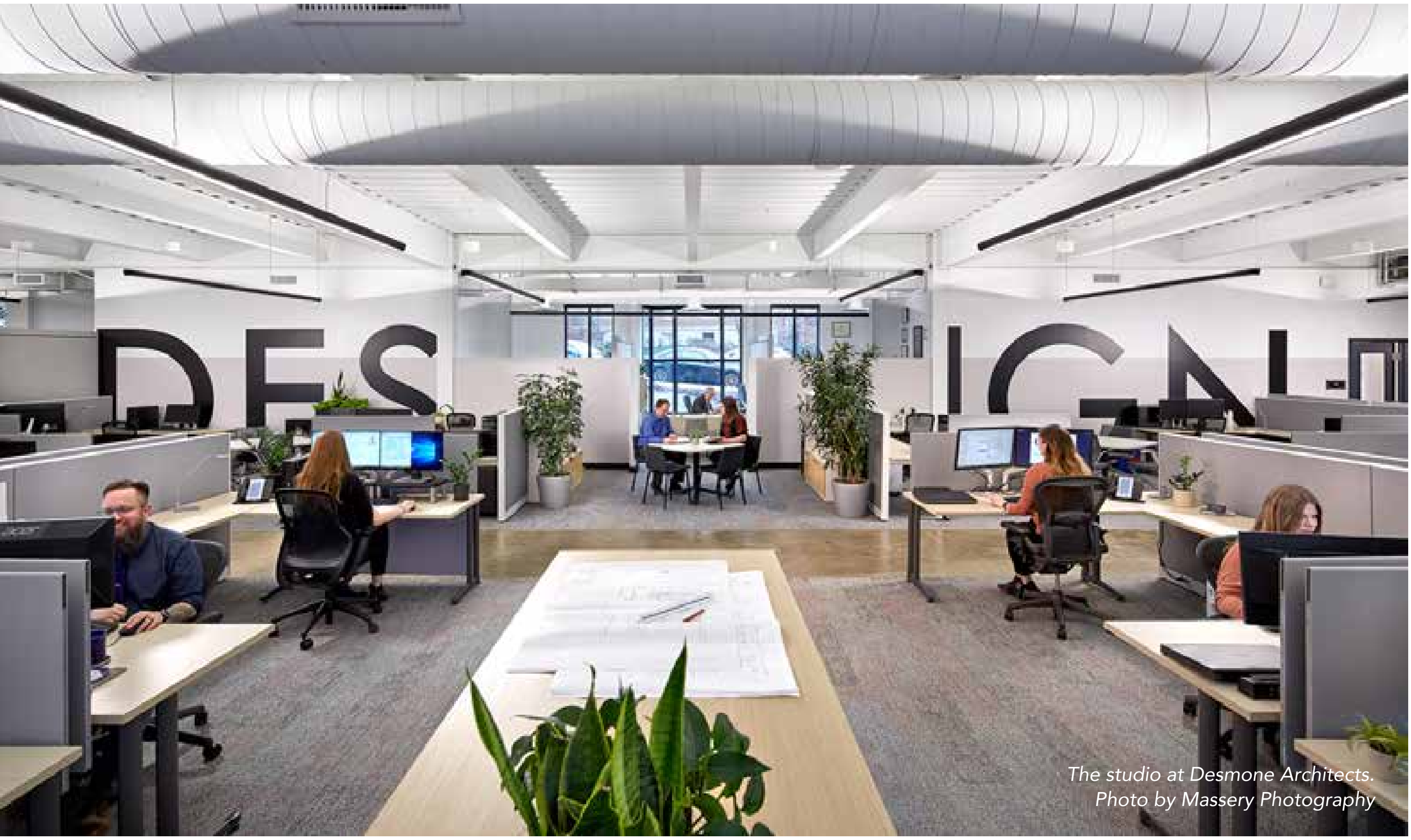
Source Bureau of Labor Statistics, Updated February 16, 2024
Compiled by Ken Simonson, AGC Chief Economist

Some people thrive in changing environments. Whether the change is innovative or chaotic, these kinds of people draw energy from it. For most people, however, change (or the prospect of change) induces anxiety. In business, change generally brings uncertainty, and business dislikes uncertainty. Successful businesses find ways to anticipate and embrace change, even as they conserve what has been successful for them.

TRENDS IN ARCH

Photo by Akacin Phonsawat

TECTURE



The studio at Desmone Architects. Photo by Massery Photography

Architecture is a profession that must anticipate and embrace change. It is also a profession that is conservative by design. (What other professionals sport as many bowties?) Managing that duality is one of the industry's challenges.

Architects can be forgiven for being of two minds when it comes to embracing change. As a creative endeavor, architecture seeks to explore what is new. People who engage in design typically intend to come up with something new, or at least something that changes what exists in a meaningful way. As a practical endeavor, however, architecture tends to conserve the things that keep buildings – and occupants – warm, safe, and dry. Ask a manufacturer of a new product how easy it is to gain acceptance from architects (or engineers).

We humans, as occupants of multiple buildings most days, should be grateful for the conservative, safe side of the architectural profession.

Change comes, however, whether it is embraced or resisted. And it is coming to architecture with the same certainty and urgency as change comes to all walks of life. Clients are demanding it. The business of practicing architecture requires it. And the pace of technological advancement is making it inevitable that architecture changes.

BreakingGround asked owners and principals of firms in Pittsburgh what trends were emerging that were changing their practice of architecture. It should not come as a surprise that technology, specifically the growing use of artificial intelligence (AI), topped the list of trends that architects see changing their practices. AI has the potential to disrupt society as a whole, and many of the same concerns about negative impacts on human activity are echoed in the architects' concerns. But architects also expressed optimism about the opportunities that AI presents.

There were other trends that were unsurprising – the shortage of human resources and differing expectations between generations of architects – and a few that were unexpected. All the architects agreed on one thing: things were not going to remain the same.

Market Trends

There are some general trends in the practice that are worth mentioning. Architecture was significantly impacted by the COVID-19 pandemic. Similar to the response to the Great Recession, a significant share of architects who lost jobs or stopped practicing while the world sheltered in place left the profession. In the aftermath, fewer graduating architects pursued certification than before. According to the National Council of Architectural Registration Boards (NCARB), the number of architects qualified for certification fell from more than 5,000 nationwide in 2018 to 3,423 last year. After bouncing back above 3,500 in 2021, the number declined in the following years. The total number of registered architects in the U.S. declined from nearly 122,000 in 2021 to 119,906.

There are almost 4,300 registered architects located in Pennsylvania. In Pittsburgh, there are 102 architecture firms, including sole proprietorships, which are members of the American Institute of Architects (AIA) Pittsburgh chapter.

Of course, demand for architectural employment starts with the marketplace. Construction is a cyclical business, with cycles within cycles driving demand for some types of buildings more than others. Architects have had to resist the trend towards specialization that the practice tends to engender or embrace specialization and the boom-and-bust cycles that come with it. Firms that are trying to stay ahead of the market are looking to see what trends of today foretell tomorrow's activity.

Kevin Turkall, founding principal of Designstream LLC, sees a continuing shift in opportunities from private sector to public construction. He sees the drop-off in new office and commercial properties being offset by a surge in police and fire stations, municipal buildings, and public recreation facilities. He even noted a surge in public facilities centered on the pickleball craze.

Funding from the American Rescue Plan Act (ARPA), passed by Congress in early 2021, has been a boon to local municipalities and counties, many of which have chosen to invest in facilities. For many of the municipalities, ARPA funds bridge a cap that would never been made up through local taxes or fees. There has been a spike in municipal buildings, police and fire stations, and public works garages under construction during the past couple of years as a result. For publicly funded educational projects, however, no such funding windfall exists.

"School construction funding has been limited and that has had an impact for a while," says Cassandra Renninger, senior principal at DRAW Collective. There is not enough state funding available for school construction. It is to the point now where districts will proceed with projects even though there is not state funding. But there are places where school districts are struggling to get needed projects off the ground."

Renninger adds that the extraordinary cost escalation that occurred since 2021 has compounded the difficulties of funding K-12 projects.

"Not being able to understand and predict construction costs with any reliability has been a challenge," she continues. "We have been lucky that our clients have been tolerant of that because they see it in their own lives. That doesn't mean they have the money to proceed with the projects, but they understand that we are not better mind readers than anyone else."

Cost escalation has been a problem across all types of construction. Aside from the complications it causes for the project's owners and end-users, escalation has disrupted the way architects plan their own businesses.

"We're seeing projects that are not being budgeted appropriately across all types of projects," says Amanda Markovic, principal and market design leader for mixed-use at GBBN. "There's a growing push for speed to market. There's a rush during design and then a pause because of funding issues. That's been quite challenging."

"The cost environment impacted us quite a bit in the past few years," says Tom Stanko, operations manager at DesignGroup. "You try to get yourself set for revenue for the year. You plan for the work that you expect to come and may not pursue other opportunities, so when there's a shift in funding or a stoppage of projects, it makes it difficult to keep your revenue plan. You staff up for certain projects and when they get pushed out of the fiscal year, you're scrambling to make up revenue."

There has been more uncertainty about two of the markets that are mainstays of the Pittsburgh construction industry, higher education and healthcare. Higher education and healthcare are key industries for architecture because they drive the economy and create jobs. Those industry sectors have attracted architectural firms to Pittsburgh and nearly all of Pittsburgh's larger architectural firms have a higher education or healthcare studio. When either or both sectors are struggling, there is a negative impact on architecture and construction.

"I think the biggest trend in higher education is that the rich will get richer, and the poor will get poorer. Smaller universities, even the highly regarded ones, are struggling to get full enrollment," says Jonathan Glance, managing partner LGA Partners. "There's a divide. Schools like Pitt or Syracuse are doing well. We're doing a lot of work with Bucknell and Dickinson and they seem to be doing well, but other small colleges are struggling."

"There's an overarching trend of decreasing enrollment and people's attitudes about higher education are shifting. In response to this, the biggest thing we are seeing is a real push to make the recruiting experience very competitive," says Christine Lyons, associate and project manager at IKM Architecture. "Universities are looking at reorganizing their services like financial aid and registration to be a one-stop shop. They are paying attention to how they conduct their tours. They are interacting with prospective students, but there is also a shift in how they interact with their families. For the past 20 or 30 years, it's been a student-led decision but now parents are involved and even grandparents who might be financing the student's education. Schools are looking to cater to a larger group of decision makers."

"A second result of the trend is universities are paying attention to their infrastructure and making sure that they are right sized. There is not the need for the same amount of space, and there is a need to make sure they are serving more students with the space they have," Lyons continues. "The giant lecture hall that serves students for one class three times a week is not efficient. They want to see the schedules for these spaces full. There is campus-wide scheduling to make sure the spaces and equipment are being utilized more fully. Is there single-purpose furniture or is there the kind of furniture that is more collaborative so that there can be different kinds of learning in a space?"

Healthcare is not plagued by a decline in demand. In fact, the demographic makeup of Pittsburgh assures that will not be the case for decades. The industry faces its share of challenges nonetheless, from rising costs to a shortage of key staff to an uncertain reimbursement environment. With major new hospitals under construction since before the pandemic that will last through much of the decade, the region's major health systems are spending less on the kinds of clinical renovations that have been the bread and butter for architects in Western PA.

"The thing that's affecting our business is the economics of healthcare right now. Lower reimbursements and higher staffing costs have had a significant impact on healthcare systems and their ability to do more than projects that generate revenue," says David Wells, principal at RM Creative. "If there are projects directly tied to generating revenue, like imaging equipment or operating rooms, hospitals are going forward with them. There are also a lot of infrastructure improvements. Hospitals are making sure that their facilities systems are going to be able to support them as they see how the economic environment pans out."

"So many of the healthcare systems we work with are making investments in behavioral health needs. That goes for everybody from UPMC and AHN down to the smaller community health systems. It affects the dollars being spent, the care and the needs of the community, and the space on a few different levels," says John Ryan, associate principal at DesignGroup. "That space can be a variety of things depending on what the population is dealing with. The tricks for design revolve around how you secure a unit and maintain life safety. How do you implement products and protocols that will be anti-ligature and help people keep themselves safe?"

Ryan notes that many of the behavioral health projects are being done by healthcare providers with limited funding. Often these are in smaller towns or rural areas, where the opening of the behavioral health unit is attended with the same fanfare as the ribbon cutting of a new hospital. Healthcare systems are providing enhanced behavioral health services to meet a broader spectrum of needs in the community.

"The trend is related to the opioid epidemic, but it is not the only reason for it," Ryan says. "There are mental health issues, and employment issues, and problems coming out of the pandemic in communities that haven't recovered."

The pandemic elevated the role that retailers played in delivering healthcare. The local Rite Aid, CVS, or WalMart became COVID-19 testing centers and key parts of the vaccine distribution system. Those companies are continuing to push for greater participation in the healthcare industry.

"The model of providing a greater level of care in the retail pharmacy environment is a growing trend," says Wells. "The health regulations are allowing them to do certain things that might have previously been done at your family doctor."

The other major private sector driver of construction, commercial real estate, has been buffeted by the pandemic and the steep increase in the cost of borrowing money since 2022. While commercial real estate is mostly frozen as a growth sector, there are some trends that may show the way forward.

"We as architects are going to have to develop much better understanding of how the buildings in which our clients work, and live, and learn, and socialize are being used during a typical workday or work week," says Deepak Wadhwani, principal at Renaissance 3 Architects. "I think hyper flexibility and rapid adaptability will have to be built into these structures and their supporting infrastructure, technology, and furniture systems. We can't expect that buildings are going to always be inhabited the same way throughout their life cycle. It's more than just adaptive reuse. Architects will have to consider future market conditions or major societal disruptions, like the pandemic, that will have transformative impact on entire real estate sectors."

"Companies are downsizing, but they realize that they want the office to be more appealing, more enticing, and have features that make their staff want to come back to work," notes Lee Calisti, sole proprietor of Lee Calisti Architecture + Design. "I am wrapping up a project in Southpoint that is a big investment, but the new office has collaboration spaces, kitchen and eating spaces, spaces that are more comfortable, make use of color, and is just more interesting. The offices before were very dull and utilitarian. No one enjoyed working there."

"It's clear nobody knows what to do about workplace occupancy. We have clients talking about both downsizing and upsizing," says Glance. "There are some clear constants. There need to be touch spaces, open and closed spaces. But what kind of workstation? Is it smaller? Is it assigned? Do you hotel? I think benching has largely faded away as a concept, but people are still talking about it. The pandemic completely turned workforce design upside down."

“I think one of the biggest challenges is getting people to come back to work. Talking to my clients, talking to folks who are making decisions, without fail each believes that work-from-home as a long-term strategy isn’t viable,” Glance continues. “Flex time is viable, meaning one day a week or in special circumstances people can work from home. But, as a model, work-from-home doesn’t make a lot of sense to employers.”

Glance shares that LGA has had more than one client lock in on a footprint, only to discover that their program dictates more space than they leased. He predicts that there will be a wave of office expansion in a few years and believes the retail sector offers a blueprint for that.

“We saw retail collapse, first with internet shopping and second with the pandemic. In 2023, we had our best year for retail nationally ever. And this firm used to do 80 percent of its business in retail,” he says. “We are seeing a massive boom in retail. I think what happened was retail hit bottom, it reset, and now there’s great demand. It’s not the same demand and it’s got different characteristics. You hear about the flight to quality in office and it’s the same in retail. I think we’ll see that in the workplace.”

Business Trends

The uncertain workplace is impacting architect’s business beyond the challenges of designing spaces to work. Most firms have adopted some mix of in-office and work-from-home for their employees. Like their clients, there is some unease that hybrid work is best for their practice.

“This hybrid model and the expectations of staff compared to clients’ pressures are a struggle for us. That’s the biggest thing that consumes my time as a principal outside of architecture,” says Lisa Carver, principal at PWWG Architects. “People are as productive at home but it’s a different vibe. I used to sit next to [retired principal] Alan Weiskopf. I didn’t necessarily interact with him every day, but just listening to him in his conversation with clients and consultants, I picked up things that I would not have picked up at home. It’s hard to relay that value to people that enjoy working from home. I don’t think we’ve seen the impact of that yet. I think it’s more of a generational thing.”

525 William Penn Place. Photo by Andrew Rugge/Copyright Perkins Eastman

“There is a much stronger interest in a better work-life balance in younger employees. Across all our regions, we aren’t seeing folks frequently working a lot of hours. They are still very passionate about the work and the impact they can have but when the day ends, they go home and enjoy time with their family and friends,” says Markovic. “I think we’re seeing a general shift in that balance so that they’re not working the kind of hours that our grandparents or parents did.

“It’s something we’re all trying to learn and it’s changing our practice. If you manage your firm thinking think your staff is working at 45-hour work week and it becomes a 42-hour work week, that becomes a significant difference, especially if you have 150 employees.”

Markovic acknowledges that the shift in the perception of work-life balance challenges the concepts of traditional firm management. She notes that the younger architects who expect not to work long hours include GBBN’s most talented people. To accommodate the change in attitude, Markovic says the firm must be realistic about the number of billable hours it can expect and has pared back on initiatives that would require the dedication of time beyond an architect’s work on projects.

“There is a generational change in the workforce, but there’s also been a trend towards limited availability of specialized and mid-level managers,” says Renninger.

Renninger’s observation is consistent with

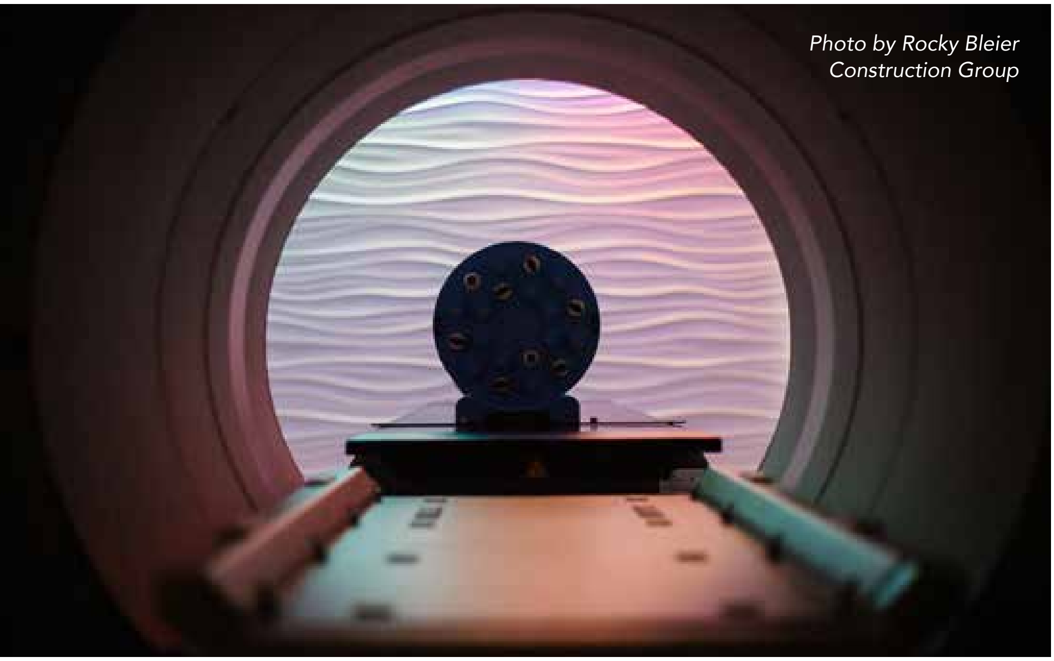


Photo by Rocky Bleier Construction Group

what business owners of all types have been facing due to the demographic realities of the U.S. population. The outmigration of architects from the profession that was mentioned above aggravates the demographic trends. There also appears to be a geographic trend that works against Western PA firms.

"The one thing that has been hitting us both in our Pittsburgh and Columbus office is just lack of resources. When COVID hit and there was a little downturn in the economy, a lot of qualified architects went elsewhere doing other things and never came back," says Stanko. "There's been a trend with the new graduates to go to the larger cities. There's a crop of good graduates, but they tend to go to big firms. If you're looking for a good designer or healthcare planner, those talents you have to build from within."

"It's still an employees' market to some degree," says Carver. "It's about culture and incentives. That is not something I thought I would be dealing with before I became an owner."

Replacing a project architect is a difficult undertaking, one that is more expensive than keeping current staff in place. Much like the disruption caused by project delays, the disruption caused by staff departures or absences can be costly.

"As operations manager, I'm working weekly with our offices here and in Columbus to adjust resources so that we are staffed properly. We have never been in a situation where we could cancel those meetings," Stanko says.

The shortage of resources comes at a time when architects have been battling a long-term trend of commoditization of their services. Jeff Young, principal and executive director at Perkins Eastman, believes that architecture is in the midst of a sea change in the competitive environment. The convergence of powerful drivers - disruptive technologies, emerging markets, environmental concerns, globalization, economic volatility - is transforming the business and practice of architecture. Young shares that Perkins Eastman is attempting to change the perception of the value of architects by expanding the base of expertise a firm can provide its clients.

"There is a slew of articles out there that speak to the idea that the term 'architect' is no longer held in high esteem. The profession needs to do more in terms of convincing clients that we aren't what they think we are when they hear the word architect," Young says. "We are thinkers, advisors, and problem solvers. We need to morph more into what McKinsey, DeLoitte or KPMG do, more of a consultancy. Architects are trained to think differently about problems. We can also bring individuals from other backgrounds who can provide comprehensive solutions to our clients."

Young says that Perkins Eastman launched an initiative it calls PE Strategies to bring professional expertise other than design in house, so that it can offer solutions to a client's problems that go beyond the built environment.

CBRE Pittsburgh office. Photo by Ed Rombout. Use courtesy of Turner Construction.

Photo by Phipps Conservatory and Botanical Gardens.

The concept of broadening the range of services offered to add value is not new; however, the additional services historically tended to relate directly to construction. Stretching the service offerings into areas beyond architecture and construction – demographics, enrollment forecasting, transportation planning, or wellness, for example – elevates the risk that architects take on with clients. That may, however, be a first step towards reestablishing higher value that brings a correspondingly higher fee.

Architecture has been fighting downward pressure on fees for decades. The tighter competitive environment makes it more difficult for firms to build reserves for unexpected changes in the marketplace. Architecture is a business that is highly fragmented, with more than 75 percent of the practices having fewer than 10 employees (and nearly 30 percent as sole proprietorships), while comprising less than 15 percent of the billings. More than half the revenue is produced by firms that have 50 or more employees, but those firms make up less than seven percent of the U.S. total.

Add to this fragmentation the fact that ownership of architectural firms is older than the average business owner, yet fewer than 10 percent report having a written transition plan, and you get a profession that is ripe for consolidation. The finances of architectural practices make mergers or acquisition difficult. That is paving the way for private equity.

"I get called almost every day by private equity firms. The amount of private equity that has come into the business buying up firms and consolidating the back of house is significant," says Mike Cherock, CEO of AE Works. "Private equity firms come in and pull the business piece out, but they leave the firms as they are. Private equity owns 200 architectural and engineering firms around the country. If they do that with enough firms and treat them more like businesses, the profit margins will increase."

Cherock recalls having an opportunity to hear a group of attorneys speak six years ago about the growing disillusionment private equity funds had with technology startups. The speakers said that private equity was no longer interested in finding the next Mark Zuckerberg; they wanted to find the next Coca Cola.

"They're looking for companies that are maybe not as sexy, but the numbers make a little more sense. One area they see as an opportunity is the construction industry," Cherock says.

Technology Trends

One trend that allows for architectural services to be provided in a mostly standardized way by such disparate firms is the increasing use of technology. Automation and digitization of functions like drafting and accounting have been employed by architects for decades and continue to improve the productivity of firms. Newer technological breakthroughs are being deployed – many just since the pandemic – to level the playing field even further.

"What I have seen is the increased use of communication technology in the field. Right now, I am in Italy, and I can do construction administration from the other side of the ocean," says Bea Spolidoro, principal Fisher Architecture. "The superintendent can send me a photo and I can mark exactly the dimensions that I want with my iPad. I can ask them questions, ask for measurements, or give them instructions instantly. I can resolve a problem in a day that would have taken a week before."

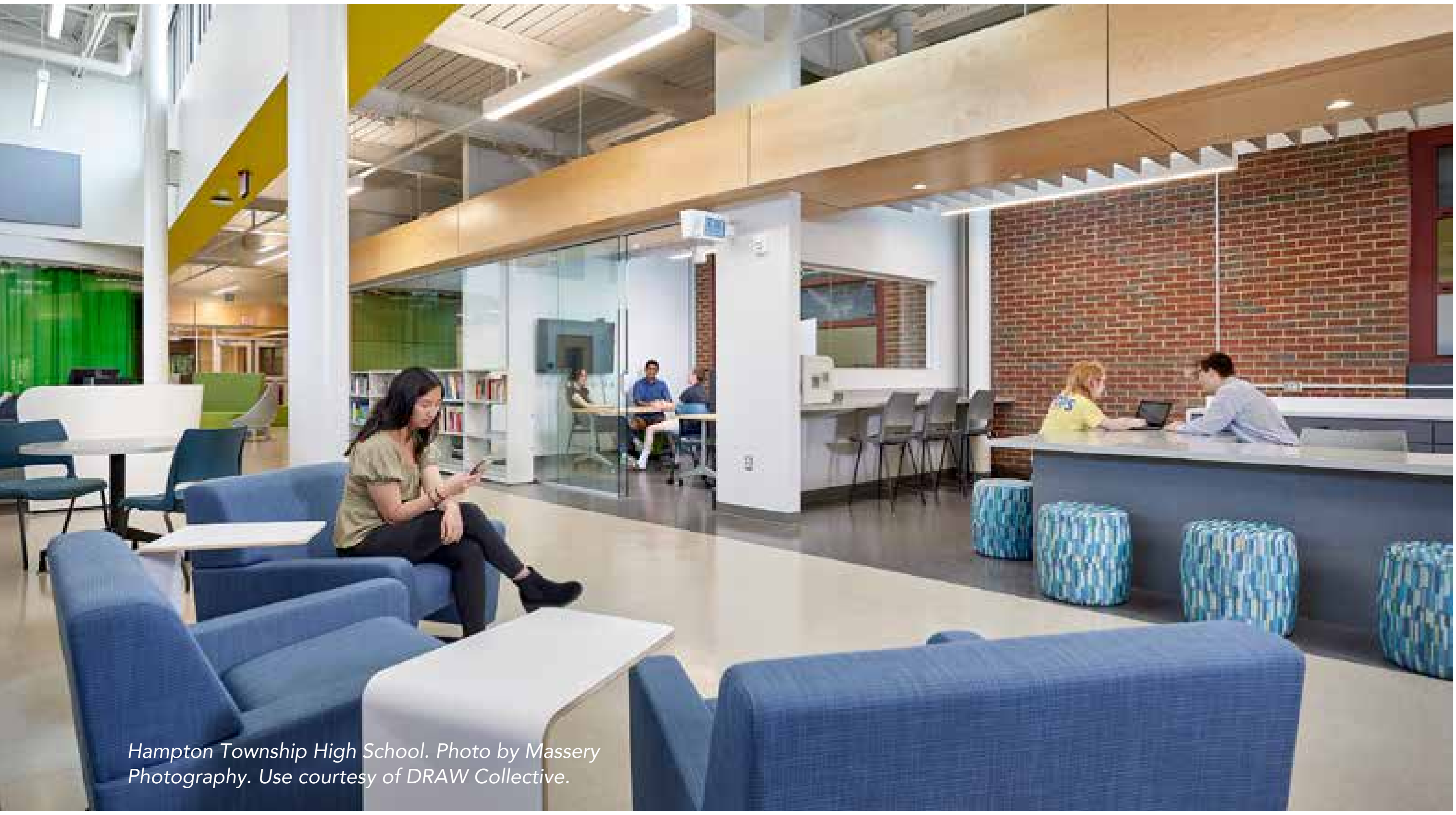
Improvements in communication have had an impact on practices that are working locally too.

"As far as our practice is concerned, we have been successful at going almost completely virtual," Turkall says. "The pandemic accelerated our transition to working digital. With Teams and Zoom we can collaborate pretty well online. We don't feel like we've missed a beat going virtual."

Asked if he had any negative feedback from clients about the more virtual or remote way of working, Turkall says his sense is that it is enhancing client relationships.

"I think it has us more on the ball," he says. "Because of the savings in our overhead, we're able to spend more time traveling to site visits and meetings with clients, while keeping our fees consistent with what they were prior to the pandemic."

Not so many years ago, discussions about technology in architecture would have been centered around building information modeling (BIM) and its potential utility. What was a disruptive technology in the early 2010s has now become an accepted modus operandi.



Hampton Township High School. Photo by Massery Photography. Use courtesy of DRAW Collective.

What has replaced BIM at the center of any technology discussion is AI. Over the past year, some of the world's architectural associations have weighed in on the risks and benefits of AI in design. The Royal Institute of British Architecture and American Institute of Architects put together policy guidance on the use of AI. Each expressed cautious outlooks about the potential for improving the practice through generative AI, but also focused concerns about the loss of professional jobs and human creativity. The Australian Institute of Architects submitted its concerns to the Australian government, also sharing worries of the loss of human interaction and humanity in the profession. Wadhwani thinks the concerns may miss the opportunity AI provides.

"I know many people are concerned that human talent will be replaced or displaced by AI, but I think that's the wrong attitude. We should be preparing to position ourselves to embrace the new creative possibilities that are going to be enabled by AI," he says. "AI will free up our creative abilities to do what we do best. We will be able to focus on the social, cultural, emotional, expressive, and aesthetic design factors that can elevate any building. Generative AI will give us the ability to mine vast databases and analyze complex data more rapidly, which will result in much more highly optimized structures."

To date, AI is being studied for its potential use, rather than its current utility. Architects are taking its application seriously.

"We are thinking about AI and harnessing the software," says Carver. "We're trying to take advantage of the tools it provides and trying to stay on top of what's next to be a differentiator. It's tough to compete with the national firms that have an outpost here. It's about competition and making sure that we show well when it comes to trying to win work. And it's important that we stay current to provide the services for our clients."

"We're attending conferences to educate ourselves about AI. We want to know how it's going to immediately impact our profession and what the trends are for the future," says Stanko. "When you read about it, AI seems like it's changing at light speed. We haven't seen much of an impact, but we believe that something impactful is coming. It piqued our interest because we don't want to be a follower of that technology."

"There is tangible evidence that we're going to be able to utilize technology in this industry in a way that impacts our value creation," agrees Cherock. "One of those areas will be in documenting existing conditions in a rapid, accurate way. Technology that can dimensionally give you accuracy but also give you object identification. This is technology that can identify the type of ceiling grid or coating on a wall. Our business is about repeated documentation. The better we get at that, it helps everybody involved. The other area that can be improved is specifications."

Cherock notes that AI should allow repeated documentation and specification to be done with fewer people, a solution that addresses the problem of fewer people in the profession.

Natali Student Center, PennWest California. Photo by Halkin Mason Photography. Use courtesy of WTW Architects.

"Any technology that addresses labor will be a winner," he says.

AI will help address one of architecture's biggest inefficiencies, the loss of information that occurs between stages of design and from project to project. Commercial databases of project data would allow architects, especially those in small firms, to retain or gain the benefits of lessons learned on other projects.

"I'm starting to see AI tools that can be useful. I get the feeling that it's going to transform how we do design very quickly," sats Ian Fishman, principal at Fishman Architecture. "AI will be baked into a lot of the tools we use. It can automate things in a way that complements design instead of replacing design work. I have been using light touch level tools for visualization and Chat GPT for some copy for marketing."

"It's not just that we as architects and designers are using it; some of our more tech-savvy clients are also using it to generate concept and vision images on their own that they are bringing to us during the design phase. It's making for some very interesting conversations and considerations," says Eric Booth, president of Desmone Architects.

Booth explains that AI imaging applications have been shared by multiple residential clients, with mixed results. Comparing it to the Pinterest boards that clients have been using to communicate preferred styles or colors, Booth says AI tools like Midjourney are allowing clients to generate multiple images of fully designed houses. One client generated over 50 such images, a result that left even the client grasping for direction.

"Many of these images are not realistic. They are not constructible, and some elements of the images are not identifiable. The tools do create a lot of useful dialogue. It generates more questions from us to refine what the client needs," Booth concludes. "We realized that just because someone can generate images, they don't necessarily know what they want. It still requires that we understand what their overall objectives or their budget are to help them."

Those conversations Booth refers to may be the difference between good architecture and bad before the end of this decade. Amanda Markovic leans into that idea when she recounts the story of a healthcare conference vendor that claimed it could use AI to generate a complete hospital floor plan in 45 minutes.

"Yes, it's possible to get a floor plan in 45 minutes but what value are you bringing? There will be a lot of valuable information missing that architects gain in conversations with clients. We listen with different ears," Markovic says. "There's great opportunity for AI to be used utilized. Firms are using it and have shared how they are doing that. It is another design tool. The danger will be when AI is seen as a way to further speed the process while taking out an element that is really important to success." BG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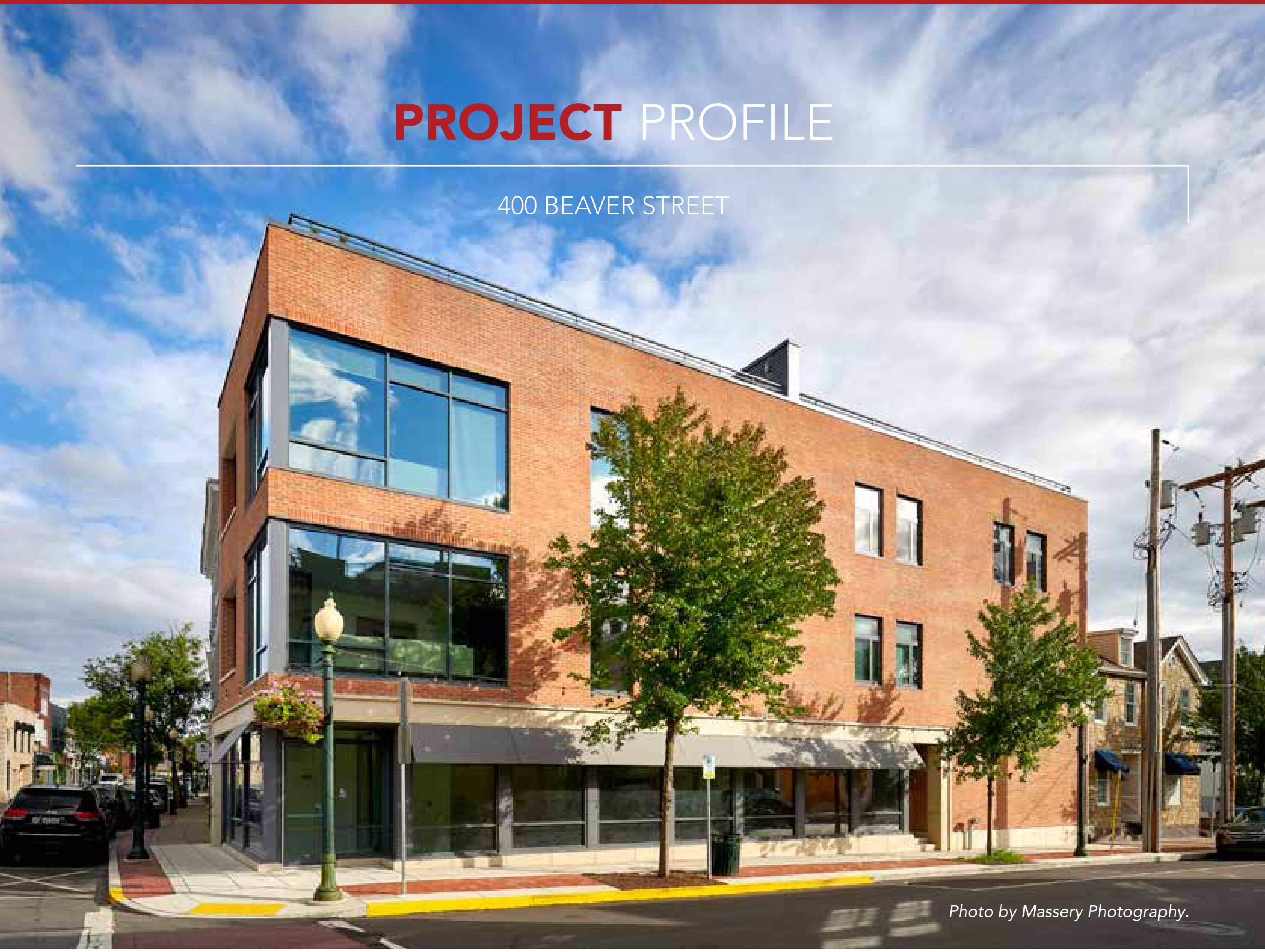

Photo by Massery Photography.

In 2019, Massaro Corporation was hired by Sewickley restaurateur Courtney Yates to perform preconstruction services on a building Yates had purchased at 400 Beaver Street. Yates, who was in the process of renovating a building across the street to open the Sewickley Tavern, envisioned opening a fast casual restaurant on the ground floor of 400 Beaver Street and renovating the second floor into living quarters. During conceptual design, the project's architect, Nathan St. Germain of Studio St. Germain, there was an opportunity to get more from the property.

"The owners wanted to activate the rooftop, which made sense. As we were doing the entitlement and conceptual design, we discovered that the roof and its structure were insufficient and had to be rebuilt," says St. Germain. "We did a market and zoning analysis and learned that there was a real need for high quality residential in the heart of the village. What I proposed was that, if we were planning to remove the roof anyway, we could add a third floor to gain another dwelling unit. According to the zoning requirements, we could fit another unit in and be within the maximum height allowance. The adjacent building was also three stories so we knew that it would conform contextually."

Adding a second luxury residential unit would enhance the project's viability, but 400 Beaver Street was more than 100 years old, and the new scope of work meant taking most of the existing building down to reconstruct the final product. That would mean a new construction job site in the middle of Sewickley's already crowded commercial main street.

"It was on the corner of Beaver and Walnut. Those are two of the busiest streets in Sewickley. There is a lot of pedestrian traffic and it's Sewickley's shopping and restaurant district," says Lauren Donatelli, project manager for Massaro Corporation. "Sewickley has a lot of nighttime and weekend events. Safety was a huge concern for us. We had to make sure the site was buttoned up at the end of the day. We wanted to make sure that it was easy to get around our site. What really helped with that was that our logistics plan was incredibly flexible."

As the planning for the 400 Beaver development was nearing completion, COVID-19 hit. Yates was opening the Sewickley

The new construction butted against the existing buildings to the side and rear of 400 Beaver Street. Photo by Massery Photography

Tavern as shelter-in-place mandates were issued in March 2020. Few industries were hit harder by the pandemic than restaurants. The pandemic created lots of uncertainty about the near future of hospitality, so Yates hit pause on the 400 Beaver Street project. When St. Germain and Massaro were engaged to resume work later in 2020, there was a significant change in direction.

"The original concept for the fast casual restaurant needed to be changed given what was going on in that industry. We saw that as an opportunity to add additional flexibility to what would become a retail occupancy," St. Germain recalls. "We had already designed the infrastructure, including accommodating for two hoods on the upper floor, for a restaurant on the ground floor. I suggested that we change the occupancy to retail but leave the infrastructure as designed, so that if a restaurateur became interested the building could accommodate it."

Massaro Corporation took bids on the revised design and came to an agreement on a final price during the late spring of 2021. Demolition began in July 2021. The project's major challenges followed closely behind.

The most urgent challenge that arose during construction was the failure of two of the existing masonry walls, which had been designed to remain in place. As the existing building was being demolished, it became apparent that the south and west walls were crumbling. During the design, the walls had been pull tested – tension tests applied to anchors installed in the walls – randomly throughout both walls, but the extent of the deterioration had not been detected. The project team had to pivot quickly.

"We had done pull tests on them, but the double wythe masonry walls built in the late 1800s were much more compromised than the pull tests had led us to believe," says St. Germain.

"We did a lot of structural testing and redesign. We went into the basements of the adjacent buildings to investigate their foundations. We changed the structure of the building and demolished those walls. We rebuilt the deck of the neighboring building, where we rented a project office, to integrate with the new exterior walls," says Donatelli. "That took a big collaborative effort between Massaro, Studio St. Germain, and Keystone, the structural engineer. That collaboration carried through for the rest of the project. That whole process only added about three weeks to the schedule."

The time lost in evaluating and redesigning the structure provided a silver lining.

"When the plan was to work with two of the existing walls, it required underpinning. When we determined that the structural walls were not feasible and went with new foundations, we no longer needed the underpinning," explains St. Germain. "The client ended up with a new, better wall. We saved time by not having to work around the existing walls. And the cost savings from eliminating the underpinning more than paid for the new construction."

Putting the new construction in place was quite a logistical challenge. Aside from its busy location, 400 Beaver Street's new building abutted existing buildings to the east and rear, allowing no room for material storage on site. The building filled the property to the sidewalks. Much care had to be taken to simply access the site safely, let alone perform construction tasks efficiently.

"We were able to move our fence in or out depending on what was going on in Sewickley. We were able to extend our fence during working hours to gain more lay down space," says Donatelli. "We rented three of the parking spots on the street from the borough, two on Walnut and one on Beaver. That was our only lay down space. And one of those was taken up by our dumpster. It was definitely a challenge for the steel and demolition."

Donatelli says that regular communication was the key to successfully managing what could have been a contentious relationship with the municipality and the neighbors.

"We had to close the street frequently which meant a lot of coordination with the Sewickley police every time we closed the road. As often as we could, we performed tasks that required us to close the street during the night," she continues. "When we started the project, we collected contact information from the businesses that we were potentially impacting. We sent out updates weekly to communicate what activities were going to happen so no one would be blindsided. We encouraged questions from them. We learned when they were getting regular deliveries and worked our deliveries at different times. The business owners appreciated that."

The design of the three-story, 9,500 square foot building reflects the owner's desire to develop an environmentally responsible building. St. Germain explains that Yates worked with a process his firm has developed to help owners understand how that desire can be manifested.

"The project was a participant in our high-performance program, which is a customized process we've developed to recognize a client's vision around sustainability," he says. "They were interested in sustainability when they came to us, but they didn't know how to go about it. We use a series of assessment tools to find out what they are most interested in achieving under the sustainability umbrella."

In the case of 400 Beaver Street, the owner's vision translated to a design that would focus on air and water quality, energy efficiency, and comfort for the residential occupants. That meant juggling the need for high-end residential fit and finish with the rigor of the requirements of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE).

For example, the ventilation rate for the building is significantly higher than the ASHRAE standards, with the ground floor 199 percent above the standard and the upper floors 51 and 49 percent higher. Air quality is 58 percent above the ASRAE minimum. The acoustics, as designed, are improved beyond the building code by 29 percent. The energy usage is projected to be 53 percent below the baseline for new construction. A whole-building water softening and filtration system vastly improves Sewickley's notoriously hard water quality.

"To make the pro forma work, the residential units had to be high end. The ventilation and air quality provided a bit of brand equity. Acoustics became important. Half of the building's roof has mechanical equipment, which is located right above where the sleeping quarters are," St. Germain explains. "We incorporated a vibration isolation system in the roof to keep it from vibrating through the units and there are vibration isolation hangers throughout the ceiling plane.

"From the energy side we focused on key components of a high-performance building, which are primarily in the envelope. That meant reducing the thermal bridging, insulating properly, and air tightness. We focused first on the passive measures but didn't have many opportunities the active measures beyond the mechanical equipment."

St. Germain points out that there were trades that were not as familiar with some of the high-performance measures taken on the project. "Our construction administration had to be a resource to help see our plan through."

One challenge that the project mainly avoided was disruption by the hyper escalation that occurred in 2021 and 2022. The project's timing could have been a problem, but Donatelli notes that the time spent in pre-construction helped avert the worst impact of the escalation that had begun to occur by the time work started.

Finishes for the two apartments above the commercial space are aimed at attracting tenants looking for high-end space. Photo by Massery Photography

"We were in pre-construction for so long that the subcontractors we were working with were locked in well before we even had contracts signed. They were aware if there were cost increases that were announced or coming in future months. We were able to release them to purchase ahead of those increases," she says. "The pre-construction period really did help us get ahead of that problem."

Construction was completed in February 2023. The brick building stands out for its more modern façade, particularly with the recessed balconies and large windows that wrap around the Beaver and Walnut corner in each residential unit.

Donatelli praised the subcontractors on the project for maintaining the same high level of communication and coordination. She notes that the project management team changed from preconstruction through completion, but the working relationships did not.

"I started the project as a project engineer under a different project manager. The architect and I were the constants throughout the project. Studio St. Germain's office is two blocks from the site. It seemed like anytime we had a question Nathan was on site within 15 minutes. We walked the job site with him at least twice a week. That relationship was a real time saver," Donatelli says. "We worked through solutions in person and, even if it was something that needed to be formally documented, we knew how to proceed very quickly. That close coordination allowed the project to move very smoothly. Our punch list at the end was minimal because Nathan pointed things out as we went along."

"I think what made the project successful was the execution of both the aesthetic and the performance," says St. Germain. "The project delivery approach of design-build, really working closely and collaboratively with Massaro and the subcontractors, was effective. When something came up, they felt comfortable asking us. It was more effective than just sending an RFI up through the chain." BG

PROJECT TEAM

Massaro Corporation	General Contractor
Forastero LLC	Owner
Studio St. Germain	Architect
Carlins Consulting	Electrical Engineer
Michael Baker Corporation	MEP Engineer
Vizz Acoustics	Acoustical Engineer
Keystone Structural Solutions	Structural Engineer
Folino Construction Inc.	Paving Subcontractor
Arrow Electric Inc.	Electrical Subcontractor
Bruin Roofing	Roofing Subcontractor
Bryan Construction	Drywall / Framing Subcontractor
Climatech, Inc.	Mechanical Subcontractor
Don's Appliances	Appliances Subcontractor
Harris Masonry, Inc.	Masonry Subcontractor
Mariani & Richards Inc.	Caulking Subcontractor
Massaro Industries	Tile Subcontractor
Neumeyer Environmental Services	Demolition Subcontractor
Otis Elevator Co.	Elevator Subcontractor
Patrinos Painting & Contracting	Painting Subcontractor
Ryco Fire Protection Services	Fire Protection Subcontractor
Ryco, Inc.	Plumbing Subcontractor
Schlaegle Design Build Inc.	Casework Subcontractor
Security 101	Security Subcontractor
Specified Systems Inc.	Glass/Glazing Subcontractor
Tom Brown Performance Floors	Wood Flooring Subcontractor
Trinity Steel LLC	Structural Steel Subcontractor

The extremely restrictive site conditions required that many of the pours and lifts be done after daytime business hours. Photo by Massaro Corporation.


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BIPARTISAN INFRASTRUCTURE LAW CREATES AMTRAK DEVELOPMENT IN WESTERN PENNSYLVANIA

BY ABE DELNORE AND KINSEY MCINTURF

If you've been paying attention to the news, you've heard that expanded passenger rail service is coming to Western Pennsylvania as part of the Bipartisan Infrastructure Law of 2021 ("BIL"), Publ. L. 117-58. It's important to understand what has currently been approved, what is on the horizon, and what opportunities are being created for construction businesses and lawyers in Western Pennsylvania. The BIL is a promising though limited start to what may become a significant increase in construction driven by passenger rail expansion in Pennsylvania and Ohio.

Bipartisan Infrastructure Law

The BIL, also known as the Infrastructure Law Investment and Jobs Act and briefly as the INVEST in America Act, was signed into law on November 15, 2021, after being passed by Congress. The BIL authorized approximately $1.2 trillion in spending, although of that amount only approximately $550 billion was new spending, with the remainder consisting of recurring spending on highways and other infrastructure that Congress normally approves each year. Of the new spending, approximately $66 billion is to be spent on passenger rail service, with a mandate that significant amounts are to be spent outside the Northeast Corridor (Washington to Philadelphia to New York City to Boston), which currently has a significant passenger rail presence including Acela, Amtrak's flagship high-speed rail service with a top speed of 150 miles per hour.

By press releases dated December 8, 2023, the Federal Railway Administration ("FRA") announced the award of $8.2 billion under the Federal-State Partnership for Intercity Passenger Rail Program, including $144 million in federal funds for improvements to the Keystone Corridor in Pennsylvania. In addition, on the same date, the FRA announced a round of projects funded in the BIL's Corridor Identification and Development Program ("Corridor ID"), which grants of up to $500,000 for identifying potential new passenger rail corridors, including routes in Pennsylvania and Ohio.

The BIL funds numerous other projects; however, this article will focus on its short- and mid-term consequences for passenger rail in Western Pennsylvania and neighboring regions.

Improving the Keystone Corridor

Amtrak refers to passenger rail across the state of Pennsylvania from Pittsburgh to Harrisburg to Philadelphia as the "Keystone Corridor." Use of that one term masks significant differences, for as in so many things, from sports teams to gas stations to sandwiches, Eastern and Western Pennsylvania aren't the same.

From Philadelphia to Harrisburg, the Keystone Corridor tracks are owned by Amtrak and cross flat terrain. This is the old Pennsylvania Railroad Main Line. From Pittsburgh to Harrisburg, however, it's a different and more challenging story. The tracks here, corresponding to the Pennsylvania Railroad's Pittsburgh Line, are owned by Norfolk Southern Railway. The terrain is mountainous and includes the famous Altoona Horseshoe Curve.

Currently, only one Amtrak train serves the entire length of the Keystone Corridor: the Pennsylvanian, which goes from Pittsburgh all the way to New York City's Penn Station via Harrisburg, Philadelphia, and numerous other stops. On current Amtrack schedules there is one Pennsylvanian in each direction per day, though that will change.

By contrast, Amtrak also operates the Keystone Service starting in Harrisburg, with 13 weekday trains each way of which four terminate in Philadelphia and nine terminate in New York. Neither the Pennsylvanian nor the Keystone Service are considered high-speed rail within the Keystone Corridor, which the FRA defines as a top speed of 110 miles per hour or greater. (Both trains go as fast as 125 miles per hour on portions of the Northeast Corridor in New Jersey.)

The BIL provides funding for infrastructure improvements necessary to operate a second daily Pennsylvanian. Currently, the Norfolk Southern-owned rails from Pittsburgh to Harrisburg are heavily used by freight trains and can't accommodate another passenger train running a set schedule. Notably, the Amtrak trains pass directly through multiple terminals between Pittsburgh and Harrisburg, so freight trains must be cleared off the mainline. In addition, to stay on schedule Amtrak trains need to be able to pass slower freight trains as they cruise through Pennsylvania's mountains. Drivers on the Pennsylvania Turnpike face similar problems, but for one train to pass another is a lot more difficult than getting in the left lane and pushing the pedal to the metal. For trains to "change lanes" universal crossovers (switches that allow trains to move between all the tracks of a rail line) and bypass tracks must be installed.

Under the plan approved by the FRA, infrastructure improvements will be made to the Pittsburgh Amtrak Station, Altoona railyard, and Harrisburg terminal. In addition, new universal crossovers will be added near Johnstown, Portage, and Altoona. The cost is estimated at $200 million, of which $144 million will be covered by a federal grant under the BIL and the remainder will be funded by the Pennsylvania Department of Transportation. It appears all the necessary infrastructure will be built on the existing Norfolk Southern right of way, so substantial land acquisitions are not expected.

It's important to note this is not, technically, a high-speed rail project. In fact, these enhancements won't meaningfully increase the Pennsylvanian's speed. It will still take about 9 hours to travel from Pittsburgh to New York City by train, the majority of which (about 5.5 hours) is spent negotiating the high-grade terrain between Pittsburgh and Harrisburg. The mountains are the limiting factor in train speed. Rather, the current round of infrastructure improvements will ensure the Amtrak trains have a clear path through Western Pennsylvania and allow a second daily Pennsylvanian.

Also, these enhancements won't impact Western Pennsylvania's other passenger train, the Capitol Limited which connects Washington to Chicago via Pittsburgh and follows a different route through Western Pennsylvania on tracks owned by CSX Transportation—but some infrastructure improvements and, thus, construction work on those lines may be forthcoming.

In addition, BIL funding includes three $500,000 Corridor ID grants to study further passenger rail expansion in the Keystone Corridor, Reading-Philadelphia-New York Corridor, and Scranton to New York Penn Station Corridor. All three are Step 1 grants under which the grantee receives funds "to develop a scope, schedule, and cost estimate for preparing, completing, or documenting its service development plan."

Separately and outside the new BIL funding, the Pennsylvanian's route through Westmoreland County, Amtrak is also making separately funded improvements to its Greensburg and Latrobe stations with a total cost of about $6.6 million, much of which will be spent to improve parking and accessibility.

Westward Ho?

BIL Corridor ID funding also included four grants relating to Ohio, which passenger rail advocates claim is significantly underserved. Currently, Ohio's only Amtrak service is part of long-haul routes from Chicago to the Northeast: the Cardinal (stopping in Cincinnati as it horseshoes through the Appalachians to Washington), the Capitol Limited (stopping in Toledo, Sandusky, Elyria, Cleveland, and Alliance before continuing to Pittsburgh and Washington), and the Lake Shore Limited (stopping in Toledo, Sandusky, and Cleveland on the way to New York City). These routes are not optimized for travel within Ohio. Notably, Columbus (the state's capital and largest city) lacks passenger rail service, as do the central Ohio cities of Akron and Dayton. And while Cleveland and Cincinnati do have rail service, they have not been directly connected since 1971. Thus, passenger rail is not currently an attractive option for getting around much of Ohio.

Ohio's previous Governor strongly opposed any talk of passenger rail expansion, to the point of returning federal funds that had been awarded to the state under the American Recovery and Reinvestment Act of 2009 ("ARRA"). This refusal was part of a wave of rejections of ARRA rail money announced by incoming governors in 2010 that also included Florida and Wisconsin. The political currents, however, have shifted. Ohio's current Governor is friendlier to passenger rail development and authorized applying for funding under Corridor ID in early 2023.

Under Corridor ID, the FRA awarded four $500,000 grants to assess the feasibility of passenger rail on routes serving Ohio. Like the Pennsylvania Corridor ID grants discussed above, these are all Step 1 grants. Three of these, for an additional daily Cardinal, a proposed Cleveland-Columbus-Cincinnati-Dayton (3C+D) Corridor and a proposed Detroit-Toledo-Cleveland Corridor, would not directly connect to Western Pennsylvania. Since Pittsburgh is connected to Cleveland by existing Amtrak service, however, there could be follow-on effects to better Ohio connections.

The fourth grant is for the so-called Midwest Connect Corridor, which would go from Chicago to Fort Wayne to Columbus to Pittsburgh. Although the tracks exist, Columbus has lacked passenger rail service since 1971 and is currently the second-largest metropolitan area in the United States with no passenger rail service. The lead applicants for the Midwest Connect grant were the City of Fort Wayne and the Mid-Ohio Regional Planning Commission; however, other organizations including the Pittsburgh-based Southwestern Pennsylvania Commission were listed as application partners. The Midwest Connect would, potentially, give Pittsburgh another set of westward passenger rail destinations and could lead to infrastructure work in and west of Pittsburgh.

Of course, a grant to study the feasibility of Midwest Connect and the other Ohio corridors doesn't mean anything will be built. But it is a promising first step toward what may be a series of substantial infrastructure projects to improve passenger rail service to and within Ohio, resulting in a state criss-crossed by passenger rail.

All Aboard for the Future

So far, the announced passenger rail projects are modest and incremental. They don't come close to the huge investments that have been made in passenger rail in the Northeast Corridor, California, and Florida. On the other hand, they also don't involve the same risks and uncertainties that have plagued the much-delayed California High-Speed Rail project. While we don't know what the future will bring, we can say that passenger rail development in Western Pennsylvania and neighboring regions is worth watching as a potential source of construction and related business. Notably, today's Step 1 Corridor ID grants show where tomorrow's opportunities lie, so keep your eye on the Keystone Corridor, Midwest Connect Corridor, and various other Ohio and Pennsylvania possibilities. BG

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SURETY MARKET UPDATE .

Surety bonding, the financial backstop against default on construction contracts, is a business that evaluates and prices the risk of contractors failing to perform. As an industry, surety spends millions trying to get ahead of changes in the marketplace, but often must react to unforeseen dynamics. Surety companies managed their way through the disruption of the pandemic but, as that calamity is disappearing in the rear-view mirror, insurers are now seeing signs of some bumps in the road.

"We have been in a soft market. It was not difficult to get personal indemnity waived, for example. Those kinds of conditions are certainly getting tighter," says Will Collins, managing partner, Pennsylvania, for OVD Insurance. "We are not seeing decreased capacity yet, but companies are underwriting more thoroughly than they have in the past couple of years.
It is starting to turn."

Surety companies developed stronger underwriting standards in the mid-2000s following losses that spiked above 40 percent. Insurers took measures to eliminate losses and a hard surety market followed. Surety companies maintained that underwriting discipline over the past two decades, even after the hard market conditions eased. Losses have remained well below 20 percent for all but a few years. That changed in 2023.

"Surety premiums were $8.6 billion in 2022 and surpassed $10 billion in 2023. There are lots of new players and lots of capacity. But there is also lots of loss activity," reports Jay Black, principal, and executive vice president of surety at Seubert and Associates. "In December of 2022, the loss ratio was 14.6 percent and September of 2023 it was 21.1 percent. That's a significant increase. And there are significantly more surety companies with loss ratios above 30 percent than the previous year."

"If you look at the surety industry results through September 2023, the loss ratios for the companies ranking between the 10th and 30th largest were deteriorating," says James Bly, managing director for Alliant Construction Services Group. "I even heard from one of the top three sureties that they have had the most loss activity that they've seen in 20 years. The good news for them is they have such heavy reserves that their results will not be materially impacted. We are not anticipating seeing any real problems with the big insurers."

Black explains that the rapid cost escalation that occurred in 2021 and 2022, along with the unexpected delays in getting material and equipment delivered, and the shortage of skilled labor, created defaults and claims that began to hit the surety market last year. Given that the surety losses tend to lag the disruptions in the construction market by two to three years, insurers expect to continue to see elevated claims in 2024.

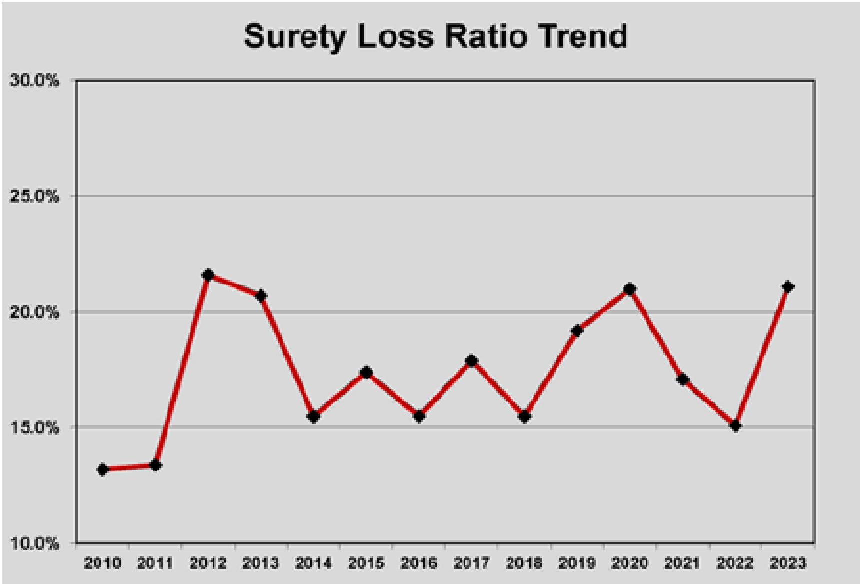
The particular circumstances of the current market, and the unusual escalation and delays that caused many of the defaults, are making it more expensive for bonding companies to cure the default. When defaults occur, the surety hires a contractor to complete the project. That typically costs more than the original contract amount, but in many cases during the past year sureties have been paying as much as double the initial contract amount because the projects that experienced defaults were priced before or during the hyper escalation. That magnifies losses.

Given that the surety losses tend to lag the disruptions in the construction market by two to three years, insurers expect to continue to see elevated claims in 2024.

Problems in the reinsurance market are further complicating the surety market for 2024. Reinsurance is often referred to as "insurance for the insurance industry." Insurance companies, including surety providers, will contract with reinsurers to assume part of the risk of loss claims against the insurer. For surety bonds that means covering the losses from failures to perform, or business failures, over a certain loss level. Reinsurance kicks in when the loss exceeds a specified dollar amount, or attachment point. Insurers use reinsurance to limit its capital costs and provide stability, which allows the insurer to offer greater capacity to its customers.

Reinsurers apply underwriting standards on top of the insurers underwriting standards and charge premiums that are commensurate with assuming that risk. In good or normal market conditions, losses are rarer and smaller. Reinsurance is very profitable in those circumstances; however, when market conditions deteriorate, especially when conditions are volatile, losses pile up. The problem for reinsurers becomes worse when the attachment points are lower, which is typical for good conditions. In 2022 and 2023, as prices soared and lead times lengthened, defaults became more frequent, and reinsurers bore the larger share of the losses.

"For the most part the attachment point where a reinsurer would pick up the loss is fairly low, maybe one or two million dollars. On a project that suffers a $5 million default, if the attachment point is $1.5 million, then the reinsurer is responsible for $3.5 million," explains Black. "Reinsurers have not been profitable for several years and it's getting worse. Last year reinsurers



Losses from defaults rose significantly in 2023. Source: Surety Association of America.

suffered a 97 percent loss ratio. When reinsurance agreements are up for renewal, which is usually between now and April, the cost of reinsurance and the attachment points are going to go higher. The smaller surety company that is taking bigger risks will be less inclined to do that if the attachment point is $5 million instead of $1.5 million."

Black notes that the surety market can be unpredictable, but he assumes that the problems of the reinsurance market will translate to higher premiums and some constraint on capacity. Bly says that the problems being experienced in reinsurance will be felt in the surety sector, especially among insurers outside the 10 largest companies.

"That is the group that is more heavily reliant upon reinsurance. When reinsurance tightens, the companies that are smaller feel the biggest impact," he says.

The increase in mega projects over the past few years has created another trend that elevates the risk of defaults. More contractors, especially specialty contractors, are building backlogs with a higher concentration of risk in one or two projects. Andrew Bly, vice president at Alliant Insurance Services Construction Services Group, observes that this trend continued in 2023. He notes that the number of specialty contractors prequalifying as subcontractors on major projects is increasing.

"We have a lot of subcontractors being prequalified for work that exceeds their experience by two times or more, which is due in part to opportunity but also the increased cost of work," Bly says. "We are also starting to see an uptick in claims in the subcontractor default insurance (SDI) market."

"In the last quarter we had three or four defaults in the three-to-five-million-dollar range, which is a little higher frequency than we would see normally," concurs Jim Bly. "Those are clients from across the country. We have seen defaults in Florida, Colorado, California, and Virginia in the last quarter. In the hotter markets, where capacity is really stretched, the market has caught up with some folks."

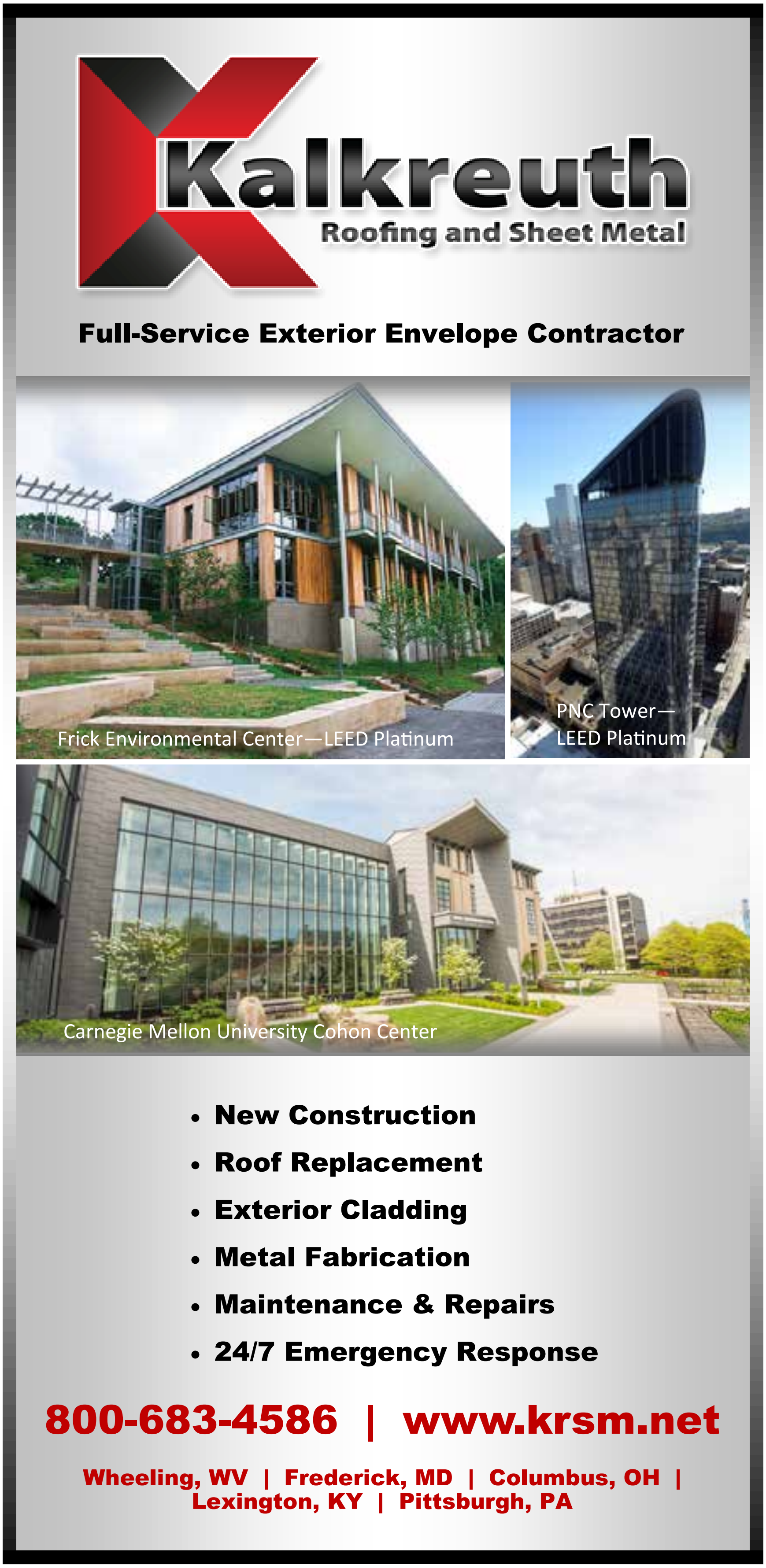
There have been atypical financial conditions that helped many specialty contractors ride out what may have otherwise been tough sledding. The Paycheck Protection Plan loans, most of which were forgiven, boosted balance sheets dramatically. Low interest rates allowed contractors to do necessary financial engineering. But with variable rates as much as five percentage points higher now than in 2022, refinancing older debt is not an option. Likewise, banks are less likely to extend credit (and may be withdrawing it in some markets) or waive covenant violations.

The companies that provide surety bonding are national or global concerns. Their good years or bad years will be reflected in how loose or tight the conditions for surety bonding are in Pittsburgh. There is agreement that the contractors serving the Pittsburgh market have managed their businesses in a way that should keep the surety companies happy.

"I think everyone is a little stronger this year. Backlogs are in a very good spot. People are excited about what's going to unfold in 2024," says Ted Pettko, shareholder at Schneider Downs. "Contractors tend to sandbag. They will say they think this year is going to be good but next year they're not so sure. That's what they were saying in 2022 and 2023 too. When you look at the heavy and highway contractors, PennDOT is putting out serious dollars on highways and bridges. Spending has been tilted more to the eastern side of the state thus far, but we are starting to see some big bites of the apple on the western side of the state."

"Our clients had very good years in 2023. Most had big backlogs heading into last year. The vast majority of our clients were as busy as they ever were, and maybe more than they wanted to be. Even my clients that tend to have one or two bad jobs didn't seem to have them last year," agrees Michael Kapics, principal at Hill Barth & King and national director of HBK Construction Solutions. "As I talk to people now, they are all still busy but see the market as being softer. The backlogs are down from where they were, although profits have been strong. Balance sheets are as strong as they have been in a while."

"The contractors that we work with have balance sheets that are still strong, and we haven't seen any losses, although losses



in surety are infrequent," observes Collins. "If work starts to taper off, when people start to chase thinner margin projects to keep people busy, that's when you will see problems pop up."

"The Pittsburgh market is pretty good," says Black. "It's not uncommon for Pittsburgh to have similar experiences to what's going on in the global environment, but there has not been a large default here in several years."

"I have not seen defaults in the Pittsburgh market of any substance. We evaluate subcontractors across the country and the portfolio of subs we have in Pittsburgh is favorable overall," says Bly. "There are several reasons for that. There are several mega projects in the region. Those are anchor jobs, and we have a fair amount of other activity going on."

The relative health of the contractor base in Western PA may be a bulwark against any dramatic changes in the regional surety market, but the bumps in the road that the industry is experiencing elsewhere are likely to influence the bonding programs of local firms to some degree. It may be more difficult to expand bonding limits, or financial reporting and scrutiny may increase.

"I think conditions have been loose the past few years. Surety companies were not asking the questions that we used to get. That happens in better markets. They weren't digging into the details and doing cash flow projections and those kinds of things," Kapics says. "We heard a presentation from a national surety group not long ago that tighter times were on the way."

Jim Bly describes the surety industry as a "high severity, low frequency business." He notes that when insurers feel the pain from a few large losses, it tends to decrease their appetite for risk. His expectation is that there will be surety companies that have to rein in capacity or tighten standards while they recover from costly incidents. He does not expect that to be widespread or to expand to create restrictive conditions.

"We are not seeing deterioration in the financial results for the large general contractors or specialty contractors. Backlogs are still high. I think we'll have a dip, but we won't have a crisis on our hands," Bly predicts. "The industry has been profitable for so long that there's still a lot of appetite for the business. Most of the sureties have large reserves. I see 2024 as being very good in our region. And I am not hearing of any industry changing events like we had a decade ago. I don't see us coming into a hard market anytime soon." BG

PREFABRICATION IN CONSTRUCTION: STRATEGIC CONSIDERATIONS FOR BUILDING PRODUCT MANUFACTURERS

BY PAUL TROMBITAS AND JIM HOUSE

Prefabrication, the process of constructing components or entire buildings off-site and then assembling them on-site, is not new to the construction industry, but it has continued to gain momentum in recent years due to changing market demands.

This was particularly highlighted during the COVID-19 pandemic when firms were challenged with unprecedented obstacles and were forced to think differently about project delivery. Additionally, prefabrication is increasing in utilization as industry stakeholders continue to realize the key benefits of prefab, such as quality control, schedule adherence and waste reduction.

As prefabrication continues to evolve, building products manufacturers (BPMs) must understand how to position their firms for success. This will require adjusting their approach to effectively align with changing market dynamics. BPMs have an opportunity to separate themselves from their competition by partnering with customers to support their transitions to prefab operations.

Current Market Trends

Project demands, owner requirements and delivery schedules are constantly evolving, with many projects experiencing expedited schedules. This squeeze is rippling throughout the industry, from the initial design phase to finishing punch lists. To compete and win in their markets, building products firms must understand the shifting demands of owners and contractors, especially when it comes to serving those employing prefabrication on projects.

The increase in prefab construction is driven by multiple factors, including:

Efficiency and quality control: Prefabrication increases speed to market through concurrent production in a controlled environment. This means fewer weather delays or other slowdowns that can pinch timelines and prompt costly late fees. The finished product is designed to maximize resources, using a standardized process, so finished products are accurately and efficiently manufactured. Reducing mistakes yields higher cost-effectiveness and improves safety, which keeps operating expenses in check and protects margins.

Labor shortages and skilled workforce: Labor shortages are common across the construction industry. Prefabrication can improve workforce optimization by reducing the number of people needed in the field and shifting them to a factory environment. Prefabrication also enables scheduling efficiency, because it is easier to stick to the schedule without weather delays, bottlenecks and other aspects of traditional construction that can slow project delivery.

Project complexity and design flexibility: Projects are growing increasingly complex, necessitating a shift in how they are designed and built. Designing for prefabrication enables greater flexibility and allows for greater standardization or customization, depending on what the project needs.

Prefabrication Uses by Segment

As with all construction, the uses of prefabrication can vary greatly by segment and project type. Some sectors implemented prefabrication decades ago, while others are just getting started.

Residential: The repetitive nature of certain types of residential design makes them more conducive to factory production and accelerated on-site assembly. Examples include modular housing, panelized construction and pre-cut framing.

Commercial: Hospitality, hotels, warehouse and retail owners are embracing prefabrication for its speed, quality control and ability to mass-produce standard components. For example, hotels rely on bathroom pods and modular building systems, while warehouse, retail, office, and other commercial uses implement prefab wall panels, floor systems and curtain wall systems into their design and construction.

Institutional: Education and health care are increasingly deploying prefab to accelerate project timelines and meet the growing demand for these services. Health care and science require controlled environments, specialized equipment, and intricate mechanical and electrical systems. Modular patient and dorm rooms; bathroom pods; and mechanical, electrical, and plumbing (MEP) racks expedite schedules and ensure quality control with minimal disruption.

What This Means for Building Product Manufacturers

Building product manufacturers must align with the interests and needs of general contractors, architects, and subcontractors to integrate prefabrication into their business models. Customer product requirements will evolve as they increase their adoption of prefab. One solution doesn't work for every business. When customers increasingly utilize prefabrication, their product requirements evolve to include more standardized solutions that can easily integrate into the assembly process. This creates openings for manufacturers to work with firms earlier in the process to develop products that can align with modular building systems and seamlessly integrate into these processes from high-volume pieces to custom-design components.

Manufacturers must also collaborate closely with contractors to ensure alignment with the processes and design requirements of the prefabrication approach. This means providing products that are easily integrated into the streamlined processes and modular building systems inherent to prefabrication. An understanding of building information modeling (BIM) and how it works with prefabrication is important. This will allow manufacturers to coordinate across different building product types from HVAC to flooring to plumbing.

As prefabrication adoption increases, another change for manufacturers will be supply chain and delivery models for products. The supply chain may differ for prefabrication stages, meaning that building products companies need to understand where, when and how different aspects of the project are being assembled and ship products accordingly.

Strategic Considerations for Building Products Manufacturers

When it comes to prefabrication, building products companies must understand how the market is evolving, how customers are adapting to those changes, and how those trends will challenge them in meeting their clients' needs. This opens the door to creating products that are tailored to the repeatable, high-production approach to construction brought about by prefabrication trends.

Key considerations include:

Partnerships and early involvement: Establish relationships with key prefabricators early to understand supply chain and logistics requirements to ensure efficient coordination and procurement of products.

This also requires manufacturers to provide input on design requirements for both standard solutions and customized options and presents opportunities for product development that allow for seamless integration into prefab assemblies.

Education and training: Prefabrication is a different approach to building construction, and many in the industry lack sufficient understanding of how it works. BPMs should leverage their expertise of the manufacturing process and how to navigate the supply chain to better inform key stakeholders. By helping train general contractors, architects and subcontractors, manufacturers can increase awareness of products and how they apply to prefabrication. One way to do this is by developing how-to videos and explainer content that supports sales teams and provides self-service learning for clients.

Marketing and product positioning: Effectively marketing products should include an emphasis on their compatibility and ease of integration with the prefabrication process. Participating in industry events and showcasing case studies of successful integration are good ways to directly talk to stakeholders and demonstrate value. Messaging should focus on the efficiency, quality and design flexibility of the product in relation to prefabrication. It's important to understand where customers are in the prefabrication adoption curve and how their specific product needs and demands are evolving.

Customer Education in Action

Webinars can be effective venues for customer education. For example, hosting a webinar focused on the evolution of prefabrication and how products have been successfully utilized in projects can demonstrate their value. Invite architects and engineers to join as speakers and to market the event to their customers. Talk to accrediting organizations to see if continuing education credits can be offered, which will draw more attendees and establish the firm as a trusted source. Webinars and other forms of recorded training can be cut into short clips to use on websites, in email newsletters and in sales decks. They can also generate leads through preregistration.

By addressing these strategic considerations, building products manufacturers can position their products and their firms to better meet the demand for prefabricated construction solutions.

As prefab continues to grow in utilization, it presents both challenges and opportunities for building products manufacturers. Understanding the driving factors and potential opportunities of prefabrication differentiates the company and helps identify new products and service offerings. BG

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BEFORE THE BUZZ: "THIRD PLACES" AND THE UNSPOKEN STRATEGY OF OFFICE HARMONY

BY RACHEL PLESS, NCIDQ, LEED AP

In the evolving landscape of modern workplaces, where remote work and flexible schedules are becoming increasingly prevalent, the traditional office environment is undergoing a profound transformation. With the rise of virtual meetings and collaboration by department, physical office space is no longer the sole nucleus of professional interactions. Instead, an old, but newly minted, concept is emerging—one that emphasizes the importance of "third places" in fostering camaraderie, collaboration, and ultimately, harmony in commercial office spaces.

While the term 'third places' may evoke images of trendy cafes or neighborhood parks, its significance extends far beyond mere physical locations. Coined by sociologist Ray Oldenburg in his seminal work The Great Good Place, "third places" are informal gathering spots that serve as a social bridge between home and work. These spaces are characterized by their accessibility, inclusivity, and the sense of community they cultivate.

In the context of the workplace, third places play a crucial role in nurturing relationships among colleagues, promoting creativity, and enhancing overall job satisfaction. Whether it's a shared coworking space, a designated lounge area within the office, or even a virtual hangout spot, these settings facilitate casual interactions that can be absent in formal work environments.

Pre-pandemic, although the term "third places" might not have been explicitly used within office design and management discussions, the concept itself was often incorporated into office spaces in various ways. Architects, interior designers, engineers, and general contractors are familiar with the subsidiary names of areas within an office that now fall under the "third places" umbrella when having discussions with firms looking to refresh, consolidate, or upgrade their office spaces – large and small – to make the return-to-work (RTW) movement more enticing. Here are several ways in which elements of third places were integrated into offices before the pandemic:

1. Breakout Areas and Lounge Spaces: Many offices featured breakout areas and lounge spaces designed to provide employees with informal settings for relaxation, collaboration, and socialization. These areas typically included comfortable seating, coffee stations, and sometimes recreational amenities like foosball tables or gaming consoles. These spaces served as hubs for spontaneous interactions and informal meetings, akin to the social dynamics found in "third places."
2. Cafeterias and Dining Spaces: Office cafeterias and dining spaces were designed not only to cater to employees' basic needs but also to encourage social interaction and community building. These areas often featured communal dining tables, varied seating arrangements, and sometimes even outdoor dining spaces. They provided opportunities for employees to connect over meals and informal conversations, fostering a sense of camaraderie within the workplace.
3. Wellness and Recreation Facilities: Some offices included wellness and recreation facilities, such as onsite gyms or yoga studios. These amenities were not only intended to promote employee health and well-being but also to encourage social interaction and stress relief. Employees could bond over shared fitness activities or friendly competitions, fostering a sense of community within the workplace.
4. Informal Event Spaces: Offices occasionally hosted informal events or gatherings, such as happy hours, team-building activities, or holiday celebrations. These events provided opportunities for employees to socialize outside of formal work settings, strengthening interpersonal relationships and enhancing office culture. They created a sense of belonging and camaraderie among colleagues, similar to the community-oriented atmosphere of third places.

While these elements were not necessarily referred to as "third places" in pre-pandemic office design discourse, they nonetheless reflected the underlying principles of creating spaces that fostered social interaction, collaboration, and community within the workplace. As workplaces continue to adapt to post-pandemic realities, the importance of these elements in promoting employee engagement and well-being remains relevant, albeit with a renewed focus on flexibility, safety, and adaptability.

Post-pandemic, the concept of "third places" has evolved to encompass a broader understanding of flexible, adaptable, and community-centric spaces within office environments. When presenting this concept to clients who are seeking to incorporate unique spaces in their offices to entice employees back into the workplace, "third places" are defined as:

1. Work Cafes: Bringing the atmosphere and sensory experience of a coffee shop into the modern office. Popularized in co-working spaces these are now commonplace in the office landscape. Work cafés incorporate finishes and a layered approach to interior design typically seen in hospitality spaces. Third places serve as collaboration hubs that facilitate spontaneous interactions and teamwork.
2. Flexible Workspaces: Third places are reimagined as flexible workspaces that cater to the changing needs

and preferences of employees. Providing furniture and workspace configurations that accommodate a multitude of work modes. These spaces offer a variety of settings, including coworking areas, private meeting rooms, and quiet zones, allowing individuals to choose the environment that best suits their tasks and work styles.

3. Wellness and Relaxation Zones: Third places incorporate wellness and relaxation zones that promote employee health and well-being. These zones may include meditation rooms, relaxation lounges, or outdoor green spaces where employees can unwind, recharge, and prioritize their mental and physical wellness.

4. Socialization Areas: Third places provide socialization areas where employees can connect with colleagues and build relationships, similar to places outside of the office. These areas may include communal dining spaces, beer taps, coffee bars, or outdoor terraces designed to encourage informal conversations and camaraderie among coworkers.

5. Flexible Event Spaces: Third places offer versatile event spaces that can accommodate a variety of activities, including team-building events, workshops, and social gatherings. These spaces are designed to be adaptable and customizable, allowing clients to host engaging events that bring employees together and foster a sense of community. The new office landscape must offer adaptable environments where large groups can congregate and easily 'plug in' for additional virtual participation. Utilizing training spaces with flexible partitions to create a variety of room configurations.

When presenting the concept of "third places" to clients, emphasis is placed on the importance of creating dynamic, multifunctional spaces that prioritize employee engagement, well-being, and collaboration.

By incorporating these elements into their offices, clients can create environments that not only attract employees back into the workplace but also enhance their overall experience and productivity.

As we reflect on the transformative role of "third places" in shaping the post-pandemic workforce, it becomes evident that these spaces are more than just physical environments within office settings—they represent a paradigm shift in the way businesses approach work and collaboration.

For businesses, embracing the idea of "third places" signifies a departure from the rigid confines of traditional office spaces towards a more fluid and inclusive approach to work. These spaces serve as catalysts for innovation, providing employees with the flexibility and freedom to choose where, when, and how they work. Whether it's a cozy corner for quiet contemplation, a bustling collaboration hub for team brainstorming sessions, or a serene wellness oasis for rejuvenation, "third places" offer an array of environments that cater to the diverse needs and preferences of employees.

Moreover, "third places" foster a sense of belonging and community within the workplace, bridging the gap between virtual and physical interactions. By creating spaces that prioritize socialization, collaboration, and well-being, businesses can cultivate a vibrant and engaged workforce that thrives in the post-pandemic era.

Looking ahead, the concept of "third places" will continue to redefine the way businesses work, blurring the boundaries between traditional office spaces and the wider built environment. As businesses embrace a different approach to work, with employees splitting their time between remote and in-person work, "third places" will play a pivotal role in fostering connectivity, creativity, and collaboration across physical and virtual realms.

"Third places" represent a transformative opportunity for businesses to reimagine the future of work in the post-pandemic world. By embracing the principles of flexibility, inclusivity, and community, businesses can create dynamic and adaptive environments that empower employees to thrive, innovate, and succeed in the new era of work. BG

Rachel Pless is a senior associate at NEXT Architecture. She can be reached at r.pless@next-architecture.net.

Photo by Candidly Yours Photography.

Leah Khot was awarded the $10,000 University of Pittsburgh Construction Management/Civil Engineering MBA-CAP scholarship for 2023-2024. She is pictured with TEDCO's James Frantz, chair of the MBA's Education Committee at the MBA's annual membership meeting on January 19. Chloe Croft was awarded the $5,000 MBA Safety Scholarship.

Taylor Edwards, winner of the MBA-CAP Penn State University Architectural Engineering Scholarship (left) with Jim Frantz.

Winners of the $2,500 Master Interior Contractors Association's (MICA) scholarships were (from left) Jeremy Miller, carpenter apprentice, Brandon Jackson, cement finisher apprentice and Anthony Helman, taper apprentice. MICA Vice President Fred Episcopo, from Wyatt Inc., is on the right.

(From left) Dan Karabasz from Schlaegle Design Build, Angie Eger and Tom Eger from TRE Construction, and Schlaegle's Art Shirvani.

(From left) Scott Bishop and Joe Johns from Assured Partners, Matt Jameson from Burns White, and MBA's Bob McCall.

Aaron Roach from Hillis Carnes (left) with Jamison Vernallis from Landau Building Co. at the NAIOP Ski Outing.

Chris Cooper from PJ Dick (left) with PenTrust's Jamey Noland.

Mascaro recognized National Wear Red Day on February 2 in support of the American Heart Month. Blood pressure screenings were also available.

Mascaro hosted its annual Gentlemen's Night Out on the North Shore benefitting the National Aviary on February 9. Over $212,000 was raised for the Aviary. Pictured are event host Michael Mascaro, National Aviary board member and executive vice president at Mascaro Construction, and Cheryl Tracy, executive director of the National Aviary. Photo by Kevin Gubish.

(From left) National Aviary Ted Bartlett, James Shealey from Highmark Blue Cross Blue Shield, John Reed from JDR Sales, Highmark's Mark Jones, former Pittsburgh Steeler Craig Bingham, CEO of All Systems Fire Protection, and Highmark's DeWitt Walton. Photo by Kevin Gubish.

MBA Executive Director Dave Daquelente (left) and Dean Mosites from Mosites Construction at the MBA's Evening of Excellence on February 29. Over 1,400 people attended the event at Acrisure Stadium. Photo by Mediaquest

(From left) Mascaro's Amanda Presto, Rick Bowers, John Fisher, and Zach Brandy. Bowers was recognized as the MBA 2023 Safety Professional of the Year. Photo by Mediaquest

Jahmiah Guillory from Automated Logic (left) with James DeWitt from FMS Construction. Photo by Mediaquest

(From left) Howard Solomon from the Masonry Contractors Association of Western PA, Brian Trimble from the International Masonry Institute, and the MBA's Lance Harrell. Photo by Mediaquest

(From left) Brandon Moore, Brandon Mendoza from the MBA, Lighthouse Electric's Karyn Ward, and Jess Mikec. Photo by Mediaquest

(From left) Brian Waldron from Wright Commercial Floors, Sam McPherson from the Eastern Atlantic States Regional Council of Carpenters, and Jody Kearns from Wright Commercial. Photo by Mediaquest

AWARDS & CONTRACTS

GEM Building Contractors & Developers, an **E&G Development Inc.** company, was the successful contractor on the Hillcrest STEM and Innovation Center for the Norwin School District in North Huntingdon Township. The architect is DRAW Collective.

Burchick Construction was awarded a design-build contract for a new gymnasium and multi-purpose facility for the Nazareth Prep School based in Emsworth, PA. The $8 million facility will be located on the existing campus, which resides along Ohio River Boulevard in the Emsworth Community. Burchick Construction is partnered with Avon Design Group as architect for the 16,000 square foot facility.

A. Martini & Co. was awarded a contract for renovations to the administrative offices and garage for Peoples Gas in Wilkinsburg. The architect is Strada Architecture.

Environmental Charter School selected **Turner Construction** as construction manager-agency for its new $20 million, 55,000 square foot high school in the East Liberty neighborhood of Pittsburgh. The architect is Avon Group.

Rycon's Special Projects Group is the general contractor handling the 9,600 square foot, $1.8 million office renovation in One PPG Place for Littler, a labor and employment law firm.

Dick's Sporting Goods chose **Rycon's** Special Projects Group to oversee interior renovations at three locations in Colonial Heights, VA, Hagerstown, MD, and Waldorf, MD.

Totaling over $1.3 million, Starbucks selected **Rycon's** Special Projects Group as the general contractor responsible for renovating three Starbucks locations, two in Pittsburgh, PA, and the other in Punxsutawney, PA.

In Bethel Park, PA, **Rycon's** Building Group was the low bidder for the general trades portion for the new 290,000 square foot three-story elementary school, part of a $108 million initiative to consolidate all five K-5 schools into one. The new school will feature state-of-the-art modern learning spaces.

City of Pittsburgh awarded the general construction contract for the $6.6 million Emergency Management Services Station 4 to **Caliber Contracting Services**. The architect is AE7 Architects.

Caliber Contracting Services was the successful general contractor on Beaver Area High School's Phase 6 Renovations in Beaver, PA. The project architect is McLean Architects.

Urban Academy of Pittsburgh awarded a contract to **Caliber Contracting Services** for the general construction portion of its $1.8 million renovations to 123 Meadow Street in the Larimer neighborhood of Pittsburgh. The architect is Tink + Design.

Mascaro's Client Services Group was awarded a project to renovate Nanolabs SB62A & SB02B in Benedum Hall at the University of Pittsburgh.

Mascaro was awarded the contract for the UPMC Shadyside Thoracic Upgrades project. The purpose of this project is to create a new Frozen Section Lab on the second floor of the facility and to add Grossing Stations to the existing Grossing Lab on the ground floor. RM Creative is the architect.

Allegheny Construction Group was awarded a $7.95 million contract for the general construction portion of the $13 million expansion of the Arnold Palmer Airport in Unity Township, outside Latrobe, PA. McFarland Johnson is the architect for the new 22,000 square foot terminal.

Working alongside Walnut Capital, **PJ Dick** is the CM for the UPMC South Side demolition project. The site is being prepared for Walnut Capital's $100 million Tower and Flats residential/mixed-use redevelopment of the former hospital property.

PJ Dick is providing construction administration services for the University of Pittsburgh for renovation of the existing Pitt Titusville McKinney Student Center to create a new Manufacturing Assistance Center.

PJ Dick is providing preconstruction services ahead of renovations to the 15,000 square foot University of Pittsburgh Mayflower Apartment Building. The project includes life safety and MEP upgrades as well as some new interior finishes upgrades.

First Tee of Greater Philadelphia selected **PJ Dick** Mid-Atlantic to renovate and expand its new corporate headquarters in Philadelphia at the Walnut Lane Golf Course.

PJ Dick Mid-Atlantic and Chiang O'Brien Architects are providing design-build services for the Penn State University - Abington Woodland Building Biology Lab Renovation project. The project includes full renovation to the existing 7,500 square foot biology space.

M&J Wilkow selected **Shannon Construction** as general contractor for the structural repairs and repainting of the Waterfront Pedestrian Bridge in Homestead, PA.

A.M. Higley Company is doing tenant improvements for the University of Pittsburgh at Schenley Place in Oakland. The architect is Desmone Architects.

The Carnegie Library of Pittsburgh awarded a contract to **A.M. Higley Company** for renovations to its support center.

Landau Building Company has substantially completed the renovation of a clinical infusion suite, converting the space to accommodate seven general exam rooms, one physician workroom, and a nurse station. This project is located at the Physician Office Center at the WVUM Ruby Hospital. Paradigm Architecture is the design professional.

Landau Building Company is overseeing the 30,000 square foot renovation of Fairmont Medical Center's third Floor. The project involves replacing the mechanical equipment, distribution, ceilings, lights, and exterior windows. Harley Ellis Devereaux (HED) is the architect.

Landau Building Company is working alongside HED Architects as the construction manager for Fairmont Medical Center's new Central Energy Plant. The new construction will consist of a one-story, 3,750 square foot building and systems to replace the existing utility systems and house the boiler, chiller systems, and the emergency diesel generator.

Landau Building Company is continuing work on Allegheny General Hospital Patient Monitoring project. The latest phase focuses on the addition of a tele data room and locker room on the hospital's fifth floor. DesignGroup is the design professional.

Lincoln Park Performing Arts Charter School selected **Massaro Corporation** as construction manager for its new Arts and Sciences classroom and Events Center in Midland, PA. The architect is Schrader Group.

Massaro Corporation is the general contractor for the renovations to the Jubilee Association's food kitchen on Wyandotte Street in the Uptown neighborhood of Pittsburgh. The architect for the $2.5 million project is Indovina Associates Architects.

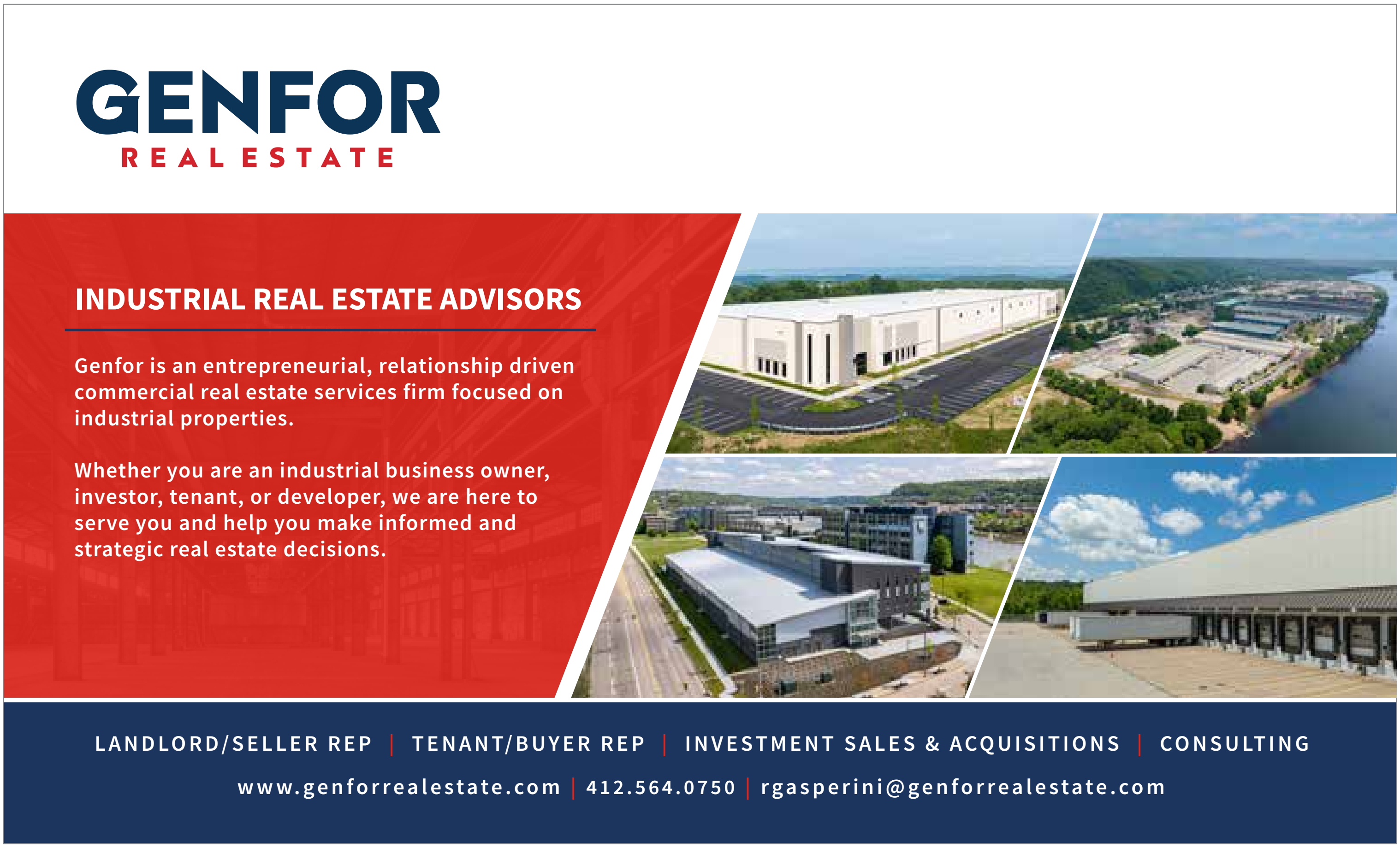
PJ Dick Inc. was awarded a contract for the major lobby renovation at BNY|Mellon Client Service Center at 501 Ross Street, downtown. The architect is Desmone Architects.

Centre County Commissioners awarded a $13 million contract to **G. M. McCrossin Inc.** for the general construction portion of the $26.4 million Centre County Human Services Building in Bellefonte, PA. The architect for the conversion of the Centre Crest Home is Muhlenberg Greene Architects.

Allegheny Construction Group was awarded a contract by the Allegheny County Airport Authority for the general construction portion of the Pittsburgh International Airport Airside Hold Room renovations. The architect for the $16.7 million project is Stantec.

FMS Construction was the successful bidder on the Bethel Park Volunteer Fire Company Clifton Station renovations for the Municipality of Bethel Park. EPM Architecture is the architect.

Independence Excavating was awarded a $10.75 million contract for the complete site preparation of the 120-acre Stonecrest Business Park in New Beaver Borough, Beaver County. LaCarte Enterprises is redeveloping the former Stonecrest Golf Course.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FACES & NEW PLACES

A.M. Higley Co. announced that **Michael Larson-Edwards** had been promoted to regional director for the Pittsburgh office. Larson-Edwards joined Higley in November 2021 as manager, customer services group. He is a 2008 graduate of University of Pittsburgh with a B.S. in Civil Engineering.

AIMS Construction announced that **Mike Tarle** has been promoted to senior vice president. Tarle joined AIMS Construction in 2016 and has been its Pittsburgh market leader. He is a graduate of Kent State University with a Bachelor of Architecture degree and earned a master's in business administration from University of Pittsburgh's Katz Business School.

Jennifer Landau, CHC, LEED GA, was promoted to the position of executive vice president at **Landau Building Company**. Jennifer joined the company in 2001. She earned bachelor's and master's degrees in civil engineering from the University of Pittsburgh.

Landau Building Company announced that **Chris Priest** has assumed the role of vice president of preconstruction services. Chris has 17 years of industry experience at Landau and is a graduate of the Swanson School of Engineering at the University of Pittsburgh.

Jeremy Bowlby was promoted to vice president of operations at **Landau Building Company**. Jeremy has been at Landau since February 2012. He earned a bachelor's degree in civil engineering from Penn State University and a master's in business administration from the University of Pittsburgh's Katz School of Business.

Craig Bender, RA, joined **Landau Building Company** as assistant project manager after previously serving as a project architect for NBBJ Design.

Jamison Vernallis has taken on the new role of marketing director since joining **Landau Building Company** in 2022 as marketing coordinator.

Melissa Fasching has been promoted to office manager after joining **Landau Building Company** as receptionist and advancing through roles as administrative assistant and project coordinator.

Landau Building Company welcomed **Kim Podnar** as administrative assistant.

Alli Martini has joined **A. Martini & Co.** in the role of estimating and accounting associate. Her previous position was at Nestle as a field sales representative in Philadelphia. She is a 2021 graduate of the University of Alabama.

Jendoco Construction Corporation welcomed **Zahraa Atha** as architectural coordinator/assistant project manager. She has a Master of Science in Architecture-Engineering-Construction Management from Carnegie Mellon University.

Krietia Allshouse, a University of Pittsburgh Johnstown alumna, has recently joined **Rycon's** Pittsburgh office as human resources generalist.

Brett Beatty, an alumnus of Slippery Rock University, has recently joined **Rycon's** Pittsburgh Building Group as a project engineer.

Rycon's Pittsburgh Special Projects Group welcomed **Nick Krugh**, an alumnus of Washington & Jefferson College, as a project engineer.

Rycon's Pittsburgh Building Group welcomed **Johnny Marcolini**, an alumnus of The Pennsylvania State University, as project engineer assistant.

Maria Mulheren, an alumna of the University of Maryland, has joined **Rycon's** Pittsburgh Special Projects Group as project manager.

On January 8, **Justin Hausrath** joined **Mascaro's** Client Services Group as a project manager. His career ranges from tenant fit outs and apartments to healthcare renovations.

Ryan Ghise started at **Mascaro** as a project engineer on January 8. He recently graduated from Michigan State University with a bachelor's degree in construction management and a minor in business. He successfully completed two internship rotations with Mascaro.

Mosites Construction Company is proud to announce the promotion of **Lorenzo Sciulli** to vice president of operations for the company's Building Division. In his 26 years with Mosites, Lorenzo has progressed through various roles within the company, including general carpenter foreman, superintendent, general superintendent, estimator, and project executive.

John Phelps joins **PJ Dick** as a project engineer, joining the team for the Shady Side Academy New Middle School project. John previously worked in landscape construction in the Virginia/Washington DC area before he moved back to Pittsburgh to work for Pittsburgh Water and Sewer Authority. He graduated from Penn State University 2018 with a degree in mathematics.

Logan Ford joined **PJ Dick's** safety department. He is a 2023 safety management graduate from Slippery Rock University and will serve as a site safety manager.

Alexandra Teran Rubio joins **PJ Dick's** Pittsburgh office as a project engineer/estimator. She previously worked as a project engineer in Ecuador. She received her BS in civil engineering from Escuela Superior Politécnica del Litoral (ESPOL) in Ecuador in 2016, and she received her master's in architecture-engineering-construction management from Carnegie Mellon University in 2023.

Shannon Construction announced that **John Beck** joined the company as estimator. Beck is a graduate of PennWest California with a degree in Business Administration and Management.

Jeff Zorn has returned to **Turner** Pittsburgh as a project manager for our Self Perform group. With nine years of experience in the construction industry, including five years with Turner, Jeff previously held various roles with Turner, including as an estimator.

Century Steel Erectors Company announced that it has been certified as a Women's Business Enterprise (WBE) through the Women's Business Enterprise National Council (WBENC), a third-party certifier of businesses owned and operated by women.

Seth Pearlman, P.E., D. GE, NAC, the CEO of **Menard** in North America, has been elected as a member of the National Academy of Engineering Class of 2024 for his achievements in ground improvement technologies, geostructural design, and geotechnical construction techniques. Pearlman, who earned a BS and an MS in Civil Engineering from Carnegie Mellon University in Pittsburgh, has more than 45 years of engineering experience and has worked on some of the most challenging ground improvement projects in the US.

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CLOSING OUT

BY MICHELLE FANZO, EXECUTIVE DIRECTOR, AMERICAN INSTITUTE OF ARCHITECTS PITTSBURGH CHAPTER

Architecture reflects the values, opportunities and tenor of the time in which it is designed. As AIA Pittsburgh celebrates its 125th anniversary this year, we see this as an inflection point. On the one hand, there is the zeitgeist of our founding - 1899 was a period of industrial revolution, national expansion and civic evolution. It was also an explosive time for design, engineering and building techniques nationally and locally. On the other, how do similar trends of technological innovation and societal change impact the built environment today and help define its future?

When designing, architects take into consideration many environmental aspects and social implications of the built environment. Buildings - whether a house, office, hospital, school - are creations with which people physically interact. The artistry of design is married with the reality of use that has implications. Good design tunes in to not only what the client wants, but how society impacts the way we live – or want to live.

What is shaping how we design today? Here are four issues that rise to the top.

Design for Well-being

Studies have found that the average American spends 90% of his or her time indoors, and this is a pre-COVID19 finding. Architects ask, what are the consequences of such "indoor lives"? In the last 10-15 years, neuroscience, behavioral psychology, and sociology have produced new evidence-based research identifying how our brains and bodies react – consciously and unconsciously – to spaces. This hard data is validating what many architects have known - that design strategies can support or hinder the mental, emotional, and physical health of building occupants and the surrounding community.

For example, studies have shown that when hospital patients have a window into nature, they can heal faster and / or feel less pain. Research into educational settings found that natural light, color and airflow support learning performance. Other research demonstrates that thermal comfort, indoor air quality, acoustics, material textures and composition all enhance occupant well-being, and will play larger roles in the design of schools, offices, homes, communities and more going forward.

Design for Resiliency/ Sustainability

Greater resiliency in design is a trend that will continue as extreme weather shocks the built environment. Architects increasingly seek ways to mitigate environmental impact on the future life of buildings, which in our region often involves excessive heat, flooding, slope collapse and access/egress issues.

Resilient design considers economic shocks, like designing to make spaces more flexible for varied uses during the lifetime of the structure; and social shocks, like population changes, public policy, and societal attitudes. Current issues of affordable housing, aging in place and office to residential conversions all seek greater flexibility and changeability in the built environment. The most difficult challenge, however, is how to design for change before you know what that change is.

Sustainable design encompasses environmental, social and economic consideration of a building. This includes designs that improve building performance, function and comfort while reducing energy use and eliminating dependence on fossil fuels. It means diverting building materials from the landfill, as well as supporting the adaptive reuse of existing buildings to minimize ecological impact and maximize the retention of local history.

Design for Equity and inclusivity

Designing for equity and inclusivity starts by recognizing who might be missing - from a project team, building occupant considerations, or the reach of the project into the community. Addressing these issues requires a variety of design strategies.

Inclusivity can be increased, for example, by community engagement, mobility and access considerations, and reflecting the history or culture of a place in the creation of a new or reused building. Office and institutional spaces can be designed with less hierarchy and more social equality; civic spaces can be designed for gathering and interacting; material choices can reduce hazards to all building occupants and communities.

Design with Technology

Like in 1899, today's technological revolutions are changing the marketplace and how buildings are designed. From a practice perspective, technology enhances:

- Collaboration: Cloud based platforms have enabled more collaborative processes. Most people can't read/visualize 3D based on 2D drawings; technology allows others to see what architects see. Technology yields tools and data that facilitate more and better communication across teams – from owner to designer to builder. That ability to get more people involved earlier in the design process allows for predicting outcomes sooner, which leads to more accurate cost analysis and mitigates friction across the project life cycle.
- Performance: Technology aids in the production of higher performance, which increases the quality of the building for everyone. Smart technologies are adding to comfort and efficiency, but also increasing complexity. The hope is that over time those complexities will become more streamlined.
- Creativity. AI, the latest technology to enter the workplace, may feel different then the innovations before it, but the goal is the same: harnessing the tool to create better designs and processes. AI offers improvements, among others, in time savings, precision, material selection, and managing complexity – which frees up time and resources for human creativity. The challenge is in rapidly harnessing an ever-expanding technology like AI as a tool, rather than letting it replace human experience, intuition and emotional understanding.


Michelle Fanzo

Taken together, these four issues reflect a societal desire to both foster and be prepared for change, economically, socially, and environmentally. In 2024, this is our zeitgeist.

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